

State Certification Plan of Pesticide Applicators

Missouri Department of Agriculture

March 2020

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1. Certification Plan Administration:

a. State Agency Designation (Governor Letter included as Attachment 1) and Point of Contact:

1. Missouri Department of Agriculture
1616 Missouri Blvd
Jefferson City, Mo 65109
Phone: (573) 751-5510
Email: Dawn.Wall@mda.mo.gov
Primary contact: Dawn Wall, Pesticide Program Administrator

b. Cooperating Agency

1. University of Missouri Extension
120 Waters Hall
Columbia, Mo 65211
Phone: (573) 882-6385
Email: kallenbach@missouri.edu
Primary contact: Dr. Rob Kallenbach
PSEP Coordinator: Dr. Sam Polly
Email: sjpkkf@missouri.edu
 - a. Agency role: write training manuals, develop and deliver pesticide applicator training for pesticide applicators.
 - b. Agency coordination process: The Missouri Department of Agriculture partners with the University of Missouri Extension through a Memorandum of Understanding (MOU) that was established in 1977 and revised in 1992. The MOU outlines the roles and responsibilities of each agency as it pertains to pesticide applicator training. Additionally, the Missouri Department of Agriculture is in the process of establishing an additional MOU with the University of Missouri Extension to provide pass through money for a PSEP Coordinator and support staff salaries. Once the State Certification Plan of Pesticide Applicators has been approved by EPA the 1977 MOU will have to be revised to comply with the new requirements.

c. Qualified Personnel

SLA Personnel:

<u>POSITION TITLE</u>	<u>FUNCTION</u>	<u>NUMBER OF FTE</u>
Plant Industries Division Director	Responsible for the overall direction, coordinator, and administration of the Pesticide Program.	0.20
Pesticide Program Administrator	Responsible for the effective implementation of the pesticide applicator certification program.	1
Certification Program Coordinator	Plans, coordinates, and implements the pesticide applicator certification program.	1
Pesticide Use Investigators – 12	Field staff that are responsible for providing support for the pesticide certification program. They monitor, present on laws and regs, and evaluate commercial and private applicator training programs throughout the state and complete the evaluation form provided by Region 7.	12
Senior Office Support Assistant	Reviews online pesticide license applications, coordinates with MU Extension to issue private applicator licenses, and handles pesticide certification calls.	1
Administrative Office Support Assistant	Processes pesticide license applications, renewals and handles pesticide certification calls.	1
Case Review Officers	Conducts case review and handles pesticide product registration.	2

Cooperating Agency Personnel:

<u>POSITION TITLE</u>	<u>FUNCTION</u>	<u>NUMBER OF FTE</u>
Associate Dean CAFNR Extension	Responsible for the overall development, implementation and evaluation of the University of Missouri Extension programs.	0.15

Director, Integrated Pest Management	Coordinates with the state lead agency in developing and implementing the commercial and private certification applicator pesticide training programs. Responsible for developing CORE and category manuals, training programs, and working with University of Missouri Extension Specialists throughout the state to deliver training to private applicators.	1.0
Extension Specialists	Responsible for providing training and educational support to private applicators in their regions.	16

Jurisdiction Statement

A certification issued under the EPA approved Missouri certification plan is valid within Missouri’s legal boundaries.

d. Sufficient Resources

The Missouri Department of Agriculture and cooperators will have the resources necessary to carry out the certification program according to the State Certification Plan.

2. Legal Authority

a. Written opinion is included as Attachment 2-A.

b. Applicable state laws and regulations are included as Attachment 2-B.

c. Provisions for grounds for denying, suspending or revoking a certification is as follows and is included as Attachment 2-C:

281.060. Sanctioning of license, when — civil penalty, when, amount, enforcement of. — 1. The director, after inquiry, and after opportunity for a hearing, may deny, suspend, revoke, or modify the provisions of any license or certification issued under sections 281.010 to 281.115, if the director finds that the applicant or the holder of a license or certification has violated any provision of sections 281.010 to 281.115, or any regulation issued thereunder, or has been convicted or subject to a final order imposing a civil or criminal penalty

pursuant to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, or has been convicted, or is the subject of prosecution, in this state or in any state or protectorate of the United States, or has had a pesticide applicator license or certificate denied, suspended, revoked or modified by any state or protectorate of the United States, or the person has been finally adjudicated and found guilty, or entered a plea of guilty or nolo contendere, in a criminal prosecution under the laws of any state or of the United States, for any offense reasonably related to the qualifications, functions, or duties of any profession licensed or regulated under sections 281.010 to 281.115, for any offense an essential element of which is fraud, dishonesty, or an act of violence, or for any offense involving moral turpitude, whether or not sentence is imposed. Licensed certified applicators, licensed noncertified RUP applicators, licensed pesticide technicians, and licensed pesticide dealers shall notify the department within ten days of any conviction of or plea to any offense listed in this section.

d. Provisions for reviewing, suspending and revoking a certification is as follows and is included as Attachment 2-D.

281.060. Sanctioning of license, when — civil penalty, when, amount, enforcement of. — 1. The director, after inquiry, and after opportunity for a hearing, may deny, suspend, revoke, or modify the provisions of any license or certification issued under sections 281.010 to 281.115, if the director finds that the applicant or the holder of a license or certification has violated any provision of sections 281.010 to 281.115, or any regulation issued thereunder, or has been convicted or subject to a final order imposing a civil or criminal penalty pursuant to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, or has been convicted, or is the subject of prosecution, in this state or in any state or protectorate of the United States, or has had a pesticide applicator license or certificate denied, suspended, revoked or modified by any state or protectorate of the United States, or the person has been finally adjudicated and found guilty, or entered a plea of guilty or nolo contendere, in a criminal prosecution under the laws of any state or of the United States, for any offense reasonably related to the qualifications, functions, or duties of any profession licensed or regulated under sections 281.010 to 281.115, for any offense an essential element of which is fraud, dishonesty, or an act of violence, or for any offense involving moral turpitude, whether or not sentence is imposed. Licensed certified applicators, licensed noncertified RUP applicators, licensed pesticide technicians, and licensed pesticide dealers shall notify the department within ten days of any conviction of or plea to any offense listed in this section.

e. Provisions for assessing civil and criminal penalties is as follows and is included as Attachment 2-E.

281.060. Sanctioning of license, when — civil penalty, when, amount, enforcement of. — 1. The director, after inquiry, and after opportunity for a hearing, may deny, suspend, revoke, or modify the provisions of any license or certification issued under sections 281.010 to 281.115, if the director finds that the applicant or the holder of a license or certification has violated any provision of sections 281.010 to 281.115, or any regulation issued thereunder, or has been convicted or subject to a final order imposing a civil or criminal penalty pursuant to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, or has been convicted, or is the subject of prosecution, in this state or in any state or protectorate of the United States, or has had a pesticide applicator license or certificate denied, suspended, revoked or modified by any state or protectorate of the United States, or the person has been finally adjudicated and found guilty, or entered a plea of guilty or nolo contendere, in a criminal prosecution under the laws of any state or of the United States, for any offense reasonably related to the qualifications, functions, or duties of any profession licensed or regulated under

sections 281.010 to 281.115, for any offense an essential element of which is fraud, dishonesty, or an act of violence, or for any offense involving moral turpitude, whether or not sentence is imposed. Licensed certified applicators, licensed noncertified RUP applicators, licensed pesticide technicians, and licensed pesticide dealers shall notify the department within ten days of any conviction of or plea to any offense listed in this section.

281.105. Penalty for violations. — Any individual, whether a holder or nonholder of a valid license issued pursuant to this chapter, convicted of violating any of the provisions of sections 281.010 to 281.115, or any regulation issued thereunder, shall be guilty of a misdemeanor. Such misdemeanor may be punishable by imposition of a fine of not less than one hundred dollars and not more than five thousand dollars or by imprisonment in the county jail for not less than thirty days and not more than one year, or by both imposition of a fine and imprisonment.

f. Provisions for right of entry for inspections is as follows and is included as Attachment 2-F.

281.60. Inspection with consent of owner of premises — search warrant to issue, when — director may bring action to enjoin, when. — 1. For the purpose of enforcing the provisions of sections 281.010 to 281.115, the director may, with permission from the owner or person in charge, enter upon a premises at reasonable times in order to inspect, investigate, observe, sample, and audit; provided that such right of entry, in the case of manufacturing and formulation establishments, be limited to those areas where pesticides are packaged, labeled and released for shipment.

2. If the director is denied access to any land where such access was sought for the purposes set forth in this section, he may apply to any court of competent jurisdiction for a search warrant authorizing access to that land for those purposes. The court may issue a search warrant for the purposes requested upon probable cause being shown.

3. The director may report any violation of the provisions of sections 281.010 to 281.115 to the prosecuting attorney of the county where the violation occurs. The prosecuting attorney may institute appropriate proceedings in a court of competent jurisdiction. If any prosecuting attorney refuses or fails to act on request of the director, the attorney general shall so act.

4. The director may bring an action to enjoin the violation or threatened violation of any provision of sections 281.010 to 281.115, or any rule promulgated thereunder, in the circuit court of the county in which the violation occurs or is about to occur. No court shall allow for recovery of damages for administrative action taken if the director acts in good faith. No bond shall be required of the director.

g. Provisions for making it unlawful to apply RUPs unless certified is as follows and is included as Attachment 2-G.

281.035. Certified commercial applicator's license required when, annual fee — application for license, how made — examinations — records to be kept — incapacity of sole certified applicator, effect of — display of license — change of address, notice. — 1. No individual shall engage in the business of determining the need for the use of, supervising the use of, supervising the determination of the need for the use of, or using any

pesticide, in categories as specified by regulation, on the lands of another at any time without a certified commercial applicator's license issued by the director. A certified commercial applicator shall not determine the need for the use of, supervise the use of, supervise the determination of the need for the use of, or use any pesticide for any particular purpose unless the certified commercial applicator has demonstrated such certified commercial applicator's competence to use pesticides for that purpose by being certified by the director in the proper certification category. The director shall require an annual fee of sixty-five dollars for each certified commercial applicator's license issued. No certified commercial applicator shall knowingly authorize, direct, or instruct any individual to engage in determining the need for the use of or using any general use pesticide or minimum risk pesticide on the land of another at any time unless such individual is a pesticide technician or pesticide technician trainee in such categories as specified by regulation or is working under the direct supervision of a certified commercial applicator so authorizing, directing or instructing, in which case the certified commercial applicator shall be liable for any use of a general use pesticide or minimum risk pesticide by an individual operating under the certified commercial applicator's direct supervision. The certified commercial applicator or the employer shall assure that the director is informed in writing within ten days of the employment of any person as a pesticide technician or pesticide technician trainee.

281.037. Certified noncommercial applicator's license, when required — application for license, examination, fee — scope of license — records to be kept — display of license — change of address, notice.

— 1. Any individual who is not certified pursuant to section 281.035, 281.040, or 281.045 shall not use, or supervise the use of, any restricted use pesticide without a certified noncommercial applicator license. A certified noncommercial applicator shall not use, or supervise the use of, any restricted use pesticide for any purpose unless the certified noncommercial applicator has demonstrated the certified noncommercial applicator's competence to use pesticides for that purpose by being certified by the director in the proper certification category.

2. No certified noncommercial applicator shall knowingly authorize, direct, or instruct any individual to engage in using any restricted use pesticide on lands or structures owned, leased, or rented by the certified noncommercial applicator or the certified noncommercial applicator's employer unless such individual is licensed as a noncertified RUP applicator while working under the direct supervision of a certified noncommercial applicator so authorizing, directing, or instructing, in which case the certified noncommercial applicator shall be liable for any use of a restricted use pesticide by an individual operating under the certified noncommercial applicator's direct supervision.

281.040. Private applicator's license, qualifications for — training, review committee — duration, renewal — provisional license, automatic conversion to permanent license, when.

— 1. No private applicator shall use any restricted use pesticide unless the private applicator first complies with the requirements determined pursuant to subsection 3 of this section, as necessary to prevent unreasonable adverse effects on the environment, including injury to the applicator or other persons, for that specific pesticide use.

2. No certified private applicator shall knowingly authorize, direct, or instruct any individual to engage in using any restricted use pesticide on lands or structures owned, leased, or rented by the certified private applicator or the certified applicator's employer unless such individual is licensed as a certified private applicator or a certified provisional private applicator.

281.045. Certified operator license, when required — application, requirements, examination — maintenance of records — liability of governmental agencies — display of license — change of address, notice — volunteers, use of pesticides without a license.

2. Public operators for agencies listed in subsection 1 of this section shall not use, or supervise the use of, any restricted use pesticides on any land or structure without a certified public operator license issued by the director. The certified public operator shall not use or supervise the use of any restricted use pesticide for any purpose unless the certified public operator has demonstrated the certified public operator's competence to use pesticides for that purpose by being certified by the director in the proper certification category.

3. No certified public operator shall knowingly authorize, direct, or instruct any individual to engage in using any restricted use pesticide on lands or structures unless such individual is licensed as a noncertified RUP applicator while working under the direct supervision of a certified public operator so authorizing, directing, or instructing, in which case the certified public operator shall be liable for any use of a restricted use pesticide by an individual operating under the certified public operator's direct supervision.

281.048. Noncertified RUP applicator license — application, issuance and renewal, fee — authority of licensee, limitation by director, when — notification by licensee of changes — retraining — display of license. — 1. No individual shall use or determine the need for the use of any restricted use pesticide while working under the direct supervision of a certified commercial applicator until the individual has met the requirements of this section.

2. No individual shall use restricted use pesticides while working under the direct supervision of a certified noncommercial applicator or certified public operator until the individual has met the requirements of this section.

3. Application for a noncertified RUP applicator's license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall issue or renew a noncertified RUP applicator license once an individual has met the requirements set forth in 40 CFR section 171.201(c)(1) or (3). The director shall collect an annual fee of thirty-five dollars for each noncertified RUP applicator license issued. The license shall be valid for one year unless revoked or suspended by the department prior to its expiration. Any individual whose application is denied shall receive a written explanation as to the determination of the denial.

5. Individuals holding a valid noncertified RUP applicator license may use and determine the need for the use of restricted use pesticides, general use pesticides, and minimum risk pesticides under the direct supervision of a certified commercial applicator and only for the categories in which the commercial applicator is certified. The director may limit the license of the applicant to the use of certain pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified.

6. Every certified commercial applicator, certified noncommercial applicator, or certified public operator providing direct supervision to a licensed noncertified RUP applicator shall immediately notify the director

when the licensed noncertified RUP applicator has changed address from which the applicator or operator will operate as a licensed noncertified RUP applicator or when the noncertified RUP applicator's employment has been terminated. The director shall immediately issue a revised license upon which shall be printed the change of address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

7. A noncertified RUP applicator may complete retraining requirements and renew the applicator's license without a certified commercial applicator, certified noncommercial applicator, or certified public operator working from the same physical location.

8. Every licensed noncertified RUP applicator shall display the applicator's license in a prominent place at the site, location, or office from which the applicator will operate as a noncertified RUP applicator, that place, location, or office being at the address printed on the license.

h. Provisions for commercial applicator recordkeeping are as follows and are included as Attachment 2-H.

281.035. Certified commercial applicator's license required when, annual fee — application for license, how made — examinations — records to be kept — incapacity of sole certified applicator, effect of — display of license — change of address, notice.

7. The director shall require each certified commercial applicator or the certified commercial applicator's employer to maintain records with respect to applications of any pesticide, including pesticides used under direct supervision by licensed pesticide technicians, pesticide technician trainees, and licensed noncertified RUP applicators. Such relevant information as the director may deem necessary may be specified by regulation. Such records shall be kept for a period of three years from the date of the application of the pesticide to which such records refer, and the director shall, upon request in writing, be furnished with a copy of such records by any certified commercial applicator or the certified commercial applicator's employer.

2 CSR 70-25.120 Contents of Records Maintained by Certified Commercial Applicators, Certified Noncommercial Applicators, and Certified Public Operators

- (1) Certified commercial applicators or their employers shall keep and maintain records for the use of any pesticide(s). These records shall **be completed within three (3) business days from the date of use and** be kept for three (3) years in a neat and legible condition.
- (2) Certified noncommercial applicators and certified public operators or their employers shall keep and maintain records for the use of restricted use pesticides. These records shall **be completed within three (3) business days from the date of use and** be kept for a period of three (3) years in a neat and legible condition.
- (3) These records shall be available for inspection by the director [~~at a reasonable time~~] during regular business hours **at the physical location from which certified applicators use or supervise the use of pesticides** or,

upon request in writing, the director shall be furnished a copy of these records within ten (10) working days of receipt of request.

(4) These records shall contain the following for each application site:

- (A) Name and license number of the certified applicator ~~[or operator]~~ using or supervising the use of pesticides;
- (B) Name of the noncertified applicator, name and license number of the noncertified RUP applicator, or the name and license number of the pesticide technician using the pesticide(s), if applicable;
- (C) Application date, start time, and end time;
- (D) Name and address of the person requesting the pesticide use;
- (E) Address or brief description of the application site;
- (F) Size of the area treated (such as square feet, linear feet, acres, etc.) excluding indoor spot and crack and crevice applications;
- ~~[(F)]~~ (G) The site, crop and variety name, commodity, or stored product to which pesticide was applied, if applicable;
- ~~[(G)]~~ (H) Target ~~[P]~~ pest(s) ~~[controlled or prevented by the pesticide use];~~
- ~~[(H)]~~ (I) Complete trade (manufacturer's brand) name(s) from the label(s) of the pesticide(s) used;
- ~~[(I)]~~ (J) The United States EPA registration number(s) from the label(s) of the pesticide(s) used and the special local need registration number, if applicable. In lieu of recording the United States EPA registration number(s) for each pesticide use, documentation shall be maintained which provides incontrovertible correlation between each pesticide use and the United States EPA registration number(s) of the pesticide(s) used;
- ~~[(J)]~~ (K) ~~[Reasonable estimate of t]~~ The ~~[amount of]~~ pesticide(s) ~~[used, and, if applicable, the actual]~~ mixture rate, the total amount of mixture used, and the rate of application expressed in reasonable and understandable terms; ~~[and]~~
- ~~[(K)]~~ (L) For pre-mixed, ready-to-use pesticide products, a reasonable estimate of the amount of pesticide used and the actual rate of application expressed in reasonable and understandable terms;
- ~~[(L)]~~ (M) ~~[A reasonable estimate of t]~~ The ~~[time,]~~ air temperature, ~~[average]~~ measured wind speed, and wind direction at the site of outdoor pesticide applications, excluding applications of pesticides in general structural pest control and termite pest control within ten feet (10') of a building~~[-]~~ ; and

~~{(M)}~~ (N) A written, signed, and dated request from the agricultural producer requesting the use of a lesser concentration of pesticide than is provided on the pesticide label, if applicable.

2 CSR 70-25.153 Stipulations and Training requirements for noncertified RUP applicators

- (1) Applicants for a noncertified RUP applicator license shall complete one of the following options.
 - (A) Pass a written examination based on the general standards of competence provided in 2 CSR 70-25.101(3); or
 - (B) Complete a noncertified RUP applicator training program.
 1. Prior to employment of noncertified RUP applicators, certified applicators or their employers must have an approved training program. Approved training programs shall be valid until revoked.
 2. Noncertified RUP applicator training must be presented to noncertified RUP applicators either orally from written materials or audiovisually. The information must be presented in a manner that the noncertified RUP applicators can understand.
 3. The person conducting the training must be currently certified as an applicator of restricted use pesticides or employed as an educator with a land grant college or university or other public educational institutions or professional associations. The person conducting the training must also be present during the entire training program and must respond to the noncertified applicators' questions.
 4. The noncertified RUP applicator training materials must include the information that noncertified applicators need in order to protect themselves, other people, and the environment before, during, and after making a restricted use pesticide application. The noncertified RUP applicator training materials must include, at a minimum, information regarding the following:
 1. Potential hazards from toxicity and exposure that pesticides present to noncertified applicators and their families, including acute and chronic effects, delayed effects, and sensitization.
 2. Routes through which pesticides can enter the body.
 3. Signs and symptoms of common types of pesticide poisoning.
 4. Emergency first aid for pesticide injuries or poisonings.
 5. Routine and emergency decontamination procedures, including emergency eye flushing techniques. Noncertified RUP applicators must be instructed that if pesticides are spilled or sprayed on the body, to immediately wash or to rinse off in the nearest clean water. Noncertified RUP applicators must also be instructed to wash or shower with soap and water, shampoo hair, and change into clean clothes as soon as possible.
 6. How and when to obtain emergency medical care.
 7. After working with pesticides, wash hands before eating, drinking, using chewing gum or tobacco, or using the toilet.
 8. Wash or shower with soap and water, shampoo hair and change into clean clothes as soon as possible after working with pesticides.
 9. Potential hazards from pesticide residues on clothing.
 10. Wash work clothes before wearing them again and wash them separately from other clothes.
 11. Do not take pesticides or pesticide containers used at work to your home.
 12. Potential hazards to children and pregnant women from pesticide exposure.
 13. After working with pesticides, remove work boots or shoes before entering your home, and remove work clothes and wash or shower before physical contact with children or family members.
 14. How to report suspected pesticide use violations to the appropriate state or tribal agency responsible for pesticide enforcement.

15. Format and meaning of information contained on pesticide labels and in labeling applicable to the safe use of the pesticide, including the location and meaning of the restricted use product statement, how to identify when the labeling requires the certified applicator to be physically present during the use of the pesticide, and information on personal protective equipment.
 16. Need for, and appropriate use and removal of, personal protective equipment.
 17. How to recognize, prevent, and provide first aid treatment for heat related illness.
 18. Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.
 19. Environmental concerns such as drift, runoff, and wildlife hazards.
 20. Restricted use pesticides may be used only by a certified applicator or by a noncertified RUP applicator working under the direct supervision of a certified applicator.
 21. The certified applicator's responsibility to provide each noncertified RUP applicator instructions specific to the site and pesticide used. These instructions must include labeling directions, precautions, and requirements applicable to the specific use and site, and how the characteristics of the use site (e.g., surface and ground water, endangered species, local population, and risks) and the conditions of application (e.g., equipment, method of application, formulation, and risks) might increase or decrease the risk of adverse effects. The certified applicator must provide these instructions in a manner the noncertified RUP applicator can understand.
 22. The certified applicator's responsibility to ensure that each noncertified RUP applicator has access to the applicable product labeling at all times during its use.
 23. The certified applicator's responsibility to ensure that where the labeling of a pesticide product requires that personal protective equipment be worn for mixing, loading, application, or any other use activities, each noncertified RUP applicator has clean, labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose.
 24. The certified applicator's responsibility to ensure that before each day of use equipment used for mixing, loading, transferring, or applying pesticides is in proper operating condition as intended by the manufacturer, and can be used without risk of reasonably foreseeable adverse effects to the noncertified RUP applicator, other persons, or the environment.
 25. The certified applicator's responsibility to ensure that a means to immediately communicate with the certified applicator is available to each noncertified RUP applicator using restricted use pesticides under his or her direct supervision.
5. Certified applicators must submit to the director a Notice of Training form provided by the director.
 6. Certified applicators shall keep and maintain a copy of the Notice of Training form and noncertified RUP applicator license for a period of two (2) years from the date the training was completed.
- (2) Additional training of noncertified RUP applicators is required annually. Training shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of pesticides.
- (A) Licensed noncertified RUP applicators must complete a training program meeting the requirements of paragraph 4 of subsection (B) of this rule.
- (3) Reexamination of noncertified RUP applicators is required within three (3) years from initial licensure and within each subsequent three (3) year period.
- (A) Licensed noncertified RUP applicators must reexamine on the general standards of competence exam (CORE).

i. Provisions for RUP dealer recordkeeping are as follows and are included as Attachment 2-I.

2 CSR 70-25.180 Contents of Records Maintained by Pesticide Dealers

- (1) **Pesticide dealers must keep records relating to the sale or distribution of restricted use pesticides. All required information must be recorded within three (3) business days of the sale or distribution and kept** ~~[F]for three (3) years[, pesticide dealers must keep and maintain records of sales and distribution of restricted use pesticides in a neat and legible condition].~~
- (2) These records must be available for inspection by the director at reasonable times during regular business hours. Upon written request, the director shall be furnished a copy of records within ten (10) days of receipt of the request.
- (3) **Licensed pesticide dealers shall only sell, offer for sale, or distribute restricted use pesticides to licensed pesticide dealers or certified applicators who are eligible to purchase or acquire restricted use pesticides by holding valid certification in proper certification categories.**
- (4) Records shall contain the following information:
 - (A) Pesticide dealer's name and license number;
 - (B) **State, Tribe or Federal agency that issued the certification document;**
 - (C) The trade name, United States Environmental Protection Agency (EPA) registration number, the applicable state special local need (SLN) registration number(s), the amount of each restricted use pesticide made available at each transaction, and the date of the transaction; and
 - (D) Information related to the individual receiving the restricted use pesticide. This shall include:
 1. The name, address, license number, certification category(ies), and license expiration date of the certified applicator ~~[or operator]~~ to whom the restricted use pesticide was made available; **or**
 2. ~~[The name, address and permit number of the private applicator with a permit to whom the restricted use pesticide was made available;]~~ **The name, address, license number, and license expiration date of the pesticide dealer to whom the restricted use pesticide was made available.**

3. Commercial Applicator Certification Categories

The Missouri Department of Agriculture adopts its own commercial applicator categories and standards that meet or exceed federal standards at§ 171.101 and 171.103. The certification categories are as follows and are included as Attachment 3.

STATE CATEGORY/ SUBCATEGORY NAME	STATE CATEGORY/ SUBCATEGORY DESCRIPTION	CLOSEST COMPARABLE EPA FEDERAL CATEGORY
1A-Agricultural Pest Control	This category is provided for pesticide use relating to agricultural commodities, including, but not limited to, tobacco, peanuts, cotton, corn, cereal grain, feed grains, soybeans, forages and forage crops, vegetables, small fruits, tree fruits and nuts, grassland and noncrop agricultural lands, greenhouse products, Christmas tree plantings, sod nurseries, plant nurseries, and forested areas to be converted to agricultural lands.	a1-Crop Pest Control
1B-Agricultural Animal Pest Control	This category is provided for pesticide use relating to animals, including but not limited to, cattle, swine, sheep, furbearing animals, horses, goats, poultry and other livestock and wild animals in captivity and to places on or in which animals are confined with the exception of aquatic harborages. This includes those agricultural animals used as work or draft animals and those used as pleasure animals.	a2-Livestock Pest Control

2 -Forest Pest Control	This category is provided for pesticide use relating to forests, forest nurseries, and forest seed producing areas for the purpose of the propagation and maintenance of those forests, forest nurseries, and forest seed producing areas.	b-Forest Pest Control
3 -Ornamental and Turf Pest Control	This category is related to the use of pesticides, excluding fumigants, to control pests in the care and maintenance of ornamental trees, shrubs, flowers, and turf.	c-Ornamental and Turf Pest Control
4 -Seed Treatment Pest Control	This category is provided for pesticide use relating to seeds.	d-Seed Treatment
5 -Aquatic Pest Control	This category is provided for pesticide use relating to standing or running water for the control of aquatic pests with the exception of health-related pests.	e-Aquatic Pest Control
5B-Sewer Root Pest Control	This subcategory is related to the use of pesticides for the control of roots within sewer systems.	
6 -Right-of-Way Pest Control	This category is provided for pesticide use relating to the maintenance of public roads, electric power lines, pipelines, industrial sites, electric and gas substations, cell phone towers, riprap along banks and shorelines, railroad rights-of-way, or similar areas.	f-Right-of-Way Pest Control
7 -Structural Pest Control	This category is related to the use of pesticides in, on, or around any structure.	g-Industrial, Institutional, and Structural Pest Control
7A-General Structural Pest Control	This subcategory is related to the use of pesticides for the control of general structural pests with the exception of wood-destroying organisms.	g-Industrial, Institutional, and Structural Pest Control

7B-Termite Pest Control	This subcategory is related to the use of pesticides for the control of wood-destroying organisms, including but not limited to, termites, carpenter ants, and powder post beetles.	g-Industrial, Institutional, and Structural Pest Control
7C-Fumigation Pest Control	This subcategory is related to the use of fumigants for structural pest control and mole control.	n-Non-soil Fumigation
8 -Public Health Pest Control	This category is related to the use of pesticides in public health programs for the management and control of pests having medical and public health importance.	h-Public Health Pest Control
9 -Regulatory Pest Control	This category is related to the use of pesticides in the control of regulated pests.	i-Regulatory Pest Control
10-Demonstration and Research Pest Control	This category is provided for individuals who demonstrate to the public the proper use of application of restricted use pesticides or supervise the demonstration. It is also provided for individuals conducting field research with pesticides, and in doing so, use or supervise the use of restricted use pesticides.	j-Demonstration and Research
11-Wood Products Pest Control	This category is related to the use of pesticides to control or prevent wood-degrading organisms, including, but not limited to, insects and the fungi or bacteria causing surface molding, surface staining, sap staining, brown rot, white rot, dry rot, and soft rot.	
12-Soil Fumigation Pest Control	This category is related to the use of pesticides labeled as fumigants for the control of pests found in or on labeled sites.	m-Soil Fumigation

13-Aerial Pest Control	This category is related to the use of pesticides applied by fixed or rotary wing aircraft.	o-Aerial Pest Control
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**Sodium cyanide and sodium fluoroacetate are not needed in MO, therefore MO does not plan to add these categories.

2 CSR 70-25.110 Standards of Competence for the Certification of Commercial Applicators, Noncommercial Applicators, ~~and~~ Public Operators, and Noncertified RUP Applicators

~~(3)~~ (4) Specific Standards of Competence for Certification of Commercial Applicator, Noncommercial Applicator, and Public Operator Categories. The applicant shall demonstrate a practical knowledge of at least one of the following categories:

(A) Category 1—Agricultural Pest Control.

1. Subcategory a—Agricultural Plant Pest Control.

- A. ~~[The applicant shall demonstrate a practical knowledge of t]~~The crops to which pesticides will be applied.
- B. ~~[and a practical knowledge of t]~~The specific pests of those crops.
- C. ~~[A practical knowledge is required concerning p]~~Potential soil and water problems, preharvest~~[ed]~~ intervals, reentry intervals, phytotoxicity **due to a wide variety of plants to be protected, drift, persistence beyond the intended period of pest control,** ~~[; and concerning the]~~ potential for environmental contamination, ~~[the]~~ potential for injury to nontarget plants and animals, and ~~[the]~~ potential for causing community problems resulting from the use of pesticides in agricultural areas.

2. Subcategory b—Agricultural Animal Pest Control.

- A. ~~[The applicant who applies pesticides directly to animals, or to the harborages of animals, must demonstrate a practical knowledge of these a]~~**Animals or the harborages of animals to which the pesticides are applied** and their associated pests.
- B. ~~[A practical knowledge also is required concerning s]~~Specific pesticide toxicity to animals and ~~[concerning]~~ the potential for illegal pesticide residues when these animals are to be used for human or animal food.
- C. ~~[The applicant also must demonstrate a practical knowledge of]~~ **Hazards associated with** pesticide formulations and application techniques as they apply to animals of various ages and animals under various types of stress~~[, and a practical knowledge concerning]~~ **and** the extent of treatment ~~[of those animals].~~

(B) Category 2—Forest Pest Control.

- 1. ~~[The applicant shall demonstrate a practical knowledge of t]~~The types of forest, forest nurseries, ~~and]~~ seed production, and ~~[a practical knowledge of]~~ the pests involved.
- 2. ~~[The applicant shall possess a practical knowledge of t]~~The cyclic occurrence of certain pests~~[,].~~
- 3. ~~[and a practical knowledge of s]~~Specific population dynamics as a basis for programming pesticide applications.

4. ~~[Applicants shall demonstrate a practical knowledge regarding n]~~ Nontarget plants and animals and their vulnerability to pesticides.
5. ~~[The applicator must demonstrate a practical knowledge of c]~~ Control methods which will minimize the possibility of secondary problems such as the unintended effects on wildlife and which will minimize problems of pollution.
6. ~~[The applicator must demonstrate a practical knowledge of s]~~ Specialized equipment, especially as it relates to meteorological factors and adjacent land use.
7. Relevant organisms causing harm and their vulnerability to the pesticides to be applied.
8. How to determine when pesticide use is proper.
9. The selection of application method.
10. Potential for phytotoxicity due to a wide variety of plants to be protected, drift, and persistence beyond the intended period of pest control.

(C) Category 3—Ornamental and Turf Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of p]~~ Pesticide problems associated with the production and maintenance of ornamental trees, shrubs, plantings, and the production and maintenance of turf.
2. ~~[The applicant shall demonstrate a practical knowledge concerning p]~~ Potential phytotoxicity (chemical burn of plant tissue) due to a wide variety of plant material involved.
3. ~~[The applicant shall demonstrate a practical knowledge concerning p]~~ Pesticide drift.
4. ~~[and a practical knowledge concerning t]~~ The persistence of pesticides beyond the intended period of pest control.
5. ~~[Because of the frequent proximity of human habitations to application activities the applicant shall demonstrate a practical knowledge of a]~~ Application methods which will minimize or prevent hazards to humans, pets, and other domestic animals.
6. Non-target exposures.

(D) Category 4—Seed Treatment.

1. ~~[The applicant shall demonstrate a practical knowledge of t]~~ The types of seeds which require chemical protection against pests.
2. ~~[and a practical knowledge of f]~~ Factors such as seed coloration, pesticide carriers, and surface active agents which influence pesticide binding and may affect germination.
3. ~~[The applicant shall demonstrate a practical knowledge of t]~~ The hazards associated with the handling, sorting, and mixing of treated seed.
4. ~~[The applicant shall demonstrate practical knowledge of t]~~ The problems regarding the misuse of seed treated with pesticides, such as the introduction of treated seed into food and feed channels.
5. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~ The proper disposal of unused treated seed.
6. The importance of proper application techniques to avoid harm to non-target organisms.

(E) Category 5—Aquatic Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of t]~~ The secondary effects which can be caused by improper application rates, incorrect formulations, and the faulty application of those pesticides used in this category.

2. ~~[The applicant shall demonstrate a practical knowledge of v]~~Various water use situations and the potential for downstream adverse effects.
3. ~~[The applicant shall demonstrate a practical knowledge of t]~~The potential adverse effects of pesticides on nontarget plants, fish, birds, beneficial insects, and other organisms which may be present in aquatic environments.
4. ~~[The applicant shall demonstrate a practical knowledge of t]~~The principles of limited area applications.
 - A. Subcategory b—Sewer Root Pest Control.
 - A. Pesticide labels and labeling for pesticides including metam-sodium pesticide products used for sewer root pest control.
 - B. Pesticide safety and the need for the use of personal protective equipment, including problems and mistakes leading to exposure and the signs and symptoms of human and environmental exposure.
 - C. Equipment used to perform sewer root pest control applications.
 - D. Proper storage, handling, transport, spills, cleanup, and disposal including the disposal of excess material, waste, and containers.

(F) Category 6—Right-of-Way Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The wide variety of environments involved in right-of-way pest control.
2. ~~[The applicant shall demonstrate a practical knowledge of problems of]~~**Techniques to minimize non-target exposure**, pesticide run off, pesticide drift, and ~~[problems of]~~ excess foliage destruction.
3. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The recognition of target pest organisms involved in right-of-way pest control.
4. ~~[The applicant shall demonstrate a practical knowledge of h]~~Herbicides and the need for containing these pesticides within the right-of-way area.
5. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The impact of pesticides on adjacent areas and communities.
6. **Potential for phytotoxicity due to a wide variety of plants and pests to be controlled.**
7. **Persistence beyond the intended period of pest control.**

(G) Category 7—Structural Pest Control.

1. Subcategory a—General Structural Pest Control.

- A. ~~[The applicant shall demonstrate a practical knowledge of a]~~A wide variety of structural pests, including **signs of their presence, [the] life cycles, biology, and behavior as it may be relevant to problem identification and control** ~~[and habits of these pests]~~.
- B. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The types of formulations appropriate for the control of these pests.
- C. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The application of pesticides in a manner to avoid damage to the structure, contamination of food, contamination of the structure and surrounding area, and exposure of people and pets.
- D. ~~[The applicant shall demonstrate a practical knowledge of t]~~The specific factors which may lead to a hazardous condition, including continuous exposure in the various situations encountered in this category.
- E. ~~[The applicant must also demonstrate practical knowledge of e]~~Environmental conditions relating to outdoor applications of pesticides used in this category.

2. Subcategory b—Termite Pest Control.

- A. ~~[The applicant shall demonstrate a practical knowledge of t]~~ Termites, including their life cycle and habits and a practical knowledge of termite damage.
- B. ~~[The applicant shall demonstrate a practical knowledge of v]~~ Various associated wood-destroying organisms, including, but not limited to, powder post beetles, carpenter ants, and other wood destroying insects.
- C. ~~[The applicant shall demonstrate a practical knowledge concerning undue]~~ **The use of pesticides in a manner to avoid** exposure to humans, domestic pets, and other nontarget organisms[;].
- D. ~~[as well as a practical knowledge concerning p]~~ Potential contamination of the environment and associated problems.
- E. **Types of formulations appropriate for control.**

3. Subcategory c—Fumigation Pest Control.

~~[The applicant shall demonstrate a practical knowledge concerning a wide variety of pests associated with those structures subject to fumigation. The applicant shall demonstrate a practical knowledge regarding the use of the various fumigants, including application techniques, and the use of specialized safety equipment and specialized application techniques. The applicant shall demonstrate a practical knowledge concerning the use of fumigants in a manner to avoid contamination of food and surrounding areas and to prevent exposure of humans and pets. The applicant shall demonstrate a practical knowledge of the specific factors which may lead to a hazardous condition, including continuous exposure in the various situations encountered in this category. The applicant also must demonstrate practical knowledge of environmental conditions relating to outdoor applications of pesticides used in this category.]~~

- A. **Label and labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform non-soil fumigation, including labeling requirements specific to non-soil fumigants.**
- B. **Safety. Measures to minimize adverse health effects, including all of the following:**
 - I. **Understanding how certified applicators, noncertified applicators, and bystanders can become exposed to fumigants.**
 - II. **Common problems and mistakes that can result in direct exposure to fumigants.**
 - III. **Signs and symptoms of human exposure to fumigants**
 - IV. **Air concentrations of a fumigant that require applicators to wear respirators or to exit the work area entirely.**
 - V. **Steps to take if a fumigant applicator experiences sensory irritation.**
 - VI. **Understanding air monitoring, when it is required, and where and when to take samples.**
 - VII. **Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in a buffer zone.**
 - VIII. **First aid measures to take in event of exposure to a fumigant.**
 - IX. **Labeling requirements for transportation, storage, spill clean up, and emergency response for non-soil fumigants, including safe disposal of containers and contaminated materials, and management of empty containers.**
- C. **Non-soil fumigant chemical characteristics. Characteristics of non-soil fumigants including all of the following:**
 - I. **Chemical characteristics of non-soil fumigants.**
 - II. **Specific human exposure concerns for non-soil fumigants.**

- III. How fumigants change from a liquid or solid to a gas.
- IV. How fumigants disperse in the application zone.
- V. Compatibility concerns for tanks, hoses, tubing, and other equipment.
- D. Application. Selecting appropriate application methods and timing, including all of the following:
 - I. Application methods and equipment commonly used for non-soil fumigation.
 - II. Site characteristics that influence fumigant exposure.
 - III. Conditions that could impact timing of non-soil fumigant application, such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications under specific conditions.
 - IV. Conducting pre-application inspection of application equipment and the site to be fumigated.
 - V. Understanding the purpose and methods of sealing the area to be fumigated, including the factors that determine which sealing method to use.
 - VI. Calculating the amount of product required for a specific treatment area.
 - VII. Understanding the basic techniques for calibrating non-soil fumigant application equipment.
 - VIII. Understanding when and how to conduct air monitoring and when it is required.
- E. Pest factors. Pest factors that influence fumigant activity, including all of the following:
 - I. Influence of pest factors on fumigant volatility.
 - II. Factors that influence gaseous movement through the area being fumigated and into the air.
 - III. Identifying pests causing the damage and verifying they can be controlled with fumigation.
 - IV. Understanding the relationship between pest density and application rate.
 - V. The importance of proper application rate and timing.
- F. Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following:
 - I. Following label directions for required personal protective equipment.
 - II. Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment.
 - III. Understanding the types of respirators required when using specific non-soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters.
 - IV. Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recording.
- G. Fumigant management plans and post-application summaries. Information about fumigant management plans and when they are required, including all of the following:
 - I. When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it.
 - II. The element of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan.

- III. The person responsible for verifying that a fumigant management plan is accurate.
- IV. The elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed.

H. Posting requirements. Understanding posting requirements, including all of the following:

- I. Understanding who is allowed in an area being fumigated or after fumigation and who is prohibited from being in such areas.
- II. Distinguishing fumigant labeling-required posting and treated area posting, including the pre-application and post-application posting timeframes for each.
- III. Proper choice and placement of warning signs.

(H) Category 8—Public Health Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of v]~~Vector-disease transmission as it relates to, and influences, pesticide application problems.
2. ~~[The applicator shall demonstrate a practical knowledge concerning a wide variety of p]~~Pests commonly involved in public health pest control, including the life histories and habits of these pests.
3. ~~[The applicant shall demonstrate a practical knowledge concerning a great variety of e]~~Environments and sites commonly found in public health pest control, which range from streams to those conditions found in buildings.
4. ~~[The applicant shall demonstrate a practical knowledge of t]~~The importance of, and employment of, such nonchemical control methods as sanitation, waste disposal, and drainage.
5. How to minimize damage to and contamination of areas treated.
6. Acute and chronic exposure of people and pets.
7. Non-target exposures.

(I) Category 9—Regulatory Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of r]~~Regulated pests, applicable laws pertaining to pest quarantine, and other forms of pest regulation and the potential impact on the environment of pesticides used in suppression and eradication programs.
2. ~~[The applicant shall demonstrate a practical knowledge concerning f]~~Factors influencing introduction, spread, and population dynamics of relevant pests.
~~[The applicant shall demonstrate a practical knowledge which shall extend beyond that required by the immediate duties of the applicator since the services of the applicator frequently are required in other areas of the country where emergency measures are invoked to control regulated pests and where individual judgements must be made in new situations.]~~

(J) Category 10—Demonstration and Research Pest Control.

1. ~~[The applicant shall meet e]~~Comprehensive standards reflecting a broad spectrum of pesticide uses.
2. ~~[The applicant shall demonstrate a practical knowledge of p]~~Problems, pests, and population levels occurring in each demonstration or research situation [required].
3. ~~[The applicant shall demonstrate a]~~An understanding of pesticide-organism interactions and the importance of integrating pesticide use with other control methods.
4. Effects of restricted use pesticides on target and non-target organisms.
5. The applicant shall not only demonstrate competence in the category of Demonstration and Research Pest Control but ~~[also shall demonstrate the category competencies which apply to the area of expertise~~

~~in which the applicant shall conduct demonstrations and research]~~ must also be certified in the proper category(ies) of use.

(K) Category 11—Wood Products Pest Control.

- ~~1. [The applicant shall demonstrate a practical knowledge of w]~~Wood degradation and a general knowledge of pesticides used to prevent or control the degradation.
- ~~2. [The applicant shall demonstrate a]~~An understanding of the pesticides used to preserve wood, including a knowledge of solution formulations, application techniques, hazards to man, domestic animals, and the environment, and the safe and proper means of container storage and disposal.

(L) Category 12— Soil Fumigation Pest Control.

- Label and labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform soil fumigation, including all of the following:
 - Labeling requirements specific to soil fumigants.
 - Requirements for certified applicators of fumigants, fumigant handlers, and permitted fumigant handler activities, and the safety information that certified applicators must provide to noncertified applicators using fumigants under their direct supervision.
 - Entry-restricted periods for tarped and untarped field application scenarios.
 - Recordkeeping requirements.
 - Labeling provisions unique to fumigant products containing certain active ingredients.
- Safety. Measures to minimize adverse health effects, including all of the following:
 - Understanding how certified applicators, noncertified applicators using fumigants under direct supervision of certified applicators, field workers, and bystanders can become exposed to fumigants.
 - Common problems and mistakes that can result in direct exposures to fumigants.
 - Signs and symptoms of human exposure to fumigants.
 - Air concentrations of a fumigant that require that applicators wear respirators or exit the work area entirely.
 - Steps to take if a fumigant applicator experiences sensory irritation.
 - Understanding air monitoring, when it is required, and where and when to take samples.
 - Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in the buffer zone.
 - First aid measures to take in the event of exposure to a soil fumigant.
 - Labeling requirements for transportation, storage, spill cleanup, and emergency response for soil fumigants, including safe disposal of containers and contaminated soil, and management of empty containers.
- Soil fumigant chemical characteristics. Characteristics of soil fumigants including all of the following:
 - Chemical characteristics of soil fumigants.
 - Specific human exposure concerns for soil fumigants.
 - How soil fumigants change from a liquid or solid to a gas.
 - How soil fumigants disperse in the application zone.
 - Compatibility concerns for tanks, hoses, tubing, and other equipment.
- Application. Selecting appropriate application methods and timing, including all of the following:
 - Application methods, including but not limited to water-run and non-water-run applications, and equipment commonly used for each soil fumigant.
 - Site characteristics that influence fumigant exposure.

- C. Understanding temperature inversions and their impact on soil fumigant application.
 - D. Weather conditions that could impact timing of soil fumigant application, such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications during specific weather conditions.
 - E. Conducting pre-application inspection of application equipment.
 - F. Understanding the purpose and methods of soil sealing, including the factors that determine which soil sealing method to use.
 - G. Understanding the use of tarps, including the range of tarps available, how to seal tarps, and labeling requirements for tarp removal, perforation, and repair.
 - H. Calculating the amount of product required for a specific treatment area.
 - I. Understanding the basic techniques for calibrating soil fumigant application equipment.
5. Soil and pest factors. Soil and pest factors that influence fumigant activity, including all of the following:
 - A. Influence of soil factors on fumigant volatility and movement within the soil profile.
 - B. Factors that influence gaseous movement through the soil profile and into the air.
 - C. Soil characteristics, including how soil characteristics affect the success of a soil fumigant application, assessing soil moisture, and correcting for soil characteristics that could hinder a successful soil fumigant application.
 - D. Identifying pests causing the damage and verifying they can be controlled with soil fumigation.
 - E. Understanding the relationship between pest density and application rate.
 - F. The importance of proper application depth and timing.
 6. Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following:
 - A. Following labeling directions for required personal protective equipment.
 - B. Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment.
 - C. Understanding the types of respirators required when using specific soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters.
 - D. Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recordkeeping.
 7. Fumigant management plans and post-application summaries. Information about fumigant management plans, including all of the following:
 - A. When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it.
 - B. The elements of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan.
 - C. The person responsible for verifying that a fumigant management plan is accurate.
 - D. The elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed.
 8. Buffer zones and posting requirements. Understanding buffer zones and posting requirements, including all of the following:
 - A. Buffer zones and the buffer zone period.
 - B. Identifying who is allowed in the buffer zone during the buffer zone period and who is prohibited from being in a buffer zone during the buffer zone period.
 - C. Using the buffer zone table from the labelling to determine the size of the buffer zone.

- D. Factors that determine the buffer zone credits for application scenarios and calculating buffer zones using credits.
- E. Distinguishing buffer zone posting and treated area posting, including the pre-application and post-application posting timeframes for each.
- F. Proper choice and placement of warning signs.

(M) Category 13—Aerial Pest Control.

1. Labeling. Labeling requirements and restrictions specific to aerial application of pesticides including:
 - A. Spray volumes.
 - B. Buffers and no-spray zones.
 - C. Weather conditions specific to wind and inversions.
2. Application equipment. Understand how to choose and maintain aerial application equipment, including all of the following:
 - A. The importance of inspecting application equipment to ensure it is in proper operating condition prior to beginning an application.
 - B. Selecting proper nozzles to ensure it is in proper operating condition prior to beginning an application.
 - C. Knowledge of components of an aerial pesticide application system, including pesticide hoppers, tanks, pumps, and types of nozzles.
 - D. Interpreting a nozzle flow chart.
 - E. Determining the number of nozzles for intended pesticide output using nozzle flow rate chart, aircraft speed, and swath width.
 - F. How to ensure nozzles are placed to compensate for uneven dispersal due to uneven airflow from wingtip vortices, helicopter rotor turbulence, and aircraft propeller turbulence.
 - G. Where to place nozzles to produce the appropriate droplet size.
 - H. How to maintain the application system in good repair, including pressure gauge accuracy, filter cleaning according to schedule, and checking nozzles for excessive wear.
 - I. How to calculate required and actual flow rate.
 - J. How to verify flow rate using fixed timing, open timing, known distance, or a flow meter.
 - K. When to adjust and calibrate application equipment.
3. Application considerations. The applicator must demonstrate knowledge of factors to consider before and during application, including all of the following:
 - A. Weather conditions that could impact application by affecting aircraft engine power, take-off distance, and climb rate, or by promoting spray droplet evaporation.
 - B. How to determine wind velocity, direction, and air density at the application site.
 - C. The potential impact of thermals and temperature inversions on aerial pesticide application.
4. Minimizing drift. The applicator must demonstrate knowledge of methods to minimize off-target pesticide movement, including all of the following:
 - A. How to determine drift potential of a product using a smoke generator.
 - B. How to evaluate vertical and horizontal smoke plumes to assess wind direction, speed, and concentration.
 - C. Selecting techniques that minimize pesticide movement out of the area to be treated.
 - D. Documenting special equipment configurations or flight patterns used to reduce off-target pesticide drift.

5. Performing aerial application. The applicator must demonstrate competency in performing an aerial pesticide application, including all of the following:
 - A. Selecting a flight altitude that minimizes streaking and off-target pesticide drift.
 - B. Choosing a flight pattern that ensures applicator and bystander safety and proper application.
 - C. The importance of engaging and disengaging spray precisely when entering and exiting a predetermined swath pattern.
 - D. Tools available to mark swaths, such as global positioning systems and flags.
 - E. Recordkeeping requirements for aerial pesticide applications including application conditions if applicable.
6. The applicant shall not only demonstrate competence in the category of Aerial Pest Control, but must also be certified in the proper category(ies) of use.

4. Private Applicator Certification Categories

The Missouri Department of Agriculture adopts its own private applicator categories and standards that meet or exceed federal standards at §171.105. The certification categories are as follows and are included as Attachment 4.

STATE CATEGORY/ SUBCATEGORY NAME	STATE CATEGORY/ SUBCATEGORY DESCRIPTION	CLOSEST COMPARABLE EPA FEDERAL CATEGORY
20-General Agricultural Pest Control	This category is provided for private applicators who are required to obtain private applicator certification to use restricted use pesticides for the purpose of producing any agricultural commodity excluding soil and non-soil fumigants and the aerial application of restricted use pesticides.	Agricultural Pest Control
21-Soil Fumigation Pest Control	This category is provided for certified private applicators certified in Category 20 who are required to obtain proper category certification for the use of soil fumigants classified as restricted use pesticides for the control of pests in the production of any agricultural commodity.	Soil Fumigation

22-Non-soil Fumigation Pest Control	This category is provided for certified private applicators certified in Category 20 who are required to obtain proper certification for the use of non-soil fumigants classified as restricted use pesticides for the control of pests in the production and storage of any agricultural commodity.	Non- Soil Fumigation
23-Aerial Pest Control	This category is provided for certified private applicators certified in Category 20 who are required to obtain proper category certification to use apply restricted use pesticides with manned or unmanned aircraft, either fixed wing or rotary wing, in the production of any agricultural commodity.	Aerial Pest Control

**Sodium cyanide and sodium fluoroacetate are not needed in the state of MO, therefore MO does not plan to add these categories.

2 CSR 70-25.150 ~~[Course of Instruction and]~~ Standards of Competence for the Certification of ~~[Certified]~~ Private Applicators

- (1) **To qualify for private applicator certification or provisional private applicator certification, ~~[Certified]~~ private applicators ~~[shall attend a course of instruction]~~ are required to read and demonstrate competency in the understanding of pesticide labels and labeling and shall: ~~[approved by the director as required by section 281.040, RSMo (1986)].~~**
- (A) ~~[The]~~ Attend a University of Missouri Extension private applicator ~~[course of instruction]~~ General Agricultural Pest Control certification training program;**
 - (B) Complete a University of Missouri Extension private applicator General Agricultural Pest Control on-line certification training program; or**
 - (C) Pass the department’s private applicator General Agricultural Pest Control certification examination. ~~[shall encompass the standards of competence as provided in section (3) of this rule. Private applicators also shall be instructed as to the general pest problems and general pest control practices associated with agricultural operations, proper storage, application, handling and disposal of pesticides and pesticide containers and the legal responsibilities of private applicators.]~~**
- (2) **Private applicators must obtain certification in Category 20 – General Agricultural Pest Control prior to becoming certified in one of the additional private applicator certification categories. Private applicators that use restricted use pesticides to fumigate soil must also obtain certification in Category 21 – Soil Fumigation Pest Control. Private applicators that use restricted use pesticides to fumigate non-soil commodities or non-soil sites must also obtain certification in Category 22 – Non-Soil Fumigation Pest Control. Private applicators that apply restricted use pesticides through aerial application must also obtain certification in Category 23 – Aerial Pest Control. The certification training programs, on-line certification training programs, and certification**

examinations provided for Categories 20, 21, 22, and 23 shall encompass the standards of competence as provided in sections (3), (4), (5), and (6) of this rule.

~~[(2)]~~ (3) **Category 20 – General Agricultural Pest Control Standards of Competence.** The applicant shall demonstrate practical knowledge of:

(A) The recognition of common agricultural pests, ~~[and the recognition of the]~~ damage caused by these pests[;], the importance of selecting proper pesticide products for effective control, and the importance of verifying that the label does not prohibit the use of the product to control the target pest(s) or use site;

(B) ~~[The r]~~Reading and understanding ~~[of]~~ the label and labeling information, including general format and terminology, ~~[including]~~ the common name of the pesticide[;], the pest to be controlled[;], timing and methods of ~~[the]~~ application of the pesticide[;], signal words, symbols, safety precautions[;], pre-harvest intervals[;], reentry intervals, and disposal procedures for pesticides and pesticide containers;

(C) All use restrictions and directions for use found on the label and labeling, certification requirements in the appropriate category to use restricted use pesticides, and State and Federal pesticide laws requiring the use of any registered pesticide in a manner consistent with its labeling;

(D) The meaning of product classification, the difference between mandatory and advisory labeling language, direct supervision including understanding when a certified applicator must be physically present at the site of the application based on labeling requirements, labeling requirements for supervising noncertified applicators, and understanding and complying with product-specific notification requirements;

(E) The application of pesticides in accordance with label and labeling instructions and warnings, including the ability to prepare the proper concentration of the pesticides to be used under particular circumstances, taking into account factors such as the area to be covered, speed in which application equipment will be driven, and the quantity to dispense in a given period of operation;

(F) The characteristics of pesticides, including types of pesticides, types of formulations, compatibility, synergism, persistence, animal and plant toxicity, hazards and residues associated with use, factors influencing effectiveness or leading to problems such as pesticide resistance, and dilution procedures;

(G) The recognition of local environmental situations that must be considered during application to avoid contamination[;] and potential environmental consequences of the use and misuse of pesticides, including weather and other climatic conditions, types of terrain, soil, or other substrate, presence of fish, wildlife, and non-target organisms, and drainage patterns;

(H) ~~[The recognition of poisoning symptoms and procedures to follow in case of a pesticide accident.]~~ Measures to avoid or minimize adverse health effects, common types and causes of pesticide mishaps, needs for and proper use of personal protective clothing and equipment, and precautions to prevent injury to applicators and other individuals in or near treated areas;

- (I) Likely ways pesticide exposure may occur, symptoms of pesticide poisoning, the difference between acute toxicity and chronic toxicity and their long term effects, understanding that a pesticide's risk is a function of exposure and the pesticide's toxicity, and first aid and other procedures to be followed in case of a pesticide mishap;
- (J) Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers, including precautions to be taken to prevent children from having access to pesticides and pesticide containers;
- (K) Application equipment, including types of equipment and the advantages and limitations of each, uses, maintenance, and calibration procedures;
- (L) Selecting appropriate application methods including methods used to apply various forms and formulations of pesticides, which application method to use in a given situation, and that use of a fumigant or aerial application requires additional certification, and how the selection of application method and use of a pesticide may result in unnecessary, ineffective use and misuse;
- (M) The prevention of pesticide drift and pesticide loss into the environment;
- (N) The state and federal pesticide laws and regulations, including the Worker Protection Standard in 40 CFR Part 170;
- (O) The certified applicator responsibilities and requirements related to supervision of noncertified applicators, including being able to explain appropriate state and federal pesticide laws and regulations to noncertified applicators and providing use-specific instructions for the site and pesticide used to noncertified applicators using pesticides under the direct supervision of a certified private applicator ensuring that the noncertified applicator has access to the applicable product labeling at all times during use, ensuring that any noncertified applicator has clean labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose, ensuring that before each day of use the equipment is in proper operating condition and can be used without risk of reasonably foreseeable adverse effects to the noncertified applicator, other persons, or the environment, ensuring that a means to immediately communicate with the certified applicator is available, the certified applicator must be physically present at the site of the use being supervised when required by the label, and ensuring the required use records are being maintained;
- (P) The importance of maintaining secure storage for pesticides and other chemicals and how to communicate information about pesticide exposures and risks with agricultural workers and handlers and other persons;
- (Q) Agricultural Pest Control, including specific pests of relevant agricultural commodities and the control of such pests with pesticides, how to avoid contamination of ground and surface waters, understanding pre-harvest and restricted entry intervals and entry-restricted periods and areas, and understanding specific pesticide toxicity and residue potential when pesticides are applied to animal or animal product agricultural commodities; and

(R) Hazards associated with using pesticides on animals or places in which animals are confined based on formulation, application technique, age of animal, stress, and extent of treatment.

~~[(3) Attendance of an approved course of instruction by the private applicator shall be verified by the signature of the instructor and the signature of the private applicator on a verification document provided by the director. The document shall be forwarded to the Missouri Department of Agriculture as proof of attendance. Upon receipt of the document of verification of attendance, the director shall forward to the private applicator a certified private applicator license.]~~

(4) Category 21 – Soil Fumigation Pest Control Standards of Competence. The applicant shall demonstrate practical knowledge of:

(A) Fumigant label and labeling comprehension, including labeling requirements specific to soil fumigation, labeling requirements for certified applicators and handlers of fumigants, permitted fumigant handler activities, and the safety information that certified applicators must provide to noncertified applicators using fumigants under the direct supervision of certified applicators;

(B) Entry-restricted period for different tarped and untarped field applications, recordkeeping requirements imposed by labels and labeling, and labeling provisions unique to products containing certain active ingredients;

(C) Labeling requirements for fumigation management plans, such as when a fumigant management plan must be in effect, how long must it be kept on file, where must it be kept during application, and who must have access to it;

(D) The elements of a fumigation plan and resources for preparing a plan, responsibility for verifying that the fumigant management plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed;

(E) Measures to minimize adverse effects, including understanding how certified applicators, field workers, and bystanders can become exposed to fumigants;

(F) How common problems and mistakes can result in direct exposure to fumigants, the signs and symptoms of human exposure to fumigants, air concentrations, and requirements for respirators;

(G) The steps to take if a fumigant applicator experiences sensory irritation, air monitoring, when required and when to sample the air, buffer zones, first aid measures, and the labeling requirements for transportation, storage, spill cleanup, and emergency response for soil fumigants, including safe disposal of containers and contaminated soil;

(H) Characteristics of soil fumigants, including specific human exposure concerns, how soil fumigants change from liquid or solid to a gas, how soil fumigants disperse in the application zone, and compatibility concerns for tanks, hoses, tubing, and other equipment;

(I) Selecting appropriate application methods and timing, including application methods for water-run and non-water-run applications, equipment used for each soil fumigant, and site characteristics that influence fumigant exposure;

- (J) Temperature inversions and their impact on soil fumigant applications, weather conditions that could impact timing of soil fumigation application, pre-application inspection of application equipment, the purpose and methods of soil sealing, and which methods to use;
- (K) The use of tarps, how to seal tarps, labeling requirements for tarp removal, perforation, and repair, calculating the amount of fumigant required for a specific treatment area, and understanding the basic techniques for calibrating soil fumigation equipment;
- (L) Soil and pest factors that influence fumigant activity, including influence of soil factors on fumigant volatility and movement within the soil and factors that influence gaseous movement through soil and air;
- (M) Soil characteristics, including how they affect the success of a soil fumigant application, accessing soil moisture, and correcting for soil characteristics that could hinder a successful soil fumigation, pest(s) identification and verification that the soil fumigant will control pest(s), the relationship between pest density and application rate, and proper application depth and timing;
- (N) Personal protective equipment (PPE), including following all label directions requiring PPE use and selecting, inspecting, using, caring for, and replacing PPE;
- (O) The types of respirators required when using specific soil fumigants and how to use respirators properly (medical evaluation, fit testing, and required replacement of cartridges and canisters), labeling requirements and other laws applicable to medical evaluation for respirator use, fit test, training, and recordkeeping;
- (P) Fumigant management plans and post-application summaries, including when a fumigation management plan must be in effect, how long it must be kept on file, where it must be kept during a fumigant application, and who must have access to it;
- (Q) The elements of a fumigant management plan and resources available for preparing a plan, the person responsible for verifying that a fumigation management plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed;
- (R) Buffer zones and posting requirements, including buffer zones and buffer zone periods, identifying those who can be in the buffer zone and those who cannot be in the buffer zone during the buffer zone period;
- (S) How to use the buffer zone table from the labeling to determine the size of the buffer zone, factors that determine the buffer zone credits for application scenarios, and calculating buffer zones using credits; and
- (T) Distinguishing buffer zone posting and treated area posting, including the pre-application and post-application posting timeframes for each and the proper choice and placement of warning signs.
- (5) Category 22 – Non-soil Fumigation Pest Control Standards of Competence. The applicant shall demonstrate a practical knowledge of:
- (A) The use of fumigants on sites other than soil, including label and labeling comprehension of products used to perform non-soil fumigations and labeling requirements specific to non-soil fumigants;

- (B) Safety measures to minimize adverse health effects, including understanding how applicators and bystanders can become exposed to fumigants, common problems and mistakes that can result in direct exposure to fumigants, and the signs and symptoms of human exposure to fumigants;
- (C) When air concentrations trigger applicators, handlers, and workers to wear respirators or to exit the application site, the steps to take if an applicator using a fumigant experiences exposure, and first aid measures to take in the event of exposure to a fumigant;
- (D) When to monitor and sample air, monitoring buffer zones and who is permitted to be in the buffer zone, labeling requirements for transportation, storage, spill clean up, and emergency response to non-soil fumigants, the safe disposal of containers and contaminated materials, and management of empty containers;
- (E) Non-soil fumigant chemical characteristics, including chemical characteristics of non-soil fumigants, specific human exposure concerns for non-soil fumigants, how fumigants change from a liquid or solid to a gas, and how fumigants disperse in the application zone;
- (F) Compatibility concerns for tanks, hoses, tubing, and other equipment;
- (G) Appropriate application methods and timing, including application methods and equipment commonly used for non-soil fumigation, site characteristics that influence fumigant exposure, and conditions that could impact timing of non-soil fumigations, such as air stability, air temperature, humidity, and wind currents, and labeling restrictions limiting applications when specific conditions are present;
- (H) Conducting pre-application inspections of equipment and the site to be fumigated, the purpose and methods of sealing the area to be fumigated, and the factors that determine when and which sealing methods to use;
- (I) Calculating the amount of fumigant required to treat the site, basic techniques for calibrating non-soil fumigant application equipment, and understanding when and how to conduct air monitoring and when it is required;
- (J) Pest factors that influence fumigant activity, including influence of pest factors on fumigant volatility, factors that influence gaseous movement through the area being fumigated and into the air, and identifying pests causing the damage and verifying they can be controlled with fumigation;
- (K) The relationship between pest density and application rate and the importance of proper application rate and timing;
- (L) Personal protective equipment, including how to use it properly, following labeling directions for required personal protective equipment, and selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment;
- (M) The different types of respirators required when using non-soil fumigants and how to use them properly, including when to replace cartridges and canisters;
- (N) Labeling requirements and other laws applicable to medical evaluations and fit testing for respirator use and applicable training and recordkeeping;

(O) When fumigation management plans and post-application summaries are required, including when a fumigation management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it;

(P) The elements found in a fumigation management plan and resources available to assist the applicator in preparing the fumigant management plan, who is responsible for verifying the plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed; and

(Q) Posting requirements, including understanding who is allowed in an area being fumigated or after fumigation and who is prohibited from being in such area, distinguishing fumigant labeling-required posting and treated area posting, including the pre-application and post-application posting timeframes for each, and the proper choice and placement of warning signs.

(6) Category 23 – Aerial Pest Control Standards of Competence. The applicant shall demonstrate a practical knowledge of:

(A) The pest problems and pest control practices associated with performing aerial applications;

(B) Labeling requirements and restrictions specific to aerial application of pesticides, spray volumes, buffer and no-spray zones, and weather conditions specific to wind and inversions;

(C) Label-mandated recordkeeping requirements for aerial pesticide applications including application conditions;

(D) Application equipment, including how to choose and maintain aerial application equipment, inspecting application equipment to ensure it is in proper operating condition prior to beginning an application, selecting proper nozzles to ensure appropriate pesticide dispersal and to minimize drift;

(E) The components of an aerial pesticide application system (pesticide hoppers, tanks, pumps, and types of nozzles) and nozzle flow charts;

(F) Determining the number of nozzles for intended pesticide output using a nozzle flow rate chart, aircraft speed, and swath width;

(G) How nozzles are placed to compensate for uneven dispersal due to uneven airflow from wingtip vortices, helicopter rotor turbulence, and aircraft propeller turbulence and where to place nozzles to produce the appropriate droplet size;

(H) How to maintain the application system in good repair, including pressure gauge accuracy, filter cleaning according to schedule, and checking nozzles for excessive wear;

(I) How to calculate required and actual flow rates, how to verify flow rate using fixed timing, open timing, known distance, or a flow meter, and when to adjust and calibrate application equipment;

(J) Application factors to consider before and during the application, including weather conditions that could impact application by affecting aircraft engine power, take-off distance, climb rate, and spray droplet evaporation;

- (K) How to determine wind velocity, direction, and air density at the application site and potential impact of thermals and temperature inversions on aerial pesticide application;
- (L) Methods to minimize off-target pesticide movement, including determining drift potential of a product by use of a smoke generator and how to evaluate vertical and horizontal smoke plumes to assess wind direction, speed, and concentration;
- (M) Selecting techniques that minimize pesticide movement out of the treated area and how to document special equipment configurations or flight patterns used to reduce off-target pesticide drift;
- (N) Performing an aerial pesticide application, including selecting a flight altitude that minimizes streaking and off-target pesticide drift and choosing a flight pattern that ensures applicator and bystander safety and proper application; and
- (O) The importance of engaging and disengaging spray precisely when entering a predetermined swath pattern at the application site and the tools used to mark swath patterns, such as global positioning systems and flags.

5. Limited Use Certification Categories

Limited use certification categories are not being utilized by Missouri Department of Agriculture.

6. Standards for Certification of Commercial Applicators

The Missouri Department of Agriculture adopts its own standards for commercial applicator certification that meet or exceed federal standards at §171.101 and 171.103. They are as follows and are included as specific attachments noted below.

a. Minimum Age Requirement is as follows and is included as Attachment 6-A.

Chapter 281 RSMo 2 CSR 70-25.010 Definitions

(10) Legal age—eighteen (18) years, for license and certification as noncertified RUP applicators, pesticide technicians, and certified applicators. ~~[unless otherwise provide by law:]~~ Individuals who are sixteen (16) or seventeen (17) years of age and supervised by an immediate family member who is a certified private applicator are eligible to obtain certification as a certified provisional private applicator.

b. Core Standards of Competency are as follows and are included as Attachment 6-B.

2 CSR 70-25.110 Standards of Competence for the Certification of Commercial Applicators, Noncommercial Applicators, ~~and~~ Public Operators, and Noncertified RUP Applicators

(1) Commercial applicators, noncommercial applicators, and public operators shall pass an examination to demonstrate competence in the use of pesticides based on the general standards of competence and shall pass an examination based on the specific standards of competence for at least one (1) of the certification categories listed in 2 CSR 70-25.100.

(2) Noncertified RUP applicators shall pass an examination to demonstrate competence in the use of restricted use pesticides based on the general standards of competence found in section 3 of this rule.

~~(2)~~(3) General Standards of Competence for ~~[All Certification Categories]~~ CORE examination. The applicant shall demonstrate a practical knowledge of:

(A) Pesticide labels and labeling, including-

1. ~~[t]~~The format and terminology of pesticide labels and labeling, and an understanding of instructions, warnings, terms, symbols, and other information commonly appearing on pesticide labels.
2. ~~[The applicant shall demonstrate a practical knowledge of t]~~The classification of pesticides as to general or restricted use and that a pesticide may be unclassified.
3. Understanding labeling requirements relating to supervising noncertified applicators who are working under the direct supervision of a certified applicator.
4. Understanding label requirements that a certified applicator must be physically present at the site of the application.
5. Recognizing and understanding the difference between mandatory and advisory labeling language.
6. Understanding that they must comply with all use restrictions and directions for use found on the label and labeling, including being certified in the certification category appropriate to the type and site of application and that it is a violation of state and federal law to use any registered ~~[must understand the necessity for the use of a]~~ pesticide in a manner inconsistent with its labeling.

(B) Applicator pesticide safety, including-

1. ~~[t]~~The factors of pesticide safety including pesticide toxicity, hazard to man, and common exposure routes.
2. ~~[The applicator must demonstrate a practical knowledge of t]~~The types and causes of pesticide accidents~~[, a practical knowledge of]~~ and the precautions necessary to guard against injury to applicators and other individuals in or near treated areas.
3. Understanding the different natures of the risks of acute toxicity, as well as the long-term effects of pesticides.
4. ~~[a practical knowledge of t]~~The need for, and the use of, protective clothing and equipment.
5. ~~[a practical knowledge of s]~~Symptoms of pesticide poisoning~~[, r]~~.
6. ~~[and a practical knowledge of f]~~First aid and other procedures to be followed in case of pesticide accidents.
7. ~~[The applicator shall demonstrate a practical knowledge of p]~~Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers including precautions to be taken to prevent children from having access to pesticides and pesticide containers.

(C) Environment, including-

1. ~~[The applicant shall demonstrate a practical knowledge of the environment, including p]~~Potential environmental consequences of the use, and the misuse, of pesticides as may be influenced by such factors as weather and other climatic conditions; ~~[as may be influenced by]~~ types of terrain, soil, and

other substrate; ~~[as may be influenced by]~~ the presence of fish, wildlife, and other non-target organisms; and ~~[as may be influenced by]~~ drainage patterns.

(D) Pests and pest recognition, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pests and pest recognition, including t]~~The common features of pest organisms and the characteristics of pest damage as a means of pest recognition[;].
2. ~~[and a practical knowledge of]~~ ~~[p]~~Pest development, including the biology and habits of pests as may be relevant to problem identification in pest control.
3. **Correctly selecting the proper pesticide product(s) for effective pest control by verifying the labeling does not prohibit the use of the product for the control of the target pest(s) or use site.**

(E) Pesticides, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticides, including t]~~Types of pesticides, types of pesticide formulations, compatibility, synergism, persistence, and the toxicity of various pesticides and pesticide formulations to animals and plants.
2. ~~[a practical knowledge of t]~~The hazards and residues associated with pesticide use.
3. ~~[a practical knowledge of f]~~Factors which influence pesticide effectiveness or lead to such problems as resistance to pesticides[; and a practical knowledge of]
4. ~~[d]~~Dilution procedures.

(F) Pesticide equipment, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticide equipment, including t]~~The types of equipment and the advantages and limitations of each type[;].
2. ~~[and a practical knowledge of t]~~The use, maintenance, and calibration of pesticide equipment.
3. **Drift prevention and pesticide loss into the environment.**

(G) Application techniques, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticide application techniques, including m]~~Methods and procedures used to apply various formulations of pesticides ~~[solutions and gases, together with a knowledge of which]~~ **and the application technique to use in a given situation.**
2. ~~[a practical knowledge of the relationship of discharge and placement of a pesticide to the proper use of the pesticide as well as to the unnecessary use of the pesticides;]~~ **Understanding how selection of application method and use of a pesticide may result in proper use, unnecessary or ineffective use, and misuse.**
3. ~~[and a practical knowledge of t]~~The prevention of pesticide drift and of pesticide loss into the environment.
4. **Which application method to use in a given situation and that use of a fumigant or aerial application requires additional certification.**

(H) ~~[The applicant shall demonstrate a practical knowledge of the applicable s]~~State and federal pesticide laws and regulations.

(I) Responsibility of certified applicators supervising noncertified applicators, including-

1. Understanding and complying with all regulations for certified applicators who supervise noncertified applicators using general use and restricted use pesticides and the regulatory requirements for recordkeeping for noncertified applicators who have demonstrated competency in the safe use of all pesticides.
 2. Providing use-specific instructions to noncertified applicators prior to using general use and restricted use pesticides under the direct supervision of a certified applicator.
 3. Pertinent state and federal pesticide laws and regulations for explanation to noncertified applicators who use general use and restricted use pesticides under the direct supervision of certified applicators.
- (J) Professionalism, including-
1. Understanding of the importance for maintaining chemical security for all pesticides and how to communicate information about pesticide exposure and risks with the public.
 2. Pesticide product stewardship.

c. Examination Standards are as follows and are included as Attachment 6-C.

2 CSR 70-25.090 Examinations for Certified Commercial Applicators, Certified Noncommercial Applicators, Certified Public Operators, ~~and~~ Certified Private Applicators, Certified Provisional Private Applicators, Noncertified RUP Applicators, and Pesticide Dealers.

(1) Applicants for a certified commercial applicator license, ~~a~~ certified noncommercial applicator license, or ~~a~~ certified public operator license shall take ~~a~~ written examinations based on the general standards of competence and category specific standards of competence provided in 2 CSR 70-25.110. Applicants for a certified private applicator license or certified provisional private applicator license may take a written examination for each requested category defined in 2 CSR 70-25.140 based on the standards of competence provided in 2 CSR 70-25.150. Applicants for a noncertified RUP applicator license shall take a written examination based on the general standards of competence provided in 2 CSR 70-25.110 (3). Applicants for a pesticide dealer license shall take a written examination based on the laws and regulations governing the use and sale of pesticides and the pesticide dealer's responsibility in carrying on the business of a pesticide dealer. ~~When recommended by the director, the a~~ Applicants ~~shall take a written and oral examination and~~ may be required to conduct a practical demonstration of competence, in addition to written examinations.

(2) Examinations shall cover material judged by the director to be pertinent to the request contained in the application.

(3) Applicants must present at the time of examination a valid, government-issued photo identification or other form of similarly reliable identification authorized by the director as proof of identity and age to be eligible for certification.

~~(3)~~(4) Any applicant who gives or receives unauthorized assistance during an examination shall be dismissed from the examination and his/her ~~markings or results~~ examination shall be voided. ~~Any such person shall be required to make reapplication for a license.~~

~~(4)~~(5) Only persons authorized by the director may be in the examination room during the examination. ~~The director may require identification for all applicants.~~

(6) Only director-approved reference material provided by the examination proctor may be used during the examination. All reference material will be collected and examined by the examination proctor to ensure no portion of the reference material has been removed, altered, or destroyed. No portion of any examination or reference material may be copied or retained by any person other than a person authorized by the director. Any applicant found to have removed, altered, or destroyed any portion of the reference material shall have his/her examination results voided.

~~[(5)]~~(7) Any applicant who fails to attain a passing score of **at least** seventy percent (70%) on any examination may request **through the normal registration process** ~~[in writing, by regular mail,]~~ to retake the examination. ~~[The director will then inform the applicant, in writing, by regular mail, of the time and place the applicant may retake the examination. Upon failing the examination three (3) times, or failing to take the examination as scheduled three (3) times, the applicant shall reapply for a license.]~~

~~[(6)]~~(8) All examination~~s taken to satisfy requirements of the Missouri Pesticide Use Act~~ **results are valid for one (1) year and** shall be retained by the department for at least one (1) year from the date they were completed. Individuals who do not apply for a license during that one (1)-year period must ~~[be reexamined before their license application will be accepted.]~~ **reexamine.**

***Note: these examination standards are part of the plan only. They will not be implemented in rule.**

- Additional forms of identification include U.S. citizen members of Old Order Amish and Old Order Mennonite communities may generally establish U.S. identity and citizenship with an approved Internal Revenue Service (IRS) Form 4029. Candidates who wish to submit the IRS Form 4029 must notify the Missouri Department of Agriculture of their intent to do so. The MDA will approve the candidate and notify Pearson VUE on behalf of the candidate.
- Exams will be a minimum of 50 questions derived from the Missouri Pesticide Use Act and standards of competence for commercial applicators.
- The examination must be proctored by an individual designated by the certifying authority and who is not seeking certification at any examination session that he or she is proctoring.
- Candidates must be monitored throughout the examination period.
- Candidates must be instructed in the examination procedures before beginning the examination.
- Examinations must be kept secure before, during, and after the examination period so that only the candidates have access to the examination, and candidate have access only in the presence of the proctor.
- Candidates must not have verbal or non-verbal communication with anyone other than the proctor during the examination period.
- The proctor reports to the certifying authority any examination administration inconsistencies or irregularities, including but not limited to cheating, use of unauthorized materials, and attempt to copy or retain the examination.
- The certifying authority must notify each candidate of the results of his or her examination.
- Candidates who do not pass an exam may schedule to take another exam 24 hours later provided the testing center has availability.
- **Additional information about exam standards including a link to the handbook can be found by visiting the following link: <https://agriculture.mo.gov/plants/pesticides/certexam.php>**

d. Standards for Limited Use Category Certification

Missouri Department of Agriculture is not utilizing a limited use category.

e. Exceptions are as follows and are included as Attachment 6-E.

281.080. Exemptions.

The provisions of sections 281.010 to 281.115 relating to licenses and requirements for their issuance shall not apply to:

- (1) Veterinarians using pesticides on animals during the normal course of veterinary practice, as long as he is not regularly engaged in the business of using pesticides for hire amounting to a principal or regular occupation or does not publicly hold himself out as a pesticide applicator;
- (2) Doctors of medicine or doctors of osteopathy using or prescribing pesticides in the practice of medicine;
- (3) Government and private research personnel using pesticides under laboratory type conditions.

7. Standards for Certification of Private Applicators

The Missouri Department of Agriculture adopts its own private applicator standards that meet or exceed federal standards at §171.105. The director will approve private applicator training. A training curriculum will be developed that lists the required topics that must be covered.

Private applicator training programs will be monitored and evaluated by program staff. Those standards are as follows and are included as specific attachments below.

a. Minimum Age Requirement is as follows and is included as Attachment 7-A.

Chapter 281 RSMo 2 CSR 70-25.010 Definitions

2 CSR 70-25.010 (10)

Legal age—eighteen (18) years, **for license and certification as noncertified RUP applicators, pesticide technicians, and certified applicators. [unless otherwise provide by law:] Individuals who are sixteen (16) or seventeen (17) years of age and supervised by an immediate family member who is a certified private applicator are eligible to obtain certification as a certified provisional private applicator.**

2 CSR 70-25.130 Requirements for a Certified Private Applicator License or Certified Provisional Private Applicator License

(1) A certified private applicator license **or certified provisional private applicator license** will be issued to any

(2) private applicator who meets the following requirements:

~~(A) Applicants shall submit to the director a verification of training signed by the applicant and an authorized pesticide trainer; and~~

~~(B)~~ (A) Is of legal age;

b. Core Standards of Competency are as follows and are included at Attachment 7-B.

2 CSR 70-25.150 ~~[Course of Instruction and]~~ Standards of Competence for **the Certification of ~~[Certified]~~ Private Applicators**

(1) ~~To qualify for private applicator certification or provisional private applicator certification, ~~[Certified]~~ private applicators ~~[shall attend a course of instruction]~~ are required to read and demonstrate competency in the understanding of pesticide labels and labeling and shall: ~~[approved by the director as required by section 281.040, RSMo (1986).]~~~~

~~(A) ~~[The]~~ Attend a University of Missouri Extension private applicator ~~[course of instruction]~~ General Agricultural Pest Control certification training program;~~

~~(B) Complete a University of Missouri Extension private applicator General Agricultural Pest Control on-line certification training program; or~~

~~(C) Pass the department's private applicator General Agricultural Pest Control certification examination. ~~[shall encompass the standards of competence as provided in section (3) of this rule. Private applicators also shall be instructed as to the general pest problems and general pest control practices associated with agricultural operations, proper storage, application, handling and disposal of pesticides and pesticide containers and the legal responsibilities of private applicators.]~~~~

(2) ~~Private applicators must obtain certification in Category 20 – General Agricultural Pest Control prior to becoming certified in one of the additional private applicator certification categories. Private applicators that use restricted use pesticides to fumigate soil must also obtain certification in Category 21 – Soil Fumigation Pest Control. Private applicators that use restricted use pesticides to fumigate non-soil commodities or non-soil sites must also obtain certification in Category 22 – Non-Soil Fumigation Pest Control. Private applicators that apply restricted use pesticides through aerial application must also obtain certification in Category 23 – Aerial Pest Control. The certification training programs, on-line certification training programs, and certification examinations provided for Categories 20, 21, 22, and 23 shall encompass the standards of competence as provided in sections (3), (4), (5), and (6) of this rule.~~

~~[(2)]~~ (3) **Category 20 – General Agricultural Pest Control Standards of Competence. The applicant shall demonstrate practical knowledge of:**

(A) ~~The recognition of common agricultural pests, ~~[and the recognition of the]~~ damage caused by these pests[;], the importance of selecting proper pesticide products for effective control, and the importance of verifying that the label does not prohibit the use of the product to control the target pest(s) or use site;~~

- (B) ~~[The +]~~ Reading and understanding ~~[of]~~ the label and labeling information, including general format and terminology, ~~[including]~~ the common name of the pesticide[;], the pest to be controlled[;], timing and methods of ~~[the]~~ application of the pesticide[;], signal words, symbols, safety precautions[;], pre-harvest intervals[;], reentry intervals, and disposal procedures for pesticides and pesticide containers;
- (C) All use restrictions and directions for use found on the label and labeling, certification requirements in the appropriate category to use restricted use pesticides, and State and Federal pesticide laws requiring the use of any registered pesticide in a manner consistent with its labeling;
- (D) The meaning of product classification, the difference between mandatory and advisory labeling language, direct supervision including understanding when a certified applicator must be physically present at the site of the application based on labeling requirements, labeling requirements for supervising noncertified applicators, and understanding and complying with product-specific notification requirements;
- (E) The application of pesticides in accordance with label and labeling instructions and warnings, including the ability to prepare the proper concentration of the pesticides to be used under particular circumstances, taking into account factors such as the area to be covered, speed in which application equipment will be driven, and the quantity to dispense in a given period of operation;
- (F) The characteristics of pesticides, including types of pesticides, types of formulations, compatibility, synergism, persistence, animal and plant toxicity, hazards and residues associated with use, factors influencing effectiveness or leading to problems such as pesticide resistance, and dilution procedures;
- (G) The recognition of local environmental situations that must be considered during application to avoid contamination[;] and potential environmental consequences of the use and misuse of pesticides, including weather and other climatic conditions, types of terrain, soil, or other substrate, presence of fish, wildlife, and non-target organisms, and drainage patterns;
- (H) ~~[The recognition of poisoning symptoms and procedures to follow in case of a pesticide accident.]~~ Measures to avoid or minimize adverse health effects, common types and causes of pesticide mishaps, needs for and proper use of personal protective clothing and equipment, and precautions to prevent injury to applicators and other individuals in or near treated areas;
- (I) Likely ways pesticide exposure may occur, symptoms of pesticide poisoning, the difference between acute toxicity and chronic toxicity and their long term effects, understanding that a pesticide's risk is a function of exposure and the pesticide's toxicity, and first aid and other procedures to be followed in case of a pesticide mishap;
- (J) Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers, including precautions to be taken to prevent children from having access to pesticides and pesticide containers;
- (K) Application equipment, including types of equipment and the advantages and limitations of each, uses, maintenance, and calibration procedures;

- (L) Selecting appropriate application methods including methods used to apply various forms and formulations of pesticides, which application method to use in a given situation, and that use of a fumigant or aerial application requires additional certification, and how the selection of application method and use of a pesticide may result in unnecessary, ineffective use and misuse;
- (M) The prevention of pesticide drift and pesticide loss into the environment;
- (N) The state and federal pesticide laws and regulations, including the Worker Protection Standard in 40 CFR Part 170;
- (O) The certified applicator responsibilities and requirements related to supervision of noncertified applicators, including being able to explain appropriate state and federal pesticide laws and regulations to noncertified applicators and providing use-specific instructions for the site and pesticide used to noncertified applicators using pesticides under the direct supervision of a certified private applicator ensuring that the noncertified applicator has access to the applicable product labeling at all times during use, ensuring that any noncertified applicator has clean labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose, ensuring that before each day of use the equipment is in proper operating condition and can be used without risk of reasonably foreseeable adverse effects to the noncertified applicator, other persons, or the environment, ensuring that a means to immediately communicate with the certified applicator is available, the certified applicator must be physically present at the site of the use being supervised when required by the label, and ensuring the required use records are being maintained;
- (P) The importance of maintaining secure storage for pesticides and other chemicals and how to communicate information about pesticide exposures and risks with agricultural workers and handlers and other persons;
- (Q) Agricultural Pest Control, including specific pests of relevant agricultural commodities and the control of such pests with pesticides, how to avoid contamination of ground and surface waters, understanding pre-harvest and restricted entry intervals and entry-restricted periods and areas, and understanding specific pesticide toxicity and residue potential when pesticides are applied to animal or animal product agricultural commodities; and
- (R) Hazards associated with using pesticides on animals or places in which animals are confined based on formulation, application technique, age of animal, stress, and extent of treatment.

c. Determination of Competency and Exam Standards are as follows and are included as Attachment 7-C.

2 CSR 70-25.090 Examinations for Certified Commercial Applicators, Certified Noncommercial Applicators, Certified Public Operators, ~~and~~ Certified Private Applicators, Certified Provisional Private Applicators, Noncertified RUP Applicators, and

Pesticide Dealers.

(1) Applicants for a certified commercial applicator license, ~~[a]~~ certified noncommercial applicator license, or ~~[a]~~ certified public operator license shall take ~~[a]~~ written examinations based on the general standards of competence and category specific standards of competence provided in 2 CSR 70-25.110. Applicants for a certified private applicator license or certified provisional private applicator license may take a written examination for each requested category defined in 2 CSR 70-25.140 based on the standards of competence provided in 2 CSR 70-25.150. Applicants for a noncertified RUP applicator license shall take a written examination based on the general standards of competence provided in 2 CSR 70-25.110 (3). Applicants for a pesticide dealer license shall take a written examination based on the laws and regulations governing the use and sale of pesticides and the pesticide dealer's responsibility in carrying on the business of a pesticide dealer. ~~[When recommended by the director, the a]~~ Applicants ~~[shall take a written and oral examination and]~~ may be required to conduct a practical demonstration of competence.

(2) Examinations shall cover material judged by the director to be pertinent to the request contained in the application.

(3) Applicants must present at the time of examination a valid, government-issued photo identification or other form of similarly reliable identification authorized by the director as proof of identity and age to be eligible for certification.

~~[(3)]~~(4) Any applicant who gives or receives unauthorized assistance during an examination shall be dismissed from the examination and his/her ~~[markings or results]~~ examination shall be voided. ~~[Any such person shall be required to make reapplication for a license.]~~

~~[(4)]~~(5) Only persons authorized by the director may be in the examination room during the examination. ~~[The director may require identification for all applicants.]~~

(6) Only director-approved reference material provided by the examination proctor may be used during the examination. All reference material will be collected and examined by the examination proctor to ensure no portion of the reference material has been removed, altered, or destroyed. No portion of any examination or reference material may be copied or retained by any person other than a person authorized by the director. Any applicant found to have removed, altered, or destroyed any portion of the reference material shall have his/her examination results voided.

~~[(5)]~~(7) Any applicant who fails to attain a passing score of at least seventy percent (70%) on any examination may request through the normal registration process ~~[in writing, by regular mail,]~~ to retake the examination. ~~[The director will then inform the applicant, in writing, by regular mail, of the time and place the applicant may retake the examination. Upon failing the examination three (3) times, or failing to take the examination as scheduled three (3) times, the applicant shall reapply for a license.]~~

~~[(6)]~~(8) All examination~~s taken to satisfy requirements of the Missouri Pesticide Use Act]~~ results are valid for one (1) year and shall be retained by the department for at least one (1) year from the date they were completed. Individuals who do not apply for a license during that one (1)-year period must ~~[be reexamined before their license application will be accepted.]~~ reexamine.

*Note: these examination standards are part of the plan only. They will not be implemented in rule.

- Additional forms of identification include U.S. citizen members of Old Order Amish and Old Order Mennonite communities may generally establish U.S. identity and citizenship with an approved Internal Revenue Service (IRS) Form 4029. Candidates who wish to submit the IRS Form 4029 must notify the Missouri Department of Agriculture of their intent to do so. The MDA will approve the candidate and notify Pearson VUE on behalf of the candidate.
- Exams will be a minimum of 50 questions derived from the Missouri Pesticide Use Act and standards of competence for private applicators.
- Examinations must be proctored by an individual designated by the certifying authority and who is not seeking certification at any examination session that he or she is proctoring.
- Candidates must be monitored throughout the examination period.
- Candidates must be instructed in examination procedure before beginning the examination.
- Examinations must be kept secure before, during and after the examination period so that only the candidates have access to the examination, and candidates have access only in the presence of the proctor.
- Candidates must not have verbal or non-verbal communication with anyone other than the proctor during the examination.
- The proctor must report to the certifying authority any examination administration inconsistencies or irregularities, including but not limited to cheating, use of unauthorized materials, and attempts to copy or retain the examination.
- The certifying authority must notify the candidate of the results of his or her examination.
- Candidates who do not pass an exam may schedule to take another exam 24 hours later provided the testing center has availability.
- Additional information about exam standards including a link to the handbook can be found by visiting the following link: <https://agriculture.mo.gov/plants/pesticides/certexam.php>

2 CSR 70-25.130 Requirements for a Certified Private Applicator License or Certified Provisional Private Applicator License

(1) A certified private applicator license or certified provisional private applicator license will be issued to any individual who meets the following requirements:

~~(A) — Applicants shall submit to the director a verification of training signed by the applicant and an authorized pesticide trainer; and~~

(B) (A) Is of legal age;

(B) Is a producer of agricultural commodities as defined in section 2 CSR 70-25.010;

(C) Presents a valid, government-issued photo identification, or other form of similarly reliable identification approved by the director, as proof of identity and age at the time of the training program or examination to be eligible for certification or recertification; and

(D) ~~Private applicators~~ Individuals shall meet one of the following three (3) options, except those applicants seeking a certified provisional private applicator license are not eligible for certification in Category 21 – Soil Fumigation Pest Control, Category 22 – Non-Soil Fumigation Pest Control, or Category 23 – Aerial Pest Control:

1. ~~[The applicant shall have a]~~ Attend~~[ed]~~ a private applicator **General Agricultural Pest Control certification** training program ~~[provided by the director and presented by the University of Missouri Cooperative Extension Service or the applicant shall have demonstrated competence in the safe and proper use of pesticides by completing any other program of pesticide training approved by the director.]~~ approved by the director as required by section 281.040 and provided and presented by the University of Missouri Extension. The ~~private applicator's~~ individual's attendance of an approved private applicator certification training program and successful demonstration of competency in comprehending pesticide label and labeling directions for use shall be verified by the signature of the University of Missouri Extension instructor and the signature of the ~~private applicator~~ individual on a verification document provided by the director. The document shall be forwarded to the Missouri Department of Agriculture as proof of attendance and evidence of successful demonstration of competency in comprehending pesticide label and labeling directions for use. After completion of the in-person certification training program, individuals will qualify for certification upon completing the application process for licensing;
2. Attend a private applicator on-line certification training program approved by the director as required by section 281.040 and provided and presented by the University of Missouri Extension. Immediately following the completion of an on-line private applicator certification training program the University of Missouri Extension shall forward verification of the ~~private applicator's~~ individual's successful completion of the training program, including evidence of the ~~private applicator's~~ individual's demonstration of competency in comprehending pesticide label and labeling directions for use. After completion of the on-line certification training program, individuals will qualify for certification upon completing the application process for licensing; or
3. Pass appropriate private applicator category certification examination(s) based on the standards of competence for Category 20 – General Agricultural Pest Control, Category 21 – Soil Fumigation Pest Control, Category 22 – Non-soil Fumigation Pest Control, and Category 23 – Aerial Pest Control. Examination results will be forwarded to the Missouri Department of Agriculture. ~~Private applicators~~ Individuals with passing scores of at least seventy percent (70%) will qualify for certification upon completing the application process for licensing.

(2) Individuals holding a valid certified private applicator license may continue to purchase and use restricted use pesticides until such time existing license expires or five (5) years from the effective date of this regulation, which ever date is less.

d. Exceptions are as follows and are included as Attachment 7-D.

281.080. Exemptions.

The provisions of sections 281.010 to 281.115 relating to licenses and requirements for their issuance shall not apply to:

- (1) Veterinarians using pesticides on animals during the normal course of veterinary practice, as long as he is not regularly engaged in the business of using pesticides for hire amounting to a principal or regular occupation or does not publicly hold himself out as a pesticide applicator;
- (2) Doctors of medicine or doctors of osteopathy using or prescribing pesticides in the practice of medicine;
- (3) Government and private research personnel using pesticides under laboratory type conditions.

8. Recertification Standards

Missouri Department of Agriculture's standards for recertification of applicators of restricted use pesticides meet or exceed those standards prescribed by the agency under §171.107. In- person and online training programs will be required to cover competency standards listed in 2 CSR 70.25.110 for commercial applicators and 2 CSR 70.25.150 for private applicators. Recertification programs based on the new standards have not been developed yet but these programs may last six hours. MDA requires a monitoring verification form to be completed by the program sponsor to ensure applicators are present and engaged through the duration of the program. The program sponsor will return the monitoring verification form along with the list of attendees for the program to MDA after the completion of the program. MDA will assign the necessary recertification credit. MDA plans to monitor in-state programs and present on Laws & Regulations. The standards are below and included as Attachment 8.

Certification period and Quality of Continuing Education Required to Maintain Certification

2 CSR 70-25.050 Review of Certification or License

(1) The director may investigate the need for hearings to deny, suspend, revoke, or modify a license, certification, or permit. These investigations may extend to license qualifications and possible violations of the Missouri Pesticide Use Act.

(2) Additional training or reexamination of certified commercial applicators, certified noncommercial applicators, and certified public operators ~~is [shall be]~~ required within three (3) years from initial certification and within each subsequent three (3)-year period. Additional training shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of pesticides.

(A) Certified commercial applicators, certified noncommercial applicators, and certified public operators must attend a recertification training program approved by the department that meets the general standards of competency and category specific standards of competency for each category of certification; or

(B) Certified commercial applicators, certified noncommercial applicators, and certified public operators must pass the general standards of competence exam (CORE) and each category exam for which the applicator is certified.

(3) Additional training of pesticide technicians is required within three (3) years from initial licensing and within each subsequent three (3)-year period. Pesticide technicians may attend a recertification training program approved by the department that meets the category specific standards of competency for each category in which the technician is licensed or by completing eight (8) hours classroom training for each category in which the technician is licensed. Additional training shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of pesticides.

~~(3)~~(4) Additional training or reexamination of certified private applicators ~~[shall be]~~ is required within five (5) years from initial certification and within each subsequent five (5)-year period. This additional training and

reexamination shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of agricultural pesticides.

(A) Certified private applicators must complete the additional training requirement by attending a department approved University of Missouri Extension private applicator in-person or on-line certification training program for each category of certification; or

(B) Certified private applicators must pass the examination(s) for each category of certification: 20 – General Agricultural Pest Control, 21 – Soil Fumigation Pest Control, 22 – Non-soil Fumigation Pest Control, or 23 – Aerial Pest Control.

(5) All licenses are invalid upon the expiration of the license, recertification date, or retraining date.

(6) If additional training or reexamination is not completed within sixty (60) days following the certification or retraining expiration date the certified commercial applicator, certified noncommercial applicator, certified public operator, certified private applicator, or licensed pesticide technician will be cancelled and the individual shall be required to satisfy all the requirements of licensure as if such person was never licensed.

Recertification Based on Written Exams

The Missouri Department of Agriculture’s exam questions come from the CORE and category manuals. Manuals will be reviewed and new questions will be written that meet or exceed the competency standards for commercial and private applicators. Next, we will work with our testing vendor to provide exam questions and will conduct a final review of the exams to ensure accuracy. The exams will ensure commercial and private applicators demonstrate the level of competence required by §171.103 and §171.105 respectively. Through measureable exam data, the exam questions will be reviewed and modified accordingly. Additionally, new exam questions will be created as category manuals are revised.

Recertification Based on Continuing Education – Content

2 CSR 70-25.110 Standards of Competence for the Certification of Commercial Applicators, Noncommercial Applicators, ~~and~~ Public Operators, and Noncertified RUP Applicators

~~(2)~~ (3) General Standards of Competence for ~~[All Certification Categories]~~ CORE examination. The applicant shall demonstrate a practical knowledge of:

(A) Pesticide labels and labeling, including-

1. ~~[t]~~ The format and terminology of pesticide labels and labeling, and an understanding of instructions, warnings, terms, symbols, and other information commonly appearing on pesticide labels.
2. ~~[The applicant shall demonstrate a practical knowledge of t]~~ The classification of pesticides as to general or restricted use and **that a pesticide may be unclassified.**

3. Understanding labeling requirements relating to supervising noncertified applicators who are working under the direct supervision of a certified applicator.
4. Understanding label requirements that a certified applicator must be physically present at the site of the application.
5. Recognizing and understanding the difference between mandatory and advisory labeling language.
6. Understanding that they must comply with all use restrictions and directions for use found on the label and labeling, including being certified in the certification category appropriate to the type and site of application and that it is a violation of state and federal law to use any registered ~~[must understand the necessity for the use of a]~~ pesticide in a manner inconsistent with its labeling.

(B) Applicator pesticide safety, including-

1. ~~[t]~~The factors of pesticide safety including pesticide toxicity, hazard to man, and common exposure routes.
2. ~~[The applicator must demonstrate a practical knowledge of t]~~The types and causes of pesticide accidents~~[, a practical knowledge of]~~ and the precautions necessary to guard against injury to applicators and other individuals in or near treated areas.
3. Understanding the different natures of the risks of acute toxicity, as well as the long-term effects of pesticides.
4. ~~[a practical knowledge of t]~~The need for, and the use of, protective clothing and equipment.
5. ~~[a practical knowledge of s]~~Symptoms of pesticide poisoning~~[;]~~.
6. ~~[and a practical knowledge of f]~~First aid and other procedures to be followed in case of pesticide accidents.
7. ~~[The applicator shall demonstrate a practical knowledge of p]~~Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers including precautions to be taken to prevent children from having access to pesticides and pesticide containers.

(C) Environment, including-

1. ~~[The applicant shall demonstrate a practical knowledge of the environment, including p]~~Potential environmental consequences of the use, and the misuse, of pesticides as may be influenced by such factors as weather and other climatic conditions; ~~[as may be influenced by]~~ types of terrain, soil, and other substrate; ~~[as may be influenced by]~~ the presence of fish, wildlife, and other non-target organisms; and ~~[as may be influenced by]~~ drainage patterns.

(D) Pests and pest recognition, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pests and pest recognition, including t]~~The common features of pest organisms and the characteristics of pest damage as a means of pest recognition~~[;]~~.
2. ~~[and a practical knowledge of]~~ ~~[p]~~Pest development, including the biology and habits of pests as may be relevant to problem identification in pest control.
3. Correctly selecting the proper pesticide product(s) for effective pest control by verifying the labeling does not prohibit the use of the product for the control of the target pest(s) or use site.

(E) Pesticides, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticides, including t]~~Types of pesticides, types of pesticide formulations, compatibility, synergism, persistence, and the toxicity of various pesticides and pesticide formulations to animals and plants.
2. ~~[a practical knowledge of t]~~The hazards and residues associated with pesticide use.
3. ~~[a practical knowledge of f]~~Factors which influence pesticide effectiveness or lead to such problems as resistance to pesticides~~;~~ and ~~a practical knowledge of]~~
4. ~~[d]~~Dilution procedures.

(F) Pesticide equipment, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticide equipment, including t]~~The types of equipment and the advantages and limitations of each type~~]~~.
2. ~~[and a practical knowledge of t]~~The use, maintenance, and calibration of pesticide equipment.
3. **Drift prevention and pesticide loss into the environment.**

(G) Application techniques, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticide application techniques, including m]~~Methods and procedures used to apply various formulations of pesticides ~~[solutions and gases, together with a knowledge of which]~~ **and the** application technique to use in a given situation.
2. ~~[a practical knowledge of the relationship of discharge and placement of a pesticide to the proper use of the pesticide as well as to the unnecessary use of the pesticides;]~~ **Understanding how selection of application method and use of a pesticide may result in proper use, unnecessary or ineffective use, and misuse.**
3. ~~[and a practical knowledge of t]~~The prevention of pesticide drift and of pesticide loss into the environment.
4. **Which application method to use in a given situation and that use of a fumigant or aerial application requires additional certification.**

(H) ~~[The applicant shall demonstrate a practical knowledge of the applicable s]~~State and federal pesticide laws and regulations.

(I) Responsibility of certified applicators supervising noncertified applicators, including-

1. **Understanding and complying with all regulations for certified applicators who supervise noncertified applicators using general use and restricted use pesticides and the regulatory requirements for recordkeeping for noncertified applicators who have demonstrated competency in the safe use of all pesticides.**
2. **Providing use-specific instructions to noncertified applicators prior to using general use and restricted use pesticides under the direct supervision of a certified applicator.**
3. **Pertinent state and federal pesticide laws and regulations for explanation to noncertified applicators who use general use and restricted use pesticides under the direct supervision of certified applicators.**

(J) Professionalism, including-

1. **Understanding of the importance for maintaining chemical security for all pesticides and how to communicate information about pesticide exposure and risks with the public.**
2. **Pesticide product stewardship.**

2 CSR 70-25.110 Standards of Competence for the Certification of Commercial Applicators, Noncommercial Applicators, ~~and~~ Public Operators, and Noncertified RUP Applicators

~~[(3)]~~ (4) Specific Standards of Competence for Certification of Commercial Applicator, Noncommercial Applicator, and Public Operator Categories. The applicant shall demonstrate a practical knowledge of at least one of the following categories:

(A) Category 1—Agricultural Pest Control.

1. Subcategory a—Agricultural Plant Pest Control.

- A. ~~[The applicant shall demonstrate a practical knowledge of t]~~The crops to which pesticides will be applied.
- B. ~~[and a practical knowledge of t]~~The specific pests of those crops.
- C. ~~[A practical knowledge is required concerning p]~~Potential soil and water problems, preharvest~~[ed]~~ intervals, reentry intervals, phytotoxicity **due to a wide variety of plants to be protected, drift, persistence beyond the intended period of pest control,** ~~[; and concerning the]~~ potential for environmental contamination, ~~[the]~~ potential for injury to nontarget plants and animals, and ~~[the]~~ potential for causing community problems resulting from the use of pesticides in agricultural areas.

2. Subcategory b—Agricultural Animal Pest Control.

- A. ~~[The applicant who applies pesticides directly to animals, or to the harborages of animals, must demonstrate a practical knowledge of these a]~~**Animals or the harborages of animals to which the pesticides are applied** and their associated pests.
- B. ~~[A practical knowledge also is required concerning s]~~Specific pesticide toxicity to animals and ~~[concerning]~~ the potential for illegal pesticide residues when these animals are to be used for human or animal food.
- C. ~~[The applicant also must demonstrate a practical knowledge of]~~ **Hazards associated with** pesticide formulations and application techniques as they apply to animals of various ages and animals under various types of stress~~[, and a practical knowledge concerning]~~ **and** the extent of treatment ~~[of those animals].~~

(B) Category 2—Forest Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of t]~~The types of forest, forest nurseries, ~~[and]~~ seed production, and ~~[a practical knowledge of]~~ the pests involved.
2. ~~[The applicant shall possess a practical knowledge of t]~~The cyclic occurrence of certain pests~~[,].~~
3. ~~[and a practical knowledge of s]~~Specific population dynamics as a basis for programming pesticide applications.
4. ~~[Applicants shall demonstrate a practical knowledge regarding n]~~Nontarget plants and animals and their vulnerability to pesticides.
5. ~~[The applicator must demonstrate a practical knowledge of e]~~Control methods which will minimize the possibility of secondary problems such as the unintended effects on wildlife and which will minimize problems of pollution.
6. ~~[The applicator must demonstrate a practical knowledge of s]~~Specialized equipment, especially as it relates to meteorological factors and adjacent land use.

7. Relevant organisms causing harm and their vulnerability to the pesticides to be applied.
8. How to determine when pesticide use is proper.
9. The selection of application method.
10. Potential for phytotoxicity due to a wide variety of plants to be protected, drift, and persistence beyond the intended period of pest control.

(C) Category 3—Ornamental and Turf Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of p]~~Pesticide problems associated with the production and maintenance of ornamental trees, shrubs, plantings, and the production and maintenance of turf.
2. ~~[The applicant shall demonstrate a practical knowledge concerning p]~~Potential phytotoxicity (chemical burn of plant tissue) due to a wide variety of plant material involved.
3. ~~[The applicant shall demonstrate a practical knowledge concerning p]~~Pesticide drift.
4. ~~[and a practical knowledge concerning t]~~The persistence of pesticides beyond the intended period of pest control.
5. ~~[Because of the frequent proximity of human habitations to application activities the applicant shall demonstrate a practical knowledge of a]~~Application methods which will minimize or prevent hazards to humans, pets, and other domestic animals.
6. **Non-target exposures.**

(D) Category 4—Seed Treatment.

1. ~~[The applicant shall demonstrate a practical knowledge of t]~~The types of seeds which require chemical protection against pests.
2. ~~[and a practical knowledge of f]~~Factors such as seed coloration, pesticide carriers, and surface active agents which influence pesticide binding and may affect germination.
3. ~~[The applicant shall demonstrate a practical knowledge of t]~~The hazards associated with the handling, sorting, and mixing of treated seed.
4. ~~[The applicant shall demonstrate practical knowledge of t]~~The problems regarding the misuse of seed treated with pesticides, such as the introduction of treated seed into food and feed channels.
5. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The proper disposal of unused treated seed.
6. **The importance of proper application techniques to avoid harm to non-target organisms.**

(E) Category 5—Aquatic Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of t]~~The secondary effects which can be caused by improper application rates, incorrect formulations, and the faulty application of those pesticides used in this category.
2. ~~[The applicant shall demonstrate a practical knowledge of v]~~Various water use situations and the potential for downstream adverse effects.
3. ~~[The applicant shall demonstrate a practical knowledge of t]~~The potential adverse effects of pesticides on nontarget plants, fish, birds, beneficial insects, and other organisms which may be present in aquatic environments.
4. ~~[The applicant shall demonstrate a practical knowledge of t]~~The principles of limited area applications.

B. Subcategory b—Sewer Root Pest Control.

(I) Pesticide labels and labeling for pesticides including metam-sodium pesticide products used for sewer root pest control.

(II) Pesticide safety and the need for the use of personal protective equipment, including problems and mistakes leading to exposure and the signs and symptoms of human and environmental exposure.

(III) Equipment used to perform sewer root pest control applications.

(IV) Proper storage, handling, transport, spills, cleanup, and disposal including the disposal of excess material, waste, and containers.

(F) Category 6—Right-of-Way Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The wide variety of environments involved in right-of-way pest control.
2. ~~[The applicant shall demonstrate a practical knowledge of problems of]~~**Techniques to minimize non-target exposure**, pesticide run off, pesticide drift, and ~~[problems of]~~ excess foliage destruction.
3. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The recognition of target pest organisms involved in right-of-way pest control.
4. ~~[The applicant shall demonstrate a practical knowledge of h]~~**Herbicides and the need for containing these pesticides within the right-of-way area.**
5. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The impact of pesticides on adjacent areas and communities.
6. **Potential for phytotoxicity due to a wide variety of plants and pests to be controlled.**
7. **Persistence beyond the intended period of pest control.**

(G) Category 7—Structural Pest Control.

1. Subcategory a—General Structural Pest Control.

- A. ~~[The applicant shall demonstrate a practical knowledge of a]~~**A wide variety of structural pests, including signs of their presence, [the] life cycles, biology, and behavior as it may be relevant to problem identification and control [and habits of these pests].**
- B. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The types of formulations appropriate for the control of these pests.
- C. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The application of pesticides in a manner to avoid damage to the structure, contamination of food, contamination of the structure and surrounding area, and exposure of people and pets.
- D. ~~[The applicant shall demonstrate a practical knowledge of t]~~The specific factors which may lead to a hazardous condition, including continuous exposure in the various situations encountered in this category.
- E. ~~[The applicant must also demonstrate practical knowledge of e]~~**Environmental conditions relating to outdoor applications of pesticides used in this category.**

2. Subcategory b—Termite Pest Control.

- A. ~~[The applicant shall demonstrate a practical knowledge of t]~~Termites, including their life cycle and habits and a practical knowledge of termite damage.
- B. ~~[The applicant shall demonstrate a practical knowledge of v]~~**Various associated wood-destroying organisms, including, but not limited to, powder post beetles, carpenter ants, and other wood destroying insects.**
- C. ~~[The applicant shall demonstrate a practical knowledge concerning undue]~~**The use of pesticides in a manner to avoid** exposure to humans, domestic pets, and other nontarget organisms[;].

D. ~~[as well as a practical knowledge concerning p]~~Potential contamination of the environment and associated problems.

E. Types of formulations appropriate for control.

3. Subcategory c—Fumigation Pest Control.

~~[The applicant shall demonstrate a practical knowledge concerning a wide variety of pests associated with those structures subject to fumigation. The applicant shall demonstrate a practical knowledge regarding the use of the various fumigants, including application techniques, and the use of specialized safety equipment and specialized application techniques. The applicant shall demonstrate a practical knowledge concerning the use of fumigants in a manner to avoid contamination of food and surrounding areas and to prevent exposure of humans and pets. The applicant shall demonstrate a practical knowledge of the specific factors which may lead to a hazardous condition, including continuous exposure in the various situations encountered in this category. The applicant also must demonstrate practical knowledge of environmental conditions relating to outdoor applications of pesticides used in this category.]~~

A. Label and labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform non-soil fumigation, including labeling requirements specific to non-soil fumigants.

B. Safety. Measures to minimize adverse health effects, including all of the following:

I. Understanding how certified applicators, noncertified applicators, and bystanders can become exposed to fumigants.

II. Common problems and mistakes that can result in direct exposure to fumigants.

III. Signs and symptoms of human exposure to fumigants

IV. Air concentrations of a fumigant that require applicators to wear respirators or to exit the work area entirely.

V. Steps to take if a fumigant applicator experiences sensory irritation.

VI. Understanding air monitoring, when it is required, and where and when to take samples.

VII. Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in a buffer zone.

VIII. First aid measures to take in event of exposure to a fumigant.

IX. Labeling requirements for transportation, storage, spill clean up, and emergency response for non-soil fumigants, including safe disposal of containers and contaminated materials, and management of empty containers.

C. Non-soil fumigant chemical characteristics. Characteristics of non-soil fumigants including all of the following:

I. Chemical characteristics of non-soil fumigants.

II. Specific human exposure concerns for non-soil fumigants.

III. How fumigants change from a liquid or solid to a gas.

IV. How fumigants disperse in the application zone.

V. Compatibility concerns for tanks, hoses, tubing, and other equipment.

D. Application. Selecting appropriate application methods and timing, including all of the following:

I. Application methods and equipment commonly used for non-soil fumigation.

II. Site characteristics that influence fumigant exposure.

- III. Conditions that could impact timing of non-soil fumigant application, such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications under specific conditions.
- IV. Conducting pre-application inspection of application equipment and the site to be fumigated.
- V. Understanding the purpose and methods of sealing the area to be fumigated, including the factors that determine which sealing method to use.
- VI. Calculating the amount of product required for a specific treatment area.
- VII. Understanding the basic techniques for calibrating non-soil fumigant application equipment.
- VIII. Understanding when and how to conduct air monitoring and when it is required.
- E. Pest factors. Pest factors that influence fumigant activity, including all of the following:
 - I. Influence of pest factors on fumigant volatility.
 - II. Factors that influence gaseous movement through the area being fumigated and into the air.
 - III. Identifying pests causing the damage and verifying they can be controlled with fumigation.
 - IV. Understanding the relationship between pest density and application rate.
 - V. The importance of proper application rate and timing.
- F. Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following:
 - I. Following label directions for required personal protective equipment.
 - II. Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment.
 - III. Understanding the types of respirators required when using specific non-soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters.
 - IV. Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recording.
- G. Fumigant management plans and post-application summaries. Information about fumigant management plans and when they are required, including all of the following:
 - I. When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it.
 - II. The element of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan.
 - III. The person responsible for verifying that a fumigant management plan is accurate.
 - IV. The elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed.
- H. Posting requirements. Understanding posting requirements, including all of the following:
 - I. Understanding who is allowed in an area being fumigated or after fumigation and who is prohibited from being in such areas.

II. Distinguishing fumigant labeling-required posting and treated area posting, including the pre-application and post-application posting timeframes for each.

III. Proper choice and placement of warning signs.

(H) Category 8—Public Health Pest Control.

- ~~1. [The applicant shall demonstrate a practical knowledge of v]~~ Vector-disease transmission as it relates to, and influences, pesticide application problems.
- ~~2. [The applicator shall demonstrate a practical knowledge concerning a wide variety of p]~~ Pests commonly involved in public health pest control, including the life histories and habits of these pests.
- ~~3. [The applicant shall demonstrate a practical knowledge concerning a great variety of e]~~ Environments and sites commonly found in public health pest control, which range from streams to those conditions found in buildings.
- ~~4. [The applicant shall demonstrate a practical knowledge of t]~~ The importance of, and employment of, such nonchemical control methods as sanitation, waste disposal, and drainage.
5. How to minimize damage to and contamination of areas treated.
6. Acute and chronic exposure of people and pets.
7. Non-target exposures.

(I) Category 9—Regulatory Pest Control.

- ~~1. [The applicant shall demonstrate a practical knowledge of r]~~ Regulated pests, applicable laws pertaining to pest quarantine, and other forms of pest regulation and the potential impact on the environment of pesticides used in suppression and eradication programs.
- ~~2. [The applicant shall demonstrate a practical knowledge concerning f]~~ Factors influencing introduction, spread, and population dynamics of relevant pests.
~~[The applicant shall demonstrate a practical knowledge which shall extend beyond that required by the immediate duties of the applicator since the services of the applicator frequently are required in other areas of the country where emergency measures are invoked to control regulated pests and where individual judgements must be made in new situations.]~~

(J) Category 10—Demonstration and Research Pest Control.

- ~~1. [The applicant shall meet c]~~ Comprehensive standards reflecting a broad spectrum of pesticide uses.
- ~~2. [The applicant shall demonstrate a practical knowledge of p]~~ Problems, pests, and population levels occurring in each demonstration or research situation [required].
- ~~3. [The applicant shall demonstrate a]~~ An understanding of pesticide-organism interactions and the importance of integrating pesticide use with other control methods.
4. Effects of restricted use pesticides on target and non-target organisms.
5. The applicant shall not only demonstrate competence in the category of Demonstration and Research Pest Control but ~~[also shall demonstrate the category competencies which apply to the area of expertise in which the applicant shall conduct demonstrations and research]~~ must also be certified in the proper category(ies) of use.

(K) Category 11—Wood Products Pest Control.

- ~~1. [The applicant shall demonstrate a practical knowledge of w]~~ Wood degradation and a general knowledge of pesticides used to prevent or control the degradation.

2. ~~[The applicant shall demonstrate a]~~An understanding of the pesticides used to preserve wood, including a knowledge of solution formulations, application techniques, hazards to man, domestic animals, and the environment, and the safe and proper means of container storage and disposal.

(L) **Category 12— Soil Fumigation Pest Control.**

1. Label and labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform soil fumigation, including all of the following:
 - A. Labeling requirements specific to soil fumigants.
 - B. Requirements for certified applicators of fumigants, fumigant handlers, and permitted fumigant handler activities, and the safety information that certified applicators must provide to noncertified applicators using fumigants under their direct supervision.
 - C. Entry-restricted periods for tarped and untarped field application scenarios.
 - D. Recordkeeping requirements.
 - E. Labeling provisions unique to fumigant products containing certain active ingredients.
2. Safety. Measures to minimize adverse health effects, including all of the following:
 - A. Understanding how certified applicators, noncertified applicators using fumigants under direct supervision of certified applicators, field workers, and bystanders can become exposed to fumigants.
 - B. Common problems and mistakes that can result in direct exposures to fumigants.
 - C. Signs and symptoms of human exposure to fumigants.
 - D. Air concentrations of a fumigant that require that applicators wear respirators or exit the work area entirely.
 - E. Steps to take if a fumigant applicator experiences sensory irritation.
 - F. Understanding air monitoring, when it is required, and where and when to take samples.
 - G. Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in the buffer zone.
 - H. First aid measures to take in the event of exposure to a soil fumigant.
 - I. Labeling requirements for transportation, storage, spill cleanup, and emergency response for soil fumigants, including safe disposal of containers and contaminated soil, and management of empty containers.
3. Soil fumigant chemical characteristics. Characteristics of soil fumigants including all of the following:
 - A. Chemical characteristics of soil fumigants.
 - B. Specific human exposure concerns for soil fumigants.
 - C. How soil fumigants change from a liquid or solid to a gas.
 - D. How soil fumigants disperse in the application zone.
 - E. Compatibility concerns for tanks, hoses, tubing, and other equipment.
4. Application. Selecting appropriate application methods and timing, including all of the following:
 - A. Application methods, including but not limited to water-run and non-water-run applications, and equipment commonly used for each soil fumigant.
 - B. Site characteristics that influence fumigant exposure.
 - C. Understanding temperature inversions and their impact on soil fumigant application.
 - D. Weather conditions that could impact timing of soil fumigant application, such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications during specific weather conditions.
 - E. Conducting pre-application inspection of application equipment.

- F. Understanding the purpose and methods of soil sealing, including the factors that determine which soil sealing method to use.
 - G. Understanding the use of tarps, including the range of tarps available, how to seal tarps, and labeling requirements for tarp removal, perforation, and repair.
 - H. Calculating the amount of product required for a specific treatment area.
 - I. Understanding the basic techniques for calibrating soil fumigant application equipment.
5. Soil and pest factors. Soil and pest factors that influence fumigant activity, including all of the following:
 - A. Influence of soil factors on fumigant volatility and movement within the soil profile.
 - B. Factors that influence gaseous movement through the soil profile and into the air.
 - C. Soil characteristics, including how soil characteristics affect the success of a soil fumigant application, assessing soil moisture, and correcting for soil characteristics that could hinder a successful soil fumigant application.
 - D. Identifying pests causing the damage and verifying they can be controlled with soil fumigation.
 - E. Understanding the relationship between pest density and application rate.
 - F. The importance of proper application depth and timing.
 6. Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following:
 - A. Following labeling directions for required personal protective equipment.
 - B. Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment.
 - C. Understanding the types of respirators required when using specific soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters.
 - D. Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recordkeeping.
 7. Fumigant management plans and post-application summaries. Information about fumigant management plans, including all of the following:
 - A. When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it.
 - B. The elements of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan.
 - C. The person responsible for verifying that a fumigant management plan is accurate.
 - D. The elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed.
 8. Buffer zones and posting requirements. Understanding buffer zones and posting requirements, including all of the following:
 - A. Buffer zones and the buffer zone period.
 - B. Identifying who is allowed in the buffer zone during the buffer zone period and who is prohibited from being in a buffer zone during the buffer zone period.
 - C. Using the buffer zone table from the labelling to determine the size of the buffer zone.
 - D. Factors that determine the buffer zone credits for application scenarios and calculating buffer zones using credits.
 - E. Distinguishing buffer zone posting and treated area posting, including the pre-application and post-application posting timeframes for each.
 - F. Proper choice and placement of warning signs.

(M) Category 13—Aerial Pest Control.

1. Labeling. Labeling requirements and restrictions specific to aerial application of pesticides including:
 - A. Spray volumes.
 - B. Buffers and no-spray zones.
 - C. Weather conditions specific to wind and inversions.
2. Application equipment. Understand how to choose and maintain aerial application equipment, including all of the following:
 - A. The importance of inspecting application equipment to ensure it is in proper operating condition prior to beginning an application.
 - B. Selecting proper nozzles to ensure it is in proper operating condition prior to beginning an application.
 - C. Knowledge of components of an aerial pesticide application system, including pesticide hoppers, tanks, pumps, and types of nozzles.
 - D. Interpreting a nozzle flow chart.
 - E. Determining the number of nozzles for intended pesticide output using nozzle flow rate chart, aircraft speed, and swath width.
 - F. How to ensure nozzles are placed to compensate for uneven dispersal due to uneven airflow from wingtip vortices, helicopter rotor turbulence, and aircraft propeller turbulence.
 - G. Where to place nozzles to produce the appropriate droplet size.
 - H. How to maintain the application system in good repair, including pressure gauge accuracy, filter cleaning according to schedule, and checking nozzles for excessive wear.
 - I. How to calculate required and actual flow rate.
 - J. How to verify flow rate using fixed timing, open timing, known distance, or a flow meter.
 - K. When to adjust and calibrate application equipment.
3. Application considerations. The applicator must demonstrate knowledge of factors to consider before and during application, including all of the following:
 - A. Weather conditions that could impact application by affecting aircraft engine power, take-off distance, and climb rate, or by promoting spray droplet evaporation.
 - B. How to determine wind velocity, direction, and air density at the application site.
 - C. The potential impact of thermals and temperature inversions on aerial pesticide application.
4. Minimizing drift. The applicator must demonstrate knowledge of methods to minimize off-target pesticide movement, including all of the following:
 - A. How to determine drift potential of a product using a smoke generator.
 - B. How to evaluate vertical and horizontal smoke plumes to assess wind direction, speed, and concentration.
 - C. Selecting techniques that minimize pesticide movement out of the area to be treated.
 - D. Documenting special equipment configurations or flight patterns used to reduce off-target pesticide drift.
5. Performing aerial application. The applicator must demonstrate competency in performing an aerial pesticide application, including all of the following:
 - A. Selecting a flight altitude that minimizes streaking and off-target pesticide drift.
 - B. Choosing a flight pattern that ensures applicator and bystander safety and proper application.
 - C. The importance of engaging and disengaging spray precisely when entering and exiting a predetermined swath pattern.

- D. Tools available to mark swaths, such as global positioning systems and flags.
 - E. Recordkeeping requirements for aerial pesticide applications including application conditions if applicable.
6. The applicant shall not only demonstrate competence in the category of Aerial Pest Control, but must also be certified in the proper category(ies) of use.

2 CSR 70-25.150 ~~[Course of Instruction and]~~ Standards of Competence for the Certification of ~~[Certified]~~ Private Applicators

- (1) To qualify for private applicator certification or provisional private applicator certification, ~~[Certified]~~ private applicators ~~[shall attend a course of instruction]~~ are required to read and demonstrate competency in the understanding of pesticide labels and labeling and shall: ~~[approved by the director as required by section 281.040, RSMo (1986).]~~
- (A) ~~[The]~~ Attend a University of Missouri Extension private applicator ~~[course of instruction]~~ General Agricultural Pest Control certification training program;
 - (B) Complete a University of Missouri Extension private applicator General Agricultural Pest Control on-line certification training program; or
 - (C) Pass the department's private applicator General Agricultural Pest Control certification examination. ~~[shall encompass the standards of competence as provided in section (3) of this rule. Private applicators also shall be instructed as to the general pest problems and general pest control practices associated with agricultural operations, proper storage, application, handling and disposal of pesticides and pesticide containers and the legal responsibilities of private applicators.]~~
- (2) Private applicators must obtain certification in Category 20 – General Agricultural Pest Control prior to becoming certified in one of the additional private applicator certification categories. Private applicators that use restricted use pesticides to fumigate soil must also obtain certification in Category 21 – Soil Fumigation Pest Control. Private applicators that use restricted use pesticides to fumigate non-soil commodities or non-soil sites must also obtain certification in Category 22 – Non-Soil Fumigation Pest Control. Private applicators that apply restricted use pesticides through aerial application must also obtain certification in Category 23 – Aerial Pest Control. The certification training programs, on-line certification training programs, and certification examinations provided for Categories 20, 21, 22, and 23 shall encompass the standards of competence as provided in sections (3), (4), (5), and (6) of this rule.

~~[(2)]~~ (3) Category 20 – General Agricultural Pest Control Standards of Competence. The applicant shall demonstrate practical knowledge of:

- (A) The recognition of common agricultural pests, ~~[and the recognition of the]~~ damage caused by these pests[;], the importance of selecting proper pesticide products for effective control, and the importance of verifying that the label does not prohibit the use of the product to control the target pest(s) or use site;
- (B) ~~[The r]~~Reading and understanding ~~[of]~~ the label and labeling information, including general format and terminology, ~~[including]~~ the common name of the pesticide[;], the pest to be controlled[;], timing and

methods of [the] application of the pesticide[;], **signal words, symbols**, safety precautions[;], pre-harvest intervals[;], reentry intervals, and disposal procedures for pesticides and pesticide containers;

(C) All use restrictions and directions for use found on the label and labeling, certification requirements in the appropriate category to use restricted use pesticides, and State and Federal pesticide laws requiring the use of any registered pesticide in a manner consistent with its labeling;

(D) The meaning of product classification, the difference between mandatory and advisory labeling language, direct supervision including understanding when a certified applicator must be physically present at the site of the application based on labeling requirements, labeling requirements for supervising noncertified applicators, and understanding and complying with product-specific notification requirements;

(E) The application of pesticides in accordance with label and labeling instructions and warnings, including the ability to prepare the proper concentration of the pesticides to be used under particular circumstances, taking into account factors such as the area to be covered, speed in which application equipment will be driven, and the quantity to dispense in a given period of operation;

(F) The characteristics of pesticides, including types of pesticides, types of formulations, compatibility, synergism, persistence, animal and plant toxicity, hazards and residues associated with use, factors influencing effectiveness or leading to problems such as pesticide resistance, and dilution procedures;

(G) The recognition of local environmental situations that must be considered during application to avoid contamination[;] and potential environmental consequences of the use and misuse of pesticides, including weather and other climatic conditions, types of terrain, soil, or other substrate, presence of fish, wildlife, and non-target organisms, and drainage patterns;

(H) ~~[The recognition of poisoning symptoms and procedures to follow in case of a pesticide accident.]~~ Measures to avoid or minimize adverse health effects, common types and causes of pesticide mishaps, needs for and proper use of personal protective clothing and equipment, and precautions to prevent injury to applicators and other individuals in or near treated areas;

(I) Likely ways pesticide exposure may occur, symptoms of pesticide poisoning, the difference between acute toxicity and chronic toxicity and their long term effects, understanding that a pesticide's risk is a function of exposure and the pesticide's toxicity, and first aid and other procedures to be followed in case of a pesticide mishap;

(J) Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers, including precautions to be taken to prevent children from having access to pesticides and pesticide containers;

(K) Application equipment, including types of equipment and the advantages and limitations of each, uses, maintenance, and calibration procedures;

(L) Selecting appropriate application methods including methods used to apply various forms and formulations of pesticides, which application method to use in a given situation, and that use of a fumigant

or aerial application requires additional certification, and how the selection of application method and use of a pesticide may result in unnecessary, ineffective use and misuse;

- (M) The prevention of pesticide drift and pesticide loss into the environment;
- (N) The state and federal pesticide laws and regulations, including the Worker Protection Standard in 40 CFR Part 170;
- (O) The certified applicator responsibilities and requirements related to supervision of noncertified applicators, including being able to explain appropriate state and federal pesticide laws and regulations to noncertified applicators and providing use-specific instructions for the site and pesticide used to noncertified applicators using pesticides under the direct supervision of a certified private applicator ensuring that the noncertified applicator has access to the applicable product labeling at all times during use, ensuring that any noncertified applicator has clean labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose, ensuring that before each day of use the equipment is in proper operating condition and can be used without risk of reasonably foreseeable adverse effects to the noncertified applicator, other persons, or the environment, ensuring that a means to immediately communicate with the certified applicator is available, the certified applicator must be physically present at the site of the use being supervised when required by the label, and ensuring the required use records are being maintained;
- (P) The importance of maintaining secure storage for pesticides and other chemicals and how to communicate information about pesticide exposures and risks with agricultural workers and handlers and other persons;
- (Q) Agricultural Pest Control, including specific pests of relevant agricultural commodities and the control of such pests with pesticides, how to avoid contamination of ground and surface waters, understanding pre-harvest and restricted entry intervals and entry-restricted periods and areas, and understanding specific pesticide toxicity and residue potential when pesticides are applied to animal or animal product agricultural commodities; and
- (R) Hazards associated with using pesticides on animals or places in which animals are confined based on formulation, application technique, age of animal, stress, and extent of treatment.

~~[(3) Attendance of an approved course of instruction by the private applicator shall be verified by the signature of the instructor and the signature of the private applicator on a verification document provided by the director. The document shall be forwarded to the Missouri Department of Agriculture as proof of attendance. Upon receipt of the document of verification of attendance, the director shall forward to the private applicator a certified private applicator license.]~~

(4) Category 21 – Soil Fumigation Pest Control Standards of Competence. The applicant shall demonstrate practical knowledge of:

(A) Fumigant label and labeling comprehension, including labeling requirements specific to soil fumigation, labeling requirements for certified applicators and handlers of fumigants, permitted fumigant handler

activities, and the safety information that certified applicators must provide to noncertified applicators using fumigants under the direct supervision of certified applicators;

(B) Entry-restricted period for different tarped and untarped field applications, recordkeeping requirements imposed by labels and labeling, and labeling provisions unique to products containing certain active ingredients;

(C) Labeling requirements for fumigation management plans, such as when a fumigant management plan must be in effect, how long must it be kept on file, where must it be kept during application, and who must have access to it;

(D) The elements of a fumigation plan and resources for preparing a plan, responsibility for verifying that the fumigant management plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed;

(E) Measures to minimize adverse effects, including understanding how certified applicators, field workers, and bystanders can become exposed to fumigants;

(F) How common problems and mistakes can result in direct exposure to fumigants, the signs and symptoms of human exposure to fumigants, air concentrations, and requirements for respirators;

(G) The steps to take if a fumigant applicator experiences sensory irritation, air monitoring, when required and when to sample the air, buffer zones, first aid measures, and the labeling requirements for transportation, storage, spill cleanup, and emergency response for soil fumigants, including safe disposal of containers and contaminated soil;

(H) Characteristics of soil fumigants, including specific human exposure concerns, how soil fumigants change from liquid or solid to a gas, how soil fumigants disperse in the application zone, and compatibility concerns for tanks, hoses, tubing, and other equipment;

(I) Selecting appropriate application methods and timing, including application methods for water-run and non-water-run applications, equipment used for each soil fumigant, and site characteristics that influence fumigant exposure;

(J) Temperature inversions and their impact on soil fumigant applications, weather conditions that could impact timing of soil fumigation application, pre-application inspection of application equipment, the purpose and methods of soil sealing, and which methods to use;

(K) The use of tarps, how to seal tarps, labeling requirements for tarp removal, perforation, and repair, calculating the amount of fumigant required for a specific treatment area, and understanding the basic techniques for calibrating soil fumigation equipment;

(L) Soil and pest factors that influence fumigant activity, including influence of soil factors on fumigant volatility and movement within the soil and factors that influence gaseous movement through soil and air;

(M) Soil characteristics, including how they affect the success of a soil fumigant application, accessing soil moisture, and correcting for soil characteristics that could hinder a successful soil fumigation, pest(s)

identification and verification that the soil fumigant will control pest(s), the relationship between pest density and application rate, and proper application depth and timing;

(N) Personal protective equipment (PPE), including following all label directions requiring PPE use and selecting, inspecting, using, caring for, and replacing PPE;

(O) The types of respirators required when using specific soil fumigants and how to use respirators properly (medical evaluation, fit testing, and required replacement of cartridges and canisters), labeling requirements and other laws applicable to medical evaluation for respirator use, fit test, training, and recordkeeping;

(P) Fumigant management plans and post-application summaries, including when a fumigation management plan must be in effect, how long it must be kept on file, where it must be kept during a fumigant application, and who must have access to it;

(Q) The elements of a fumigant management plan and resources available for preparing a plan, the person responsible for verifying that a fumigation management plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed;

(R) Buffer zones and posting requirements, including buffer zones and buffer zone periods, identifying those who can be in the buffer zone and those who cannot be in the buffer zone during the buffer zone period;

(S) How to use the buffer zone table from the labeling to determine the size of the buffer zone, factors that determine the buffer zone credits for application scenarios, and calculating buffer zones using credits; and

(T) Distinguishing buffer zone posting and treated area posting, including the pre-application and post-application posting timeframes for each and the proper choice and placement of warning signs.

(5) Category 22 – Non-soil Fumigation Pest Control Standards of Competence. The applicant shall demonstrate a practical knowledge of:

(A) The use of fumigants on sites other than soil, including label and labeling comprehension of products used to perform non-soil fumigations and labeling requirements specific to non-soil fumigants;

(B) Safety measures to minimize adverse health effects, including understanding how applicators and bystanders can become exposed to fumigants, common problems and mistakes that can result in direct exposure to fumigants, and the signs and symptoms of human exposure to fumigants;

(C) When air concentrations trigger applicators, handlers, and workers to wear respirators or to exit the application site, the steps to take if an applicator using a fumigant experiences exposure, and first aid measures to take in the event of exposure to a fumigant;

(D) When to monitor and sample air, monitoring buffer zones and who is permitted to be in the buffer zone, labeling requirements for transportation, storage, spill clean up, and emergency response to non-soil fumigants, the safe disposal of containers and contaminated materials, and management of empty containers;

(E) Non-soil fumigant chemical characteristics, including chemical characteristics of non-soil fumigants, specific human exposure concerns for non-soil fumigants, how fumigants change from a liquid or solid to a gas, and how fumigants disperse in the application zone;

(F) Compatibility concerns for tanks, hoses, tubing, and other equipment;

(G) Appropriate application methods and timing, including application methods and equipment commonly used for non-soil fumigation, site characteristics that influence fumigant exposure, and conditions that could impact timing of non-soil fumigations, such as air stability, air temperature, humidity, and wind currents, and labeling restrictions limiting applications when specific conditions are present;

(H) Conducting pre-application inspections of equipment and the site to be fumigated, the purpose and methods of sealing the area to be fumigated, and the factors that determine when and which sealing methods to use;

(I) Calculating the amount of fumigant required to treat the site, basic techniques for calibrating non-soil fumigant application equipment, and understanding when and how to conduct air monitoring and when it is required;

(J) Pest factors that influence fumigant activity, including influence of pest factors on fumigant volatility, factors that influence gaseous movement through the area being fumigated and into the air, and identifying pests causing the damage and verifying they can be controlled with fumigation;

(K) The relationship between pest density and application rate and the importance of proper application rate and timing;

(L) Personal protective equipment, including how to use it properly, following labeling directions for required personal protective equipment, and selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment;

(M) The different types of respirators required when using non-soil fumigants and how to use them properly, including when to replace cartridges and canisters;

(N) Labeling requirements and other laws applicable to medical evaluations and fit testing for respirator use and applicable training and recordkeeping;

(O) When fumigation management plans and post-application summaries are required, including when a fumigation management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it;

(P) The elements found in a fumigation management plan and resources available to assist the applicator in preparing the fumigant management plan, who is responsible for verifying the plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed; and

(Q) Posting requirements, including understanding who is allowed in an area being fumigated or after fumigation and who is prohibited from being in such area, distinguishing fumigant labeling-required posting and treated area posting, including the pre-application and post-application posting timeframes for each, and the proper choice and placement of warning signs.

(6) Category 23 – Aerial Pest Control Standards of Competence. The applicant shall demonstrate a practical knowledge of:

(A) The pest problems and pest control practices associated with performing aerial applications;

(B) Labeling requirements and restrictions specific to aerial application of pesticides, spray volumes, buffer and no-spray zones, and weather conditions specific to wind and inversions;

(C) Label-mandated recordkeeping requirements for aerial pesticide applications including application conditions;

(D) Application equipment, including how to choose and maintain aerial application equipment, inspecting application equipment to ensure it is in proper operating condition prior to beginning an application, selecting proper nozzles to ensure appropriate pesticide dispersal and to minimize drift;

(E) The components of an aerial pesticide application system (pesticide hoppers, tanks, pumps, and types of nozzles) and nozzle flow charts;

(F) Determining the number of nozzles for intended pesticide output using a nozzle flow rate chart, aircraft speed, and swath width;

(G) How nozzles are placed to compensate for uneven dispersal due to uneven airflow from wingtip vortices, helicopter rotor turbulence, and aircraft propeller turbulence and where to place nozzles to produce the appropriate droplet size;

(H) How to maintain the application system in good repair, including pressure gauge accuracy, filter cleaning according to schedule, and checking nozzles for excessive wear;

(I) How to calculate required and actual flow rates, how to verify flow rate using fixed timing, open timing, known distance, or a flow meter, and when to adjust and calibrate application equipment;

(J) Application factors to consider before and during the application, including weather conditions that could impact application by affecting aircraft engine power, take-off distance, climb rate, and spray droplet evaporation;

(K) How to determine wind velocity, direction, and air density at the application site and potential impact of thermals and temperature inversions on aerial pesticide application;

(L) Methods to minimize off-target pesticide movement, including determining drift potential of a product by use of a smoke generator and how to evaluate vertical and horizontal smoke plumes to assess wind direction, speed, and concentration;

(M) Selecting techniques that minimize pesticide movement out of the treated area and how to document special equipment configurations or flight patterns used to reduce off-target pesticide drift;

(N) Performing an aerial pesticide application, including selecting a flight altitude that minimizes streaking and off-target pesticide drift and choosing a flight pattern that ensures applicator and bystander safety and proper application; and

(O) The importance of engaging and disengaging spray precisely when entering a predetermined swath pattern at the application site and the tools used to mark swath patterns, such as global positioning systems and flags.

Process State Uses to Approve Continuing Education

Section 281.100, 2 CSR 70-25.050, and 2 CSR 70-25.130 of the Missouri Pesticide Use Act and regulations authorizes the Missouri Department of Agriculture Bureau of Pesticide Control, to establish minimum criteria for recertifying Missouri certified Commercial and Noncommercial Pesticide Applicators and Public Operators.

Each recertification training course must be approved in advance by the Bureau of Pesticide Control. No course will be given post approval. Individuals attending courses prior to approval will **NOT** be recertified.

The Bureau cannot approve a course for a period of time when staff are not available to monitor the program. Please submit programs as early as possible. Programs will be reviewed in order received.

For a course to be considered for recertification credit in Missouri, the program must comply with the following:

- The course must be open to the public without discrimination.
- A final, written course agenda must be received by the Bureau of Pesticide Control at least 45 days (90 preferred) in advance of the proposed program. The agenda must include:
 - A. Program curriculum with a detailed description of each topic.
 - B. Times allotted for each section,
 - C. List of proposed speakers and qualifications.
 - D. Location, date, and time of the program.
 - E. Applicator participation method.
 - F. Estimated number of Missouri applicators expected to attend the program.
 - G. Attendance verification procedure.

Failure to supply the required information, will be grounds for rejection.

Copies of the training materials (audio, visual, and printed) should be available for Bureau review upon request.

The Bureau will attempt to work with any group to improve courses which do not qualify for recertification credit. It is the program sponsor's responsibility to acquire the needed materials and/or speakers for the program.

The program sponsor shall provide a sign-in sheet for attendees desiring Missouri recertification credit. This is in addition to the program registration procedure. The sign-in

sheet must contain: the applicator's name, business name, business address, and Missouri pesticide license number. The sign-in sheets will be presented to the Bureau personnel at the close of registration or when requested by the Bureau personnel.

How the State Ensures the Ongoing Quality of the Continuing Education

Bureau of Pesticide Control personnel will monitor all in-state recertification programs. Time and space must be approved for Bureau personnel to distribute and collect recertification forms at the end of the program. All fees charged for the recertification program shall be waived for Bureau of Pesticide Control personnel monitoring the program. Bureau personnel shall be provided copies of all materials distributed to the program attendees.

Final approval of a recertification program depends upon actual program content. If, in the opinion of the personnel monitoring the program, the approved curriculum was not followed, the course content was altered so that it no longer met the minimum standards, or if the coverage of the topics was inadequate, they may leave the program and recertification would not be granted to those attending the program.

These guidelines may change without notice. However, once a program is approved using a particular set of guidelines, the sponsor will not be required to change the content of the program.

In-state recertification programs will be monitored by program staff to ensure the applicator's successful completion of the program.

9. Standards for the Direct Supervision of Noncertified Applicators

Missouri Department of Agriculture adopts our own standards for direct supervision of noncertified applicators by certified commercial and/or private applicators that meet or exceed federal standards at §171.201. They are as follows and are included as Attachment 9.

Requirements for the certified applicator and supervisor responsibilities

281.048. Noncertified RUP applicator license — application, issuance and renewal, fee — authority of licensee, limitation by director, when — notification by licensee of changes — retraining — display of license. — 1. No individual shall use or determine the need for the use of any restricted use pesticide while working under the direct supervision of a certified commercial applicator until the individual has met the requirements of this section.

2. No individual shall use restricted use pesticides while working under the direct supervision of a certified noncommercial applicator or certified public operator until the individual has met the requirements of this section.

3. Application for a noncertified RUP applicator's license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall issue or renew a noncertified RUP applicator license once an individual has met the requirements set forth in 40 CFR section 171.201(c)(1) or (3). The director shall collect an annual fee of thirty-five dollars for each noncertified RUP applicator license issued. The license shall be valid for one year unless revoked or suspended by the department prior to its expiration. Any individual whose application is denied shall receive a written explanation as to the determination of the denial.

5. Individuals holding a valid noncertified RUP applicator license may use and determine the need for the use of restricted use pesticides, general use pesticides, and minimum risk pesticides under the direct supervision of a certified commercial applicator and only for the categories in which the commercial applicator is certified. The director may limit the license of the applicant to the use of certain pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified.

6. Every certified commercial applicator, certified noncommercial applicator, or certified public operator providing direct supervision to a licensed noncertified RUP applicator shall immediately notify the director when the licensed noncertified RUP applicator has changed address from which the applicator or operator will operate as a licensed noncertified RUP applicator or when the noncertified RUP applicator's employment has been terminated. The director shall immediately issue a revised license upon which shall be printed the change of address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

7. A noncertified RUP applicator may complete retraining requirements and renew the applicator's license without a certified commercial applicator, certified noncommercial applicator, or certified public operator working from the same physical location.

8. Every licensed noncertified RUP applicator shall display the applicator's license in a prominent place at the site, location, or office from which the applicator will operate as a noncertified RUP applicator, that place, location, or office being at the address printed on the license.

281.035. Certified commercial applicator's license required when, annual fee — application for license, how made — examinations — records to be kept — incapacity of sole certified applicator, effect of — display of license — change of address, notice. — 1. No individual shall engage in the business of determining the need for the use of, supervising the use of, supervising the determination of the need for the use of, or using any pesticide, in categories as specified by regulation, on the lands of another at any time without a certified commercial applicator's license issued by the director. A certified commercial applicator shall not determine the need for the use of, supervise the use of, supervise the determination of the need for the use of, or use any pesticide for any particular purpose unless the certified commercial applicator has demonstrated such certified commercial applicator's competence to use pesticides for that purpose by being certified by the director in the proper certification category. The director shall require an annual fee of sixty-five dollars for each certified commercial applicator's license issued. No certified commercial applicator shall knowingly authorize, direct, or instruct any individual to engage in determining the need for the use of or using any general use pesticide or

minimum risk pesticide on the land of another at any time unless such individual is a pesticide technician or pesticide technician trainee in such categories as specified by regulation or is working under the direct supervision of a certified commercial applicator so authorizing, directing or instructing, in which case the certified commercial applicator shall be liable for any use of a general use pesticide or minimum risk pesticide by an individual operating under the certified commercial applicator's direct supervision. The certified commercial applicator or the employer shall assure that the director is informed in writing within ten days of the employment of any person as a pesticide technician or pesticide technician trainee.

2. No certified commercial applicator shall knowingly authorize, direct, or instruct any individual to engage in determining the need for the use of or using any restricted use pesticide on the land of another at any time unless such individual is licensed as a noncertified RUP applicator while working under the direct supervision of a certified commercial applicator so authorizing, directing, or instructing, in which case the certified commercial applicator shall be liable for any use of a restricted use pesticide by an individual operating under the certified commercial applicator's direct supervision.

3. Application for a certified commercial applicator's license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall not issue a certified commercial applicator's license until the applicant is certified by passing an examination provided by the director to demonstrate to the director the applicant's competence and knowledge of the proper use of pesticides under the classifications the applicant had applied for, and the applicant's knowledge of the standards prescribed by regulations for the certification of commercial applicators.

5. The director may renew any certified commercial applicator's license under the classification for which such applicant is licensed, upon successful completion of approved recertification training or reexamination for additional knowledge that may be required to use pesticides safely and properly either manually or with equipment the applicant has been licensed to operate.

6. If the director finds the applicant qualified to use pesticides in the classification for which application has been made, and if the applicant files evidence that the requirement for bonds or insurance has been met as required under section 281.065, the director shall issue a certified commercial applicator's license limited to the classifications for which the applicant is qualified, which shall expire one year from date of issuance unless the license has been revoked or suspended prior thereto by the director for cause; provided, such financial responsibility required under section 281.065 does not expire at an earlier date, in which case the license shall expire upon the expiration date of the financial responsibility. The director may limit the license of the applicant to the use of certain pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified. If a license is not issued as applied for, the director shall inform the applicant in writing of the reasons therefor.

7. The director shall require each certified commercial applicator or the certified commercial applicator's employer to maintain records with respect to applications of any pesticide, including pesticides used under direct supervision by licensed pesticide technicians, pesticide technician trainees, and licensed noncertified

RUP applicators. Such relevant information as the director may deem necessary may be specified by regulation. Such records shall be kept for a period of three years from the date of the application of the pesticide to which such records refer, and the director shall, upon request in writing, be furnished with a copy of such records by any certified commercial applicator or the certified commercial applicator's employer.

8. A person or individual engaged in the business of using pesticides on the lands of another, who is deprived of such person's or individual's sole certified commercial applicator by reason of death, illness, incapacity, or any absence which the director determines is unavoidable, is authorized to continue business operations without the services of a certified commercial applicator for a period of time deemed appropriate by the director, but not to exceed sixty days; except that, no restricted use pesticide shall be used, or caused to be used, by such person or individual. Any such person or individual shall immediately notify the director as to the absence of such person's or individual's sole certified commercial applicator.

9. Every certified commercial applicator shall display the certified commercial applicator's license in a prominent place at the site, location, or office from which the certified commercial applicator will operate as a certified commercial applicator; that place, location, or office being at the address printed on the license.

10. Every certified commercial applicator who changes the address from which the certified commercial applicator will operate as a certified commercial applicator shall immediately notify the director. The director shall immediately issue a revised license upon which shall be printed the changed address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

281.037. Certified noncommercial applicator's license, when required — application for license, examination, fee — scope of license — records to be kept — display of license — change of address, notice.

— 1. Any individual who is not certified pursuant to section 281.035, 281.040, or 281.045 shall not use, or supervise the use of, any restricted use pesticide without a certified noncommercial applicator license. A certified noncommercial applicator shall not use, or supervise the use of, any restricted use pesticide for any purpose unless the certified noncommercial applicator has demonstrated the certified noncommercial applicator's competence to use pesticides for that purpose by being certified by the director in the proper certification category.

2. No certified noncommercial applicator shall knowingly authorize, direct, or instruct any individual to engage in using any restricted use pesticide on lands or structures owned, leased, or rented by the certified noncommercial applicator or the certified noncommercial applicator's employer unless such individual is licensed as a noncertified RUP applicator while working under the direct supervision of a certified noncommercial applicator so authorizing, directing, or instructing, in which case the certified noncommercial applicator shall be liable for any use of a restricted use pesticide by an individual operating under the certified noncommercial applicator's direct supervision.

3. Application for a certified noncommercial applicator license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall not issue a certified noncommercial applicator license until the applicant is certified by

passing an examination provided by the director to demonstrate to the director the applicant's competence and knowledge of the proper use of pesticides under the classifications for which the applicant has applied, and the applicant's knowledge of the standards prescribed by regulations for the certification of noncommercial applicators.

5. If the director finds the applicant qualified to use restricted use pesticides in the classification for which the applicant has applied, the director shall issue a certified noncommercial applicator license limited to the applicator categories in which the applicant is certified. The license shall expire one year from the date of issuance unless the license has been revoked or suspended prior thereto by the director for cause. The director may limit the license of the applicant to the use of certain restricted use pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified. If a license is not issued as applied for, the director shall inform the applicant in writing of the reasons therefor.

6. The director may renew any certified noncommercial applicator license under the classification for which the license is issued upon successful completion of approved recertification training or reexamination for additional knowledge that may be required to apply pesticides safely and properly.

7. The director shall collect a fee of thirty-five dollars for each certified noncommercial applicator license issued.

8. Any certified noncommercial applicator may use, or supervise the use of, restricted use pesticides only to or on lands or structures owned, leased or rented by the certified noncommercial applicator or the certified noncommercial applicator's employer.

9. The director shall require the certified noncommercial applicator or the certified noncommercial applicator's employer to maintain records with respect to applications of restricted use pesticides. Any relevant information that the director may deem necessary may be required by regulation. Such records shall be kept for a period of three years from the date of the application of the pesticide to which such records refer, and the director shall, upon request in writing, be furnished with a copy of such records by any certified noncommercial applicator or the certified noncommercial applicator's employer.

10. Every certified noncommercial applicator shall display the certified noncommercial applicator's license in a prominent place at the site, location, or office from which the certified noncommercial applicator will operate as a certified noncommercial applicator; that place, location, or office being at the address printed on the license.

11. Every certified noncommercial applicator who changes the address from which the certified noncommercial applicator will operate as a certified noncommercial applicator shall immediately notify the director. The director shall immediately issue a revised license upon which shall be printed the changed address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

281.045. Certified operator license, when required — application, requirements, examination — maintenance of records — liability of governmental agencies — display of license — change of address, notice — volunteers, use of pesticides without a license. — 1. All agencies of the state of Missouri and the

political subdivisions thereof, and any other governmental agency shall be subject to the provisions of sections 281.010 to 281.115 and rules adopted thereunder concerning the use of restricted use pesticides.

2. Public operators for agencies listed in subsection 1 of this section shall not use, or supervise the use of, any restricted use pesticides on any land or structure without a certified public operator license issued by the director. The certified public operator shall not use or supervise the use of any restricted use pesticide for any purpose unless the certified public operator has demonstrated the certified public operator's competence to use pesticides for that purpose by being certified by the director in the proper certification category.

3. No certified public operator shall knowingly authorize, direct, or instruct any individual to engage in using any restricted use pesticide on lands or structures unless such individual is licensed as a noncertified RUP applicator while working under the direct supervision of a certified public operator so authorizing, directing, or instructing, in which case the certified public operator shall be liable for any use of a restricted use pesticide by an individual operating under the certified public operator's direct supervision.

4. Application for a certified public operator license shall be submitted to the director on a designated form obtained from the department. Each application shall include all information prescribed by the director by regulation.

5. The director shall not issue a certified public operator license until the applicant is certified by passing an examination provided by the director to demonstrate to the director the applicant's competence and knowledge of the proper use of pesticides under the classifications for which the applicant has applied, and the applicant's knowledge of the standards prescribed by regulations for the certification of public operators.

6. If the director finds the applicant qualified to use pesticides in the classification for which the applicant has applied, the director shall issue a license, without a fee, to the certified public operator who has so qualified. The certified public operator license shall be valid only when the operator is acting as an operator using, or supervising the use of, restricted use pesticides in the course of the operator's employment. A certified public operator license shall expire three years from the date of issuance unless the license has been revoked or suspended prior thereto by the director for cause. The director may limit the license of the applicant to the use of certain restricted use pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified. If a license is not issued as applied for, the director shall inform the applicant in writing of the reasons therefor.

7. The director may renew any certified public operator license under the classification for which that applicant is licensed upon successful completion of approved recertification training or reexamination for additional knowledge that may be required to use pesticides safely and properly either manually or with equipment the applicant has been licensed to operate.

8. The director shall require the certified public operator, or the certified public operator's employer, to maintain records with respect to applications of restricted use pesticides. Any relevant information which the director may deem necessary may be required by regulation. Such records shall be kept for a period of three years from the date of the application of the pesticide to which such records refer, and the director shall, upon request in writing, be furnished with a copy of such records by any certified public operator or the certified public operator's employer.

9. Agencies listed in subsection 1 of this section shall be subject to a legal action by any person damaged by any use of any pesticide, which may be brought in the county where the damage or any part thereof occurred.

10. Every certified public operator shall display the certified public operator's license in a prominent place at the site, location, or office from which the certified public operator will operate as a certified public operator, that place, location, or office being at the address printed on the license.

11. Every certified public operator who changes the address from which the certified public operator will operate as a certified public operator shall immediately notify the director. The director shall immediately issue a revised license upon which shall be printed the changed address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

12. Any person who volunteers to work for a public agency may use general use pesticides without a license under the supervision of the public agency on lands owned or managed by the state agency, political subdivision, or governmental agency.

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(3) Direct supervision or directly supervised by—process by which a competent, noncertified applicator **or certified provisional private applicator** [~~or pesticide technician~~] uses or **commercially** determines the need for the use of a pesticide(s) while acting under control of a certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** [~~, operator, or private applicator with a permit~~] and while employed with the same business entity as their direct supervisor. The certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** [~~, operator or private applicator with a permit~~] **must be certified in categories of supervision and** is responsible for the actions of the noncertified applicator **or certified provisional private applicator** [~~pesticide technician while~~] **who** [~~using~~] **uses** or [~~determining~~] **determines** the need for the use of a pesticide(s) even though the certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** [~~operator or private applicator with a~~] is not present during the use [~~of pesticides~~]. This requires, at a minimum, that—

(A) Certified **commercial applicators, certified noncommercial applicators, certified public operators, or certified private applicators** [~~, operators or private applicators with a permit~~] and noncertified applicators **or certified provisional private applicators** [~~pesticide technicians~~] **must** work from the same physical location;

(B) Prior to certified **commercial applicators, certified noncommercial applicators, certified public operators, and certified private applicators** providing direct supervision for noncertified applicator and certified provisional private applicator uses of restricted use pesticides, they must ensure the noncertified applicator and certified provisional private applicator is properly licensed;

(C) While applying pesticides, noncertified applicators **or certified provisional private applicators** [~~or pesticide technicians~~] shall have in their possession either a work order, job ticket, invoice, or similar document for that pesticide application. Each document shall include, at a minimum:

1. Name and license ~~[or permit]~~ number of the certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** ~~[, operator or private applicator with a permit]~~ providing direct supervision;
2. Name of the noncertified applicator or name and license number of the pesticide **technician, noncertified RUP applicator, or certified provisional private applicator** being directly supervised; and
3. Name of the person requesting the pesticide use, ~~[and]~~ the address or a brief description of the pesticide ~~[(s)]~~ use location, and the use date.

(D) The certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** providing direct supervision must provide the noncertified applicator **or certified provisional private applicator** ~~[or pesticide technician]~~ with a complete copy of the label and labeling for each pesticide used by the noncertified applicator **or certified provisional private applicator** ~~[or pesticide technician]~~ and the label and labeling must be in the possession of the noncertified applicator **or certified provisional private applicator** ~~[or pesticide technician]~~ while using pesticides. The noncertified applicator **or certified provisional private applicator** ~~[or pesticide technician]~~ shall be required to follow all label and labeling directions;

(E) When the label of a pesticide product requires that personal protective equipment be worn for mixing, loading, application, or any other use activities, the certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** must ensure that any noncertified applicator **or certified private applicator** has clean, label-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose;

(F) The certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** providing direct supervision must ensure, before each day of use, equipment used for mixing, loading, transferring, or applying pesticides is in proper operating condition as intended by the manufacturer, and can be used without risk of reasonably foreseeable adverse effects to noncertified applicators, other persons, or the environment;

(G) Certified **commercial applicators, certified noncommercial applicators, certified public operators, or certified private applicators** ~~[, operators or private applicators with a permit]~~ shall be available and, when needed, respond by phone, radio, or in person when noncertified applicators **or certified provisional private applicators** ~~[or pesticide technicians]~~ use pesticides; and

(H) Certified **commercial applicators, certified noncommercial applicators, certified public operators, or certified private applicators** ~~[, operators or private applicators with a permit]~~ shall be at the pesticide use site when required by the pesticide label.

2 CSR 70-25.110 Standards of Competence for the Certification of Commercial Applicators, Noncommercial Applicators, ~~[and]~~ Public Operators, and Noncertified RUP Applicators

~~(2)~~(3) General Standards of Competence for All Certification Categories. The

applicant shall demonstrate a practical knowledge of:

(I) Responsibility of certified applicators supervising noncertified applicators, including-

1. Understanding and complying with all regulations for certified applicators who supervise noncertified applicators using general use and restricted use pesticides and the regulatory requirements for recordkeeping for noncertified applicators who have demonstrated competency in the safe use of all pesticides.
2. Providing use-specific instructions **specific to the site and pesticide used** to noncertified applicators prior to using general use and restricted use pesticides under the direct supervision of a certified applicator.
3. Pertinent state and federal pesticide laws and regulations for explanation to noncertified applicators who use general use and restricted use pesticides under the direct supervision of certified applicators.
4. **The restricted use pesticide applied by the noncertified applicator is not a fumigant, sodium cyanide, or sodium fluoroacetate.**
5. **The noncertified applicator is not applying the restricted use pesticide aerially.**

*Note: Only section (I) is included as it is the only section under the general standards of competence that pertains to noncertified applicators.

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(10) Legal age—eighteen (18) years, for license and certification as noncertified RUP applicators, pesticide technicians, and certified applicators. ~~[unless otherwise provide by law.]~~ Individuals who are sixteen (16) or seventeen (17) years of age and **supervised by** an immediate family member **who is** a certified private applicator are eligible to obtain certification as a certified provisional private applicator.

Noncertified applicator qualifications

281.048. Noncertified RUP applicator license — application, issuance and renewal, fee — authority of licensee, limitation by director, when — notification by licensee of changes — retraining — display of license. — 1. No individual shall use or determine the need for the use of any restricted use pesticide while working under the direct supervision of a certified commercial applicator until the individual has met the requirements of this section.

2. No individual shall use restricted use pesticides while working under the direct supervision of a certified noncommercial applicator or certified public operator until the individual has met the requirements of this section.

3. Application for a noncertified RUP applicator's license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall issue or renew a noncertified RUP applicator license once an individual has met the requirements set forth in 40 CFR section 171.201(c)(1) or (3). The director shall collect an annual fee of thirty-

five dollars for each noncertified RUP applicator license issued. The license shall be valid for one year unless revoked or suspended by the department prior to its expiration. Any individual whose application is denied shall receive a written explanation as to the determination of the denial.

5. Individuals holding a valid noncertified RUP applicator license may use and determine the need for the use of restricted use pesticides, general use pesticides, and minimum risk pesticides under the direct supervision of a certified commercial applicator and only for the categories in which the commercial applicator is certified. The director may limit the license of the applicant to the use of certain pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified.

6. Every certified commercial applicator, certified noncommercial applicator, or certified public operator providing direct supervision to a licensed noncertified RUP applicator shall immediately notify the director when the licensed noncertified RUP applicator has changed address from which the applicator or operator will operate as a licensed noncertified RUP applicator or when the noncertified RUP applicator's employment has been terminated. The director shall immediately issue a revised license upon which shall be printed the change of address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

7. A noncertified RUP applicator may complete retraining requirements and renew the applicator's license without a certified commercial applicator, certified noncommercial applicator, or certified public operator working from the same physical location.

8. Every licensed noncertified RUP applicator shall display the applicator's license in a prominent place at the site, location, or office from which the applicator will operate as a noncertified RUP applicator, that place, location, or office being at the address printed on the license.

Noncertified applicator training program(s)

281.048. Noncertified RUP applicator license — application, issuance and renewal, fee — authority of licensee, limitation by director, when — notification by licensee of changes — retraining — display of license. — 1. No individual shall use or determine the need for the use of any restricted use pesticide while working under the direct supervision of a certified commercial applicator until the individual has met the requirements of this section.

2. No individual shall use restricted use pesticides while working under the direct supervision of a certified noncommercial applicator or certified public operator until the individual has met the requirements of this section.

3. Application for a noncertified RUP applicator's license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall issue or renew a noncertified RUP applicator license once an individual has met the requirements set forth in 40 CFR section 171.201(c)(1) or (3). The director shall collect an annual fee of thirty-five dollars for each noncertified RUP applicator license issued. The license shall be valid for one year unless revoked or suspended by the department prior to its expiration. Any individual whose application is denied

shall receive a written explanation as to the determination of the denial.

5. Individuals holding a valid noncertified RUP applicator license may use and determine the need for the use of restricted use pesticides, general use pesticides, and minimum risk pesticides under the direct supervision of a certified commercial applicator and only for the categories in which the commercial applicator is certified. The director may limit the license of the applicant to the use of certain pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified.

6. Every certified commercial applicator, certified noncommercial applicator, or certified public operator providing direct supervision to a licensed noncertified RUP applicator shall immediately notify the director when the licensed noncertified RUP applicator has changed address from which the applicator or operator will operate as a licensed noncertified RUP applicator or when the noncertified RUP applicator's employment has been terminated. The director shall immediately issue a revised license upon which shall be printed the change of address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

7. A noncertified RUP applicator may complete retraining requirements and renew the applicator's license without a certified commercial applicator, certified noncommercial applicator, or certified public operator working from the same physical location.

8. Every licensed noncertified RUP applicator shall display the applicator's license in a prominent place at the site, location, or office from which the applicator will operate as a noncertified RUP applicator, that place, location, or office being at the address printed on the license.

2 CSR 70-25.153 Stipulations and Training requirements for noncertified RUP applicators

- (1) Applicants for a noncertified RUP applicator license shall complete one of the following options.
 - (A) Pass a written examination based on the general standards of competence provided in 2 CSR 70-25.101(3); or
 - (B) Complete a noncertified RUP applicator training program.
 1. Prior to employment of noncertified RUP applicators, certified applicators or their employers must have an approved training program. Approved training programs shall be valid until revoked.
 2. Noncertified RUP applicator training must be presented to noncertified RUP applicators either orally from written materials or audiovisually. The information must be presented in a manner that the noncertified RUP applicators can understand.
 3. The person conducting the training must be currently certified as an applicator of restricted use pesticides or employed as an educator with a land grant college or university or other public educational institutions or professional associations. The person conducting the training must also be present during the entire training program and must respond to the noncertified applicators' questions.
 4. The noncertified RUP applicator training materials must include the information that noncertified applicators need in order to protect themselves, other people, and the environment before, during,

and after making a restricted use pesticide application. The noncertified RUP applicator training materials must include, at a minimum, information regarding the following:

1. Potential hazards from toxicity and exposure that pesticides present to noncertified applicators and their families, including acute and chronic effects, delayed effects, and sensitization.
2. Routes through which pesticides can enter the body.
3. Signs and symptoms of common types of pesticide poisoning.
4. Emergency first aid for pesticide injuries or poisonings.
5. Routine and emergency decontamination procedures, including emergency eye flushing techniques. Noncertified RUP applicators must be instructed that if pesticides are spilled or sprayed on the body, to immediately wash or to rinse off in the nearest clean water. Noncertified RUP applicators must also be instructed to wash or shower with soap and water, shampoo hair, and change into clean clothes as soon as possible.
6. How and when to obtain emergency medical care.
7. After working with pesticides, wash hands before eating, drinking, using chewing gum or tobacco, or using the toilet.
8. Wash or shower with soap and water, shampoo hair and change into clean clothes as soon as possible after working with pesticides.
9. Potential hazards from pesticide residues on clothing.
10. Wash work clothes before wearing them again and wash them separately from other clothes.
11. Do not take pesticides or pesticide containers used at work to your home.
12. Potential hazards to children and pregnant women from pesticide exposure.
13. After working with pesticides, remove work boots or shoes before entering your home, and remove work clothes and wash or shower before physical contact with children or family members.
14. How to report suspected pesticide use violations to the appropriate state or tribal agency responsible for pesticide enforcement.
15. Format and meaning of information contained on pesticide labels and in labeling applicable to the safe use of the pesticide, including the location and meaning of the restricted use product statement, how to identify when the labeling requires the certified applicator to be physically present during the use of the pesticide, and information on personal protective equipment.
16. Need for, and appropriate use and removal of, personal protective equipment.
17. How to recognize, prevent, and provide first aid treatment for heat related illness.
18. Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.
19. Environmental concerns such as drift, runoff, and wildlife hazards.
20. Restricted use pesticides may be used only by a certified applicator or by a noncertified RUP applicator working under the direct supervision of a certified applicator.

21. The certified applicator's responsibility to provide each noncertified RUP applicator instructions specific to the site and pesticide used. These instructions must include labeling directions, precautions, and requirements applicable to the specific use and site, and how the characteristics of the use site (e.g., surface and ground water, endangered species, local population, and risks) and the conditions of application (e.g., equipment, method of application, formulation, and risks) might increase or decrease the risk of adverse effects. The certified applicator must provide these instructions in a manner the noncertified RUP applicator can understand.
 22. The certified applicator's responsibility to ensure that each noncertified RUP applicator has access to the applicable product labeling at all times during its use.
 23. The certified applicator's responsibility to ensure that where the labeling of a pesticide product requires that personal protective equipment be worn for mixing, loading, application, or any other use activities, each noncertified RUP applicator has clean, labeling- required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose.
 24. The certified applicator's responsibility to ensure that before each day of use equipment used for mixing, loading, transferring, or applying pesticides is in proper operating condition as intended by the manufacturer, and can be used without risk of reasonably foreseeable adverse effects to the noncertified RUP applicator, other persons, or the environment.
 25. The certified applicator's responsibility to ensure that a means to immediately communicate with the certified applicator is available to each noncertified RUP applicator using restricted use pesticides under his or her direct supervision.
5. Certified applicators must submit to the director a Notice of Training form provided by the director.
 6. Certified applicators shall keep and maintain a copy of the Notice of Training form and noncertified RUP applicator license for a period of two (2) years from the date the training was completed.
- (2) Additional training of noncertified RUP applicators is required annually. Training shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of pesticides.
- (B) Licensed noncertified RUP applicators must complete a training program meeting the requirements of paragraph 4 of subsection (B) of this rule.
- (3) Reexamination of noncertified RUP applicators is required within three (3) years from initial licensure and within each subsequent three (3) year period.
- (B) Licensed noncertified RUP applicators must reexamine on the general standards of competence exam (CORE).

Recordkeeping requirements for noncertified applicator training

The Missouri Department of Agriculture will maintain records of exams for noncertified RUP applicators that choose to take the exam(s) to become licensed. The noncertified applicators that complete training to become licensed, will be required to keep a copy of their license at the certified applicator's principal place of business for a period of two years from the date the

noncertified RUP applicator used the restricted use pesticide, to document records of training. Part of the application for a noncertified applicator includes submitting a Notice of Training Form that will capture the name of noncertified applicator, business name and address, date training completed similar to Attachment 9, description of training category, breakdown of training time for each category, name and license number of certified applicator that provided the training, and signatures of noncertified applicator and trainer. An example of a Notice of Training Form the program currently uses for Technicians is included as Attachment 9. This form will be modified for noncertified applicator training.

Exemptions

281.080. Exemptions.

The provisions of sections 281.010 to 281.115 relating to licenses and requirements for their issuance shall not apply to:

- (1) Veterinarians using pesticides on animals during the normal course of veterinary practice, as long as he is not regularly engaged in the business of using pesticides for hire amounting to a principal or regular occupation or does not publicly hold himself out as a pesticide applicator;
- (2) Doctors of medicine or doctors of osteopathy using or prescribing pesticides in the practice of medicine;
- (3) Government and private research personnel using pesticides under laboratory type conditions.

10. Credentials

The Missouri Department of Agriculture will issue licenses to Certified Commercial Applicators, Certified Private Applicators, and Non-Certified Applicators. The licenses will include: name of state lead agency, applicator name, license type, license number, certification category (ies), license expiration, and recertification date. Examples of these licenses are included as Attachment 10

11. Reciprocity

281.075. Reciprocal licensing authorized, when. — The director may issue a pesticide applicator certification on a reciprocal basis with other states without examination to a nonresident who is licensed as a certified applicator in accordance with the reciprocating state's requirements and is a resident of the reciprocating state. A pesticide applicator certification shall be issued in accordance with the provisions of sections 281.010 to 281.115; except that, financial responsibility shall be filed pursuant to section 281.065. Fees collected shall be the same as for resident licenses or certification.

The Missouri Department of Agriculture requires all applicators seeking reciprocity to submit copies of their current State credentials. MDA maintains a current list of certification categories and certification standards for majority of the states bordering Missouri, as well as other states that frequently have applicators seeking reciprocal certification.

MDA contacts the issuing State to determine if that State’s certification standards meet those of Missouri, as well as determine whether the applicator has received enforcement actions that meet the requirements for denial of certification found in the Missouri Pesticide Use Act, section 281.060. In this way, MDA believes we ensure that reciprocally certified applicators meet the Federal standards of competency.

The MDA will only issue a reciprocal applicator license for the same certification period as that of the reciprocating applicator’s home State certification, or three years, whichever is less.

The Missouri Pesticide Use Act allows MDA to issue reciprocal applicator certifications to persons residing outside of the State that have met the following criteria as found in section 281.075: The director may issue a pesticide applicator certification on a reciprocal basis with other states without examination to a nonresident who is licensed as a certified applicator in accordance with reciprocating state’s requirements and is a resident of the reciprocating state. A pesticide applicator certification shall be issued in accordance with the provisions of sections 281.010 to 281.115; except that financial responsibility shall be filed pursuant to section 281.065. Fees collected shall be the same as for resident licenses or certification.

The MDA has a mechanism to terminate an applicator’s certification upon notification that the applicator’s original certification terminates because of a violation under section 281.060 of the Missouri Pesticide Use Act.

The MDA will issue an appropriate State credential or document to the reciprocal applicator upon verification the applicant has met the requirements listed above.

12. Reports to EPA

The Missouri Department of Agriculture agrees to submit reports to the EPA in a manner and containing the information that the EPA requires. Currently the Missouri Department of Agriculture submits reports/information to the EPA through the Certification Plan and Reporting Database (CPARD).

13. Implementation Timeframe

The Missouri Department of Agriculture’s proposed implementation timeframe is as follows:

December 2020 - Modifications to Chapter 281 submitted to the legislature.

January 2021–University of Missouri Extension hires a PSEP Coordinator.

March 2022 – September 2022 – Rule revision process

February 2022 – August 2024 – University of Missouri Extension work on the following:

1. Modify commercial applicator training to meet new rule requirements.
2. Modify private applicator training to meet new rule requirements.

3. PSEP Coordinator and MU contractor publish online training for private applicator.
4. Revise existing category and CORE manuals to meet new rule requirements.
5. Create new category manuals for aerial, soil fumigation and non-soil fumigation.
6. Train Extension Specialists on the new private applicator training.

January 2023 – December 2024 – Missouri Department of Agriculture will work on the following:

1. Review commercial and private applicator training programs developed by University of Missouri Extension to ensure compliance with the new rule.
2. Review category and CORE manuals revised and/or created by the University of Missouri Extension to ensure compliance with the new rule.
3. Create new exam questions for existing categories and write new questions for new categories.
4. Modify existing license applications for commercial applicators and create license applications for private and noncertified RUP applicators.
5. Revise software licensing database to add additional categories for aerial, soil, and non-soil fumigation on licenses, revise private applicator licenses to include categories, and create a license for non-certified RUP applicators.

January 2025 – Begin full implementation of State Certification Plan with amended Chapter 281 and revised sections of 2 CSR 70-25 in effect. Applicants seeking certification January 1, 2025 or after will meet the requirements of Part 171 – Certification of Pesticide Applicators. Existing pesticide applicators will meet the new requirements of Part 171 – Certification of Pesticide Applicators prior to the recertification date on their pesticide license.

Attachment 2-A



**DEPARTMENT of AGRICULTURE
STATE OF MISSOURI
JEFFERSON CITY**

MICHAEL L. PARSON
GOVERNOR

*Serving, promoting and protecting the agricultural producers, processors
and consumers of Missouri's food, fuel and fiber products.*

CHRIS CHINN
DIRECTOR

December 30, 2020

Dear Sir or Madam:

This is in response to your request for the legal authority of a state lead agency to answer the following: Does the lead agency and other cooperating agencies have the legal authority necessary to carry out the certification plan (and enforce state pesticide laws and regulations)?

Sections 281.010 to 281.115, RSMo, establish the "Missouri Pesticide Use Act". The Missouri Pesticide Use Act defines terms and outlines statutes regarding certified commercial applicator's, certified noncommercial applicator's, private applicator's, certified operator's, and pesticide dealer's licensing; the regulation of pesticide containers; and penalties for violations of the Act. Section 281.015 provides that such provisions shall be "administered by the Director of the Department of Agriculture of the state of Missouri". Furthermore, subsection 1 of section 281.025 expressly grants the Director of the Department Agriculture for the state the authority to administer and enforce statutory provisions as well as adopt regulations to carry out the Missouri Pesticide Use Act. Along with the authority to administer the Act, the Director is granted right of entry to inspect, investigate, observe, sample, and audit compliance with the Act (Section 281.061), subpoena documents (Section 281.063), and investigate claims of damages (Section 281.070).

In addition, Section 281.110 allows the Director to cooperate and enter agreements with any federal agency to prepare and submit state plans to meet federal certification standards and otherwise cooperate with the enforcement of federal pesticide control laws.

In light of the detailed state statutes outlining the Director of the Missouri Department of Agriculture's authority to administer the state pesticide program and the express language in Section 281.110 allowing the director to prepare and submit a state plan for approval, there is clear legal authority to carry out the provisions of the certification plan submitted.

Sincerely,

Kristi Naught, General Counsel

**Cc: Dawn Wall, Pesticide Program Administrator
Paul Bailey, Plant Industries Division Director**



DEPARTMENT of AGRICULTURE
STATE OF MISSOURI
JEFFERSON CITY

MICHAEL L. PARSON
GOVERNOR

*Serving, promoting and protecting the agricultural producers, processors
and consumers of Missouri's food, fuel and fiber products.*

CHRIS CHINN
DIRECTOR

January 10, 2023

Dear Sir or Madam,

Recently, the state of Missouri made legislative changes to the state's Pesticide Use Act found in Sections 281.010 to 281.115, RSMo. Currently, the definition of "pesticide technician" in Section 281.020(2)(i), RSMo includes "any individual working under the direct supervision of a commercial applicator certified in categories as specified in regulation...is authorized by the director to determine the need for the use of any pesticide as well as to the use of any pesticide". The word "any" in the underlined instances were inadvertently included from previous definitions.

Section 281.038 specifically states that "no individual working under the direct supervision of a certified commercial applicator shall determine the need for the use of or use any general use pesticide or minimum risk pesticide in categories as specified by regulation..." The limitation on the categories of pesticides that a pesticide technician maybe licensed in is further noted in Section 281.035. That provision that the activities that a pesticide technician may engage in include receiving direction from a certified commercial certified applicator to determine the need for use or use any general use or minimum risk pesticide. Furthermore, 2 CSR 70-25.156 of the Missouri Code of State Regulations establishes what categories the pesticide technician shall be trained and licensed to use.

It is my opinion that the limiting provisions in Section 281.035 and 281.038 as well as the CSR language limit a pesticide technicians ability to use specific authorized general use and minimum risk pesticides irrespective of the Section 281.020 definition. Therefore, statutory revisions are not necessary.

Sincerely,

Kristi Naught
General Counsel

Attachment 2-B

281.005. Preemption of all ordinances and rules of political subdivisions. — Sections 281.210 to 281.310 and sections 281.005 to 281.115 shall preempt all ordinances, rules and regulations of political subdivisions relating to the use of subjects covered by said sections.

281.010. Short title. — Sections 281.010 to 281.115 shall be known as the “Missouri Pesticide Use Act”.

281.015. Director of agriculture to administer. — Sections 281.005 to 281.115 shall be administered by the director of the department of agriculture of the state of Missouri.

281.020. Definitions. — As used in sections 281.010 to 281.115, the following terms mean:

(1) **“Animal”**, all vertebrate and invertebrate species, including but not limited to man and other mammals, birds, fish, and shellfish;

(2) **“Applicator, operator or technician”**:

(a) **“Certified applicator”**, includes any certified commercial applicator, certified noncommercial applicator, certified private applicator, certified provisional private applicator, or certified public operator;

(b) **“Certified commercial applicator”**, any individual, whether or not the individual is a private applicator with respect to some uses, who is certified by the director as authorized to use, supervise the use of, determine the need for the use of, or supervise the determination of need for any pesticide, whether classified for restricted use or for general use, while the individual is engaged in the business of using pesticides on the lands of another as a direct service to the public in exchange for a fee or compensation;

(c) **“Certified noncommercial applicator”**, any individual, whether or not the individual is a private applicator with respect to some uses, who is certified by the director as authorized to use, or to supervise the use of, any pesticide which is classified for restricted use only on lands owned or rented by the individual or the individual's employer;

(d) **“Certified private applicator”**, any individual who is certified by the director as authorized to use any pesticide that is classified for restricted use for purposes of producing any agricultural commodity on property owned or rented by the individual or the individual's employer or on the property of another person, if used without compensation other than trading of personal services between producers of agricultural commodities;

(e) **“Certified provisional private applicator”**, any individual who is sixteen or seventeen years of age, an immediate family member of a certified private applicator, and certified by the director to use any pesticide that is classified for restricted use for purposes of producing any agricultural commodity on property owned or rented by the individual's immediate family member, so* long

as the following requirements are met:

- a. The restricted use pesticide (RUP) is not a fumigant;
 - b. The restricted use pesticide (RUP) does not contain sodium cyanide or sodium fluoroacetate;
 - c. The individual does and will not apply any restricted use pesticide (RUP) using aerial application equipment;
 - d. The individual does and will not supervise the use of any restricted use pesticide (RUP); and
 - e. The individual does and will not purchase any restricted use pesticide (RUP);
- (f) **“Certified public operator”**, any individual who is certified by the director as authorized to use, or to supervise the use of, any pesticide classified for restricted use in the performance of the individual's duties as an official or employee of any agency of the state of Missouri or any political subdivision thereof, or any other governmental agency;
- (g) **“Noncertified restricted use pesticide (RUP) applicator”**, any person who is not certified in accordance with sections 281.010 to 281.115 who uses or determines the need for the use of restricted use pesticides under the direct supervision of a certified commercial applicator or uses restricted use pesticides under the direct supervision of a certified noncommercial applicator or certified public operator;
- (h) **“Private applicator”**, any person not holding a certified private applicator's license or certified provisional private applicator's license who uses general use pesticides or minimum risk pesticides for the purposes of producing any agricultural commodity on property owned or rented by the person or the person's employer or on the property of another person, if used without compensation other than trading of personal services between producers of agricultural commodities;
- (i) **“Pesticide technician”**, any individual working under the direct supervision of a commercial applicator certified in categories as specified by regulation, and who having met the competency requirements of sections 281.010 to 281.115, is authorized by the director to determine the need for the use of any pesticide as well as to the use of any pesticide;
- (j) **“Pesticide technician trainee”**, any individual working in the physical presence and under the direct supervision of a certified commercial applicator to gain the required on-the-job training in preparation for obtaining a pesticide technician's license;
- (3) **“Beneficial insects”**, those insects that, during their life cycle, are effective pollinators of plants, are parasites or predators of pests, or are otherwise beneficial;
- (4) **“Defoliant”**, any substance or mixture of substances intended for causing the leaves or foliage to drop from a plant, with or without causing abscission;

(5) **“Department”** or **“department of agriculture”**, the state department of agriculture, and when by sections 281.010 to 281.115 the department of agriculture is charged to perform a duty, the director of the department of agriculture is authorized to perform such duty;

(6) **“Desiccant”**, any substance or mixture of substances intended for artificially accelerating the drying of plant tissue;

(7) **“Determining the need for the use of any pesticide”**, the act of inspecting land for the presence of pests for the purpose of contracting for their control or prevention through the use of pesticides in categories as specified by regulation;

(8) **“Device”**, any instrument or contrivance, other than a firearm, that is intended for trapping, destroying, repelling, or mitigating any pest or any other form of plant or animal life, other than man and other than bacteria, viruses, or other microorganisms on or in living man or other living animals, but not including equipment used for the application of pesticides when sold separately therefrom;

(9) **“Director”**, the director of the department of agriculture or the director's designee;

(10) **“Distribute”**, to sell, offer for sale, hold for sale, deliver for transportation in intrastate commerce, or transport in intrastate commerce;

(11) **“Environment”**, includes, but is not limited to, water, air, land, and all plants and man and other animals living therein, and the interrelationships that exist among these;

(12) **“Equipment”**, any type of ground, water, or aerial equipment or contrivance using motorized, mechanical, or pressurized power and used to apply any pesticide on land and anything that may be growing, habitating, or stored on or in such land, but shall not include any pressurized hand-sized household apparatus used to apply any pesticide, or any equipment or contrivance of which the person who is applying the pesticide is the source of power or energy in making such pesticide application;

(13) **“Fungus”**, any nonchlorophyll-bearing thallophyte, which is any nonchlorophyll-bearing plant of a lower order than mosses and liverworts, such as rust, smut, mildew, mold, yeast, and bacteria, except those on or in living man or other living animals, and except those on or in processed food, beverages, or pharmaceuticals;

(14) **“General use pesticide”**, any pesticide, when applied in accordance with its directions for use, warnings, and cautions, and for the uses for which it is registered, or for one or more of such uses, or in accordance with a widespread and commonly recognized practice, that will not generally cause unreasonable adverse effects on the environment;

(15) **“Immediate family”**, familial relationships limited to the spouse, parents, stepparents, foster parents, father-in-law, mother-in-law, children, stepchildren, foster children, sons-in-law, daughters-in-law, grandparents, brothers, sisters, brothers-in-law, sisters-in-law, aunts, uncles,

nieces, nephews, and first cousins. As used in this subdivision, **“first cousin”** means the child of a parent's sibling, i.e., the child of an aunt or uncle;

(16) **“Individual”**, any responsible, natural human being;

(17) **“Insect”**, any of the numerous small invertebrate animals generally having the body more or less obviously segmented, for the most part belonging to the class Insecta, comprising six-legged, usually winged forms, such as beetles, bugs, bees, flies, and to other allied classes of arthropods whose members are wingless and usually have more than six legs, such as spiders, mites, ticks, centipedes, and wood lice;

(18) **“Land”**, all land and water areas, including airspace, and all plants, animals, structures, buildings, contrivances, and machinery, appurtenant thereto or situated thereon, fixed or mobile, including any used for transportation;

(19) **“Minimum risk pesticide”**, any pesticide product exempted under 40 CFR Section 152.25(f) from registration requirements under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended;

(20) **“Misuse of a pesticide”**, a use of any pesticide in a manner inconsistent with its labeling; provided, that the use of a lesser concentration than provided on the label shall not be considered the misuse of a pesticide when used strictly for agricultural purposes, and when requested in writing by the person on whose behalf a pesticide is used;

(21) **“Nematode”**, invertebrate animals of the phylum Nematelminthes and class Nematoda, that is, unsegmented round worms with elongated, fusiform, or sac-like bodies covered with cuticle, and inhabiting soil, water, plants, or plant parts; may also be called nemas or eelworms;

(22) **“Nontarget organism”**, any plant, animal, or organism other than the target pests that a pesticide is intended to affect;

(23) **“Person”**, any individual, partnership, association, fiduciary, corporation, or any organized group of persons whether incorporated or not;

(24) **“Pest”**:

(a) Any insect, snail, slug, rodent, nematode, fungus, weed; or

(b) Any other form of terrestrial or aquatic plant or animal life or virus, bacterium, or other microorganism, except viruses, bacteria, or other microorganisms on or in living man or other living animals, that is normally considered to be a pest;

(25) **“Pesticide”**:

(a) Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest; or

(b) Any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant;

(26) **“Pesticide dealer”**, any individual who is engaged in the business of distributing, selling, offering for sale, or holding for sale at retail, or direct wholesale to the end user, any pesticide classified for restricted use;

(27) **“Pesticide dealership”**, any location or outlet where restricted use pesticides are held for sale, distributed, or sold;

(28) **“Plant regulator”**, any substance or mixture of substances, intended, through physiological action, for accelerating or retarding the rate of growth or rate of maturation, or for otherwise altering the behavior of plants or the produce thereof, but shall not include substances to the extent that they are intended as plant nutrients, trace elements, nutritional chemicals, plant inoculants, or soil amendments. The term “plant regulator” does not include any of those nutrient mixtures or soil amendments that are commonly known as vitamin-hormone horticultural products, intended for improvement, maintenance, survival, health, and propagation of plants, and that are not for pest destruction and are nontoxic, nonpoisonous in the undiluted package concentration;

(29) **“Restricted use pesticide”** or **“(RUP)”**, any pesticide when applied in accordance with its directions for use, warnings, and cautions and for the uses for which it is registered, or for one or more of such uses, or in accordance with a widespread and commonly recognized practice, the director determines may cause, without additional regulatory restrictions, unreasonable adverse effects on the environment, including injury to the applicator;

(30) **“Sale”**, selling or offering for sale any pesticide;

(31) **“Snails”** or **“slugs”** includes all harmful mollusks;

(32) **“Unreasonable adverse effects on the environment”**, any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide;

(33) **“Under the direct supervision of a certified applicator”**, when a pesticide is used by a competent person acting under the instructions and control of a certified applicator who is available if and when needed, even though such certified applicator is not physically present at the time and place the pesticide is used;

(34) **“Use”**, mixing, loading, or applying any pesticide; cleaning pesticide equipment; or storing or disposing of pesticide containers, pesticides, spray mix, equipment wash waters, and/or other pesticide-containing materials;

(35) **“Weed”**, any plant that grows where not wanted;

(36) **“Wildlife”**, all living things that are neither human, domesticated, or pests, including, but not limited to, mammals, protected birds, and aquatic life.

281.023. Director may enter into cooperative agreements with political subdivisions. — The director may enter into cooperative agreements with political subdivisions of this state regarding pesticide programs under sections 281.005 to 281.115 for the purpose of securing uniformity throughout the state. Nothing in sections 281.005 to 281.115 shall be construed to require the director to enter into any such agreement.

281.025. Director may issue regulations — notice, how given — list of restricted use pesticides, adoption of — public hearings, when — rulemaking procedure. — 1. The director shall administer and enforce the provisions of sections 281.010 to 281.115 and shall have authority to issue regulations after a public hearing following due notice of not less than thirty days to all interested persons, in conformance with the provisions of chapter 536, to carry out the provisions of sections 281.010 to 281.115. Where the director finds that such regulations are needed to carry out the purpose and intent of sections 281.010 to 281.115, such regulations may relate to, but need not be limited to, prescribing the time, place, manner, methods, materials, and amounts and concentrations, in connection with the use of the pesticide, and may restrict or prohibit use of pesticides in designated areas during specified periods of time and shall encompass all reasonable factors that the director deems necessary to prevent damage or injury. In issuing such regulations, the director may give consideration to pertinent research findings and recommendations of other agencies of this state, the federal government, or other reliable sources. The director may by regulation require that notice of a proposed application of a pesticide be given to landowners adjoining the property to be treated or in the immediate vicinity thereof, if the director finds that such notice is necessary to carry out the purpose of sections 281.010 to 281.115.

2. The pesticides on the list of restricted use pesticides, as determined by the federal agency having jurisdiction over the classification of pesticides, shall be so restricted in the state of Missouri. The director shall publish, at least annually, a list of pesticides that have restricted uses. Such publication shall be made available to the public upon request. If the director determines that a pesticide, when used in accordance with its directions for use, warnings, and cautions, and for uses for which it is registered, may cause, without additional regulatory restrictions, unreasonable adverse effects on the environment, including injury to the applicator or other persons, the pesticide shall be used only by or under the direct supervision of a certified applicator. Such pesticides may be subject to other restrictions as determined by the director, to include the time and conditions of possession and use.

3. No regulation, or any amendment or repeal thereof, provided for in sections 281.010 to 281.115 shall be adopted, except after public hearing giving an opportunity to the public to be heard, to be held after no less than thirty days' prior notice of the date, time, and place of hearing, to be given by regular mail to any person who has registered with the director for

purposes of notice of such public hearings, in accordance with procedures prescribed by the director.

4. At any hearing, opportunity to be heard shall be afforded to any interested person upon written request received not later than twenty-four hours prior to the hearing, and may also be afforded to other persons. In addition, any interested person, whether or not heard, may submit within seven days subsequent to the hearing a written statement of views. The director may solicit the views in writing of persons who may be affected by, or interested in any proposed regulation. Any person heard or represented at the hearing, or making written request for notice, shall be given written notice of the action of the director with respect to the subject thereof.

5. No rule or portion of a rule promulgated under the authority of this chapter shall become effective unless it has been promulgated pursuant to the provisions of section 536.024.

281.030. Classification of licenses, how made — rulemaking powers — fees. — 1. The director may, by regulation, classify licenses to be issued under sections 281.010 to 281.115. Such classifications may include but not be limited to commercial applicators, noncommercial applicators, private applicators, provisional private applicators, public operators, pesticide technicians, or noncertified RUP applicators. Separate classifications may be specified as to ground, aerial, or manual methods used by any licensee to apply pesticides or to the use of pesticides for the control of pests.

2. The director may, by regulation, establish certification categories to be provided under each license classification. Each certification category shall be subject to separate testing procedures and requirements; provided, that no individual shall be required to pay an additional fee if the individual is certified in one or all of the certification categories provided under the license for which the individual has applied. The director may, by regulation, establish certification categories limited to the use of certain pesticides and issue a license therefor. Each certification category shall be subject to separate testing procedures covering only those pesticides for which the applicant seeks to be licensed.

3. The director may by regulation establish fees for identification documents.

281.035. Certified commercial applicator's license required when, annual fee — application for license, how made — examinations — records to be kept — incapacity of sole certified applicator, effect of — display of license — change of address, notice. — 1. No individual shall engage in the business of determining the need for the use of, supervising the use of, supervising the determination of the need for the use of, or using any pesticide, in categories as specified by regulation, on the lands of another at any time without a certified commercial applicator's license issued by the director. A certified commercial applicator shall not determine the need for the use of, supervise the use of, supervise the determination of the need for the use of, or use any pesticide for any particular purpose unless the certified commercial applicator has demonstrated such certified commercial applicator's competence to use pesticides for that purpose by being

certified by the director in the proper certification category. The director shall require an annual fee of sixty-five dollars for each certified commercial applicator's license issued. No certified commercial applicator shall knowingly authorize, direct, or instruct any individual to engage in determining the need for the use of or using any general use pesticide or minimum risk pesticide on the land of another at any time unless such individual is a pesticide technician or pesticide technician trainee in such categories as specified by regulation or is working under the direct supervision of a certified commercial applicator so authorizing, directing or instructing, in which case the certified commercial applicator shall be liable for any use of a general use pesticide or minimum risk pesticide by an individual operating under the certified commercial applicator's direct supervision. The certified commercial applicator or the employer shall assure that the director is informed in writing within ten days of the employment of any person as a pesticide technician or pesticide technician trainee.

2. No certified commercial applicator shall knowingly authorize, direct, or instruct any individual to engage in determining the need for the use of or using any restricted use pesticide on the land of another at any time unless such individual is licensed as a noncertified RUP applicator while working under the direct supervision of a certified commercial applicator so authorizing, directing, or instructing, in which case the certified commercial applicator shall be liable for any use of a restricted use pesticide by an individual operating under the certified commercial applicator's direct supervision.

3. Application for a certified commercial applicator's license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall not issue a certified commercial applicator's license until the applicant is certified by passing an examination provided by the director to demonstrate to the director the applicant's competence and knowledge of the proper use of pesticides under the classifications the applicant had applied for, and the applicant's knowledge of the standards prescribed by regulations for the certification of commercial applicators.

5. The director may renew any certified commercial applicator's license under the classification for which such applicant is licensed, upon successful completion of approved recertification training or reexamination for additional knowledge that may be required to use pesticides safely and properly either manually or with equipment the applicant has been licensed to operate.

6. If the director finds the applicant qualified to use pesticides in the classification for which application has been made, and if the applicant files evidence that the requirement for bonds or insurance has been met as required under section 281.065, the director shall issue a certified commercial applicator's license limited to the classifications for which the applicant is qualified, which shall expire one year from date of issuance unless the license has been revoked or

suspended prior thereto by the director for cause; provided, such financial responsibility required under section 281.065 does not expire at an earlier date, in which case the license shall expire upon the expiration date of the financial responsibility. The director may limit the license of the applicant to the use of certain pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified. If a license is not issued as applied for, the director shall inform the applicant in writing of the reasons therefor.

7. The director shall require each certified commercial applicator or the certified commercial applicator's employer to maintain records with respect to applications of any pesticide, including pesticides used under direct supervision by licensed pesticide technicians, pesticide technician trainees, and licensed noncertified RUP applicators. Such relevant information as the director may deem necessary may be specified by regulation. Such records shall be kept for a period of three years from the date of the application of the pesticide to which such records refer, and the director shall, upon request in writing, be furnished with a copy of such records by any certified commercial applicator or the certified commercial applicator's employer.

8. A person or individual engaged in the business of using pesticides on the lands of another, who is deprived of such person's or individual's sole certified commercial applicator by reason of death, illness, incapacity, or any absence which the director determines is unavoidable, is authorized to continue business operations without the services of a certified commercial applicator for a period of time deemed appropriate by the director, but not to exceed sixty days; except that, no restricted use pesticide shall be used, or caused to be used, by such person or individual. Any such person or individual shall immediately notify the director as to the absence of such person's or individual's sole certified commercial applicator.

9. Every certified commercial applicator shall display the certified commercial applicator's license in a prominent place at the site, location, or office from which the certified commercial applicator will operate as a certified commercial applicator; that place, location, or office being at the address printed on the license.

10. Every certified commercial applicator who changes the address from which the certified commercial applicator will operate as a certified commercial applicator shall immediately notify the director. The director shall immediately issue a revised license upon which shall be printed the changed address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

281.037. Certified noncommercial applicator's license, when required — application for license, examination, fee — scope of license — records to be kept — display of license — change of address, notice. — 1. Any individual who is not certified pursuant to section 281.035, 281.040, or 281.045 shall not use, or supervise the use of, any restricted use pesticide without a certified noncommercial applicator license. A certified noncommercial applicator shall not use, or

supervise the use of, any restricted use pesticide for any purpose unless the certified noncommercial applicator has demonstrated the certified noncommercial applicator's competence to use pesticides for that purpose by being certified by the director in the proper certification category.

2. No certified noncommercial applicator shall knowingly authorize, direct, or instruct any individual to engage in using any restricted use pesticide on lands or structures owned, leased, or rented by the certified noncommercial applicator or the certified noncommercial applicator's employer unless such individual is licensed as a noncertified RUP applicator while working under the direct supervision of a certified noncommercial applicator so authorizing, directing, or instructing, in which case the certified noncommercial applicator shall be liable for any use of a restricted use pesticide by an individual operating under the certified noncommercial applicator's direct supervision.

3. Application for a certified noncommercial applicator license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall not issue a certified noncommercial applicator license until the applicant is certified by passing an examination provided by the director to demonstrate to the director the applicant's competence and knowledge of the proper use of pesticides under the classifications for which the applicant has applied, and the applicant's knowledge of the standards prescribed by regulations for the certification of noncommercial applicators.

5. If the director finds the applicant qualified to use restricted use pesticides in the classification for which the applicant has applied, the director shall issue a certified noncommercial applicator license limited to the applicator categories in which the applicant is certified. The license shall expire one year from the date of issuance unless the license has been revoked or suspended prior thereto by the director for cause. The director may limit the license of the applicant to the use of certain restricted use pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified. If a license is not issued as applied for, the director shall inform the applicant in writing of the reasons therefor.

6. The director may renew any certified noncommercial applicator license under the classification for which the license is issued upon successful completion of approved recertification training or reexamination for additional knowledge that may be required to apply pesticides safely and properly.

7. The director shall collect a fee of thirty-five dollars for each certified noncommercial applicator license issued.

8. Any certified noncommercial applicator may use, or supervise the use of, restricted use pesticides only to or on lands or structures owned, leased or rented by the certified

noncommercial applicator or the certified noncommercial applicator's employer.

9. The director shall require the certified noncommercial applicator or the certified noncommercial applicator's employer to maintain records with respect to applications of restricted use pesticides. Any relevant information that the director may deem necessary may be required by regulation. Such records shall be kept for a period of three years from the date of the application of the pesticide to which such records refer, and the director shall, upon request in writing, be furnished with a copy of such records by any certified noncommercial applicator or the certified noncommercial applicator's employer.

10. Every certified noncommercial applicator shall display the certified noncommercial applicator's license in a prominent place at the site, location, or office from which the certified noncommercial applicator will operate as a certified noncommercial applicator; that place, location, or office being at the address printed on the license.

11. Every certified noncommercial applicator who changes the address from which the certified noncommercial applicator will operate as a certified noncommercial applicator shall immediately notify the director. The director shall immediately issue a revised license upon which shall be printed the changed address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

281.038. Determination of need for use of pesticide, who may make — pesticide technician's license, application, requirements, fee. — 1. No individual working under the direct supervision of a certified commercial applicator shall determine the need for the use of or use any general use pesticide or minimum risk pesticide in categories as specified by regulation, unless and until the individual has met the requirements of sections 281.010 to 281.115.

2. Application for a pesticide technician's license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation and shall be received by the director within forty-five days of employment of the pesticide technician or pesticide technician trainee.

3. The director shall not issue a pesticide technician's license until the individual has demonstrated the applicant's competence by completion of an approved training program to the satisfaction of the director.

4. The director may renew any pesticide technician's license under the classification for which that applicant is licensed subject to completion of an additional approved training program to the satisfaction of the director as prescribed by regulation.

5. The director shall collect a fee of thirty-five dollars for each pesticide technician license issued.

6. If the director finds the applicant qualified to use pesticides in the classification for which application has been made, the director shall issue a pesticide technician's license limited to the classifications for which the applicant is qualified, which shall expire one year from date of issuance unless the license has been revoked or suspended prior thereto by the director for cause. The director may limit the license of the applicant to the use of certain pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified. If a license is not issued as applied for, the director shall inform the applicant in writing of the reasons for such denial of license.

7. In order for pesticide technicians to use or determine the need for the use of any general use pesticide:

(1) A certified commercial applicator shall and must be licensed to work from the same physical location as the pesticide technician; and

(2) The licensed certified commercial applicator shall and must be certified in the same use categories as the pesticide technician as specified by regulation.

8. A pesticide technician may complete retraining requirements and renew the technician's license without a certified commercial applicator working from the same physical location.

281.040. Private applicator's license, qualifications for — training, review committee — duration, renewal — provisional license, automatic conversion to permanent license, when. —

1. No private applicator shall use any restricted use pesticide unless the private applicator first complies with the requirements determined pursuant to subsection 3 of this section, as necessary to prevent unreasonable adverse effects on the environment, including injury to the applicator or other persons, for that specific pesticide use.

2. No certified private applicator shall knowingly authorize, direct, or instruct any individual to engage in using any restricted use pesticide on lands or structures owned, leased, or rented by the certified private applicator or the certified applicator's employer unless such individual is licensed as a certified private applicator or a certified provisional private applicator.

3. The private applicator shall qualify for a certified private applicator's license or a certified provisional private applicator's license by attending an approved certification training program provided by University of Missouri Extension, completing an online certification training program provided by University of Missouri Extension, or by passing the required private applicator certification examination provided by the director on the use, handling, storage, and application of restricted use pesticides in the proper certification categories as specified by regulation. The content of the instruction shall be determined and revised as necessary by the director. Upon completion of the certification training program, completion of the online certification training program, or passage of the required private applicator certification examination, the director shall issue a certified private applicator's license or certified provisional private applicator's license to

the applicant. The director shall not collect a fee for the issuance of such license. University of Missouri Extension shall collect reasonable fees for study materials and for enrollment in certification or recertification programs administered in-person or online. Such fees shall be assessed based on the majority decision of a review committee convened every five years or as needed by the director. Such fees shall not exceed seventy-five dollars per program per applicant unless the members of the review committee representing statewide agricultural organizations vote unanimously in favor of setting the fee in an amount in excess of seventy-five dollars. Such committee shall be provided revenue and expense information for the training program from the University of Missouri Extension and information on the content of the instruction and method of delivery from the director. The review committee shall also determine a maximum in-seat training time limit for the training programs. The committee shall report its minutes, fee decisions, time limitation decisions, and its evaluation of the training provided to the chairs of the house of representatives and senate agriculture or equivalent committees. The review committee shall be composed of five members including:

- (1) The director;
- (2) The director of the University of Missouri Extension, or such director's* designee;
- (3) The president of a statewide corn producers organization who actively grows corn, or such president's* designee;
- (4) The president of a statewide soybean producers organization who actively grows soybeans, or such president's designee* ; and
- (5) The president of the state's largest general farm membership organization, or such president's designee* .

4. A certified private applicator's license shall expire five years from date of issuance and may then be renewed without charge or additional fee. Any certified private applicator holding a valid license may renew that license for the next five years upon successful completion of approved recertification training or by passing the required private applicator certification examination.

5. On the date of the certified provisional private applicator's eighteenth birthday, such certified provisional private applicator's* license shall and will automatically be converted to a certified private applicator license reflecting the original expiration date from issuance. A certified provisional private applicator's license shall expire five years from date of issuance and may then be renewed as a certified private applicator's license without charge or additional fee.

6. If the director does not qualify the private applicator under this section, the director shall inform the applicant in writing of the reasons therefor.

281.045. Certified operator license, when required — application, requirements, examination — maintenance of records — liability of governmental agencies — display of license — change

of address, notice — volunteers, use of pesticides without a license. — 1. All agencies of the state of Missouri and the political subdivisions thereof, and any other governmental agency shall be subject to the provisions of sections 281.010 to 281.115 and rules adopted thereunder concerning the use of restricted use pesticides.

2. Public operators for agencies listed in subsection 1 of this section shall not use, or supervise the use of, any restricted use pesticides on any land or structure without a certified public operator license issued by the director. The certified public operator shall not use or supervise the use of any restricted use pesticide for any purpose unless the certified public operator has demonstrated the certified public operator's competence to use pesticides for that purpose by being certified by the director in the proper certification category.

3. No certified public operator shall knowingly authorize, direct, or instruct any individual to engage in using any restricted use pesticide on lands or structures unless such individual is licensed as a noncertified RUP applicator while working under the direct supervision of a certified public operator so authorizing, directing, or instructing, in which case the certified public operator shall be liable for any use of a restricted use pesticide by an individual operating under the certified public operator's direct supervision.

4. Application for a certified public operator license shall be submitted to the director on a designated form obtained from the department. Each application shall include all information prescribed by the director by regulation.

5. The director shall not issue a certified public operator license until the applicant is certified by passing an examination provided by the director to demonstrate to the director the applicant's competence and knowledge of the proper use of pesticides under the classifications for which the applicant has applied, and the applicant's knowledge of the standards prescribed by regulations for the certification of public operators.

6. If the director finds the applicant qualified to use pesticides in the classification for which the applicant has applied, the director shall issue a license, without a fee, to the certified public operator who has so qualified. The certified public operator license shall be valid only when the operator is acting as an operator using, or supervising the use of, restricted use pesticides in the course of the operator's employment. A certified public operator license shall expire three years from the date of issuance unless the license has been revoked or suspended prior thereto by the director for cause. The director may limit the license of the applicant to the use of certain restricted use pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified. If a license is not issued as applied for, the director shall inform the applicant in writing of the reasons therefor.

7. The director may renew any certified public operator license under the classification for which that applicant is licensed upon successful completion of approved recertification training or reexamination for additional knowledge that may be required to use pesticides safely and

properly either manually or with equipment the applicant has been licensed to operate.

8. The director shall require the certified public operator, or the certified public operator's employer, to maintain records with respect to applications of restricted use pesticides. Any relevant information which the director may deem necessary may be required by regulation. Such records shall be kept for a period of three years from the date of the application of the pesticide to which such records refer, and the director shall, upon request in writing, be furnished with a copy of such records by any certified public operator or the certified public operator's employer.

9. Agencies listed in subsection 1 of this section shall be subject to a legal action by any person damaged by any use of any pesticide, which may be brought in the county where the damage or any part thereof occurred.

10. Every certified public operator shall display the certified public operator's license in a prominent place at the site, location, or office from which the certified public operator will operate as a certified public operator, that place, location, or office being at the address printed on the license.

11. Every certified public operator who changes the address from which the certified public operator will operate as a certified public operator shall immediately notify the director. The director shall immediately issue a revised license upon which shall be printed the changed address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

12. Any person who volunteers to work for a public agency may use general use pesticides without a license under the supervision of the public agency on lands owned or managed by the state agency, political subdivision, or governmental agency.

281.048. Noncertified RUP applicator license — application, issuance and renewal, fee — authority of licensee, limitation by director, when — notification by licensee of changes — retraining — display of license. — 1. No individual shall use or determine the need for the use of any restricted use pesticide while working under the direct supervision of a certified commercial applicator until the individual has met the requirements of this section.

2. No individual shall use restricted use pesticides while working under the direct supervision of a certified noncommercial applicator or certified public operator until the individual has met the requirements of this section.

3. Application for a noncertified RUP applicator's license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall issue or renew a noncertified RUP applicator license once an individual

has met the requirements set forth in 40 CFR section 171.201(c)(1) or (3). The director shall collect an annual fee of thirty-five dollars for each noncertified RUP applicator license issued. The license shall be valid for one year unless revoked or suspended by the department prior to its expiration. Any individual whose application is denied shall receive a written explanation as to the determination of the denial.

5. Individuals holding a valid noncertified RUP applicator license may use and determine the need for the use of restricted use pesticides, general use pesticides, and minimum risk pesticides under the direct supervision of a certified commercial applicator and only for the categories in which the commercial applicator is certified. The director may limit the license of the applicant to the use of certain pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified.

6. Every certified commercial applicator, certified noncommercial applicator, or certified public operator providing direct supervision to a licensed noncertified RUP applicator shall immediately notify the director when the licensed noncertified RUP applicator has changed address from which the applicator or operator will operate as a licensed noncertified RUP applicator or when the noncertified RUP applicator's employment has been terminated. The director shall immediately issue a revised license upon which shall be printed the change of address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

7. A noncertified RUP applicator may complete retraining requirements and renew the applicator's license without a certified commercial applicator, certified noncommercial applicator, or certified public operator working from the same physical location.

8. Every licensed noncertified RUP applicator shall display the applicator's license in a prominent place at the site, location, or office from which the applicator will operate as a noncertified RUP applicator, that place, location, or office being at the address printed on the license.

281.050. Pesticide dealer's license required, fee, qualifications — grounds for suspension or revocation — restricted use of pesticides, sale or transfer, to whom, exception — records to be kept — change of address, notice of.

1. No individual shall act in the capacity of a pesticide dealer or shall engage in the business of, advertise as, or assume to act as a pesticide dealer unless the individual has obtained a license from the director that shall expire one year from date of issuance. Each pesticide dealership location or outlet from which restricted use pesticides are distributed, sold, held for sale, or offered for sale at retail or wholesale direct to the end user shall have at least one individual licensed as a pesticide dealer. Any individual possessing restricted use pesticides and selling or holding and offering for sale restricted use pesticides at retail or wholesale from a motor vehicle shall be licensed as a pesticide dealer. For the purposes of this subsection, **“selling or holding and offering for sale”** shall not include solely transporting product

in commerce. No individual shall be issued more than one pesticide dealer license.

2. Application for a pesticide dealer's license shall be made on a designated form obtained from the department. The director shall collect a fee of thirty-five dollars for the issuance of each license. The provisions of this section shall not apply to a pesticide applicator who sells pesticides only as an integral part of the applicator's pesticide application service when such pesticides are dispensed only through apparatuses used for such pesticide applications. The provisions of this section shall not apply to any federal, state, or county agency that provides pesticides for its own programs.

3. Each applicant shall satisfy the director as to the applicant's knowledge of the laws and regulations governing the use and sale of pesticides and the applicant's responsibility in carrying on the business of a pesticide dealer by passing a pesticide dealer examination provided by the director. Each licensed pesticide dealer shall be responsible for ensuring that all of the dealer's employees and agents who sell or recommend restricted use pesticides have adequate knowledge of the laws and regulations governing the use and sale of such restricted use pesticides.

4. Each pesticide dealer shall be responsible for the acts of each person employed by the dealer in the solicitation and sale of pesticides and all claims and recommendations for use of pesticides. The dealer's license shall be subject to denial, suspension, or revocation after a hearing for any violation of sections 281.010 to 281.115 whether committed by the dealer, or by the dealer's officer, agent or employee.

5. No pesticide dealer shall sell, give away or otherwise make available any restricted use pesticides to anyone but certified commercial applicators, certified noncommercial applicators, certified public operators, or to certified private applicators holding valid certifications in proper certification categories or to other licensed pesticide dealers, except that pesticide dealers may allow the designated representative of such certified applicators to take possession of restricted use pesticides when those restricted use pesticides are purchased by and for use by or under the direct supervision of such certified applicator.

6. The director shall require the pesticide dealer, or the dealer's employer, to maintain books and records with respect to sales of restricted use pesticides at each dealership location or outlet. Such relevant information as the director may deem necessary may be specified by regulation. Such records shall be kept for a period of three years from the date of sale of the restricted use pesticide to which such records refer, and the director shall upon request in writing be furnished with a copy of such records by any licensed pesticide dealer or the dealer's employer.

7. Every licensed pesticide dealer who changes the dealer's address or place of business shall immediately notify the director.

281.055. Late renewal of license, penalty, reexamination, when — director to provide guideline book, fee for book. — 1. If the renewal of any license or certification provided for in sections

281.010 to 281.115 is not filed prior to the expiration date in any year, a penalty of twenty-five percent shall be assessed and added to the original fee and shall be paid by the applicant before the license or certification shall be renewed. Any person holding a current valid license or certification may renew the license or certification for the next year without taking another examination unless the director determines that additional knowledge related to classifications for which the applicant has applied makes a new examination necessary. However, if the license is not renewed within sixty days following the date of expiration, the license shall be cancelled and the licensee shall be required to satisfy all the requirements of licensure as if such person was never licensed.

2. The director may promulgate reasonable regulations requiring additional training and instruction on the part of any applicant for a license issued under sections 281.010 to 281.115.

3. The director shall have prepared for prospective licensee's use a book of guidelines of factual necessary information related to the requirements of sections 281.010 to 281.115. A reasonable fee may be collected for the publication.

281.060. Sanctioning of license, when — civil penalty, when, amount, enforcement of. — 1. The director, after inquiry, and after opportunity for a hearing, may deny, suspend, revoke, or modify the provisions of any license or certification issued under sections 281.010 to 281.115, if the director finds that the applicant or the holder of a license or certification has violated any provision of sections 281.010 to 281.115, or any regulation issued thereunder, or has been convicted or subject to a final order imposing a civil or criminal penalty pursuant to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, or has been convicted, or is the subject of prosecution, in this state or in any state or protectorate of the United States, or has had a pesticide applicator license or certificate denied, suspended, revoked or modified by any state or protectorate of the United States, or the person has been finally adjudicated and found guilty, or entered a plea of guilty or nolo contendere, in a criminal prosecution under the laws of any state or of the United States, for any offense reasonably related to the qualifications, functions, or duties of any profession licensed or regulated under sections 281.010 to 281.115, for any offense an essential element of which is fraud, dishonesty, or an act of violence, or for any offense involving moral turpitude, whether or not sentence is imposed. Licensed certified applicators, licensed noncertified RUP applicators, licensed pesticide technicians, and licensed pesticide dealers shall notify the department within ten days of any conviction of or plea to any offense listed in this section.

2. If the director determines, after inquiry and opportunity for a hearing, that any person is in violation of any provision of sections 281.010 to 281.115, or any regulations issued thereunder, the director shall have the authority to assess a civil penalty of not more than one thousand dollars for each violation, and in addition, may order that restitution be made to any person.

3. In the event that a person penalized or ordered to pay restitution under this section fails to

pay the penalty or restitution, the director may apply to the circuit court of Cole County for, and the court is authorized to enter, an order enforcing the assessed penalty or restitution.

281.061. Inspection with consent of owner of premises — search warrant to issue, when — director may bring action to enjoin, when. — 1. For the purpose of enforcing the provisions of sections 281.010 to 281.115, the director may, with permission from the owner or person in charge, enter upon a premises at reasonable times in order to inspect, investigate, observe, sample, and audit; provided that such right of entry, in the case of manufacturing and formulation establishments, be limited to those areas where pesticides are packaged, labeled and released for shipment.

2. If the director is denied access to any land where such access was sought for the purposes set forth in this section, he may apply to any court of competent jurisdiction for a search warrant authorizing access to that land for those purposes. The court may issue a search warrant for the purposes requested upon probable cause being shown.

3. The director may report any violation of the provisions of sections 281.010 to 281.115 to the prosecuting attorney of the county where the violation occurs. The prosecuting attorney may institute appropriate proceedings in a court of competent jurisdiction. If any prosecuting attorney refuses or fails to act on request of the director, the attorney general shall so act.

4. The director may bring an action to enjoin the violation or threatened violation of any provision of sections 281.010 to 281.115, or any rule promulgated thereunder, in the circuit court of the county in which the violation occurs or is about to occur. No court shall allow for recovery of damages for administrative action taken if the director acts in good faith. No bond shall be required of the director.

281.063. Director may subpoena witnesses and documents, when. — The director may subpoena witnesses and compel the production of books, documents, and records anywhere in the state in any hearing affecting the authority or privilege granted by a license or certificate issued under the provisions of sections 281.010 to 281.115.

281.065. Bond or insurance required, amount — deductible clause accepted, when — new surety, when — liability, effect of chapter on. — 1. The director shall not issue a certified commercial applicator's license until the applicant or the employer of the applicant has furnished evidence of financial responsibility with the director consisting either of a surety bond or a liability insurance policy or certification thereof, protecting persons who may suffer legal damages as a result of pesticide use by the applicant; except that, such surety bond or liability insurance policy need not apply to damages or injury to crops, plants or land being worked upon by the applicant. Following the receipt of the initial license, the certified commercial applicator shall not be required to furnish evidence of financial responsibility to the department for the purpose of license renewal unless upon request. Annual renewals for surety bonds or liability insurance shall be maintained at the business location from which the certified commercial applicator is licensed.

Valid surety bonds or liability insurance certificates shall be available for inspection by the director at a reasonable time during regular business hours or, upon a request in writing, the director shall be furnished a copy of the surety bond or liability insurance certificate within ten days of receipt of the request.

2. The amount of the surety bond or liability insurance required by this section shall be not less than fifty thousand dollars for each occurrence. Such surety bond or liability insurance shall be maintained at not less than that sum at all times during the licensed period. The director shall be notified by the surety or insurer within twenty days prior to any cancellation or reduction of the surety bond or liability insurance. If the surety bond or liability insurance policy which provides the financial responsibility for the certified commercial applicator is provided by the employer of the certified commercial applicator, the employer of the certified commercial applicator shall immediately notify the director upon the termination of the employment of the certified commercial applicator or when a condition exists under which the certified commercial applicator is no longer provided bond or insurance coverage by the employer. The certified commercial applicator shall then immediately execute and submit to the director a surety bond or an insurance policy to cover the financial responsibility requirements of this section and the certified commercial applicator or the applicator's employer shall maintain the surety bond or liability insurance certificate at the business location from which the certified commercial applicator is licensed. The director may accept a liability insurance policy or surety bond in the proper sum which has a deductible clause in an amount not exceeding one thousand dollars; except that, if the bond- or policyholder has not satisfied the requirement of the deductible amount in any prior legal claim, such deductible clause shall not be accepted by the director unless the bond- or policyholder executes and maintains a surety bond or liability insurance which shall satisfy the amount of the deductible as to all claims that may arise in the bond- or policyholder's application of pesticides.

3. If the surety becomes unsatisfactory, the commercial applicator license shall expire and become invalid and the bond- or policyholder shall immediately execute and submit to the director a new bond or insurance policy and maintain the surety bond or liability insurance certificate at the business location from which the certified commercial applicator is licensed, and if the bond- or policyholder fails to do so, the director shall cancel the bond- or policyholder's license, or deny the license of an applicant, and give the bond- or policyholder notice of cancellation or denial, and it shall be unlawful thereafter for the applicant to engage in the business of using pesticides until the bond or insurance is brought into compliance with the requirements of subsection 1 of this section. If the bond- or policyholder does not execute a new bond or insurance policy within sixty days of expiration of such bond or policy, the licensee shall be required to satisfy all the requirements for licensure as if never before licensed.

4. Nothing in sections 281.010 to 281.115 shall be construed to relieve any person from liability for any damage to the person or lands of another caused by the use of pesticides even

though such use conforms to the rules and regulations of the director.

281.070. Damage claims to be filed with director, when due — duties of director — failure to file, effect of — investigation or hearing, powers of director. — 1. The director may investigate the use of any pesticide or claims of damages that result from the use of any pesticide.

2. Any person who claims to have been damaged as a result of a pesticide use and who requests an investigation of that damage by the director shall file with the director, on a form provided by the director, a written statement claiming that the person has been damaged. Damage statements shall be filed within thirty days after the date the damage is alleged to have occurred, unless a growing crop is alleged to have been damaged. If a growing crop is alleged to have been damaged, the damage statement shall be filed at least two weeks prior to the time that twenty-five percent of that crop has been harvested. The director shall, upon receipt of the statement, notify the person alleged to have caused the damage and the owner or lessee of the land, or other person who may be charged with the responsibility of the damages claimed, and furnish copies of any statements which may be requested. The director shall inspect damages whenever possible and the director shall make the director's inspection reports available to the person claiming damage and to the person who is alleged to have caused the damage. Where damage is alleged to have occurred, the claimant shall permit the director, the licensee, and the licensee's representatives, such as the bondsman or insurer, to observe, within reasonable hours, the lands or nontarget organism alleged to have been damaged.

3. The filing of or the failure to file need not be alleged in any complaint which might be filed in a court of law, and the failure to file a damage claim shall not be considered any bar to the maintenance of any criminal or civil action. The failure to file such a report shall not be a violation of sections 281.010 to 281.115. However, if the person failing to file such report is the only one injured from such use or application of a pesticide by others, the director may, when in the public interest, refuse to hold a hearing for the denial, suspension, or revocation of a license issued under sections 281.010 to 281.115 until such report is filed.

4. The director may in the conduct of any investigation or hearing authorized or held by the director:

- (1) Examine, or cause to be examined, under oath, any person;
- (2) Examine, or cause to be examined, books and records of the sale or use of any pesticide directly related to the investigation;
- (3) Hear such testimony and take such evidence as will assist the director in the discharge of the director's duties under sections 281.010 to 281.115;
- (4) Administer or cause to be administered oaths; and
- (5) Issue subpoenas to require the attendance of witnesses and the production of books and

records directly related to the investigation.

281.075. Reciprocal licensing authorized, when. — The director may issue a pesticide applicator certification on a reciprocal basis with other states without examination to a nonresident who is licensed as a certified applicator in accordance with the reciprocating state's requirements and is a resident of the reciprocating state. A pesticide applicator certification shall be issued in accordance with the provisions of sections 281.010 to 281.115; except that, financial responsibility shall be filed pursuant to section 281.065. Fees collected shall be the same as for resident licenses or certification.

281.080. Exemptions. — The provisions of sections 281.010 to 281.115 relating to licenses and requirements for their issuance shall not apply to:

(1) Veterinarians using pesticides on animals during the normal course of veterinary practice, as long as he is not regularly engaged in the business of using pesticides for hire amounting to a principal or regular occupation or does not publicly hold himself out as a pesticide applicator;

(2) Doctors of medicine or doctors of osteopathy using or prescribing pesticides in the practice of medicine;

(3) Government and private research personnel using pesticides under laboratory type conditions.

281.085. Pesticide containers, regulation of, handling of. — No person shall discard, transport, or store any pesticide or pesticide containers in such a manner that is inconsistent with label directions or as to cause injury to humans, vegetation, crops, livestock, wildlife, beneficial insects, or to pollute any waterway. The director may promulgate rules and regulations governing the discarding and storing of such pesticide or pesticide containers. In determining these rules and regulations the director shall take into consideration any regulations issued by the federal Environmental Protection Agency.

281.090. Stop orders, when — effect of. — When the director or his authorized agent has probable cause to believe a pesticide is being distributed or used in violation of any of the provisions of sections 281.010 to 281.115, or of any of the prescribed regulations under sections 281.010 to 281.115, he may issue and serve a written “stop sale, use or removal order” upon the owner or custodian of that pesticide. The pesticide shall not be sold, distributed, used or removed until the provisions of sections 281.010 to 281.115 have been complied with and the pesticide has been released in writing by the director or the violation has been otherwise disposed of as provided in sections 281.010 to 281.115 by a court of competent jurisdiction.

281.095. Appeals, how taken. — Any person aggrieved by any act of the director may appeal according to the provisions of chapter 536.

281.100. Instructional courses, how conducted. — The director may, in cooperation with a land

grant college or university or other public educational institutions, or a professional association or person representing the licensee's category of certification, publish information and conduct short courses of instruction in the areas of knowledge required for licensing or certification under the provisions of sections 281.010 to 281.115.

281.101. Unlawful acts. — 1. It shall be unlawful for any person to violate any provision of sections 281.010 to 281.115, or any regulation issued thereunder.

2. The following are determined to be unlawful acts:

(1) It shall be unlawful to recommend for use, cause to use, use, or supervise the use of any pesticide in a manner inconsistent with its labeling required by labeling requirements of FIFRA, the Missouri pesticide use act, or the Missouri pesticide registration act;

(2) It shall be unlawful for any person to misuse any pesticide;

(3) It shall be unlawful for any person to use or supervise the use of pesticides that are cancelled or suspended;

(4) It shall be unlawful for any person not holding a valid certified applicator license in proper certification categories or a valid pesticide dealer license to purchase or acquire restricted use pesticides;

(5) It shall be unlawful to make any false or misleading statements during the course of an investigation into the sale, distribution, use, or misuse of any pesticide;

(6) It shall be unlawful to make any false or misleading statement on any application, form, or document submitted to the director concerning licensing pursuant to sections 281.010 to 281.115 or any regulations issued thereunder;

(7) It shall be unlawful to make any false, misleading, or fraudulent statement or claim, through any media, that misrepresents the effects of any pesticide, the methods to be utilized in the application of any pesticide, or the qualifications of the person determining the need for the use of any pesticide or using any pesticide;

(8) It shall be unlawful to make any false or misleading statement specifying or inferring that a person or the person's methods are recommended by any branch of government or that any pesticide work done will be inspected by any branch of government;

(9) It shall be unlawful to aid or abet any licensed or unlicensed individual in evading the provisions of sections 281.010 to 281.115 or any regulation issued thereunder, or to conspire with any licensed or unlicensed individual in evading the provisions of sections 281.010 to 281.115 or any regulation issued thereunder; and

(10) It shall be unlawful for any person to steal or attempt to steal pesticide certification examinations or examination materials, cheat on pesticide certification examinations, evade

completion of recertification or retraining requirements, or to aid and/or abet any person* in stealing or attempting to steal examinations or examination materials, cheating on examinations, or evading* recertification or retraining requirements.

3. Other acts that are not specified, but that violate sections 281.010 to 281.115 or regulations issued thereunder, shall nevertheless be unlawful.

281.102. Delayed effective date. — The enactment of section 281.048 and the repeal and reenactment of sections 281.015, 281.020, 281.025, 281.030, 281.035, 281.037, 281.038, 281.040, 281.045, 281.050, 281.055, 281.060, 281.063, 281.065, 281.070, 281.075, 281.085, and 281.101 of this act shall become effective on January 1, 2024.

281.105. Penalty for violations. — Any individual, whether a holder or nonholder of a valid license issued pursuant to this chapter, convicted of violating any of the provisions of sections 281.010 to 281.115, or any regulation issued thereunder, shall be guilty of a misdemeanor. Such misdemeanor may be punishable by imposition of a fine of not less than one hundred dollars and not more than five thousand dollars or by imprisonment in the county jail for not less than thirty days and not more than one year, or by both imposition of a fine and imprisonment.

281.110. Authorization to accept federal aid. — The director may cooperate, receive grants-in-aid, and enter into agreements with any agency of the federal government, of this state or its subdivisions, or with any agency of another state, in order:

- (1) To secure uniformity of regulations;
- (2) To cooperate in the enforcement of the federal pesticide control laws through the use of state or federal personnel and facilities and to implement cooperative enforcement programs;
- (3) To develop and administer state training programs for certification of applicators consistent with federal standards;
- (4) To contract with other agencies including federal agencies for the purpose of training certified applicators;
- (5) To contract for monitoring pesticides for the national plan;
- (6) To prepare and submit state plans to meet federal certification standards;
- (7) To regulate certified applicators; or
- (8) To contract with other agencies for the purpose of training pesticide dealers.

281.115. Director's rules, ratification of. — All rules and regulations promulgated by the director of agriculture under the terms of sections 281.010 to 281.115 shall stand ratified unless rescinded by the general assembly within first sixty days of each annual session.

281.116. Inspectors for wood-destroying insects, licenses required. — Any person performing

inspections for evidence of wood-destroying insects at the request of the buyer, seller or lending institution for real estate transactions shall have in effect a valid Missouri certified commercial applicator's license, pesticide technician's license working under the direct supervision of a certified commercial applicator, certified noncommercial applicator's license or a certified public operator's license in subcategory 7b-termites pest control issued pursuant to chapter 281.

281.120. Herbicides, use on crops not labeled for — definitions — civil penalties, when — complaint investigation — rulemaking authority. — 1. As used in this section, the following terms shall mean:

(1) **“Department”**, the department of agriculture;

(2) **“Field”**, agricultural land, including any vegetation thereon, which is operated as part of a farm and which is separated from the rest of the farm by permanent boundaries including, but not limited to, fences, permanent waterways, woodlands, croplines not subject to change due to farming practices, and other similar features;

(3) **“Herbicide”**, any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any weed;

(4) **“Labeled”**, the same as “label and labeling” is defined under section 281.220.

2. If the department determines, after inquiry and opportunity for a hearing, that any person has knowingly used, as the term “use” is defined in section 281.020, a herbicide for a crop for which the herbicide was not labeled for use, which resulted in the herbicide drifting or coming into contact with another person's field, onto another person's personal property, onto another person's real property, or onto another person, which resulted in damage, the department shall have the authority to assess a civil penalty of not more than ten thousand dollars for each violation. If a person has violated the provisions of this subsection in two consecutive years or in two of the last three years, he or she shall be considered a chronic violator, and the department shall have the authority to assess a civil penalty of not more than twenty-five thousand dollars for each violation.

3. During an active complaint investigation, the department may subpoena witnesses and compel the production of records, including but not limited to books, documents, and certification records of any person relating to the person's application of any herbicide to any field. If a person refuses to submit such information, the department may assess a civil penalty of up to five thousand dollars.

4. Any person who is penalized under the provisions of this section shall be liable for any reasonable costs associated with the department's investigation and shall remit such costs to the department, not to exceed the department's actual investigative expenses.

5. Any penalty collected under this section shall be remitted to the school district in which the

violation occurred. If a person penalized under this section fails to pay the penalty or comply with a lawful subpoena issued under subsection 3 of this section, the department may apply to the circuit court of Cole County for, and the court is authorized to enter, an order enforcing the assessed penalty.

6. The department, after inquiry and opportunity for a hearing, may deny, suspend, revoke, or modify the provisions of any license, permit, or certification issued under sections 281.010 to 281.115 if it finds that the applicant or holder of such license, permit, or certification has violated any provision of this section or any regulation issued hereunder.

7. The department may promulgate rules to implement the provisions of this section. Any rule or portion of a rule, as that term is defined in section 536.010, that is created under the authority delegated in this section shall become effective only if it complies with and is subject to all of the provisions of chapter 536 and, if applicable, section 536.028. This section and chapter 536 are nonseverable and if any of the powers vested with the general assembly pursuant to chapter 536 to review, to delay the effective date, or to disapprove and annul a rule are subsequently held unconstitutional, then the grant of rulemaking authority and any rule proposed or adopted after August 28, 2017, shall be invalid and void.

RULES PROMULGATED BY THE AUTHORITY OF THE MISSOURI PESTICIDE USE ACT

~~[Chapter 281-RSMo]~~ 2 CSR 70-25.010 Definitions

- (1) Act—the Missouri Pesticide Use Act.
- (2) Agricultural commodity—any plant, fungus, or algae, or part thereof, animal or animal product produced or being produced by a person primarily for sale, consumption, propagation, or other use by man or animals. ~~{}~~Producers of an agricultural commodity include farmers, ranchers, vineyardists, plant propagators, Christmas tree growers, aquaculturists, floriculturists, orchardists, foresters, sod producers, or other comparable persons.~~}~~
- (3) Direct supervision or directly supervised by—process by which a competent, noncertified applicator or certified provisional private applicator ~~[or pesticide technician]~~ uses or commercially determines the need for the use of a pesticide(s) while acting under control of a certified commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator~~[, operator, or private applicator with a permit]~~ and while employed with the same business entity as their direct supervisor. The certified commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator ~~[, operator or private applicator with a permit]~~ must be certified in categories of supervision and is responsible for the actions of the noncertified applicator or certified provisional private applicator~~[pesticide technician while]~~ who ~~[using]~~ uses or ~~[determining]~~ determines the need for the use of a pesticide(s) even though the certified commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator ~~[operator or private applicator with a]~~ is not present during the use ~~[of pesticides]~~. This requires, at a minimum, that—
 - (A) Certified commercial applicators, certified noncommercial applicators, certified public operators, or certified private applicators~~[, operators or private applicators with a permit]~~ and noncertified applicators or certified provisional private applicators ~~[pesticide technicians]~~ must work from the same physical location;
 - (B) Prior to certified commercial applicators, certified noncommercial applicators, certified public operators, and certified private applicators providing direct supervision for noncertified applicator and certified provisional private applicator uses of restricted use pesticides, they must ensure the noncertified applicator and certified provisional private applicator is properly licensed;
 - (C) While applying pesticides, noncertified applicators or certified provisional private applicators ~~[or pesticide technicians]~~ shall have in their possession either a work order, job ticket, invoice, or similar document for that pesticide application. Each document shall include, at a minimum:
 1. Name and license ~~[or permit]~~ number of the certified commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator~~[, operator or private applicator with a permit]~~ providing direct supervision;

2. Name of the noncertified applicator or name and license number of the pesticide **technician, noncertified RUP applicator, or certified provisional private applicator** being directly supervised; and
3. Name of the person requesting the pesticide use, ~~and~~ the address or a brief description of the pesticide ~~(s)~~ use location, and the use date.

(D) The certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** providing direct supervision must provide the noncertified applicator **or certified provisional private applicator** ~~[or pesticide technician]~~ with a complete copy of the label and labeling for each pesticide used by the noncertified applicator **or certified provisional private applicator** ~~[or pesticide technician]~~ and the label and labeling must be in the possession of the noncertified applicator **or certified provisional private applicator** ~~[or pesticide technician]~~ while using pesticides. The noncertified applicator **or certified provisional private applicator** ~~[or pesticide technician]~~ shall be required to follow all label and labeling directions;

(E) When the label of a pesticide product requires that personal protective equipment be worn for mixing, loading, application, or any other use activities, the certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** must ensure that any noncertified applicator or certified provisional private applicator has clean, label-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose;

(F) The certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** providing direct supervision must ensure, before each day of use, equipment used for mixing, loading, transferring, or applying pesticides is in proper operating condition as intended by the manufacturer, and can be used without risk of reasonably foreseeable adverse effects to noncertified applicators, other persons, or the environment;

(G) Certified **commercial applicators, certified noncommercial applicators, certified public operators, or certified private applicators** ~~[, operators or private applicators with a permit]~~ shall be available and, when needed, respond by phone, radio, or in person when noncertified applicators **or certified provisional private applicators** ~~[or pesticide technicians]~~ use pesticides; and

(H) Certified **commercial applicators, certified noncommercial applicators, certified public operators, or certified private applicators** ~~[, operators or private applicators with a permit]~~ shall be at the pesticide use site when required by the pesticide label.

- (4) End user of a pesticide—that individual who uses ~~[or supervises the use of]~~ a pesticide.
- (5) Forest—a concentration of trees and related vegetation in nonurban areas sparsely inhabited by and infrequently used by humans and characterized by natural terrain and drainage patterns.
- (6) **Fumigant—a restricted use pesticide used in fumigation.**

- (7) In the business of using pesticides— using, supervising the use of, or supervising the determination of the need for the use of any pesticide[s] on the lands of another as a service to the public in exchange for a fee or compensation.
- (8) Label—the written, printed, or graphic matter on or attached to[~~r~~] the pesticide, [~~or~~] device, or any of [~~its~~] their containers or wrappers.
- (9) Labeling—all labels and other written, printed, or graphic matter accompanying the pesticide or device at any time or to which reference is made on the label or in literature accompanying the pesticide or device. Official publications of the Environmental Protection Agency, the United States Departments of Agriculture, Interior, and Health, Education and Welfare, state experiment stations, state agricultural colleges, and other similar federal or state institutions or agencies authorized by law to conduct research in the field of pesticides are not to be considered labeling.
- (10) Legal age—eighteen (18) years, for license and certification as noncertified RUP applicators, pesticide technicians, and certified applicators. [~~unless otherwise provide by law:~~] Individuals who are sixteen (16) or seventeen (17) years of age and supervised by an immediate family member who is a certified private applicator are eligible to obtain certification as a certified provisional private applicator.
- (11) Limited rodent fumigation—the use of calcium cyanide dust for rodent control, in accordance with the label or labeling, by applicators certified in the category of General Structural Pest Control, at a distance greater than ten feet (10') from any building or dwelling for the control of rodents associated with, or likely to be associated with, the building or dwelling.
- (12) Mishap—an event that adversely affects man or the environment and that is related to the use of or presence of a pesticide, whether the event was unexpected or intentional.
- (13) Noncertified applicator—any applicator not holding a valid license as a certified applicator, including any applicator licensed as a pesticide technician or noncertified RUP applicator.
- (14) Non-cropland—any land on which agricultural [~~product~~] crops have not been planted and will not be planted during the current growing year.
- (15) Ornamentals—trees, shrubs, and other plantings in and around habitations [~~generally, but not necessarily, located in urban and suburban areas,~~] including residences, parks, streets, retail outlets, industrial and institutional buildings.
- (16) Outlet—that site, location, place, vehicle or personage (in the case of an individual who travels from place to place in the business of selling restricted use pesticides) at, or in which, or by whom, restricted use pesticides are sold at retail or otherwise made available to the end user. An outlet shall not necessarily be a site, location, place, or vehicle where restricted use

pesticides are merely stored or where the purchaser takes physical possession of the restricted use pesticide after it has been purchased.

- (17) **Personal protective equipment**—devices and apparel that are worn to protect the body from contact with pesticides or pesticide residues, including, but not limited to, coveralls, chemical-resistant suits, chemical-resistant gloves, chemical-resistant footwear, respirators, chemical-resistant aprons, chemical-resistant headgear, and protective eyewear.
- (18) **Physical location**—principal structure where a certified applicator conducts business that involves the use of pesticides.
- (19) **Practical knowledge**—the possession of pertinent facts and comprehension sufficient to properly perform functions associated with use of pesticides, including properly responding to reasonably foreseeable problems and situations.
- (20) **Regulated pest**—a specific organism determined by state or federal law to be a pest requiring regulatory restrictions, regulations, or control procedures in order to protect the host, man, ~~and~~ or the environment.
- (21) **Standards of competence**—the level of ~~[excellence in the art of pest control]~~ **knowledge needed for the safe and proper use of pesticides** to be demonstrated by the applicator or operator as a basis for certification **or licensing**.
- (22) **Structure**—any edifice or building including the contents, any patio or terrace attached and the land on which situated, plus any portion of land within the given proprietorship or any adjacent proprietorships which might constitute a potential harborage for pests which could affect the edifice or building or its contents, any portion of land upon which work has begun for the erection of an edifice or building, any wharf, dock, ship, boat, railroad siding, or refuse area, and any vehicle used as common carrier.

2 CSR 70-25.020 To Whom Licenses Are Issued

- (1) Licenses issued under the Missouri Pesticide Use Act (the Act) are issued to the individual and not to business entities. Licenses issued under the Act are valid anywhere in Missouri, provided that the licensee notifies the director in writing within ten (10) days of any change of name, business name, address, or any other information affecting licenses issued under sections 281.010—281.115, RSMo [~~(Supp. 1988)~~].
- (2) No license shall be issued to any individual not of legal age.
- (3) Nonresident licenses shall be issued in accordance with the provisions for resident licenses, except as provided for in section 281.075, RSMo [~~(1986)~~].

2 CSR 70-25.030 Classification of Licenses

(1) **Certified** Pesticide Applicator or Operator Licenses.

(A) **Certified Commercial Applicator License.** Certified commercial applicator licenses shall be obtained by individuals who use, supervise the **determination of need for** ~~[use of]~~, or determine the need for the use of any pesticide on the lands of another as a service to the public in exchange for a fee or compensation.

(B) **Certified Noncommercial Applicator License.** A certified noncommercial applicator license shall be obtained by those individuals, whether or not they are private applicators with respect to some uses, who use or supervise the use of restricted use pesticides only on lands owned or rented by them or their employers.

(C) **Certified Private Applicator License.** A certified private applicator license shall be obtained by those individuals who use ~~[or supervise the use of]~~ restricted use pesticides as a private applicator as defined in section 281.020(2)~~[e]~~**d.**, RSMo (Supp. 1988).

(D) Certified Provisional Private Applicator. A certified provisional private applicator license shall be obtained by individuals who use restricted use pesticides as a provisional private applicator as defined in section 281.020(2)(e).

~~[(D)]~~ **(E) Certified Public Operator License.** A certified public operator license shall be obtained by individuals who use or supervise the use of restricted use pesticides as employees of federal, state, county, or local governmental agencies. A public operator license is valid only when the licensee is functioning as an employee of the agency.

(2) **Pesticide Technician License.** Individuals under direct supervision of certified commercial applicators, using or determining the need for the use of **general use** pesticides in the category of ornamental and turf pest control, the subcategory of general structural pest control, or the subcategory termite pest control shall obtain a pesticide technician license. The certified commercial applicator must be certified in the same pest control category(ies).

(3) **Noncertified RUP Applicator License.** A noncertified RUP applicator license shall be obtained by individuals under direct supervision of certified commercial applicators when using or determining the need for the use of restricted use pesticides. A noncertified RUP applicator license shall be obtained by individuals under the direct supervision of certified noncommercial applicators or certified public operators when using restricted use pesticides.

(4) **Pesticide Dealer License.** A pesticide dealer license shall be obtained by those individuals who sell ~~[at retail,]~~ or otherwise make available to the end user~~[,]~~ any restricted use pesticide.

2 CSR 70-25.050 Review of Certification or License

(1) The director may investigate the need for hearings to deny, suspend, revoke, or modify a license, certification, or permit. These investigations may extend to license qualifications and possible violations of the Missouri Pesticide Use Act.

(2) Additional training or reexamination of certified commercial applicators, certified noncommercial applicators, and certified public operators ~~is [shall be]~~ required within three (3) years from initial certification and within each subsequent three (3)-year period. Additional training shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of pesticides.

(A) Certified commercial applicators, certified noncommercial applicators, and certified public operators must attend a recertification training program approved by the department that meets the general standards of competency and category specific standards of competency for each category of certification; or

(B) Certified commercial applicators, certified noncommercial applicators, and certified public operators must pass the general standards of competence exam (CORE) and each category exam for which the applicator is certified.

(3) Additional training of pesticide technicians is required within three (3) years from initial licensing and within each subsequent three (3)-year period. Pesticide technicians may attend a recertification training program approved by the department that meets the category specific standards of competency for each category in which the technician is licensed or by completing eight (8) hours classroom training for each category in which the technician is licensed. Additional training shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of pesticides.

~~(3)~~(4) Additional training or reexamination of certified private applicators ~~[shall be]~~ is required within five (5) years from initial certification and within each subsequent five (5)-year period. This additional training and reexamination shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of agricultural pesticides.

(A) Certified private applicators must complete the additional training requirement by attending a department approved University of Missouri Extension private applicator in-person or on-line certification training program for each category of certification; or

(B) Certified private applicators must pass the examination(s) for each category of certification: 20 – General Agricultural Pest Control, 21 – Soil Fumigation Pest Control, 22 – Non-soil Fumigation Pest Control, or 23 – Aerial Pest Control.

(5) All licenses are invalid upon the expiration of the license, recertification date, or retraining date.

(6) If additional training or reexamination is not completed within sixty (60) days following the certification or retraining expiration date the certified commercial applicator, certified noncommercial applicator, certified public operator, certified private applicator, or licensed

pesticide technician will be cancelled and the individual shall be required to satisfy all the requirements of licensure as if such person was never licensed.

2 CSR 70-25.060 Application for a Certified Commercial Applicator License, ~~[a]~~ Certified Noncommercial Applicator License, ~~[or a]~~ Certified Public Operator License, Certified Private Applicator License, Certified Provisional Private Applicator License, or Noncertified RUP Applicator License

- (1) ~~[A form for making a]~~ Applications for a certified commercial applicator license, ~~[a]~~ certified noncommercial applicator license, ~~[or a]~~ certified public operator license, **certified private applicator license, certified provisional private applicator license, noncertified RUP applicator license, or pesticide dealer license** will be furnished by ~~[regular mail upon written request to:]~~ the Bureau of Pesticide Control, Missouri Department of Agriculture, ~~[P.O. Box 630, Jefferson City, MO 65102].~~
- (2) Applications shall be either typed or clearly printed in ink.
- (3) A clear full-face, head and shoulder photograph of the applicant, taken within the preceding twelve (12) months of the date of application, and not less than two and one-half inches (2 1/2") square, shall be attached to the application.
- (4) ~~[The director shall keep all documents filed in support of an application until such time as the documents are replaced, except that—]~~ **Applications are valid for one (1) year from date received.**

~~[(A) If a license is not issued within one (1) year of passing required examinations, all documents pertaining to that application may be destroyed; or]~~

- (5) ~~[(B)]~~ If a license expires for more than one (1) year, all documents pertaining to that license may be destroyed.

~~[(5)]~~ (6) The applicant shall furnish the director with the following:

- (A) Name, including any other names under which the applicant has been known;
- (B) **Last four (4) digits of** Social Security number;
- (C) Date of birth;
- (D) ~~[Physical description;]~~ **Name of immediate family member if requesting a certified provisional private applicator license;**
- (E) ~~[Home]~~ **Residential/911 address (no P.O. Box accepted);**

(F) Business/~~farm~~ name and ~~business/farm~~ address from which pesticides will be used;

(G) Categories in which the applicant requests a license;

(H) List of present and past employers for the three (3) years prior to application;

~~[(I) List of three (3) references;]~~

~~[(I)](I) List of all present and past pesticide licenses, permits, certifications, or registrations;~~

~~[(K)](J) Explanation of any violation of the statutes of Missouri, any state or protectorate of the United States, or of the federal government which resulted in the denial, suspension, revocation, or modification of a pesticide license, permit, certification, or registration, or issuance of a civil penalty; ~~and~~~~

~~[(K)](K) Explanation of any criminal prosecution, whether or not sentence was imposed, in which the applicant was found guilty, entered a plea of guilty or *nolo contendere*, or is subject to criminal prosecution under the laws of any state or of the United States, for the following:~~

1. Offenses reasonably related to the qualifications, functions, or duties of professions regulated under this chapter;
2. Offenses an essential element of which is fraud, dishonesty, or an act of violence; and
3. Offenses involving moral turpitude~~[-]; and~~

~~(L) Private applicators must attest they are a producer of agricultural commodities as defined in the Act.~~

~~[(6)] (7) Any applicant who willfully makes a false statement in an application may be subject to the provisions of section 281.060, RSMo ~~[(1986)]~~.~~

2 CSR 70-25.065 Acceptable Insurance and Bond Forms for Commercial Applicators

(1) Commercial applicators must use one (1) of the following methods for providing evidence of financial responsibility:

(A) Insurance or bond forms provided by the director. These forms must be completed and signed by an insurance company representative or a bonding agent. Acceptable bonds must have power of attorney, or authority to bind surety, attached;

(B) Certificates of insurance provided by insurance companies. These forms must include the following information for the commercial pesticide business:

1. Business name and business address;

2. Policy number;
3. Effective and expiration dates;
4. Limits of liability; and
5. Insurance company representative's signature; or

(C) Complete insurance policies which meet the requirements of section 281.065, RSMo.

(2) Before the completion of an inspection, the commercial pesticide business establishment or certified commercial applicator must make available for inspection by the director a valid form of financial responsibility that has an effective date of coverage prior to or on the date of inspection and a future expiration date.

(3) If a valid form of financial responsibility is not made available to the director for inspection before the completion of the inspection, the commercial pesticide business establishment will receive a Notice of Warning for being in violation of section 281.065, RSMo. All commercial use of pesticides, supervision of the use of pesticides, and determining the need for the use of pesticides by licensed certified applicators, licensed technicians, and noncertified applicators working from the commercial pesticide business establishment must immediately cease upon receipt of the Notice of Warning.

(4) If the Jefferson City office of the Bureau of Pesticide Control does not receive an acceptable form of financial responsibility within sixty (60) days of the issuance of a Notice of Warning, the director will issue a Notice of Cancellation in accordance with section 281.065(3), RSMo, cancelling all certified commercial applicator licenses at the commercial pesticide business establishment.

(5) Employers of certified commercial applicators must notify the director within ten (10) working days of the discontinued employment of a certified commercial applicator or when the company's liability insurance or surety bond no longer provides coverage for a certified commercial applicator. Notification shall include: the employer's business name and address; the certified commercial applicator's name and license number; and the date of discontinued employment or discontinued liability coverage.

2 CSR 70-25.070 Requirements for Certified Commercial Applicators [~~or Public Operators~~] in Structural Pest Control

(1) Applicants for certified commercial applicator licenses [~~or public operator licenses~~] in structural pest control shall meet at least one (1) of the following:

(A) Applicants shall have a minimum of an Associate of Arts (AA) degree or its equivalent in agriculture, biology, chemistry, or entomology from an accredited college or university. Evidence of this education shall be in the form of a copy of the degree or **official** transcript;

(B) Applicants shall have at least one (1) year of experience **applying pesticides** in accordance with the Missouri Pesticide[s] Use Act (the Act). **Experience gained as an inspector or salesperson will not qualify in place of experience gained in applying pesticides.** This experience shall be—

1. Gained within the three (3) years prior to the date of application;
2. As an applicator **in accordance with the laws of any state or protectorate of the United States** in the subcategory of structural pest control which relates to the area of expertise in which the applicant will use pesticides; and
3. Evidenced in a ~~[notarized]~~ statement containing the name, address, and telephone number of the employer, **name and license number of the certified commercial applicator(s), certified noncommercial applicator(s), or certified public operator(s) providing direct supervision,** ~~[from whom the applicant received the experience]~~ and dates of employment~~[- or]~~.

(C) Applicants shall have a combination of education and **pesticide application** experience as follows:

1. Successful completion of ~~[an]~~ **a department** approved correspondence course in pest control within three (3) years prior to application for licensure or addition of categories to an existing license;
2. At least six (6) months experience in accordance with the Act within the three (3) years prior to the date of application, as an applicator **in accordance with the laws of any state or protectorate of the United States** in the subcategory of structural pest control which relates to the area of expertise in which the applicant will use pesticides; and
3. Evidence of the approved correspondence course and **pesticide application** experience shall include:
 - A. A copy of the certificate from the approved correspondence course; and
 - B. A ~~[notarized]~~ statement containing the name, address, and telephone number of the employer, **name and license number of the certified commercial applicator(s), certified noncommercial applicator(s), or certified public operator(s) providing direct supervision,** ~~[from whom the applicant received the experience]~~ and dates of employment.

2 CSR 70-25.080 Stipulations for a Certified Commercial Applicator License, a Certified Noncommercial Applicator License, ~~[or]~~ a Certified Public Operator License, a Certified Private Applicator License, a Certified Provisional Private Applicator License, a Noncertified RUP Applicator License, or a Pesticide Technician License.

- (1) No certified ~~[commercial applicator, certified noncommercial]~~ applicator, ~~[or certified public operator]~~ **licensed noncertified RUP applicator, or licensed pesticide technician** shall use his/her license as authority to represent more than one (1) business or employer. ~~[for the purpose of using, supervising the use of or determining the need for the use of pesticides.]~~
- (2) No **certified private applicator, certified provisional private applicator,** certified public operator, ~~[or]~~ certified noncommercial applicator, **or licensed noncertified RUP applicator working under**

the direct supervision of a certified public operator or certified noncommercial applicator shall use his/her license to solicit business from the public.

- (3) Certified ~~[commercial applicators, certified noncommercial]~~ applicators, ~~[and certified public operators]~~ licensed pesticide technicians, and licensed noncertified RUP applicators must display their licenses at all times in a prominent place at the address which shall be printed on the license.
- (4) Only certified commercial applicators, certified noncommercial applicators, certified public operators and certified private applicators may purchase restricted use pesticides labeled for use in categories in which they are certified.

2 CSR 70-25.090 Examinations for Certified Commercial Applicators, Certified Noncommercial Applicators, Certified Public Operators, ~~and~~ Certified Private Applicators, Certified Provisional Private Applicators, Noncertified RUP Applicators, and Pesticide Dealers.

- (1) Applicants for a certified commercial applicator license, ~~[a]~~ certified noncommercial applicator license, or ~~[a]~~ certified public operator license shall take ~~[a]~~ written examinations based on the general standards of competence and category specific standards of competence provided in 2 CSR 70-25.110. Applicants for a certified private applicator license or certified provisional private applicator license may take a written examination for each requested category defined in 2 CSR 70-25.140 based on the standards of competence provided in 2 CSR 70-25.150. Applicants for a noncertified RUP applicator license shall take a written examination based on the general standards of competence provided in 2 CSR 70-25.110 (3). Applicants for a pesticide dealer license shall take a written examination based on the laws and regulations governing the use and sale of pesticides and the pesticide dealer's responsibility in carrying on the business of a pesticide dealer. ~~[When recommended by the director, the a]~~ Applicants ~~[shall take a written and oral examination and]~~ may be required to conduct a practical demonstration of competence.
- (2) Examinations shall cover material judged by the director to be pertinent to the request contained in the application.

(3) Applicants must present at the time of examination a valid, government-issued photo identification or other form of similarly reliable identification authorized by the director as proof of identity and age to be eligible for certification.

~~[(3)]~~(4) Any applicant who gives or receives unauthorized assistance during an examination shall be dismissed from the examination and his/her ~~[markings or results]~~ examination shall be voided. ~~[Any such person shall be required to make reapplication for a license.]~~

~~[(4)]~~(5) Only persons authorized by the director may be in the examination room during the examination. ~~[The director may require identification for all applicants.]~~

(6) Only director-approved reference material provided by the examination proctor may be used during the examination. All reference material will be collected and examined by the examination

proctor to ensure no portion of the reference material has been removed, altered, or destroyed. No portion of any examination or reference material may be copied or retained by any person other than a person authorized by the director. Any applicant found to have removed, altered, or destroyed any portion of the reference material shall have his/her examination results voided.

~~[(5)]~~(7) Any applicant who fails to attain a passing score of **at least** seventy percent (70%) on any examination may request **through the normal registration process** ~~[in writing, by regular mail,]~~ to retake the examination. ~~[The director will then inform the applicant, in writing, by regular mail, of the time and place the applicant may retake the examination. Upon failing the examination three (3) times, or failing to take the examination as scheduled three (3) times, the applicant shall reapply for a license.]~~

~~[(6)]~~(8) All examination~~s taken to satisfy requirements of the Missouri Pesticide Use Act]~~ **results are valid for one (1) year and** shall be retained by the department for at least one (1) year from the date they were completed. Individuals who do not apply for a license during that one (1)-year period must ~~[be reexamined before their license application will be accepted.]~~ **reexamine.**

2 CSR 70-25.100 Certification Categories for Certified Commercial Applicators, Certified Noncommercial Applicators, and Certified Public Operators

(1) To qualify for a certified commercial applicator license, ~~[a]~~ certified noncommercial applicator license, or ~~[a]~~ certified public operator license, ~~[applicators of pesticides]~~**individuals** shall be certified in one (1) or more of the following pesticide applicator categories: Category 1—Agricultural Pest Control, Subcategory a—Agricultural Plant Pest Control, Subcategory b—Agricultural Animal Pest Control; Category 2—Forest Pest Control; Category 3—Ornamental and Turf Pest Control; Category 4—Seed Treatment; Category 5—Aquatic Pest Control, **Subcategory b—Sewer Root Pest Control**; Category 6—Right-of-Way Pest Control; Category 7—Structural Pest Control, Subcategory a—General Structural Pest Control, Subcategory b—Termite Pest Control, Subcategory c—Fumigation Pest Control; Category 8—Public Health Pest Control; Category 9—Regulatory Pest Control; Category 10—Demonstration and Research Pest Control; Category 11—Wood Products Pest Control; **Category 12—Soil Fumigation Pest Control; and Category 13—Aerial Pest Control.**

(2) Commercial applicators, noncommercial applicators, and public operators must be certified in at least one (1) of the categories provided in section (1) and may be certified in any number of or any combination of those categories.

(3) Those individuals who wish to obtain a certified commercial applicator license, a certified noncommercial applicator license, or a certified public operator license as authority to conduct demonstrations involving pesticides and devices must be certified in Category 10—Demonstration and Research Pest Control. In addition, those individuals must be certified in the category, or those categories, which relates to the area~~s~~ of expertise in which they wish to conduct these demonstrations.

(4) Commercial applicators, noncommercial applicators, and public operators shall be certified in the respective categories only after they have passed an examination based on the standards of competence as provided in 2 CSR 70-25.110.

(5) Description of Commercial Applicator, Noncommercial Applicator, and Public Operator Certification Categories.

(A) Category 1—Agricultural Pest Control.

1. Subcategory a—Agricultural Plant Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ pesticide[s] **use relating** to agricultural commodities, including, but not limited to, tobacco, peanuts, cotton, corn, cereal grain, feed grains, soybeans, forages and forage crops, vegetables, small fruits, tree fruits and nuts, grassland and noncrop agricultural lands, greenhouse products, Christmas tree plantings, sod nurseries, ~~[and]~~ plant nurseries, and ~~[who apply pesticides for the conversion of]~~ forested areas to **be converted to** agricultural lands.

2. Subcategory b—Agricultural Animal Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ pesticide[s] **use relating** to animals, including, but not limited to, cattle, swine, sheep, furbearing animals, horses, goats, poultry and other livestock and wild animals in captivity and to places on or in which animals are confined with the exception of aquatic harborages. This includes those agricultural animals used as work or draft animals and those used as pleasure animals.

(B) Category 2—Forest Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ pesticide[s] **use relating to** ~~[in]~~ forests, forest nurseries and forest seed producing areas for the purpose of the propagation and maintenance of those forests, forest nurseries, and forest seed producing areas.

(C) Category 3—Ornamental and Turf Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use, supervise the use of or determine the need for the use of pesticides to control]~~ **pesticide use, excluding fumigants, relating to the control of** pests in the care and maintenance of ornamental trees, shrubs, flowers, and turf.

(D) Category 4—Seed Treatment. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ pesticide[s] **use relating** to seeds.

(E) Category 5—Aquatic Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ pesticide[s] **purposefully use relating** to standing or running water for the control of aquatic pests with the exception of health-related pests.

1. Subcategory b—Sewer Root Pest Control. This subcategory is provided for pesticide use relating to the control of roots within sewer systems.

(F) Category 6—Right-of-Way Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use, or supervise the use of]~~ pesticide[s in] use relating to the maintenance of public roads, electric power lines, pipelines, industrial sites, electric and gas substations, cell phone towers, riprap along banks and shorelines, railroad rights-of-way, or similar areas.

(G) Category 7—Structural Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use, or supervise the use of]~~ pesticide[s] use in, on, or around any structure.

1. Subcategory a—General Structural Pest Control. This subcategory is provided for ~~[public operators, noncommercial applicators and commercial applicators who use, supervise the use of, or determine the need for the use of pesticides for]~~ pesticide use relating to the control of general structural pests with the exception of wood-destroying organisms.

2. Subcategory b—Termite Pest Control. This subcategory is provided for ~~[public operators, noncommercial applicators and commercial applicators who use, supervise the use of, or determine the need for the use of pesticides for]~~ pesticide use relating to the control of wood-destroying organisms, including, but not limited to, termites, carpenter ants, and powder post beetles.

3. Subcategory c—Fumigation Pest Control. This subcategory is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ the use of fumigants for structural pest control and mole control. ~~[Certification in this category is not required for those applicators certified in the category of General Structural Pest Control who use calcium cyanide dust for limited rodent fumigation.]~~

(H) Category 8—Public Health Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ pesticide[s] use in public health programs ~~[for]~~ relating to the management and control of pests having medical and public health importance.

(I) Category 9—Regulatory Pest Control. This category is provided for ~~[state or federal employees who use or supervise the use of]~~ pesticide[s in] use relating to the control of regulated pests.

(J) Category 10—Demonstration and Research Pest Control. This category is provided for individuals who demonstrate to the public the proper use ~~[and techniques of application]~~ of restricted use pesticides or supervise the demonstration. It is also provided for individuals who conduct~~[ing]~~ field research with pesticides, and in doing so, use or supervise the use of restricted~~[-]~~ use pesticides. The applicant must also be certified in the proper category(ies) of use.

(K) Category 11—Wood Products Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~

pesticide[s] use relating to the control or prevention of wood-degrading organisms, including, but not limited to, insects and the fungi or bacteria causing surface molding, surface staining, sap staining, brown rot, white rot, dry rot, and soft rot.

(L) **Category 12—Soil Fumigation Pest Control.** This category is provided for the use of fumigants to soil for the control of pests found in or on labeled sites.

(M) **Category 13—Aerial Pest Control.** This category is provided for the use of any pesticides applied by fixed or rotary wing aircraft. The applicant must also be certified in the proper category(ies) of use.

2 CSR 70-25.110 Standards of Competence for the Certification of Commercial Applicators, Noncommercial Applicators, ~~and~~ Public Operators, and Noncertified RUP Applicators

(1) Commercial applicators, noncommercial applicators, and public operators shall pass an examination to demonstrate competence in the use of pesticides based on the general standards of competence and shall pass an examination based on the specific standards of competence for at least one (1) of the certification categories listed in 2 CSR 70-25.100.

(2) Noncertified RUP applicators shall pass an examination to demonstrate competence in the use of restricted use pesticides based on the general standards of competence found in section 3 of this rule.

~~(2)~~(3) General Standards of Competence for ~~[All Certification Categories]~~ **CORE examination.** The applicant shall demonstrate a practical knowledge of:

(A) Pesticide labels and labeling, including-

1. ~~[t]~~The format and terminology of pesticide labels and labeling, and an understanding of instructions, warnings, terms, symbols, and other information commonly appearing on pesticide labels.
2. ~~[The applicant shall demonstrate a practical knowledge of t]~~The classification of pesticides as to general or restricted use and **that a pesticide may be unclassified.**
3. **Understanding labeling requirements relating to supervising noncertified applicators who are working under the direct supervision of a certified applicator.**
4. **Understanding label requirements that a certified applicator must be physically present at the site of the application.**
5. **Recognizing and understanding the difference between mandatory and advisory labeling language.**
6. **Understanding that they must comply with all use restrictions and directions for use found on the label and labeling, including being certified in the certification category appropriate to the type and site of application and that it is a violation of state and federal law to use any registered ~~[must understand the necessity for the use of a]~~ pesticide in a manner inconsistent with its labeling.**

(B) Applicator pesticide safety, including-

1. ~~[t]~~The factors of pesticide safety including pesticide toxicity, hazard to man, and common exposure routes.
2. ~~[The applicant must demonstrate a practical knowledge of t]~~The types and causes of pesticide accidents~~;~~, ~~[a practical knowledge of]~~ and the precautions necessary to guard against injury to applicators and other individuals in or near treated areas.
3. **Understanding the different natures of the risks of acute toxicity, as well as the long-term effects of pesticides.**
4. ~~[a practical knowledge of t]~~The need for, and the use of, protective clothing and equipment.
5. ~~[a practical knowledge of s]~~Symptoms of pesticide poisoning~~;~~.
6. ~~[and a practical knowledge of f]~~First aid and other procedures to be followed in case of pesticide accidents.
7. ~~[The applicant shall demonstrate a practical knowledge of p]~~Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers including precautions to be taken to prevent children from having access to pesticides and pesticide containers.

(C) Environment, including-

1. ~~[The applicant shall demonstrate a practical knowledge of the environment, including p]~~Potential environmental consequences of the use, and the misuse, of pesticides as may be influenced by such factors as weather and other climatic conditions; ~~[as may be influenced by]~~ types of terrain, soil, and other substrate; ~~[as may be influenced by]~~ the presence of fish, wildlife, and other non-target organisms; and ~~[as may be influenced by]~~ drainage patterns.

(D) Pests and pest recognition, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pests and pest recognition, including t]~~The common features of pest organisms and the characteristics of pest damage as a means of pest recognition~~;~~.
2. ~~[and a practical knowledge of]~~ ~~[p]~~Pest development, including the biology and habits of pests as may be relevant to problem identification in pest control.
3. **Correctly selecting the proper pesticide product(s) for effective pest control by verifying the labeling does not prohibit the use of the product for the control of the target pest(s) or use site.**

(E) Pesticides, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticides, including t]~~Types of pesticides, types of pesticide formulations, compatibility, synergism, persistence, and the toxicity of various pesticides and pesticide formulations to animals and plants.
2. ~~[a practical knowledge of t]~~The hazards and residues associated with pesticide use.
3. ~~[a practical knowledge of f]~~Factors which influence pesticide effectiveness or lead to such problems as resistance to pesticides~~;~~ ~~[and a practical knowledge of]~~
4. ~~[d]~~Dilution procedures.

(F) Pesticide equipment, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticide equipment, including~~ ~~‡]~~The types of equipment and the advantages and limitations of each type~~[,]~~.
2. ~~[and a practical knowledge of ‡]~~The use, maintenance, and calibration of pesticide equipment.
3. Drift prevention and pesticide loss into the environment.

(G) Application techniques, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticide application techniques, including m]~~Methods and procedures used to apply various formulations of pesticides ~~[solutions and gases, together with a knowledge of which]~~ and the application technique to use in a given situation.
2. ~~[a practical knowledge of the relationship of discharge and placement of a pesticide to the proper use of the pesticide as well as to the unnecessary use of the pesticides;]~~ Understanding how selection of application method and use of a pesticide may result in proper use, unnecessary or ineffective use, and misuse.
3. ~~[and a practical knowledge of ‡]~~The prevention of pesticide drift and of pesticide loss into the environment.
4. Which application method to use in a given situation and that use of a fumigant or aerial application requires additional certification.

(H) ~~[The applicant shall demonstrate a practical knowledge of the applicable s]~~State and federal pesticide laws and regulations.

(I) Responsibility of certified applicators supervising noncertified applicators, including-

1. Understanding and complying with all regulations for certified applicators who supervise noncertified applicators using general use and restricted use pesticides and the regulatory requirements for recordkeeping for noncertified applicators who have demonstrated competency in the safe use of all pesticides.
2. Providing use-specific instructions to noncertified applicators prior to using general use and restricted use pesticides under the direct supervision of a certified applicator.
3. Pertinent state and federal pesticide laws and regulations for explanation to noncertified applicators who use general use and restricted use pesticides under the direct supervision of certified applicators.

(J) Professionalism, including-

1. Understanding of the importance for maintaining chemical security for all pesticides and how to communicate information about pesticide exposure and risks with the public.
2. Pesticide product stewardship.

~~[(3)]~~ (4) Specific Standards of Competence for Certification of Commercial Applicator, Noncommercial Applicator, and Public Operator Categories. The applicant shall demonstrate a practical knowledge of at least one of the following categories:

(A) Category 1—Agricultural Pest Control.

1. Subcategory a—Agricultural Plant Pest Control.

- A. ~~[The applicant shall demonstrate a practical knowledge of t]~~The crops to which pesticides will be applied.
- B. ~~[and a practical knowledge of t]~~The specific pests of those crops.
- C. ~~[A practical knowledge is required concerning p]~~Potential soil and water problems, preharvest~~[ed]~~ intervals, reentry intervals, phytotoxicity **due to a wide variety of plants to be protected, drift, persistence beyond the intended period of pest control,** ~~[-; and concerning the]~~ potential for environmental contamination, ~~[the]~~ potential for injury to nontarget plants and animals, and ~~[the]~~ potential for causing community problems resulting from the use of pesticides in agricultural areas.

2. Subcategory b—Agricultural Animal Pest Control.

- A. ~~[The applicant who applies pesticides directly to animals, or to the harborages of animals, must demonstrate a practical knowledge of these a]~~**Animals or the harborages of animals to which the pesticides are applied** and their associated pests.
- B. ~~[A practical knowledge also is required concerning s]~~Specific pesticide toxicity to animals and ~~[concerning]~~ the potential for illegal pesticide residues when these animals are to be used for human or animal food.
- C. ~~[The applicant also must demonstrate a practical knowledge of]~~ **Hazards associated with** pesticide formulations and application techniques as they apply to animals of various ages and animals under various types of stress~~[-; and a practical knowledge concerning]~~ **and** the extent of treatment ~~[of those animals]~~.

(B) Category 2—Forest Pest Control.

- 1. ~~[The applicant shall demonstrate a practical knowledge of t]~~The types of forest, forest nurseries, ~~[and]~~ seed production, and ~~[a practical knowledge of]~~ the pests involved.
- 2. ~~[The applicant shall possess a practical knowledge of t]~~The cyclic occurrence of certain pests~~[-;]~~.
- 3. ~~[and a practical knowledge of s]~~Specific population dynamics as a basis for programming pesticide applications.
- 4. ~~[Applicants shall demonstrate a practical knowledge regarding n]~~Nontarget plants and animals and their vulnerability to pesticides.
- 5. ~~[The applicator must demonstrate a practical knowledge of c]~~Control methods which will minimize the possibility of secondary problems such as the unintended effects on wildlife and which will minimize problems of pollution.
- 6. ~~[The applicator must demonstrate a practical knowledge of s]~~Specialized equipment, especially as it relates to meteorological factors and adjacent land use.
- 7. **Relevant organisms causing harm and their vulnerability to the pesticides to be applied.**
- 8. **How to determine when pesticide use is proper.**
- 9. **The selection of application method.**
- 10. **Potential for phytotoxicity due to a wide variety of plants to be protected, drift, and persistence beyond the intended period of pest control.**

(C) Category 3—Ornamental and Turf Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of p]~~Pesticide problems associated with the production and maintenance of ornamental trees, shrubs, plantings, and the production and maintenance of turf.
2. ~~[The applicant shall demonstrate a practical knowledge concerning p]~~Potential phytotoxicity (chemical burn of plant tissue) due to a wide variety of plant material involved.
3. ~~[The applicant shall demonstrate a practical knowledge concerning p]~~Pesticide drift.
4. ~~[and a practical knowledge concerning t]~~The persistence of pesticides beyond the intended period of pest control.
5. ~~[Because of the frequent proximity of human habitations to application activities the applicant shall demonstrate a practical knowledge of a]~~Application methods which will minimize or prevent hazards to humans, pets, and other domestic animals.
6. **Non-target exposures.**

(D) Category 4—Seed Treatment.

1. ~~[The applicant shall demonstrate a practical knowledge of t]~~The types of seeds which require chemical protection against pests.
2. ~~[and a practical knowledge of f]~~Factors such as seed coloration, pesticide carriers, and surface active agents which influence pesticide binding and may affect germination.
3. ~~[The applicant shall demonstrate a practical knowledge of t]~~The hazards associated with the handling, sorting, and mixing of treated seed.
4. ~~[The applicant shall demonstrate practical knowledge of t]~~The problems regarding the misuse of seed treated with pesticides, such as the introduction of treated seed into food and feed channels.
5. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The proper disposal of unused treated seed.
6. **The importance of proper application techniques to avoid harm to non-target organisms.**

(E) Category 5—Aquatic Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of t]~~The secondary effects which can be caused by improper application rates, incorrect formulations, and the faulty application of those pesticides used in this category.
2. ~~[The applicant shall demonstrate a practical knowledge of v]~~Various water use situations and the potential for downstream adverse effects.
3. ~~[The applicant shall demonstrate a practical knowledge of t]~~The potential adverse effects of pesticides on nontarget plants, fish, birds, beneficial insects, and other organisms which may be present in aquatic environments.
4. ~~[The applicant shall demonstrate a practical knowledge of t]~~The principles of limited area applications.

A. Subcategory b—Sewer Root Pest Control.

(I) Pesticide labels and labeling for pesticides including metam-sodium pesticide products used for sewer root pest control.

(II) Pesticide safety and the need for the use of personal protective equipment, including problems and mistakes leading to exposure and the signs and symptoms of human and environmental exposure.

(III) Equipment used to perform sewer root pest control applications.

(IV) Proper storage, handling, transport, spills, cleanup, and disposal including the disposal of excess material, waste, and containers.

(F) Category 6—Right-of-Way Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The wide variety of environments involved in right-of-way pest control.
2. ~~[The applicant shall demonstrate a practical knowledge of problems of]~~**Techniques to minimize non-target exposure**, pesticide run off, pesticide drift, and ~~[problems of]~~ excess foliage destruction.
3. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The recognition of target pest organisms involved in right-of-way pest control.
4. ~~[The applicant shall demonstrate a practical knowledge of h]~~**Herbicides and the need for containing these pesticides within the right-of-way area.**
5. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The impact of pesticides on adjacent areas and communities.
6. **Potential for phytotoxicity due to a wide variety of plants and pests to be controlled.**
7. **Persistence beyond the intended period of pest control.**

(G) Category 7—Structural Pest Control.

1. Subcategory a—General Structural Pest Control.

- A. ~~[The applicant shall demonstrate a practical knowledge of a]~~**A wide variety of structural pests, including signs of their presence, [the] life cycles, biology, and behavior as it may be relevant to problem identification and control [and habits of these pests].**
- B. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The types of formulations appropriate for the control of these pests.
- C. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The application of pesticides in a manner to avoid damage to the structure, contamination of food, contamination of the structure and surrounding area, and exposure of people and pets.
- D. ~~[The applicant shall demonstrate a practical knowledge of t]~~The specific factors which may lead to a hazardous condition, including continuous exposure in the various situations encountered in this category.
- E. ~~[The applicant must also demonstrate practical knowledge of e]~~**Environmental conditions relating to outdoor applications of pesticides used in this category.**

2. Subcategory b—Termite Pest Control.

- A. ~~[The applicant shall demonstrate a practical knowledge of t]~~**Termites, including their life cycle and habits and a practical knowledge of termite damage.**

- B. ~~[The applicant shall demonstrate a practical knowledge of v]~~Various associated wood-destroying organisms, including, but not limited to, powder post beetles, carpenter ants, and other wood destroying insects.
- C. ~~[The applicant shall demonstrate a practical knowledge concerning undue]~~**The use of pesticides in a manner to avoid** exposure to humans, domestic pets, and other nontarget organisms[;].
- D. ~~[as well as a practical knowledge concerning p]~~Potential contamination of the environment and associated problems.
- E. **Types of formulations appropriate for control.**

3. Subcategory c—Fumigation Pest Control.

~~[The applicant shall demonstrate a practical knowledge concerning a wide variety of pests associated with those structures subject to fumigation. The applicant shall demonstrate a practical knowledge regarding the use of the various fumigants, including application techniques, and the use of specialized safety equipment and specialized application techniques. The applicant shall demonstrate a practical knowledge concerning the use of fumigants in a manner to avoid contamination of food and surrounding areas and to prevent exposure of humans and pets. The applicant shall demonstrate a practical knowledge of the specific factors which may lead to a hazardous condition, including continuous exposure in the various situations encountered in this category. The applicant also must demonstrate practical knowledge of environmental conditions relating to outdoor applications of pesticides used in this category.]~~

- A. **Label and labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform non-soil fumigation, including labeling requirements specific to non-soil fumigants.**
- B. **Safety. Measures to minimize adverse health effects, including all of the following:**
 - I. **Understanding how certified applicators, noncertified applicators, and bystanders can become exposed to fumigants.**
 - II. **Common problems and mistakes that can result in direct exposure to fumigants.**
 - III. **Signs and symptoms of human exposure to fumigants**
 - IV. **Air concentrations of a fumigant that require applicators to wear respirators or to exit the work area entirely.**
 - V. **Steps to take if a fumigant applicator experiences sensory irritation.**
 - VI. **Understanding air monitoring, when it is required, and where and when to take samples.**
 - VII. **Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in a buffer zone.**
 - VIII. **First aid measures to take in event of exposure to a fumigant.**
 - IX. **Labeling requirements for transportation, storage, spill clean up, and emergency response for non-soil fumigants, including safe disposal of containers and contaminated materials, and management of empty containers.**

- C. Non-soil fumigant chemical characteristics. Characteristics of non-soil fumigants including all of the following:
 - I. Chemical characteristics of non-soil fumigants.
 - II. Specific human exposure concerns for non-soil fumigants.
 - III. How fumigants change from a liquid or solid to a gas.
 - IV. How fumigants disperse in the application zone.
 - V. Compatibility concerns for tanks, hoses, tubing, and other equipment.
- D. Application. Selecting appropriate application methods and timing, including all of the following:
 - I. Application methods and equipment commonly used for non-soil fumigation.
 - II. Site characteristics that influence fumigant exposure.
 - III. Conditions that could impact timing of non-soil fumigant application, such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications under specific conditions.
 - IV. Conducting pre-application inspection of application equipment and the site to be fumigated.
 - V. Understanding the purpose and methods of sealing the area to be fumigated, including the factors that determine which sealing method to use.
 - VI. Calculating the amount of product required for a specific treatment area.
 - VII. Understanding the basic techniques for calibrating non-soil fumigant application equipment.
 - VIII. Understanding when and how to conduct air monitoring and when it is required.
- E. Pest factors. Pest factors that influence fumigant activity, including all of the following:
 - I. Influence of pest factors on fumigant volatility.
 - II. Factors that influence gaseous movement through the area being fumigated and into the air.
 - III. Identifying pests causing the damage and verifying they can be controlled with fumigation.
 - IV. Understanding the relationship between pest density and application rate.
 - V. The importance of proper application rate and timing.
- F. Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following:
 - I. Following label directions for required personal protective equipment.
 - II. Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment.

- III. Understanding the types of respirators required when using specific non-soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters.
 - IV. Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recording.
 - G. Fumigant management plans and post-application summaries. Information about fumigant management plans and when they are required, including all of the following:
 - I. When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it.
 - II. The element of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan.
 - III. The person responsible for verifying that a fumigant management plan is accurate.
 - IV. The elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed.
 - H. Posting requirements. Understanding posting requirements, including all of the following:
 - I. Understanding who is allowed in an area being fumigated or after fumigation and who is prohibited from being in such areas.
 - II. Distinguishing fumigant labeling-required posting and treated area posting, including the pre-application and post-application posting timeframes for each.
 - III. Proper choice and placement of warning signs.
- (H) Category 8—Public Health Pest Control.
 1. ~~[The applicant shall demonstrate a practical knowledge of v]~~ Vector-disease transmission as it relates to, and influences, pesticide application problems.
 2. ~~[The applicator shall demonstrate a practical knowledge concerning a wide variety of p]~~ Pests **commonly** involved in public health pest control, including the life histories and habits of these pests.
 3. ~~[The applicant shall demonstrate a practical knowledge concerning a great variety of e]~~ Environments **and sites commonly found in public health pest control**, which range from streams to those conditions found in buildings.
 4. ~~[The applicant shall demonstrate a practical knowledge of t]~~ The importance of, and employment of, such nonchemical control methods as sanitation, waste disposal, and drainage.
 5. How to minimize damage to and contamination of areas treated.
 6. Acute and chronic exposure of people and pets.
 7. Non-target exposures.

(I) Category 9—Regulatory Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of r]~~Regulated pests, applicable laws pertaining to pest quarantine, and other forms of pest regulation and the potential impact on the environment of pesticides used in suppression and eradication programs.
2. ~~[The applicant shall demonstrate a practical knowledge concerning f]~~Factors influencing introduction, spread, and population dynamics of relevant pests.

~~[The applicant shall demonstrate a practical knowledge which shall extend beyond that required by the immediate duties of the applicator since the services of the applicator frequently are required in other areas of the country where emergency measures are invoked to control regulated pests and where individual judgements must be made in new situations.]~~

(J) Category 10—Demonstration and Research Pest Control.

1. ~~[The applicant shall meet c]~~Comprehensive standards reflecting a broad spectrum of pesticide uses.
2. ~~[The applicant shall demonstrate a practical knowledge of p]~~Problems, pests, and population levels occurring in each demonstration or research situation ~~[required]~~.
3. ~~[The applicant shall demonstrate a]~~An understanding of pesticide-organism interactions and the importance of integrating pesticide use with other control methods.
4. **Effects of restricted use pesticides on target and non-target organisms.**
5. The applicant shall not only demonstrate competence in the category of Demonstration and Research Pest Control but ~~[also shall demonstrate the category competencies which apply to the area of expertise in which the applicant shall conduct demonstrations and research]~~ **must also be certified in the proper category(ies) of use.**

(K) Category 11—Wood Products Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of w]~~Wood degradation and a general knowledge of pesticides used to prevent or control the degradation.
2. ~~[The applicant shall demonstrate a]~~An understanding of the pesticides used to preserve wood, including a knowledge of solution formulations, application techniques, hazards to man, domestic animals, and the environment, and the safe and proper means of container storage and disposal.

(L) Category 12— Soil Fumigation Pest Control.

1. **Label and labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform soil fumigation, including all of the following:**
 - A. **Labeling requirements specific to soil fumigants.**
 - B. **Requirements for certified applicators of fumigants, fumigant handlers, and permitted fumigant handler activities, and the safety information that certified applicators must provide to noncertified applicators using fumigants under their direct supervision.**
 - C. **Entry-restricted periods for tarped and untarped field application scenarios.**
 - D. **Recordkeeping requirements.**
 - E. **Labeling provisions unique to fumigant products containing certain active ingredients.**
2. **Safety. Measures to minimize adverse health effects, including all of the following:**

- A. Understanding how certified applicators, noncertified applicators using fumigants under direct supervision of certified applicators, field workers, and bystanders can become exposed to fumigants.
 - B. Common problems and mistakes that can result in direct exposures to fumigants.
 - C. Signs and symptoms of human exposure to fumigants.
 - D. Air concentrations of a fumigant that require that applicators wear respirators or exit the work area entirely.
 - E. Steps to take if a fumigant applicator experiences sensory irritation.
 - F. Understanding air monitoring, when it is required, and where and when to take samples.
 - G. Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in the buffer zone.
 - H. First aid measures to take in the event of exposure to a soil fumigant.
 - I. Labeling requirements for transportation, storage, spill cleanup, and emergency response for soil fumigants, including safe disposal of containers and contaminated soil, and management of empty containers.
3. Soil fumigant chemical characteristics. Characteristics of soil fumigants including all of the following:
- A. Chemical characteristics of soil fumigants.
 - B. Specific human exposure concerns for soil fumigants.
 - C. How soil fumigants change from a liquid or solid to a gas.
 - D. How soil fumigants disperse in the application zone.
 - E. Compatibility concerns for tanks, hoses, tubing, and other equipment.
4. Application. Selecting appropriate application methods and timing, including all of the following:
- A. Application methods, including but not limited to water-run and non-water-run applications, and equipment commonly used for each soil fumigant.
 - B. Site characteristics that influence fumigant exposure.
 - C. Understanding temperature inversions and their impact on soil fumigant application.
 - D. Weather conditions that could impact timing of soil fumigant application, such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications during specific weather conditions.
 - E. Conducting pre-application inspection of application equipment.
 - F. Understanding the purpose and methods of soil sealing, including the factors that determine which soil sealing method to use.
 - G. Understanding the use of tarps, including the range of tarps available, how to seal tarps, and labeling requirements for tarp removal, perforation, and repair.
 - H. Calculating the amount of product required for a specific treatment area.
 - I. Understanding the basic techniques for calibrating soil fumigant application equipment.
5. Soil and pest factors. Soil and pest factors that influence fumigant activity, including all of the following:
- A. Influence of soil factors on fumigant volatility and movement within the soil profile.

- B. Factors that influence gaseous movement through the soil profile and into the air.
 - C. Soil characteristics, including how soil characteristics affect the success of a soil fumigant application, assessing soil moisture, and correcting for soil characteristics that could hinder a successful soil fumigant application.
 - D. Identifying pests causing the damage and verifying they can be controlled with soil fumigation.
 - E. Understanding the relationship between pest density and application rate.
 - F. The importance of proper application depth and timing.
6. Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following:
- A. Following labeling directions for required personal protective equipment.
 - B. Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment.
 - C. Understanding the types of respirators required when using specific soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters.
 - D. Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recordkeeping.
7. Fumigant management plans and post-application summaries. Information about fumigant management plans, including all of the following:
- A. When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it.
 - B. The elements of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan.
 - C. The person responsible for verifying that a fumigant management plan is accurate.
 - D. The elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed.
8. Buffer zones and posting requirements. Understanding buffer zones and posting requirements, including all of the following:
- A. Buffer zones and the buffer zone period.
 - B. Identifying who is allowed in the buffer zone during the buffer zone period and who is prohibited from being in a buffer zone during the buffer zone period.
 - C. Using the buffer zone table from the labelling to determine the size of the buffer zone.
 - D. Factors that determine the buffer zone credits for application scenarios and calculating buffer zones using credits.
 - E. Distinguishing buffer zone posting and treated area posting, including the pre-application and post-application posting timeframes for each.
 - F. Proper choice and placement of warning signs.

(M) Category 13—Aerial Pest Control.

1. Labeling. Labeling requirements and restrictions specific to aerial application of pesticides including:

- A. Spray volumes.
 - B. Buffers and no-spray zones.
 - C. Weather conditions specific to wind and inversions.
2. Application equipment. Understand how to choose and maintain aerial application equipment, including all of the following:
- A. The importance of inspecting application equipment to ensure it is in proper operating condition prior to beginning an application.
 - B. Selecting proper nozzles to ensure it is in proper operating condition prior to beginning an application.
 - C. Knowledge of components of an aerial pesticide application system, including pesticide hoppers, tanks, pumps, and types of nozzles.
 - D. Interpreting a nozzle flow chart.
 - E. Determining the number of nozzles for intended pesticide output using nozzle flow rate chart, aircraft speed, and swath width.
 - F. How to ensure nozzles are placed to compensate for uneven dispersal due to uneven airflow from wingtip vortices, helicopter rotor turbulence, and aircraft propeller turbulence.
 - G. Where to place nozzles to produce the appropriate droplet size.
 - H. How to maintain the application system in good repair, including pressure gauge accuracy, filter cleaning according to schedule, and checking nozzles for excessive wear.
 - I. How to calculate required and actual flow rate.
 - J. How to verify flow rate using fixed timing, open timing, known distance, or a flow meter.
 - K. When to adjust and calibrate application equipment.
3. Application considerations. The applicator must demonstrate knowledge of factors to consider before and during application, including all of the following:
- A. Weather conditions that could impact application by affecting aircraft engine power, take-off distance, and climb rate, or by promoting spray droplet evaporation.
 - B. How to determine wind velocity, direction, and air density at the application site.
 - C. The potential impact of thermals and temperature inversions on aerial pesticide application.
4. Minimizing drift. The applicator must demonstrate knowledge of methods to minimize off-target pesticide movement, including all of the following:
- A. How to determine drift potential of a product using a smoke generator.
 - B. How to evaluate vertical and horizontal smoke plumes to assess wind direction, speed, and concentration.
 - C. Selecting techniques that minimize pesticide movement out of the area to be treated.
 - D. Documenting special equipment configurations or flight patterns used to reduce off-target pesticide drift.
5. Performing aerial application. The applicator must demonstrate competency in performing an aerial pesticide application, including all of the following:
- A. Selecting a flight altitude that minimizes streaking and off-target pesticide drift.

- B. Choosing a flight pattern that ensures applicator and bystander safety and proper application.
 - C. The importance of engaging and disengaging spray precisely when entering and exiting a predetermined swath pattern.
 - D. Tools available to mark swaths, such as global positioning systems and flags.
 - E. Recordkeeping requirements for aerial pesticide applications including application conditions if applicable.
6. The applicant shall not only demonstrate competence in the category of Aerial Pest Control, but must also be certified in the proper category(ies) of use.

2 CSR 70-25.120 Contents of Records Maintained by Certified Commercial Applicators, Certified Noncommercial Applicators, and Certified Public Operators

- (1) Certified commercial applicators or their employers shall keep and maintain records for the use of any pesticide(s). These records shall **be completed within three (3) business days from the date of use and** be kept for three (3) years in a neat and legible condition.
- (2) Certified noncommercial applicators and certified public operators or their employers shall keep and maintain records for the use of restricted use pesticides. These records shall **be completed within three (3) business days from the date of use and** be kept for a period of three (3) years in a neat and legible condition.
- (3) These records shall be available for inspection by the director [~~at a reasonable time~~] during regular business hours **at the physical location from which certified applicators use or supervise the use of pesticides** or, upon request in writing, the director shall be furnished a copy of these records within ten (10) working days of receipt of request.
- (4) These records shall contain the following for each application site:
 - (A) Name and license number of the certified applicator [~~or operator~~] **using or supervising the use of pesticides;**
 - (B) Name of the noncertified applicator, **name and license number of the noncertified RUP applicator,** or the name and license number of the pesticide technician using the pesticide(s), if applicable;
 - (C) Application date, **start time, and end time;**
 - (D) Name and address of the person requesting the pesticide use;
 - (E) Address or brief description of the application site;

(F) Size of the area treated (such as square feet, linear feet, acres, etc.) excluding indoor spot and crack and crevice applications;

~~[(F)]~~ (G) The site, crop and variety name, commodity, or stored product to which pesticide was applied, if applicable;

~~[(G)]~~ (H) Target ~~[P]~~pest(s) ~~[controlled or prevented by the pesticide use];~~

~~[(H)]~~ (I) Complete trade (manufacturer's brand) name(s) from the label(s) of the pesticide(s) used;

~~[(I)]~~ (J) The United States EPA registration number(s) from the label(s) of the pesticide(s) used **and the special local need registration number, if applicable.** In lieu of recording the United States EPA registration number(s) for each pesticide use, documentation shall be maintained which provides incontrovertible correlation between each pesticide use and the United States EPA registration number(s) of the pesticide(s) used;

~~[(J)]~~ (K) ~~[Reasonable estimate of t]~~ The ~~[amount of]~~ pesticide(s) ~~[used, and, if applicable, the actual]~~ **mixture rate, the total amount of mixture used, and the rate of application** expressed in reasonable and understandable terms; ~~[and]~~

~~[(K)]~~ (L) **For pre-mixed, ready-to-use pesticide products, a reasonable estimate of the amount of pesticide used and the actual rate of application expressed in reasonable and understandable terms;**

~~[(L)]~~ (M) ~~[A reasonable estimate of t]~~ The ~~[time,]~~ air temperature, ~~[average]~~ **measured** wind speed, and **wind** direction at the site of outdoor pesticide applications, excluding applications of pesticides in general structural pest control and termite pest control within ten feet (10') of a building[-] ; **and**

~~[(M)]~~ (N) **A written, signed, and dated request from the agricultural producer requesting the use of a lesser concentration of pesticide than is provided on the pesticide label, if applicable.**

~~2 CSR 70-25-130~~ **Requirements for a Certified Private Applicator License or Certified Provisional Private Applicator License**

(1) A certified private applicator license **or certified provisional private applicator license** will be issued to any private applicator who meets the following requirements:

~~(A) Applicants shall submit to the director a verification of training signed by the applicant and an authorized pesticide trainer; and~~

~~(B)~~ (A) Is of legal age;

(B) Is a producer of agricultural commodities as defined in section 2 CSR 70-25.010;

(C) Presents a valid, government-issued photo identification, or other form of similarly reliable identification approved by the director, as proof of identity and age at the time of the training program or examination to be eligible for certification or recertification; and

(D) ~~Private applicators~~ Individuals shall meet one of the following three (3) options, except those applicants seeking a certified provisional private applicator license are not eligible for certification in Category 21 – Soil Fumigation Pest Control, Category 22 – Non-Soil Fumigation Pest Control, or Category 23 – Aerial Pest Control:

1. ~~[The applicant shall have a]~~ Attend~~[ed]~~ a private applicator General Agricultural Pest Control certification training program ~~[provided by the director and presented by the University of Missouri Cooperative Extension Service or the applicant shall have demonstrated competence in the safe and proper use of pesticides by completing any other program of pesticide training approved by the director.]~~ approved by the director as required by section 281.040 and provided and presented by the University of Missouri Extension. The ~~private applicator's~~ individual's attendance of an approved private applicator certification training program and successful demonstration of competency in comprehending pesticide label and labeling directions for use shall be verified by the signature of the University of Missouri Extension instructor and the signature of the ~~private applicator~~ individual on a verification document provided by the director. The document shall be forwarded to the Missouri Department of Agriculture as proof of attendance and evidence of successful demonstration of competency in comprehending pesticide label and labeling directions for use. After completion of the in-person certification training program, individuals will qualify for certification upon completing the application process for licensing;

2. Attend a private applicator on-line certification training program approved by the director as required by section 281.040 and provided and presented by the University of Missouri Extension. Immediately following the completion of an on-line private applicator certification training program the University of Missouri Extension shall forward verification of the individual's ~~private applicator's~~ successful completion of the training program, including evidence of the ~~private applicator's~~ individual's demonstration of competency in comprehending pesticide label and labeling directions for use. After completion of the on-line certification training program, individuals will qualify for certification upon completing the application process for licensing; or

3. Pass appropriate private applicator category certification examination(s) based on the standards of competence for Category 20 – General Agricultural Pest Control, Category 21 – Soil Fumigation Pest Control, Category 22 – Non-soil Fumigation Pest Control, and Category 23 – Aerial Pest Control. Examination results will be forwarded to the Missouri Department of Agriculture. ~~Private applicators~~ Individuals with passing scores of at least seventy percent (70%) will qualify for certification upon completing the application process for licensing.

(2) Individuals holding a valid certified private applicator license may continue to purchase and use restricted use pesticides until such time existing license expires or five (5) years from the effective date of this regulation, whichever date is less.

2 CSR 70-25.140 Certification Categories for Private Applicators

(1) Category 20 – General Agricultural Pest Control. This category is provided for private applicators who are required to obtain private applicator certification to use restricted use pesticides for the purpose of producing any agricultural commodity, excluding soil and non-soil fumigants and the aerial application of restricted use pesticides.

(2) Category 21 – Soil Fumigation Pest Control. This category is provided for certified private applicators certified in Category 20 who are required to obtain proper category certification for the use of soil fumigants classified as restricted use pesticides for the control of pests in the production of any agricultural commodity.

(3) Category 22 – Non-soil Fumigation Pest Control. This category is provided for certified private applicators certified in Category 20 who are required to obtain proper certification for the use of non-soil fumigants classified as restricted use pesticides for the control of pests in the production and storage of any agricultural commodity.

(4) Category 23 – Aerial Pest Control. This category is provided for certified private applicators certified in Category 20 who are required to obtain proper category certification to apply restricted use pesticides with manned or unmanned aircraft, either fixed wing or rotary wing, in the production of any agricultural commodity.

2 CSR 70-25.150 ~~[Course of Instruction and]~~ Standards of Competence for ~~the Certification of~~ ~~[Certified]~~ Private Applicators

(1) ~~To qualify for private applicator certification or provisional private applicator certification, [Certified] private applicators [shall attend a course of instruction] are required to read and demonstrate competency in the understanding of pesticide labels and labeling and shall: [approved by the director as required by section 281.040, RSMo (1986).]~~

- ~~(A) [The] Attend a University of Missouri Extension private applicator [course of instruction] General Agricultural Pest Control certification training program;~~
- ~~(B) Complete a University of Missouri Extension private applicator General Agricultural Pest Control on-line certification training program; or~~
- ~~(C) Pass the department's private applicator General Agricultural Pest Control certification examination. [shall encompass the standards of competence as provided in section (3) of this rule. Private applicators also shall be instructed as to the general pest problems and general pest control practices associated with agricultural operations, proper storage, application, handling and disposal of pesticides and pesticide containers and the legal responsibilities of private applicators.]~~

(2) Private applicators must obtain certification in Category 20 – General Agricultural Pest Control prior to becoming certified in one of the additional private applicator certification categories. Private applicators that use restricted use pesticides to fumigate soil must also obtain certification in Category 21 – Soil Fumigation Pest Control. Private applicators that use restricted use pesticides to fumigate non-soil commodities or non-soil sites must also obtain certification in Category 22 – Non-Soil Fumigation Pest Control. Private applicators that apply restricted use pesticides through aerial application must also obtain certification in Category 23 – Aerial Pest Control. The certification training programs, on-line certification training programs, and certification examinations provided for Categories 20, 21, 22, and 23 shall encompass the standards of competence as provided in sections (3), (4), (5), and (6) of this rule.

~~((2))~~ (3) Category 20 – General Agricultural Pest Control Standards of Competence. The applicant shall demonstrate practical knowledge of:

(A) The recognition of common agricultural pests, ~~[and the recognition of the]~~ damage caused by these pests~~;~~, the importance of selecting proper pesticide products for effective control, and the importance of verifying that the label does not prohibit the use of the product to control the target pest(s) or use site;

(B) ~~[The r]~~Reading and understanding ~~[of]~~ the label and labeling information, including general format and terminology, ~~[including]~~ the common name of the pesticide~~;~~, the pest to be controlled~~;~~, timing and methods of ~~[the]~~ application of the pesticide~~;~~, signal words, symbols, safety precautions~~;~~, pre-harvest intervals~~;~~, reentry intervals, and disposal procedures for pesticides and pesticide containers;

(C) All use restrictions and directions for use found on the label and labeling, certification requirements in the appropriate category to use restricted use pesticides, and State and Federal pesticide laws requiring the use of any registered pesticide in a manner consistent with its labeling;

(D) The meaning of product classification, the difference between mandatory and advisory labeling language, direct supervision including understanding when a certified applicator must be physically present at the site of the application based on labeling requirements, labeling requirements for supervising noncertified applicators, and understanding and complying with product-specific notification requirements;

(E) The application of pesticides in accordance with label and labeling instructions and warnings, including the ability to prepare the proper concentration of the pesticides to be used under particular circumstances, taking into account factors such as the area to be covered, speed in which application equipment will be driven, and the quantity to dispense in a given period of operation;

(F) The characteristics of pesticides, including types of pesticides, types of formulations, compatibility, synergism, persistence, animal and plant toxicity, hazards and residues associated with use, factors influencing effectiveness or leading to problems such as pesticide resistance, and dilution procedures;

(G) The recognition of local environmental situations that must be considered during application to avoid contamination[;] and potential environmental consequences of the use and misuse of pesticides, including weather and other climatic conditions, types of terrain, soil, or other substrate, presence of fish, wildlife, and non-target organisms, and drainage patterns;

(H) ~~[The recognition of poisoning symptoms and procedures to follow in case of a pesticide accident.]~~ Measures to avoid or minimize adverse health effects, common types and causes of pesticide mishaps, needs for and proper use of personal protective clothing and equipment, and precautions to prevent injury to applicators and other individuals in or near treated areas;

(I) Likely ways pesticide exposure may occur, symptoms of pesticide poisoning, the difference between acute toxicity and chronic toxicity and their long term effects, understanding that a pesticide's risk is a function of exposure and the pesticide's toxicity, and first aid and other procedures to be followed in case of a pesticide mishap;

(J) Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers, including precautions to be taken to prevent children from having access to pesticides and pesticide containers;

(K) Application equipment, including types of equipment and the advantages and limitations of each, uses, maintenance, and calibration procedures;

(L) Selecting appropriate application methods including methods used to apply various forms and formulations of pesticides, which application method to use in a given situation, and that use of a fumigant or aerial application requires additional certification, and how the selection of application method and use of a pesticide may result in unnecessary, ineffective use and misuse;

(M) The prevention of pesticide drift and pesticide loss into the environment;

(N) The state and federal pesticide laws and regulations, including the Worker Protection Standard in 40 CFR Part 170;

(O) The certified applicator responsibilities and requirements related to supervision of noncertified applicators, including being able to explain appropriate state and federal pesticide laws and regulations to noncertified applicators and providing use-specific instructions for the site and pesticide used to noncertified applicators using pesticides under the direct supervision of a certified private applicator ensuring that the noncertified applicator has access to the applicable product labeling at all times during use, ensuring that any noncertified applicator has

clean labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose, ensuring that before each day of use the equipment is in proper operating condition and can be used without risk of reasonably foreseeable adverse effects to the noncertified applicator, other persons, or the environment, ensuring that a means to immediately communicate with the certified applicator is available, the certified applicator must be physically present at the site of the use being supervised when required by the label, and ensuring the required use records are being maintained;

(P) The importance of maintaining secure storage for pesticides and other chemicals and how to communicate information about pesticide exposures and risks with agricultural workers and handlers and other persons;

(Q) Agricultural Pest Control, including specific pests of relevant agricultural commodities and the control of such pests with pesticides, how to avoid contamination of ground and surface waters, understanding pre-harvest and restricted entry intervals and entry-restricted periods and areas, and understanding specific pesticide toxicity and residue potential when pesticides are applied to animal or animal product agricultural commodities; and

(R) Hazards associated with using pesticides on animals or places in which animals are confined based on formulation, application technique, age of animal, stress, and extent of treatment.

~~[(3) Attendance of an approved course of instruction by the private applicator shall be verified by the signature of the instructor and the signature of the private applicator on a verification document provided by the director. The document shall be forwarded to the Missouri Department of Agriculture as proof of attendance. Upon receipt of the document of verification of attendance, the director shall forward to the private applicator a certified private applicator license.]~~

(4) Category 21 – Soil Fumigation Pest Control Standards of Competence. The applicant shall demonstrate practical knowledge of:

(A) Fumigant label and labeling comprehension, including labeling requirements specific to soil fumigation, labeling requirements for certified applicators and handlers of fumigants, permitted fumigant handler activities, and the safety information that certified applicators must provide to noncertified applicators using fumigants under the direct supervision of certified applicators;

(B) Entry-restricted period for different tarped and untarped field applications, recordkeeping requirements imposed by labels and labeling, and labeling provisions unique to products containing certain active ingredients;

(C) Labeling requirements for fumigation management plans, such as when a fumigant management plan must be in effect, how long must it be kept on file, where must it be kept during application, and who must have access to it;

(D) The elements of a fumigation plan and resources for preparing a plan, responsibility for verifying that the fumigant management plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed;

(E) Measures to minimize adverse effects, including understanding how certified applicators, field workers, and bystanders can become exposed to fumigants;

(F) How common problems and mistakes can result in direct exposure to fumigants, the signs and symptoms of human exposure to fumigants, air concentrations, and requirements for respirators;

(G) The steps to take if a fumigant applicator experiences sensory irritation, air monitoring, when required and when to sample the air, buffer zones, first aid measures, and the labeling requirements for transportation, storage, spill cleanup, and emergency response for soil fumigants, including safe disposal of containers and contaminated soil;

(H) Characteristics of soil fumigants, including specific human exposure concerns, how soil fumigants change from liquid or solid to a gas, how soil fumigants disperse in the application zone, and compatibility concerns for tanks, hoses, tubing, and other equipment;

(I) Selecting appropriate application methods and timing, including application methods for water-run and non-water-run applications, equipment used for each soil fumigant, and site characteristics that influence fumigant exposure;

(J) Temperature inversions and their impact on soil fumigant applications, weather conditions that could impact timing of soil fumigation application, pre-application inspection of application equipment, the purpose and methods of soil sealing, and which methods to use;

(K) The use of tarps, how to seal tarps, labeling requirements for tarp removal, perforation, and repair, calculating the amount of fumigant required for a specific treatment area, and understanding the basic techniques for calibrating soil fumigation equipment;

(L) Soil and pest factors that influence fumigant activity, including influence of soil factors on fumigant volatility and movement within the soil and factors that influence gaseous movement through soil and air;

(M) Soil characteristics, including how they affect the success of a soil fumigant application, accessing soil moisture, and correcting for soil characteristics that could hinder a successful soil fumigation, pest(s) identification and verification that the soil fumigant will control pest(s), the relationship between pest density and application rate, and proper application depth and timing;

(N) Personal protective equipment (PPE), including following all label directions requiring PPE use and selecting, inspecting, using, caring for, and replacing PPE;

(O) The types of respirators required when using specific soil fumigants and how to use respirators properly (medical evaluation, fit testing, and required replacement of cartridges and canisters), labeling requirements and other laws applicable to medical evaluation for respirator use, fit test, training, and recordkeeping;

(P) Fumigant management plans and post-application summaries, including when a fumigation management plan must be in effect, how long it must be kept on file, where it must be kept during a fumigant application, and who must have access to it;

(Q) The elements of a fumigant management plan and resources available for preparing a plan, the person responsible for verifying that a fumigation management plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed;

(R) Buffer zones and posting requirements, including buffer zones and buffer zone periods, identifying those who can be in the buffer zone and those who cannot be in the buffer zone during the buffer zone period;

(S) How to use the buffer zone table from the labeling to determine the size of the buffer zone, factors that determine the buffer zone credits for application scenarios, and calculating buffer zones using credits; and

(T) Distinguishing buffer zone posting and treated area posting, including the pre-application and post-application posting timeframes for each and the proper choice and placement of warning signs.

(5) Category 22 – Non-soil Fumigation Pest Control Standards of Competence. The applicant shall demonstrate a practical knowledge of:

(A) The use of fumigants on sites other than soil, including label and labeling comprehension of products used to perform non-soil fumigations and labeling requirements specific to non-soil fumigants;

(B) Safety measures to minimize adverse health effects, including understanding how applicators and bystanders can become exposed to fumigants, common problems and mistakes that can result in direct exposure to fumigants, and the signs and symptoms of human exposure to fumigants;

(C) When air concentrations trigger applicators, handlers, and workers to wear respirators or to exit the application site, the steps to take if an applicator using a fumigant experiences exposure, and first aid measures to take in the event of exposure to a fumigant;

(D) When to monitor and sample air, monitoring buffer zones and who is permitted to be in the buffer zone, labeling requirements for transportation, storage, spill clean up, and emergency response to non-soil fumigants, the safe disposal of containers and contaminated materials, and management of empty containers;

(E) Non-soil fumigant chemical characteristics, including chemical characteristics of non-soil fumigants, specific human exposure concerns for non-soil fumigants, how fumigants change from a liquid or solid to a gas, and how fumigants disperse in the application zone;

(F) Compatibility concerns for tanks, hoses, tubing, and other equipment;

(G) Appropriate application methods and timing, including application methods and equipment commonly used for non-soil fumigation, site characteristics that influence fumigant exposure, and conditions that could impact timing of non-soil fumigations, such as air stability, air temperature, humidity, and wind currents, and labeling restrictions limiting applications when specific conditions are present;

(H) Conducting pre-application inspections of equipment and the site to be fumigated, the purpose and methods of sealing the area to be fumigated, and the factors that determine when and which sealing methods to use;

(I) Calculating the amount of fumigant required to treat the site, basic techniques for calibrating non-soil fumigant application equipment, and understanding when and how to conduct air monitoring and when it is required;

(J) Pest factors that influence fumigant activity, including influence of pest factors on fumigant volatility, factors that influence gaseous movement through the area being fumigated and into the air, and identifying pests causing the damage and verifying they can be controlled with fumigation;

(K) The relationship between pest density and application rate and the importance of proper application rate and timing;

(L) Personal protective equipment, including how to use it properly, following labeling directions for required personal protective equipment, and selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment;

(M) The different types of respirators required when using non-soil fumigants and how to use them properly, including when to replace cartridges and canisters;

(N) Labeling requirements and other laws applicable to medical evaluations and fit testing for respirator use and applicable training and recordkeeping;

(O) When fumigation management plans and post-application summaries are required, including when a fumigation management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it;

(P) The elements found in a fumigation management plan and resources available to assist the applicator in preparing the fumigant management plan, who is responsible for verifying the plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed; and

(Q) Posting requirements, including understanding who is allowed in an area being fumigated or after fumigation and who is prohibited from being in such area, distinguishing fumigant labeling-required posting and treated area posting, including the pre-application and post-application posting timeframes for each, and the proper choice and placement of warning signs.

(6) Category 23 – Aerial Pest Control Standards of Competence. The applicant shall demonstrate a practical knowledge of:

(A) The pest problems and pest control practices associated with performing aerial applications;

(B) Labeling requirements and restrictions specific to aerial application of pesticides, spray volumes, buffer and no-spray zones, and weather conditions specific to wind and inversions;

(C) Label-mandated recordkeeping requirements for aerial pesticide applications including application conditions;

(D) Application equipment, including how to choose and maintain aerial application equipment, inspecting application equipment to ensure it is in proper operating condition prior to beginning an application, selecting proper nozzles to ensure appropriate pesticide dispersal and to minimize drift;

(E) The components of an aerial pesticide application system (pesticide hoppers, tanks, pumps, and types of nozzles) and nozzle flow charts;

(F) Determining the number of nozzles for intended pesticide output using a nozzle flow rate chart, aircraft speed, and swath width;

(G) How nozzles are placed to compensate for uneven dispersal due to uneven airflow from wingtip vortices, helicopter rotor turbulence, and aircraft propeller turbulence and where to place nozzles to produce the appropriate droplet size;

(H) How to maintain the application system in good repair, including pressure gauge accuracy, filter cleaning according to schedule, and checking nozzles for excessive wear;

(I) How to calculate required and actual flow rates, how to verify flow rate using fixed timing, open timing, known distance, or a flow meter, and when to adjust and calibrate application equipment;

(J) Application factors to consider before and during the application, including weather conditions that could impact application by affecting aircraft engine power, take-off distance, climb rate, and spray droplet evaporation;

(K) How to determine wind velocity, direction, and air density at the application site and potential impact of thermals and temperature inversions on aerial pesticide application;

(L) Methods to minimize off-target pesticide movement, including determining drift potential of a product by use of a smoke generator and how to evaluate vertical and horizontal smoke plumes to assess wind direction, speed, and concentration;

(M) Selecting techniques that minimize pesticide movement out of the treated area and how to document special equipment configurations or flight patterns used to reduce off-target pesticide drift;

(N) Performing an aerial pesticide application, including selecting a flight altitude that minimizes streaking and off-target pesticide drift and choosing a flight pattern that ensures applicator and bystander safety and proper application; and

(O) The importance of engaging and disengaging spray precisely when entering a predetermined swath pattern at the application site and the tools used to mark swath patterns, such as global positioning systems and flags.

2 CSR 70-25.153 Stipulations and Training requirements for noncertified RUP applicators

(1) Applicants for a noncertified RUP applicator license shall complete one of the following options.

(A) Pass a written examination based on the general standards of competence provided in 2 CSR 70-25.101(3); or

(B) Complete a noncertified RUP applicator training program.

1. Prior to employment of noncertified RUP applicators, certified applicators or their employers must have an approved training program. Approved training programs shall be valid until revoked.
2. Noncertified RUP applicator training must be presented to noncertified RUP applicators either orally from written materials or audiovisually. The information must be presented in a manner that the noncertified RUP applicators can understand.
3. The person conducting the training must be currently certified as an applicator of restricted use pesticides or employed as an educator with a land grant college or university or other public educational institutions or professional associations. The person conducting the training must also be present during the entire training program and must respond to the noncertified applicators' questions.
4. The noncertified RUP applicator training materials must include the information that noncertified applicators need in order to protect themselves, other people, and the environment before, during, and after making a restricted use pesticide application. The noncertified RUP applicator training materials must include, at a minimum, information regarding the following:

1. Potential hazards from toxicity and exposure that pesticides present to noncertified applicators and their families, including acute and chronic effects, delayed effects, and sensitization.
2. Routes through which pesticides can enter the body.
3. Signs and symptoms of common types of pesticide poisoning.
4. Emergency first aid for pesticide injuries or poisonings.
5. Routine and emergency decontamination procedures, including emergency eye flushing techniques. Noncertified RUP applicators must be instructed that if pesticides are spilled or sprayed on the body, to immediately wash or to rinse off in the nearest clean water. Noncertified RUP applicators must also be instructed to wash or shower with soap and water, shampoo hair, and change into clean clothes as soon as possible.
6. How and when to obtain emergency medical care.
7. After working with pesticides, wash hands before eating, drinking, using chewing gum or tobacco, or using the toilet.
8. Wash or shower with soap and water, shampoo hair and change into clean clothes as soon as possible after working with pesticides.
9. Potential hazards from pesticide residues on clothing.
10. Wash work clothes before wearing them again and wash them separately from other clothes.
11. Do not take pesticides or pesticide containers used at work to your home.
12. Potential hazards to children and pregnant women from pesticide exposure.
13. After working with pesticides, remove work boots or shoes before entering your home, and remove work clothes and wash or shower before physical contact with children or family members.
14. How to report suspected pesticide use violations to the appropriate state or tribal agency responsible for pesticide enforcement.
15. Format and meaning of information contained on pesticide labels and in labeling applicable to the safe use of the pesticide, including the location and meaning of the restricted use product statement, how to identify when the labeling requires the certified applicator to be physically present during the use of the pesticide, and information on personal protective equipment.
16. Need for, and appropriate use and removal of, personal protective equipment.
17. How to recognize, prevent, and provide first aid treatment for heat related illness.
18. Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.
19. Environmental concerns such as drift, runoff, and wildlife hazards.

20. Restricted use pesticides may be used only by a certified applicator or by a noncertified RUP applicator working under the direct supervision of a certified applicator.
 21. The certified applicator's responsibility to provide each noncertified RUP applicator instructions specific to the site and pesticide used. These instructions must include labeling directions, precautions, and requirements applicable to the specific use and site, and how the characteristics of the use site (e.g., surface and ground water, endangered species, local population, and risks) and the conditions of application (e.g., equipment, method of application, formulation, and risks) might increase or decrease the risk of adverse effects. The certified applicator must provide these instructions in a manner the noncertified RUP applicator can understand.
 22. The certified applicator's responsibility to ensure that each noncertified RUP applicator has access to the applicable product labeling at all times during its use.
 23. The certified applicator's responsibility to ensure that where the labeling of a pesticide product requires that personal protective equipment be worn for mixing, loading, application, or any other use activities, each noncertified RUP applicator has clean, labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose.
 24. The certified applicator's responsibility to ensure that before each day of use equipment used for mixing, loading, transferring, or applying pesticides is in proper operating condition as intended by the manufacturer, and can be used without risk of reasonably foreseeable adverse effects to the noncertified RUP applicator, other persons, or the environment.
 25. The certified applicator's responsibility to ensure that a means to immediately communicate with the certified applicator is available to each noncertified RUP applicator using restricted use pesticides under his or her direct supervision.
5. Certified applicators must submit to the director a Notice of Training form provided by the director.
 6. Certified applicators shall keep and maintain a copy of the Notice of Training form and noncertified RUP applicator license for a period of two (2) years from the date the training was completed.
- (2) Additional training of noncertified RUP applicators is required annually. Training shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of pesticides.
- (A) Licensed noncertified RUP applicators must complete a training program meeting the requirements of paragraph 4 of subsection (B) of this rule.

(3) Reexamination of noncertified RUP applicators is required within three (3) years from initial licensure and within each subsequent three (3) year period.

(B) Licensed noncertified RUP applicators must reexamine on the general standards of competence exam (CORE).

2 CSR 70-25.156 Responsibilities of Certified Commercial Applicators or Their Employers; Application Requirements, Qualifications and Stipulations for Pesticide Technician Trainees and Pesticide Technicians

(1) Responsibilities of Certified Commercial Applicators or Their Employers for Pesticide Technicians and Pesticide Technician Trainees.

(A) Prior to employment of pesticide technician trainees, certified commercial applicators or their employers must **have approved** ~~[submit in writing, by regular mail, pesticide technician training programs to the director for approval.]~~ training programs ~~[must be submitted]~~ for each category or subcategory in which pesticide technicians will use or determine the need for the use of pesticides and in accordance with guidelines provided by the director. ~~[Approved pesticide technician training programs shall be valid for one (1) year from the date of approval.]~~

(B) In order to receive reapproval of pesticide technician training programs, certified commercial applicators or their employers shall submit written requests to the director ~~[by regular mail. Reapproval requests shall be in accordance with guidelines provided by the director].~~

(C) Certified commercial applicators or their employers shall notify the director in writing ~~[, by regular mail,]~~ within ten (10) working days of the employment and of the discontinued employment of an individual as a pesticide technician or pesticide technician trainee. Notification shall include the applicant's name, **last four (4) digits of their** Social Security number, license number if applicable, business name and address, and the dates of employment and discontinued employment.

(D) Certified commercial applicators or their employers must submit to the director a Notice of Training form provided by the director. ~~[This form shall contain the name and signature of the pesticide technician trainee, dates of training, title and approval code of the training program used, the name(s), signature(s), and license number(s) of the person(s) providing training.]~~

(E) Certified commercial applicators or their employers shall keep and maintain ~~[records of required training]~~ **a copy of the Notice of Training form** for a period of three (3) years from the date training was completed. These records shall include the name and business address of the pesticide technician trainee, the name(s) and license number(s) of the person(s) providing training, the title(s) of and time spent on each standard of competence, the dates of training and signatures of the trainer(s) and the pesticide technician trainee.

(F) Certified commercial applicators or their employers shall keep and maintain a copy of the approved training course used for a period of three (3) years from the last date used.

(2) Application for a Pesticide Technician License.

(A) The director shall provide a pesticide technician license application form [~~by regular mail~~] upon [~~written~~] request. Forms may be requested from the Bureau of Pesticide Control, Missouri Department of Agriculture. [~~P.O. Box 630, Jefferson City, MO 65102.~~]

(B) Applications shall be either typed or clearly printed in ink.

(C) The applicant shall attach to the application a clear, full-face, head-and-shoulder photograph of the applicant taken within twelve (12) months prior to the date of application. The photograph shall be at least two and one-half inches (2 1/2") square.

(D) [~~The director shall keep all documents filed in support of an application until they are replaced, except that~~—Applications are valid for one (1) year from date received.
[~~1. If a license is not issued within one (1) year of employment as a pesticide technician trainee, all documents pertaining to that application may be destroyed; or~~—
[~~2.~~](E) If a license expires for more than one (1) year, all documents pertaining to that license may be destroyed.

[(E)] (F) The applicant shall furnish the director with the following:

1. Name, including any other names under which the applicant has been known;
2. Last four (4) digits of Social Security number;
3. Date of birth;
4. [~~Physical description~~] Direct supervisor name;
5. [Home] Residential/911 address (no P.O. Box accepted);
6. Business name and address from which pesticides will be used;
7. Categories in which the applicant requests a license;
8. A list of present and past employers for the three (3) years prior to application;
- [~~9. A list of three (3) references;~~]
[~~10.~~]9. A list of all present and past pesticide licenses, permits, certifications, or registrations;
- [~~11.~~]10. An explanation of any violation of the statutes of Missouri, any state or protectorate of the United States, or of the federal government which resulted in the denial, suspension, revocation, or modification of a pesticide license, permit, certification or registration or issuance of a civil penalty; and
- [~~12.~~]11. An explanation of any criminal prosecution, whether or not sentence was imposed, in which the applicant was found guilty, entered a plea of guilty or *nolo contendere* or is subject to criminal prosecution under the laws of any state or of the United States for the following:

- A. Offenses reasonably related to the qualifications, functions, or duties of professions regulated under this chapter;
- B. Offenses an essential element of which is fraud, dishonesty, or an act of violence; or
- C. Offenses involving moral turpitude.

(3) Qualification Requirements for a Pesticide Technician License.

(A) Applicants for a pesticide technician license shall successfully complete an approved program of verifiable training within one (1) year prior to issuance of a license. This training shall be a minimum of ~~forty (40)~~ **twenty-four (24)** hours in length, consisting of at least ~~ten (10)~~ **eight (8)** hours of classroom-type training and at least ~~thirty (30)~~ **sixteen (16)** hours of on-the-job, practical training. The on-the-job, practical training shall be in the physical presence and under the direct supervision of a commercial applicator certified in the category(ies) or subcategory(ies) in which the applicant is being trained. The training shall be specific to the following category(ies) or subcategory(ies), defined in 2 CSR 70-25.100, in which the applicant will use pesticides:

- 1. Category 3—Ornamental and Turf Pest Control;
- 2. Category 7—Structural Pest Control;
 - A. Subcategory a—General Structural Pest Control; and
 - B. Subcategory b—Termite Pest Control.

(B) Pesticide technician training programs must include the following information pertaining to the standards of competence for each category or subcategory of pest control in which the applicant will use pesticides. A pesticide technician training guideline shall be available from the director ~~[upon written request by regular mail]~~.

- 1. Pest identification—identifying pests, their habits and habitats through an understanding of life cycles, basic pest biology, identification of conditions which are favorable to pest infestations and the pesticide(s) used for pest control;
- 2. Equipment—the proper use and maintenance of equipment, including proper application techniques and equipment calibration;
- 3. Pesticides—a basic knowledge of pesticides, including formulations, concentrations, mixing instructions, application rates, manufacturers' brand names, target areas, pests controlled, and basic information about each pesticide used;
- 4. Alternative control methods—alternative methods to pest control, including sanitation, mechanical, cultural, and biological means, the possible combinations of those means used in effective pest control, and other alternatives to the application of pesticides;
- 5. Labels—comprehension of basic information found on pesticide labels, including the name and type of pesticide, ingredients, precautionary statements, directions for use, dilution, storage, disposal, and any information required for the use of pesticides;
- 6. Pesticide hazards and safety—potential hazards to the applicator, environment, or other individuals, including poisoning symptoms and prevention, first aid, use and maintenance of protective clothing and equipment, and special use precautions;

7. Pesticide spills—information regarding the prevention, reporting, and cleanup of pesticide spills; and
8. Pesticide laws—state and federal pesticide laws and regulations.

~~[(C) Individuals continuously employed in the capacity of a pesticide technician for the one (1) year period prior to the date of application for a pesticide technician license may be exempt from the on the job, practical training requirement. Evidence of continuous employment shall be submitted to the director in the form of a signed[, notarized] statement from each employer of the applicant. The statement(s) shall include the applicant's name and Social Security number, the business name(s), address(es) and telephone number(s) of the employer(s), the dates of employment, and the category(ies) and subcategory(ies) in which the applicant used pesticides.]~~

(4) Stipulations for a Pesticide Technician License.

(A) Pesticide technicians shall not use their licenses as authority to represent more than one (1) business or employer.

(B) Pesticide technicians shall not use their licenses to solicit business from the public, unless the solicitation is for the use or determination of the need for the use of pesticides under the direct supervision of a certified commercial applicator and in the category(ies) or subcategory(ies) in which the pesticide technician is licensed.

(C) Pesticide technicians must display their license in a prominent place at the address printed on the license.

(D) Additional training of pesticide technicians shall be required every three (3) years. Training shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of pesticides. **If additional training is not completed within sixty (60) days following retraining expiration, the pesticide technician license will be cancelled and the individual shall be required to satisfy all the requirements of licensure as if such individual was never licensed.**

(E) Persons shall not accrue more than forty-five (45) days of experience with the same employer as a pesticide technician trainee in any category or subcategory within a twelve (12)-month period.

(F) **If a pesticide technician is issued a certified commercial applicator license in the same categories, or issued a noncertified RUP applicator license, for the same business location, the pesticide technician license will be cancelled.**

2 CSR 70-25.160 Application for a Pesticide Dealer License

- (1) The director shall provide a pesticide dealer license application form [~~by regular mail upon written request~~]. Forms may be requested from the Bureau of Pesticide Control, Missouri Department of Agriculture[, P.O. Box 630, Jefferson City, MO 65102].
- (2) The application shall be either typed or clearly printed in ink.
- (3) The applicant shall attach to the application a clear, full-face, head and shoulder photograph of the applicant, taken within twelve (12) months prior to application. The photograph shall be at least two and one-half inches (2 1/2") square.
- (4) [~~The director shall keep all documents filed in support of an application until they are replaced, except that—~~] Applications are valid for one (1) year from date received.

[~~(A) If a license is not issued within one (1) year of passing required examinations, all documents pertaining to that application may be destroyed; or~~]

(5) [~~(B)~~] If a license expires for more than one (1) year, all documents pertaining to that license may be destroyed.

[~~(5)~~] (6) The applicant shall furnish the director with the following:

- (A) Name, including any other names under which the applicant has been known;
- (B) Last four (4) digits of Social Security number;
- (C) Date of birth;

[~~(D) Physical description;~~]

[~~(E)~~] (D) [~~Home~~] Residential/911 address (no P.O. Box accepted);

[~~(F)~~] (E) Business name and address from which pesticides will be sold;

[~~(G)~~] (F) List of present and past employers for the three (3) years prior to application;

[~~(H)~~] List of three (3) references;]

[~~(I)~~] (G) List of all present and past pesticide licenses, permits, certifications, or registrations;

[~~(J)~~] (H) Explanation of any violation of the statutes of Missouri, any state or protectorate of the United States, or of the federal government which resulted in the denial, suspension, revocation, or modification of a pesticide license, permit, certification, or registration, or issuance of a civil penalty; and

~~[(K)]~~ (I) Explanation of any criminal prosecution, whether or not sentence was imposed, in which the applicant was found guilty, entered a plea of guilty or *nolo contendere* or is subject to criminal prosecution under the laws of any state or of the United States for the following:

1. Offenses reasonably related to the qualifications, functions, or duties of professions regulated under this chapter;
2. Offenses of which an essential element is fraud, dishonesty, or an act of violence; and
3. Offenses involving moral turpitude.

2 CSR 70-25.170 Stipulations for a Pesticide Dealer License

(1) A pesticide dealer must display the license at all times in a prominent place at the outlet, from which ~~[s/he]~~ he/she will sell restricted use pesticides, the address of which shall be printed on the license. In the case of pesticide dealers who sell restricted use pesticides by traveling on the road from place to place, the license shall be carried on the person of the licensee.

2 CSR 70-25.180 Contents of Records Maintained by Pesticide Dealers

- (1) **Pesticide dealers must keep records relating to the sale or distribution of restricted use pesticides. All required information must be recorded within three (3) business days of the sale or distribution and kept [F]for three (3) years**~~[-, pesticide dealers must keep and maintain records of sales and distribution of restricted use pesticides in a neat and legible condition].~~
- (2) These records must be available for inspection by the director at reasonable times during regular business hours. Upon written request, the director shall be furnished a copy of records within ten (10) days of receipt of the request.
- (3) **Licensed pesticide dealers shall only sell, offer for sale, or distribute restricted use pesticides to licensed pesticide dealers or certified applicators who are eligible to purchase or acquire restricted use pesticides by holding valid certification in proper certification categories.**
- (4) Records shall contain the following information:
 - (A) Pesticide dealer's name and license number;
 - (B) State, Tribe or Federal agency that issued the certification document;**
 - (A) The trade name, United States Environmental Protection Agency (EPA) registration number, the applicable state special local need (SLN) registration number(s), the amount of each restricted use pesticide made available at each transaction, and the date of the transaction; and
 - (B) Information related to the individual receiving the restricted use pesticide. This shall include:

1. The name, address, license number, certification category(ies), and license expiration date of the certified applicator [~~or operator~~] to whom the restricted use pesticide was made available; or
2. [~~The name, address and permit number of the private applicator with a permit to whom the restricted use pesticide was made available;~~The name, address, license number, and license expiration date of the pesticide dealer to whom the restricted use pesticide was made available.
3. If applicable, the name, address, and verified relationship of the noncertified, designated representative to whom the restricted use pesticide was made available. The relationship between the certified applicator or pesticide dealer and noncertified, designated representative may be verified through one (1) of the following:
 - A. Actually seeing the certified applicator's [~~or operator's~~] or pesticide dealers original license and an original identification document of the noncertified designated representative; or
 - B. Actually seeing a photocopy of the certified applicator's [~~or operator's~~] license and a signed statement from the certified applicator [~~or operator~~] authorizing the noncertified designated representative to take possession of the restricted use pesticide; and
- ~~4. The name, address, license number, and license expiration date of the pesticide dealer to whom the restricted use pesticide was made available.~~

Attachment 2-C

281.060. Sanctioning of license, when — civil penalty, when, amount, enforcement of. — 1.

The director, after inquiry, and after opportunity for a hearing, may deny, suspend, revoke, or modify the provisions of any license or certification issued under sections 281.010 to 281.115, if the director finds that the applicant or the holder of a license or certification has violated any provision of sections 281.010 to 281.115, or any regulation issued thereunder, or has been convicted or subject to a final order imposing a civil or criminal penalty pursuant to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, or has been convicted, or is the subject of prosecution, in this state or in any state or protectorate of the United States, or has had a pesticide applicator license or certificate denied, suspended, revoked or modified by any state or protectorate of the United States, or the person has been finally adjudicated and found guilty, or entered a plea of guilty or nolo contendere, in a criminal prosecution under the laws of any state or of the United States, for any offense reasonably related to the qualifications, functions, or duties of any profession licensed or regulated under sections 281.010 to 281.115, for any offense an essential element of which is fraud, dishonesty, or an act of violence, or for any offense involving moral turpitude, whether or not sentence is imposed. Licensed certified applicators, licensed noncertified RUP applicators, licensed pesticide technicians, and licensed pesticide dealers shall notify the department within ten days of any conviction of or plea to any offense listed in this section.

Attachment 2-D

281.060. Sanctioning of license, when — civil penalty, when, amount, enforcement of. — 1.

The director, after inquiry, and after opportunity for a hearing, may deny, suspend, revoke, or modify the provisions of any license or certification issued under sections 281.010 to 281.115, if the director finds that the applicant or the holder of a license or certification has violated any provision of sections 281.010 to 281.115, or any regulation issued thereunder, or has been convicted or subject to a final order imposing a civil or criminal penalty pursuant to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, or has been convicted, or is the subject of prosecution, in this state or in any state or protectorate of the United States, or has had a pesticide applicator license or certificate denied, suspended, revoked or modified by any state or protectorate of the United States, or the person has been finally adjudicated and found guilty, or entered a plea of guilty or nolo contendere, in a criminal prosecution under the laws of any state or of the United States, for any offense reasonably related to the qualifications, functions, or duties of any profession licensed or regulated under sections 281.010 to 281.115, for any offense an essential element of which is fraud, dishonesty, or an act of violence, or for any offense involving moral turpitude, whether or not sentence is imposed. Licensed certified applicators, licensed noncertified RUP applicators, licensed pesticide technicians, and licensed pesticide dealers shall notify the department within ten days of any conviction of or plea to any offense listed in this section.

Attachment 2-E

281.060. Sanctioning of license, when — civil penalty, when, amount, enforcement of. — 1.

The director, after inquiry, and after opportunity for a hearing, may deny, suspend, revoke, or modify the provisions of any license or certification issued under sections 281.010 to 281.115, if the director finds that the applicant or the holder of a license or certification has violated any provision of sections 281.010 to 281.115, or any regulation issued thereunder, or has been convicted or subject to a final order imposing a civil or criminal penalty pursuant to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, or has been convicted, or is the subject of prosecution, in this state or in any state or protectorate of the United States, or has had a pesticide applicator license or certificate denied, suspended, revoked or modified by any state or protectorate of the United States, or the person has been finally adjudicated and found guilty, or entered a plea of guilty or nolo contendere, in a criminal prosecution under the laws of any state or of the United States, for any offense reasonably related to the qualifications, functions, or duties of any profession licensed or regulated under sections 281.010 to 281.115, for any offense an essential element of which is fraud, dishonesty, or an act of violence, or for any offense involving moral turpitude, whether or not sentence is imposed. Licensed certified applicators, licensed noncertified RUP applicators, licensed pesticide technicians, and licensed pesticide dealers shall notify the department within ten days of any conviction of or plea to any offense listed in this section.

281.105. Penalty for violations. — Any individual, whether a holder or nonholder of a valid license issued pursuant to this chapter, convicted of violating any of the provisions of sections 281.010 to 281.115, or any regulation issued thereunder, shall be guilty of a misdemeanor. Such misdemeanor may be punishable by imposition of a fine of not less than one hundred dollars and not more than five thousand dollars or by imprisonment in the county jail for not less than thirty days and not more than one year, or by both imposition of a fine and imprisonment.

Attachment 2-F

281.061. Inspection with consent of owner of premises — search warrant to issue, when — director may bring action to enjoin, when. — 1. For the purpose of enforcing the provisions of sections 281.010 to 281.115, the director may, with permission from the owner or person in charge, enter upon a premises at reasonable times in order to inspect, investigate, observe, sample, and audit; provided that such right of entry, in the case of manufacturing and formulation establishments, be limited to those areas where pesticides are packaged, labeled and released for shipment.

2. If the director is denied access to any land where such access was sought for the purposes set forth in this section, he may apply to any court of competent jurisdiction for a search warrant authorizing access to that land for those purposes. The court may issue a search warrant for the purposes requested upon probable cause being shown.

3. The director may report any violation of the provisions of sections 281.010 to 281.115 to the prosecuting attorney of the county where the violation occurs. The prosecuting attorney may institute appropriate proceedings in a court of competent jurisdiction. If any prosecuting attorney refuses or fails to act on request of the director, the attorney general shall so act.

4. The director may bring an action to enjoin the violation or threatened violation of any provision of sections 281.010 to 281.115, or any rule promulgated thereunder, in the circuit court of the county in which the violation occurs or is about to occur. No court shall allow for recovery of damages for administrative action taken if the director acts in good faith. No bond shall be required of the director.

Attachment 2-G

281.035. Certified commercial applicator's license required when, annual fee — application for license, how made — examinations — records to be kept — incapacity of sole certified applicator, effect of — display of license — change of address, notice. — 1. No individual shall engage in the business of determining the need for the use of, supervising the use of, supervising the determination of the need for the use of, or using any pesticide, in categories as specified by regulation, on the lands of another at any time without a certified commercial applicator's license issued by the director. A certified commercial applicator shall not determine the need for the use of, supervise the use of, supervise the determination of the need for the use of, or use any pesticide for any particular purpose unless the certified commercial applicator has demonstrated such certified commercial applicator's competence to use pesticides for that purpose by being certified by the director in the proper certification category. The director shall require an annual fee of sixty-five dollars for each certified commercial applicator's license issued. No certified commercial applicator shall knowingly authorize, direct, or instruct any individual to engage in determining the need for the use of or using any general use pesticide or minimum risk pesticide on the land of another at any time unless such individual is a pesticide technician or pesticide technician trainee in such categories as specified by regulation or is working under the direct supervision of a certified commercial applicator so authorizing, directing or instructing, in which case the certified commercial applicator shall be liable for any use of a general use pesticide or minimum risk pesticide by an individual operating under the certified commercial applicator's direct supervision. The certified commercial applicator or the employer shall assure that the director is informed in writing within ten days of the employment of any person as a pesticide technician or pesticide technician trainee.

281.037. Certified noncommercial applicator's license, when required — application for license, examination, fee — scope of license — records to be kept — display of license — change of address, notice. — 1. Any individual who is not certified pursuant to section 281.035, 281.040, or 281.045 shall not use, or supervise the use of, any restricted use pesticide without a certified noncommercial applicator license. A certified noncommercial applicator shall not use, or supervise the use of, any restricted use pesticide for any purpose unless the certified noncommercial applicator has demonstrated the certified noncommercial applicator's competence to use pesticides for that purpose by being certified by the director in the proper certification category.

2. No certified noncommercial applicator shall knowingly authorize, direct, or instruct any individual to engage in using any restricted use pesticide on lands or structures owned, leased, or rented by the certified noncommercial applicator or the certified noncommercial applicator's employer unless such individual is licensed as a noncertified RUP applicator while working under the direct supervision of a certified noncommercial applicator so authorizing, directing, or instructing, in which case the certified noncommercial applicator shall be liable for any use of a

restricted use pesticide by an individual operating under the certified noncommercial applicator's direct supervision.

281.040. Private applicator's license, qualifications for — training, review committee — duration, renewal — provisional license, automatic conversion to permanent license, when. —

1. No private applicator shall use any restricted use pesticide unless the private applicator first complies with the requirements determined pursuant to subsection 3 of this section, as necessary to prevent unreasonable adverse effects on the environment, including injury to the applicator or other persons, for that specific pesticide use.

2. No certified private applicator shall knowingly authorize, direct, or instruct any individual to engage in using any restricted use pesticide on lands or structures owned, leased, or rented by the certified private applicator or the certified applicator's employer unless such individual is licensed as a certified private applicator or a certified provisional private applicator.

281.045. Certified operator license, when required — application, requirements, examination — maintenance of records — liability of governmental agencies — display of license — change of address, notice — volunteers, use of pesticides without a license.

2. Public operators for agencies listed in subsection 1 of this section shall not use, or supervise the use of, any restricted use pesticides on any land or structure without a certified public operator license issued by the director. The certified public operator shall not use or supervise the use of any restricted use pesticide for any purpose unless the certified public operator has demonstrated the certified public operator's competence to use pesticides for that purpose by being certified by the director in the proper certification category.

3. No certified public operator shall knowingly authorize, direct, or instruct any individual to engage in using any restricted use pesticide on lands or structures unless such individual is licensed as a noncertified RUP applicator while working under the direct supervision of a certified public operator so authorizing, directing, or instructing, in which case the certified public operator shall be liable for any use of a restricted use pesticide by an individual operating under the certified public operator's direct supervision.

281.048. Noncertified RUP applicator license — application, issuance and renewal, fee — authority of licensee, limitation by director, when — notification by licensee of changes — retraining — display of license. — 1. No individual shall use or determine the need for the use of any restricted use pesticide while working under the direct supervision of a certified commercial applicator until the individual has met the requirements of this section.

2. No individual shall use restricted use pesticides while working under the direct supervision of a certified noncommercial applicator or certified public operator until the individual has met the requirements of this section.

3. Application for a noncertified RUP applicator's license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall issue or renew a noncertified RUP applicator license once an individual has met the requirements set forth in 40 CFR section 171.201(c)(1) or (3). The director shall collect an annual fee of thirty-five dollars for each noncertified RUP applicator license issued. The license shall be valid for one year unless revoked or suspended by the department prior to its expiration. Any individual whose application is denied shall receive a written explanation as to the determination of the denial.

5. Individuals holding a valid noncertified RUP applicator license may use and determine the need for the use of restricted use pesticides, general use pesticides, and minimum risk pesticides under the direct supervision of a certified commercial applicator and only for the categories in which the commercial applicator is certified. The director may limit the license of the applicant to the use of certain pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified.

6. Every certified commercial applicator, certified noncommercial applicator, or certified public operator providing direct supervision to a licensed noncertified RUP applicator shall immediately notify the director when the licensed noncertified RUP applicator has changed address from which the applicator or operator will operate as a licensed noncertified RUP applicator or when the noncertified RUP applicator's employment has been terminated. The director shall immediately issue a revised license upon which shall be printed the change of address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

7. A noncertified RUP applicator may complete retraining requirements and renew the applicator's license without a certified commercial applicator, certified noncommercial applicator, or certified public operator working from the same physical location.

8. Every licensed noncertified RUP applicator shall display the applicator's license in a prominent place at the site, location, or office from which the applicator will operate as a noncertified RUP applicator, that place, location, or office being at the address printed on the license.

Attachment 2-H

281.035. Certified commercial applicator's license required when, annual fee — application for license, how made — examinations — records to be kept — incapacity of sole certified applicator, effect of — display of license — change of address, notice.

7. The director shall require each certified commercial applicator or the certified commercial applicator's employer to maintain records with respect to applications of any pesticide, including pesticides used under direct supervision by licensed pesticide technicians, pesticide technician trainees, and licensed noncertified RUP applicators. Such relevant information as the director may deem necessary may be specified by regulation. Such records shall be kept for a period of three years from the date of the application of the pesticide to which such records refer, and the director shall, upon request in writing, be furnished with a copy of such records by any certified commercial applicator or the certified commercial applicator's employer.

2 CSR 70-25.120 Contents of Records Maintained by Certified Commercial Applicators, Certified Noncommercial Applicators, and Certified Public Operators

- (5) Certified commercial applicators or their employers shall keep and maintain records for the use of any pesticide(s). These records shall **be completed within three (3) business days from the date of use and** be kept for three (3) years in a neat and legible condition.
- (6) Certified noncommercial applicators and certified public operators or their employers shall keep and maintain records for the use of restricted use pesticides. These records shall **be completed within three (3) business days from the date of use and** be kept for a period of three (3) years in a neat and legible condition.
- (7) These records shall be available for inspection by the director [~~at a reasonable time~~] during regular business hours **at the physical location from which certified applicators use or supervise the use of pesticides** or, upon request in writing, the director shall be furnished a copy of these records within ten (10) working days of receipt of request.
- (8) These records shall contain the following for each application site:
 - (F) Name and license number of the certified applicator [~~or operator~~] **using or supervising the use of pesticides;**
 - (G) Name of the noncertified applicator, **name and license number of the noncertified RUP applicator,** or the name and license number of the pesticide technician using the pesticide(s), if applicable;

(H) Application date, start time, and end time;

(I) Name and address of the person requesting the pesticide use;

(J) Address or brief description of the application site;

(F) Size of the area treated (such as square feet, linear feet, acres, etc.) excluding indoor spot and crack and crevice applications;

~~[(F)]~~ (G) The site, crop and variety name, commodity, or stored product to which pesticide was applied, if applicable;

~~[(G)]~~ (H) Target ~~[P]~~pest(s) ~~[controlled or prevented by the pesticide use]~~;

~~[(H)]~~ (I) Complete trade (manufacturer's brand) name(s) from the label(s) of the pesticide(s) used;

~~[(I)]~~ (J) The United States EPA registration number(s) from the label(s) of the pesticide(s) used and the special local need registration number, if applicable. In lieu of recording the United States EPA registration number(s) for each pesticide use, documentation shall be maintained which provides incontrovertible correlation between each pesticide use and the United States EPA registration number(s) of the pesticide(s) used;

~~[(J)]~~ (K) ~~[Reasonable estimate of t]~~ The ~~[amount of]~~ pesticide(s) ~~[used, and, if applicable, the actual]~~ mixture rate, the total amount of mixture used, and the rate of application expressed in reasonable and understandable terms; ~~[and]~~

~~[(K)]~~ (L) For pre-mixed, ready-to-use pesticide products, a reasonable estimate of the amount of pesticide used and the actual rate of application expressed in reasonable and understandable terms;

~~[(L)]~~ (M) ~~[A reasonable estimate of t]~~ The ~~[time,]~~ air temperature, ~~[average]~~ measured wind speed, and wind direction at the site of outdoor pesticide applications, excluding applications of pesticides in general structural pest control and termite pest control within ten feet (10') of a building[-] ; and

~~[(M)]~~ (N) A written, signed, and dated request from the agricultural producer requesting the use of a lesser concentration of pesticide than is provided on the pesticide label, if applicable.

2 CSR 70-25.153 Stipulations and Training requirements for noncertified RUP applicators

- (1) Applicants for a noncertified RUP applicator license shall complete one of the following options.
 - (A) Pass a written examination based on the general standards of competence provided in 2 CSR 70-25.101(3); or
 - (B) Complete a noncertified RUP applicator training program.
 1. Prior to employment of noncertified RUP applicators, certified applicators or their employers must have an approved training program. Approved training programs shall be valid until revoked.
 2. Noncertified RUP applicator training must be presented to noncertified RUP applicators either orally from written materials or audiovisually. The information must be presented in a manner that the noncertified RUP applicators can understand.
 3. The person conducting the training must be currently certified as an applicator of restricted use pesticides or employed as an educator with a land grant college or university or other public educational institutions or professional associations. The person conducting the training must also be present during the entire training program and must respond to the noncertified applicators' questions.
 4. The noncertified RUP applicator training materials must include the information that noncertified applicators need in order to protect themselves, other people, and the environment before, during, and after making a restricted use pesticide application. The noncertified RUP applicator training materials must include, at a minimum, information regarding the following:
 1. Potential hazards from toxicity and exposure that pesticides present to noncertified applicators and their families, including acute and chronic effects, delayed effects, and sensitization.
 2. Routes through which pesticides can enter the body.
 3. Signs and symptoms of common types of pesticide poisoning.
 4. Emergency first aid for pesticide injuries or poisonings.
 5. Routine and emergency decontamination procedures, including emergency eye flushing techniques. Noncertified RUP applicators must be instructed that if pesticides are spilled or sprayed on the body, to immediately wash or to rinse off in the nearest clean water. Noncertified RUP applicators must also be instructed to wash or shower with soap and water, shampoo hair, and change into clean clothes as soon as possible.
 6. How and when to obtain emergency medical care.
 7. After working with pesticides, wash hands before eating, drinking, using chewing gum or tobacco, or using the toilet.
 8. Wash or shower with soap and water, shampoo hair and change into clean clothes as soon as possible after working with pesticides.
 9. Potential hazards from pesticide residues on clothing.
 10. Wash work clothes before wearing them again and wash them separately from other clothes.
 11. Do not take pesticides or pesticide containers used at work to your home.
 12. Potential hazards to children and pregnant women from pesticide exposure.

13. After working with pesticides, remove work boots or shoes before entering your home, and remove work clothes and wash or shower before physical contact with children or family members.
14. How to report suspected pesticide use violations to the appropriate state or tribal agency responsible for pesticide enforcement.
15. Format and meaning of information contained on pesticide labels and in labeling applicable to the safe use of the pesticide, including the location and meaning of the restricted use product statement, how to identify when the labeling requires the certified applicator to be physically present during the use of the pesticide, and information on personal protective equipment.
16. Need for, and appropriate use and removal of, personal protective equipment.
17. How to recognize, prevent, and provide first aid treatment for heat related illness.
18. Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.
19. Environmental concerns such as drift, runoff, and wildlife hazards.
20. Restricted use pesticides may be used only by a certified applicator or by a noncertified RUP applicator working under the direct supervision of a certified applicator.
21. The certified applicator's responsibility to provide each noncertified RUP applicator instructions specific to the site and pesticide used. These instructions must include labeling directions, precautions, and requirements applicable to the specific use and site, and how the characteristics of the use site (e.g., surface and ground water, endangered species, local population, and risks) and the conditions of application (e.g., equipment, method of application, formulation, and risks) might increase or decrease the risk of adverse effects. The certified applicator must provide these instructions in a manner the noncertified RUP applicator can understand.
22. The certified applicator's responsibility to ensure that each noncertified RUP applicator has access to the applicable product labeling at all times during its use.
23. The certified applicator's responsibility to ensure that where the labeling of a pesticide product requires that personal protective equipment be worn for mixing, loading, application, or any other use activities, each noncertified RUP applicator has clean, labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose.
24. The certified applicator's responsibility to ensure that before each day of use equipment used for mixing, loading, transferring, or applying pesticides is in proper operating condition as intended by the manufacturer, and can be used without risk of reasonably foreseeable adverse effects to the noncertified RUP applicator, other persons, or the environment.
25. The certified applicator's responsibility to ensure that a means to immediately communicate with the certified applicator is available to each noncertified RUP applicator using restricted use pesticides under his or her direct supervision.

5. Certified applicators must submit to the director a Notice of Training form provided by the director.
 6. Certified applicators shall keep and maintain a copy of the Notice of Training form and noncertified RUP applicator license for a period of two (2) years from the date the training was completed.
- (2) Additional training of noncertified RUP applicators is required annually. Training shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of pesticides.
- (A) Licensed noncertified RUP applicators must complete a training program meeting the requirements of paragraph 4 of subsection (B) of this rule.
- (3) Reexamination of noncertified RUP applicators is required within three (3) years from initial licensure and within each subsequent three (3) year period.
- (A) Licensed noncertified RUP applicators must reexamine on the general standards of competence exam (CORE).

Attachment 2-I

2 CSR 70-25.180 Contents of Records Maintained by Pesticide Dealers

- (1) **Pesticide dealers must keep records relating to the sale or distribution of restricted use pesticides. All required information must be recorded within three (3) business days of the sale or distribution and kept [F] for three (3) years**~~[, pesticide dealers must keep and maintain records of sales and distribution of restricted use pesticides in a neat and legible condition].~~
- (2) These records must be available for inspection by the director at reasonable times during regular business hours. Upon written request, the director shall be furnished a copy of records within ten (10) days of receipt of the request.
- (3) **Licensed pesticide dealers shall only sell, offer for sale, or distribute restricted use pesticides to licensed pesticide dealers or certified applicators who are eligible to purchase or acquire restricted use pesticides by holding valid certification in proper certification categories.**
- (4) Records shall contain the following information:
 - (A) Pesticide dealer's name and license number;
 - (B) **State, Tribe or Federal agency that issued the certification document;**
 - (C) The trade name, United States Environmental Protection Agency (EPA) registration number, the applicable state special local need (SLN) registration number(s), the amount of each restricted use pesticide made available at each transaction, and the date of the transaction; and
 - (D) Information related to the individual receiving the restricted use pesticide. This shall include:
 1. The name, address, license number, certification category(ies), and license expiration date of the certified applicator ~~[or operator]~~ to whom the restricted use pesticide was made available;
or
 2. ~~[The name, address and permit number of the private applicator with a permit to whom the restricted use pesticide was made available;]~~**The name, address, license number, and license expiration date of the pesticide dealer to whom the restricted use pesticide was made available.**
 3. If applicable, the name, address, and verified relationship of the noncertified, designated representative to whom the restricted use pesticide was made available. The relationship between the certified applicator **or pesticide dealer** and noncertified, designated representative may be verified through one (1) of the following:

- A. Actually seeing the certified applicator's [~~or operator's~~] **or pesticide dealers** original license and an original identification document of the noncertified designated representative; or
- B. Actually seeing a photocopy of the certified applicator's [~~or operator's~~] license and a signed statement from the certified applicator [~~or operator~~] authorizing the noncertified designated representative to take possession of the restricted use pesticide; and
 - [~~4. The name, address, license number, and license expiration date of the pesticide dealer to whom the restricted use pesticide was made available.~~]

Attachment 3

2 CSR 70-25.100 Certification Categories for Certified Commercial Applicators, Certified Noncommercial Applicators, and Certified Public Operators

(1) To qualify for a certified commercial applicator license, ~~[a]~~ certified noncommercial applicator license, or ~~[a]~~ certified public operator license, ~~[applicators of pesticides]~~ **individuals** shall be certified in one (1) or more of the following pesticide applicator categories: Category 1—Agricultural Pest Control, Subcategory a—Agricultural Plant Pest Control, Subcategory b—Agricultural Animal Pest Control; Category 2—Forest Pest Control; Category 3—Ornamental and Turf Pest Control; Category 4—Seed Treatment; Category 5—Aquatic Pest Control, **Subcategory b—Sewer Root Pest Control**; Category 6—Right-of-Way Pest Control; Category 7—Structural Pest Control, Subcategory a—General Structural Pest Control, Subcategory b—Termite Pest Control, Subcategory c—Fumigation Pest Control; Category 8—Public Health Pest Control; Category 9—Regulatory Pest Control; Category 10—Demonstration and Research Pest Control; Category 11—Wood Products Pest Control; **Category 12—Soil Fumigation Pest Control; and Category 13—Aerial Pest Control.**

(2) Commercial applicators, noncommercial applicators, and public operators must be certified in at least one (1) of the categories provided in section (1) and may be certified in any number of or any combination of those categories.

(3) Those individuals who wish to obtain a certified commercial applicator license, a certified noncommercial applicator license, or a certified public operator license as authority to conduct demonstrations involving pesticides and devices must be certified in Category 10—Demonstration and Research Pest Control. In addition, those individuals must be certified in the category, or those categories, which relates to the area[s] of expertise in which they wish to conduct these demonstrations.

(4) Commercial applicators, noncommercial applicators, and public operators shall be certified in the respective categories only after they have passed an examination based on the standards of competence as provided in 2 CSR 70-25.110.

(5) Description of Commercial Applicator, Noncommercial Applicator, and Public Operator Certification Categories.

(A) Category 1—Agricultural Pest Control.

1. Subcategory a—Agricultural Plant Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ pesticide[s] **use relating** to agricultural commodities, including, but not limited to, tobacco, peanuts, cotton, corn, cereal grain, feed grains, soybeans, forages and forage crops, vegetables, small fruits, tree fruits and nuts, grassland and noncrop agricultural lands,

greenhouse products, Christmas tree plantings, sod nurseries, ~~and~~ plant nurseries, and ~~who apply pesticides for the conversion of~~ forested areas to **be converted to** agricultural lands.

2. Subcategory b—Agricultural Animal Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ pesticide[s] **use relating** to animals, including, but not limited to, cattle, swine, sheep, furbearing animals, horses, goats, poultry and other livestock and wild animals in captivity and to places on or in which animals are confined with the exception of aquatic harborages. This includes those agricultural animals used as work or draft animals and those used as pleasure animals.

(B) Category 2—Forest Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ pesticide[s] **use relating to** ~~[in]~~ forests, forest nurseries and forest seed producing areas for the purpose of the propagation and maintenance of those forests, forest nurseries, and forest seed producing areas.

(C) Category 3—Ornamental and Turf Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use, supervise the use of or determine the need for the use of pesticides to control]~~ **pesticide use, excluding fumigants, relating to the control of** pests in the care and maintenance of ornamental trees, shrubs, flowers, and turf.

(D) Category 4—Seed Treatment. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ pesticide[s] **use relating** to seeds.

(E) Category 5—Aquatic Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ pesticide[s] **purposefully use relating** to standing or running water for the control of aquatic pests with the exception of health-related pests.

1. **Subcategory b—Sewer Root Pest Control. This subcategory is provided for pesticide use relating to the control of roots within sewer systems.**

(F) Category 6—Right-of-Way Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use, or supervise the use of]~~ pesticide[s] **in** **use relating to** the maintenance of public roads, electric power lines, pipelines, **industrial sites, electric and gas substations, cell phone towers, riprap along banks and shorelines,** railroad rights-of-way, or similar areas.

(G) Category 7—Structural Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use, or supervise the use of]~~ pesticide[s] **use** in, on, or around any structure.

1. Subcategory a—General Structural Pest Control. This subcategory is provided for ~~[public operators, noncommercial applicators and commercial applicators who use, supervise the use of, or determine the need for the use of pesticides for]~~ **pesticide use relating to** the control of general structural pests with the exception of wood-destroying organisms.
 2. Subcategory b—Termite Pest Control. This subcategory is provided for ~~[public operators, noncommercial applicators and commercial applicators who use, supervise the use of, or determine the need for the use of pesticides for]~~ **pesticide use relating to** the control of wood-destroying organisms, including, but not limited to, termites, carpenter ants, and powder post beetles.
 3. Subcategory c—Fumigation Pest Control. This subcategory is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ **the use of** fumigants for **structural pest control and mole control**. ~~[Certification in this category is not required for those applicators certified in the category of General Structural Pest Control who use calcium cyanide dust for limited rodent fumigation.]~~
- (H) Category 8—Public Health Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ pesticide[s] **use** in public health programs ~~[for]~~ **relating to** the management and control of pests having medical and public health importance.
- (I) Category 9—Regulatory Pest Control. This category is provided for ~~[state or federal employees who use or supervise the use of]~~ pesticide[s] **in use relating to** the control of regulated pests.
- (J) Category 10—Demonstration and Research Pest Control. This category is provided for individuals who demonstrate to the public the proper use ~~[and techniques of application]~~ of restricted use pesticides or supervise the demonstration. It is also provided for individuals **who** conduct[ing] field research with pesticides, and in doing so, use or supervise the use of restricted[-]use pesticides. **The applicant must also be certified in the proper category(ies) of use.**
- (K) Category 11—Wood Products Pest Control. This category is provided for ~~[public operators, noncommercial applicators and commercial applicators who use or supervise the use of]~~ pesticide[s] **use relating to the control or prevention of** wood-degrading organisms, including, but not limited to, insects and the fungi or bacteria causing surface molding, surface staining, sap staining, brown rot, white rot, dry rot, and soft rot.
- (L) **Category 12—Soil Fumigation Pest Control. This category is provided for the use of fumigants to soil for the control of pests found in or on labeled sites.**
- (M) **Category 13—Aerial Pest Control. This category is provided for the use of any pesticides applied by fixed or rotary wing aircraft. The applicant must also be certified in the proper category(ies) of use.**

2 CSR 70-25.110 Standards of Competence for the Certification of Commercial Applicators, Noncommercial Applicators, ~~and~~ Public Operators, and Noncertified RUP Applicators

~~[(3)]~~ (4) Specific Standards of Competence for Certification of Commercial Applicator, Noncommercial Applicator, and Public Operator Categories. The applicant shall demonstrate a practical knowledge of at least one of the following categories:

(A) Category 1—Agricultural Pest Control.

1. Subcategory a—Agricultural Plant Pest Control.

- A. ~~[The applicant shall demonstrate a practical knowledge of t]~~The crops to which pesticides will be applied.
- B. ~~[and a practical knowledge of t]~~The specific pests of those crops.
- C. ~~[A practical knowledge is required concerning p]~~Potential soil and water problems, preharvest~~ed~~ intervals, reentry intervals, phytotoxicity **due to a wide variety of plants to be protected, drift, persistence beyond the intended period of pest control,** ~~;~~ **and concerning the** potential for environmental contamination, ~~[the]~~ potential for injury to nontarget plants and animals, and ~~[the]~~ potential for causing community problems resulting from the use of pesticides in agricultural areas.

2. Subcategory b—Agricultural Animal Pest Control.

- A. ~~[The applicant who applies pesticides directly to animals, or to the harborages of animals, must demonstrate a practical knowledge of these a]~~**Animals or the harborages of animals to which the pesticides are applied** and their associated pests.
- B. ~~[A practical knowledge also is required concerning s]~~Specific pesticide toxicity to animals and ~~[concerning]~~ the potential for illegal pesticide residues when these animals are to be used for human or animal food.
- C. ~~[The applicant also must demonstrate a practical knowledge of]~~ **Hazards associated with** pesticide formulations and application techniques as they apply to animals of various ages and animals under various types of stress~~;~~ **and a practical knowledge concerning** **and** the extent of treatment ~~[of those animals]~~.

(B) Category 2—Forest Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of t]~~The types of forest, forest nurseries, ~~and~~ seed production, and ~~[a practical knowledge of]~~ the pests involved.
2. ~~[The applicant shall possess a practical knowledge of t]~~The cyclic occurrence of certain pests~~;~~.
3. ~~[and a practical knowledge of s]~~Specific population dynamics as a basis for programming pesticide applications.
4. ~~[Applicants shall demonstrate a practical knowledge regarding n]~~Nontarget plants and animals and their vulnerability to pesticides.
5. ~~[The applicator must demonstrate a practical knowledge of c]~~Control methods which will minimize the possibility of secondary problems such as the unintended effects on wildlife and which will minimize problems of pollution.

6. ~~[The applicator must demonstrate a practical knowledge of s]~~Specialized equipment, especially as it relates to meteorological factors and adjacent land use.
 7. Relevant organisms causing harm and their vulnerability to the pesticides to be applied.
 8. How to determine when pesticide use is proper.
 9. The selection of application method.
 10. Potential for phytotoxicity due to a wide variety of plants to be protected, drift, and persistence beyond the intended period of pest control.
- (C) Category 3—Ornamental and Turf Pest Control.
1. ~~[The applicant shall demonstrate a practical knowledge of p]~~Pesticide problems associated with the production and maintenance of ornamental trees, shrubs, plantings, and the production and maintenance of turf.
 2. ~~[The applicant shall demonstrate a practical knowledge concerning p]~~Potential phytotoxicity (chemical burn of plant tissue) due to a wide variety of plant material involved.
 3. ~~[The applicant shall demonstrate a practical knowledge concerning p]~~Pesticide drift.
 4. ~~[and a practical knowledge concerning t]~~The persistence of pesticides beyond the intended period of pest control.
 5. ~~[Because of the frequent proximity of human habitations to application activities the applicant shall demonstrate a practical knowledge of a]~~Application methods which will minimize or prevent hazards to humans, pets, and other domestic animals.
 6. Non-target exposures.
- (D) Category 4—Seed Treatment.
1. ~~[The applicant shall demonstrate a practical knowledge of t]~~The types of seeds which require chemical protection against pests.
 2. ~~[and a practical knowledge of f]~~Factors such as seed coloration, pesticide carriers, and surface active agents which influence pesticide binding and may affect germination.
 3. ~~[The applicant shall demonstrate a practical knowledge of t]~~The hazards associated with the handling, sorting, and mixing of treated seed.
 4. ~~[The applicant shall demonstrate practical knowledge of t]~~The problems regarding the misuse of seed treated with pesticides, such as the introduction of treated seed into food and feed channels.
 5. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The proper disposal of unused treated seed.
 6. The importance of proper application techniques to avoid harm to non-target organisms.
- (E) Category 5—Aquatic Pest Control.
1. ~~[The applicant shall demonstrate a practical knowledge of t]~~The secondary effects which can be caused by improper application rates, incorrect formulations, and the faulty application of those pesticides used in this category.
 2. ~~[The applicant shall demonstrate a practical knowledge of v]~~Various water use situations and the potential for downstream adverse effects.

3. ~~[The applicant shall demonstrate a practical knowledge of t]~~The potential adverse effects of pesticides on nontarget plants, fish, birds, beneficial insects, and other organisms which may be present in aquatic environments.
 4. ~~[The applicant shall demonstrate a practical knowledge of t]~~The principles of limited area applications.
 - A. Subcategory b—Sewer Root Pest Control.
 - (I) Pesticide labels and labeling for pesticides including metam-sodium pesticide products used for sewer root pest control.
 - (II) Pesticide safety and the need for the use of personal protective equipment, including problems and mistakes leading to exposure and the signs and symptoms of human and environmental exposure.
 - (III) Equipment used to perform sewer root pest control applications.
 - (IV) Proper storage, handling, transport, spills, cleanup, and disposal including the disposal of excess material, waste, and containers.
- (F) Category 6—Right-of-Way Pest Control.
1. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The wide variety of environments involved in right-of-way pest control.
 2. ~~[The applicant shall demonstrate a practical knowledge of p]~~Problems of pesticide run off, pesticide drift, and ~~[problems of]~~ excess foliage destruction.
 3. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The recognition of target pest organisms involved in right-of-way pest control.
 4. ~~[The applicant shall demonstrate a practical knowledge of h]~~Herbicides and the need for containing these pesticides within the right-of-way area.
 5. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The impact of pesticides on adjacent areas and communities.
 6. Potential for phytotoxicity due to a wide variety of plants and pests to be controlled.
 7. Persistence beyond the intended period of pest control.
- (G) Category 7—Structural Pest Control.
1. Subcategory a—General Structural Pest Control.
 - A. ~~[The applicant shall demonstrate a practical knowledge of a]~~A wide variety of structural pests, including the life cycle and habits of these pests.
 - B. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The types of formulations appropriate for the control of these pests.
 - C. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The application of pesticides in a manner to avoid damage to the structure, contamination of food, contamination of the structure and surrounding area, and exposure of people and pets.
 - D. ~~[The applicant shall demonstrate a practical knowledge of t]~~The specific factors which may lead to a hazardous condition, including continuous exposure in the various situations encountered in this category.

- E. ~~[The applicant must also demonstrate practical knowledge of e]~~Environmental conditions relating to outdoor applications of pesticides used in this category.
2. Subcategory b—Termite Pest Control.
- A. ~~[The applicant shall demonstrate a practical knowledge of t]~~Termites, including their life cycle and habits and a practical knowledge of termite damage.
 - B. ~~[The applicant shall demonstrate a practical knowledge of v]~~Various associated wood-destroying organisms, including, but not limited to, powder post beetles, carpenter ants, and other wood destroying insects.
 - C. ~~[The applicant shall demonstrate a practical knowledge concerning undue]~~**The use of pesticides in a manner to avoid** exposure to humans, domestic pets, and other nontarget organisms[;].
 - D. ~~[as well as a practical knowledge concerning p]~~**Potential contamination of the environment and associated problems.**
 - E. **Types of formulations appropriate for control.**
3. Subcategory c—Fumigation Pest Control.
- ~~[The applicant shall demonstrate a practical knowledge concerning a wide variety of pests associated with those structures subject to fumigation. The applicant shall demonstrate a practical knowledge regarding the use of the various fumigants, including application techniques, and the use of specialized safety equipment and specialized application techniques. The applicant shall demonstrate a practical knowledge concerning the use of fumigants in a manner to avoid contamination of food and surrounding areas and to prevent exposure of humans and pets. The applicant shall demonstrate a practical knowledge of the specific factors which may lead to a hazardous condition, including continuous exposure in the various situations encountered in this category. The applicant also must demonstrate practical knowledge of environmental conditions relating to outdoor applications of pesticides used in this category.]~~
- A. **Label and labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform non-soil fumigation, including labeling requirements specific to non-soil fumigants.**
 - B. **Safety. Measures to minimize adverse health effects, including all of the following:**
 - I. **Understanding how certified applicators, noncertified applicators, and bystanders can become exposed to fumigants.**
 - II. **Common problems and mistakes that can result in direct exposure to fumigants.**
 - III. **Signs and symptoms of human exposure to fumigants**
 - IV. **Air concentrations of a fumigant that require applicators to wear respirators or to exit the work area entirely.**
 - V. **Steps to take if a fumigant applicator experiences sensory irritation.**
 - VI. **Understanding air monitoring, when it is required, and where and when to take samples.**

- VII. Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in a buffer zone.
 - VIII. First aid measures to take in event of exposure to a fumigant.
 - IX. Labeling requirements for transportation, storage, spill clean up, and emergency response for non-soil fumigants, including safe disposal of containers and contaminated materials, and management of empty containers.
- C. Non-soil fumigant chemical characteristics. Characteristics of non-soil fumigants including all of the following:
- I. Chemical characteristics of non-soil fumigants.
 - II. Specific human exposure concerns for non-soil fumigants.
 - III. How fumigants change from a liquid or solid to a gas.
 - IV. How fumigants disperse in the application zone.
 - V. Compatibility concerns for tanks, hoses, tubing, and other equipment.
- D. Application. Selecting appropriate application methods and timing, including all of the following:
- I. Application methods and equipment commonly used for non-soil fumigation.
 - II. Site characteristics that influence fumigant exposure.
 - III. Conditions that could impact timing of non-soil fumigant application, such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications under specific conditions.
 - IV. Conducting pre-application inspection of application equipment and the site to be fumigated.
 - V. Understanding the purpose and methods of sealing the area to be fumigated, including the factors that determine which sealing method to use.
 - VI. Calculating the amount of product required for a specific treatment area.
 - VII. Understanding the basic techniques for calibrating non-soil fumigant application equipment.
 - VIII. Understanding when and how to conduct air monitoring and when it is required.
- E. Pest factors. Pest factors that influence fumigant activity, including all of the following:
- I. Influence of pest factors on fumigant volatility.
 - II. Factors that influence gaseous movement through the area being fumigated and into the air.
 - III. Identifying pests causing the damage and verifying they can be controlled with fumigation.
 - IV. Understanding the relationship between pest density and application rate.

- V. The importance of proper application rate and timing.
 - F. Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following:
 - I. Following label directions for required personal protective equipment.
 - II. Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment.
 - III. Understanding the types of respirators required when using specific non-soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters.
 - IV. Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recording.
 - G. Fumigant management plans and post-application summaries. Information about fumigant management plans and when they are required, including all of the following:
 - I. When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it.
 - II. The element of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan.
 - III. The person responsible for verifying that a fumigant management plan is accurate.
 - IV. The elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed.
 - H. Posting requirements. Understanding posting requirements, including all of the following:
 - I. Understanding who is allowed in an area being fumigated or after fumigation and who is prohibited from being in such areas.
 - II. Distinguishing fumigant labeling-required posting and treated area posting, including the pre-application and post-application posting timeframes for each.
 - III. Proper choice and placement of warning signs.
- (H) Category 8—Public Health Pest Control.
1. ~~[The applicant shall demonstrate a practical knowledge of v]~~Vector-disease transmission as it relates to, and influences, pesticide application problems.
 2. ~~[The applicator shall demonstrate a practical knowledge concerning a wide variety of p]~~Pests **commonly** involved in public health pest control, including the life histories and habits of these pests.

3. ~~[The applicant shall demonstrate a practical knowledge concerning a great variety of e]~~Environments and sites commonly found in public health pest control, which range from streams to those conditions found in buildings.
 4. ~~[The applicant shall demonstrate a practical knowledge of t]~~The importance of, and employment of, such nonchemical control methods as sanitation, waste disposal, and drainage.
 5. How to minimize damage to and contamination of areas treated.
 6. Acute and chronic exposure of people and pets.
 7. Non-target exposures.
- (I) Category 9—Regulatory Pest Control.
1. ~~[The applicant shall demonstrate a practical knowledge of r]~~Regulated pests, applicable laws pertaining to pest quarantine, and other forms of pest regulation and the potential impact on the environment of pesticides used in suppression and eradication programs.
 2. ~~[The applicant shall demonstrate a practical knowledge concerning f]~~Factors influencing introduction, spread, and population dynamics of relevant pests.
~~[The applicant shall demonstrate a practical knowledge which shall extend beyond that required by the immediate duties of the applicator since the services of the applicator frequently are required in other areas of the country where emergency measures are invoked to control regulated pests and where individual judgements must be made in new situations.]~~
- (J) Category 10—Demonstration and Research Pest Control.
1. ~~[The applicant shall meet e]~~Comprehensive standards reflecting a broad spectrum of pesticide uses.
 2. ~~[The applicant shall demonstrate a practical knowledge of p]~~Problems, pests, and population levels occurring in each demonstration or research situation ~~[required]~~.
 3. ~~[The applicant shall demonstrate a]~~An understanding of pesticide-organism interactions and the importance of integrating pesticide use with other control methods.
 4. Effects of restricted use pesticides on target and non-target organisms.
 5. The applicant shall not only demonstrate competence in the category of Demonstration and Research Pest Control but ~~[also shall demonstrate the category competencies which apply to the area of expertise in which the applicant shall conduct demonstrations and research]~~ must also be certified in the proper category(ies) of use.
- (K) Category 11—Wood Products Pest Control.
1. ~~[The applicant shall demonstrate a practical knowledge of w]~~Wood degradation and a general knowledge of pesticides used to prevent or control the degradation.
 2. ~~[The applicant shall demonstrate a]~~An understanding of the pesticides used to preserve wood, including a knowledge of solution formulations, application techniques, hazards to man, domestic animals, and the environment, and the safe and proper means of container storage and disposal.

- (L) Category 12— Soil Fumigation Pest Control.
1. Label and labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform soil fumigation, including all of the following:
 - A. Labeling requirements specific to soil fumigants.
 - B. Requirements for certified applicators of fumigants, fumigant handlers, and permitted fumigant handler activities, and the safety information that certified applicators must provide to noncertified applicators using fumigants under their direct supervision.
 - C. Entry-restricted periods for tarped and untarped field application scenarios.
 - D. Recordkeeping requirements.
 - E. Labeling provisions unique to fumigant products containing certain active ingredients.
 2. Safety. Measures to minimize adverse health effects, including all of the following:
 - A. Understanding how certified applicators, noncertified applicators using fumigants under direct supervision of certified applicators, field workers, and bystanders can become exposed to fumigants.
 - B. Common problems and mistakes that can result in direct exposures to fumigants.
 - C. Signs and symptoms of human exposure to fumigants.
 - D. Air concentrations of a fumigant that require that applicators wear respirators or exit the work area entirely.
 - E. Steps to take if a fumigant applicator experiences sensory irritation.
 - F. Understanding air monitoring, when it is required, and where and when to take samples.
 - G. Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in the buffer zone.
 - H. First aid measures to take in the event of exposure to a soil fumigant.
 - I. Labeling requirements for transportation, storage, spill cleanup, and emergency response for soil fumigants, including safe disposal of containers and contaminated soil, and management of empty containers.
 3. Soil fumigant chemical characteristics. Characteristics of soil fumigants including all of the following:
 - A. Chemical characteristics of soil fumigants.
 - B. Specific human exposure concerns for soil fumigants.
 - C. How soil fumigants change from a liquid or solid to a gas.
 - D. How soil fumigants disperse in the application zone.
 - E. Compatibility concerns for tanks, hoses, tubing, and other equipment.
 4. Application. Selecting appropriate application methods and timing, including all of the following:
 - A. Application methods, including but not limited to water-run and non-water-run applications, and equipment commonly used for each soil fumigant.
 - B. Site characteristics that influence fumigant exposure.
 - C. Understanding temperature inversions and their impact on soil fumigant application.
 - D. Weather conditions that could impact timing of soil fumigant application, such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications during specific weather conditions.

- E. Conducting pre-application inspection of application equipment.
 - F. Understanding the purpose and methods of soil sealing, including the factors that determine which soil sealing method to use.
 - G. Understanding the use of tarps, including the range of tarps available, how to seal tarps, and labeling requirements for tarp removal, perforation, and repair.
 - H. Calculating the amount of product required for a specific treatment area.
 - I. Understanding the basic techniques for calibrating soil fumigant application equipment.
5. Soil and pest factors. Soil and pest factors that influence fumigant activity, including all of the following:
- A. Influence of soil factors on fumigant volatility and movement within the soil profile.
 - B. Factors that influence gaseous movement through the soil profile and into the air.
 - C. Soil characteristics, including how soil characteristics affect the success of a soil fumigant application, assessing soil moisture, and correcting for soil characteristics that could hinder a successful soil fumigant application.
 - D. Identifying pest causing the damage and verifying they can be controlled with soil fumigation.
 - E. Understanding the relationship between pest density and application rate.
 - F. The importance of proper application depth and timing.
6. Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following:
- A. Following labeling directions for required personal protective equipment.
 - B. Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment.
 - C. Understanding the types of respirators required when using specific soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters.
 - D. Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recordkeeping.
7. Fumigant management plans and post-application summaries. Information about fumigant management plans, including all of the following:
- A. When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it.
 - B. The elements of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan.
 - C. The person responsible for verifying that a fumigant management plan is accurate.
 - D. The elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed.
8. Buffer zones and posting requirements. Understanding buffer zones and posting requirements, including all of the following:
- A. Buffer zones and the buffer zone period.
 - B. Identifying who is allowed in the buffer zone during the buffer zone period and who is prohibited from being in a buffer zone during the buffer zone period.

- C. Using the buffer zone table from the labelling to determine the size of the buffer zone.
- D. Factors that determine the buffer zone credits for application scenarios and calculating buffer zones using credits.
- E. Distinguishing buffer zone posting and treated area posting, including the pre-application and post-application posting timeframes for each.
- F. Proper choice and placement of warning signs.

(M) Category 13—Aerial Pest Control.

1. Labeling. Labeling requirements and restrictions specific to aerial application of pesticides including:
 - A. Spray volumes.
 - B. Buffers and no-spray zones.
 - C. Weather conditions specific to wind and inversions.
2. Application equipment. Understand how to choose and maintain aerial application equipment, including all of the following:
 - A. The importance of inspecting application equipment to ensure it is in proper operating condition prior to beginning an application.
 - B. Selecting proper nozzles to ensure it is in proper operating condition prior to beginning an application.
 - C. Knowledge of components of an aerial pesticide application system, including pesticide hoppers, tanks, pumps, and types of nozzles.
 - D. Interpreting a nozzle flow chart.
 - E. Determining the number of nozzles for intended pesticide output using nozzle flow rate chart, aircraft speed, and swath width.
 - F. How to ensure nozzles are placed to compensate for uneven dispersal due to uneven airflow from wingtip vortices, helicopter rotor turbulence, and aircraft propeller turbulence.
 - G. Where to place nozzles to produce the appropriate droplet size.
 - H. How to maintain the application system in good repair, including pressure gauge accuracy, filter cleaning according to schedule, and checking nozzles for excessive wear.
 - I. How to calculate required and actual flow rate.
 - J. How to verify flow rate using fixed timing, open timing, known distance, or a flow meter.
 - K. When to adjust and calibrate application equipment.
3. Application considerations. The applicator must demonstrate knowledge of factors to consider before and during application, including all of the following:
 - A. Weather conditions that could impact application by affecting aircraft engine power, take-off distance, and climb rate, or by promoting spray droplet evaporation.
 - B. How to determine wind velocity, direction, and air density at the application site.
 - C. The potential impact of thermals and temperature inversions on aerial pesticide application.

4. Minimizing drift. The applicator must demonstrate knowledge of methods to minimize off-target pesticide movement, including all of the following:
 - A. How to determine drift potential of a product using a smoke generator.
 - B. How to evaluate vertical and horizontal smoke plumes to assess wind direction, speed, and concentration.
 - C. Selecting techniques that minimize pesticide movement out of the area to be treated.
 - D. Documenting special equipment configurations or flight patterns used to reduce off-target pesticide drift.
5. Performing aerial application. The applicator must demonstrate competency in performing an aerial pesticide application, including all of the following:
 - A. Selecting a flight altitude that minimizes streaking and off-target pesticide drift.
 - B. Choosing a flight pattern that ensures applicator and bystander safety and proper application.
 - C. The importance of engaging and disengaging spray precisely when entering and exiting a predetermined swath pattern.
 - D. Tools available to mark swaths, such as global positioning systems and flags.
 - E. Recordkeeping requirements for aerial pesticide applications including application conditions if applicable.
6. The applicant shall not only demonstrate competence in the category of Aerial Pest Control, but must also be certified in the proper category(ies) of use.

Attachment 4

2 CSR 70-25.140 Certification Categories for Private Applicators

(1) Category 20 – General Agricultural Pest Control. This category is provided for private applicators who are required to obtain private applicator certification to use restricted use pesticides for the purpose of producing any agricultural commodity, excluding soil and non-soil fumigants and the aerial application of restricted use pesticides.

(2) Category 21 – Soil Fumigation Pest Control. This category is provided for certified private applicators certified in Category 20 who are required to obtain proper category certification for the use of soil fumigants classified as restricted use pesticides for the control of pests in the production of any agricultural commodity.

(3) Category 22 – Non-soil Fumigation Pest Control. This category is provided for certified private applicators certified in Category 20 who are required to obtain proper certification for the use of non-soil fumigants classified as restricted use pesticides for the control of pests in the production and storage of any agricultural commodity.

(4) Category 23 – Aerial Pest Control. This category is provided for certified private applicators certified in Category 20 who are required to obtain proper category certification to apply restricted use pesticides with manned or unmanned aircraft, either fixed wing or rotary wing, in the production of any agricultural commodity.

2 CSR 70-25.150 ~~[Course of Instruction and]~~ Standards of Competence for **the Certification of [Certified] Private Applicators**

- (1) To qualify for private applicator certification or provisional private applicator certification, ~~[Certified] private applicators [shall attend a course of instruction]~~ are required to read and demonstrate competency in the understanding of pesticide labels and labeling and shall: ~~[approved by the director as required by section 281.040, RSMo (1986).]~~
 - (A) ~~[The] Attend a University of Missouri Extension private applicator [course of instruction]~~ General Agricultural Pest Control certification training program;
 - (B) Complete a University of Missouri Extension private applicator General Agricultural Pest Control on-line certification training program; or
 - (C) Pass the department's private applicator General Agricultural Pest Control certification examination. ~~[shall encompass the standards of competence as provided in section (3) of~~

~~this rule. Private applicators also shall be instructed as to the general pest problems and general pest control practices associated with agricultural operations, proper storage, application, handling and disposal of pesticides and pesticide containers and the legal responsibilities of private applicators.]~~

- (2) Private applicators must obtain certification in Category 20 – General Agricultural Pest Control prior to becoming certified in one of the additional private applicator certification categories. Private applicators that use restricted use pesticides to fumigate soil must also obtain certification in Category 21 – Soil Fumigation Pest Control. Private applicators that use restricted use pesticides to fumigate non-soil commodities or non-soil sites must also obtain certification in Category 22 – Non-Soil Fumigation Pest Control. Private applicators that apply restricted use pesticides through aerial application must also obtain certification in Category 23 – Aerial Pest Control. The certification training programs, on-line certification training programs, and certification examinations provided for Categories 20, 21, 22, and 23 shall encompass the standards of competence as provided in sections (3), (4), (5), and (6) of this rule.

~~[(2)]~~ (3) Category 20 – General Agricultural Pest Control Standards of Competence. The applicant shall demonstrate practical knowledge of:

- (A) The recognition of common agricultural pests, ~~[and the recognition of the]~~ damage caused by these pests~~];~~, the importance of selecting proper pesticide products for effective control, and the importance of verifying that the label does not prohibit the use of the product to control the target pest(s) or use site;
- (B) ~~[The r]~~Reading and understanding ~~[of]~~ the label and labeling information, including general format and terminology, ~~[including]~~ the common name of the pesticide~~];~~, the pest to be controlled~~];~~, timing and methods of ~~[the]~~ application of the pesticide~~];~~, signal words, symbols, safety precautions~~];~~, pre-harvest intervals~~];~~, reentry intervals, and disposal procedures for pesticides and pesticide containers;
- (C) All use restrictions and directions for use found on the label and labeling, certification requirements in the appropriate category to use restricted use pesticides, and State and Federal pesticide laws requiring the use of any registered pesticide in a manner consistent with its labeling;
- (D) The meaning of product classification, the difference between mandatory and advisory labeling language, direct supervision including understanding when a certified applicator must be physically present at the site of the application based on labeling requirements, labeling requirements for supervising noncertified applicators, and understanding and complying with product-specific notification requirements;
- (E) The application of pesticides in accordance with label and labeling instructions and warnings, including the ability to prepare the proper concentration of the pesticides to be used under particular circumstances, taking into account factors such as the area to be covered, speed in

which application equipment will be driven, and the quantity to dispense in a given period of operation;

- (F) The characteristics of pesticides, including types of pesticides, types of formulations, compatibility, synergism, persistence, animal and plant toxicity, hazards and residues associated with use, factors influencing effectiveness or leading to problems such as pesticide resistance, and dilution procedures;
- (G) The recognition of local environmental situations that must be considered during application to avoid contamination[;] and potential environmental consequences of the use and misuse of pesticides, including weather and other climatic conditions, types of terrain, soil, or other substrate, presence of fish, wildlife, and non-target organisms, and drainage patterns;
- (H) ~~[The recognition of poisoning symptoms and procedures to follow in case of a pesticide accident.]~~ Measures to avoid or minimize adverse health effects, common types and causes of pesticide mishaps, needs for and proper use of personal protective clothing and equipment, and precautions to prevent injury to applicators and other individuals in or near treated areas;
- (I) Likely ways pesticide exposure may occur, symptoms of pesticide poisoning, the difference between acute toxicity and chronic toxicity and their long term effects, understanding that a pesticide's risk is a function of exposure and the pesticide's toxicity, and first aid and other procedures to be followed in case of a pesticide mishap;
- (J) Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers, including precautions to be taken to prevent children from having access to pesticides and pesticide containers;
- (K) Application equipment, including types of equipment and the advantages and limitations of each, uses, maintenance, and calibration procedures;
- (L) Selecting appropriate application methods including methods used to apply various forms and formulations of pesticides, which application method to use in a given situation, and that use of a fumigant or aerial application requires additional certification, and how the selection of application method and use of a pesticide may result in unnecessary, ineffective use and misuse;
- (M) The prevention of pesticide drift and pesticide loss into the environment;
- (N) The state and federal pesticide laws and regulations, including the Worker Protection Standard in 40 CFR Part 170;
- (O) The certified applicator responsibilities and requirements related to supervision of noncertified applicators, including being able to explain appropriate state and federal pesticide laws and regulations to noncertified applicators and providing use-specific instructions for the site and pesticide used to noncertified applicators using pesticides under the direct supervision of a

certified private applicator ensuring that the noncertified applicator has access to the applicable product labeling at all times during use, ensuring that any noncertified applicator has clean labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose, ensuring that before each day of use the equipment is in proper operating condition and can be used without risk of reasonably foreseeable adverse effects to the noncertified applicator, other persons, or the environment, ensuring that a means to immediately communicate with the certified applicator is available, the certified applicator must be physically present at the site of the use being supervised when required by the label, and ensuring the required use records are being maintained;

- (P) The importance of maintaining secure storage for pesticides and other chemicals and how to communicate information about pesticide exposures and risks with agricultural workers and handlers and other persons;
- (Q) Agricultural Pest Control, including specific pests of relevant agricultural commodities and the control of such pests with pesticides, how to avoid contamination of ground and surface waters, understanding pre-harvest and restricted entry intervals and entry-restricted periods and areas, and understanding specific pesticide toxicity and residue potential when pesticides are applied to animal or animal product agricultural commodities; and
- (R) Hazards associated with using pesticides on animals or places in which animals are confined based on formulation, application technique, age of animal, stress, and extent of treatment.

~~[(3) Attendance of an approved course of instruction by the private applicator shall be verified by the signature of the instructor and the signature of the private applicator on a verification document provided by the director. The document shall be forwarded to the Missouri Department of Agriculture as proof of attendance. Upon receipt of the document of verification of attendance, the director shall forward to the private applicator a certified private applicator license.]~~

(4) Category 21 – Soil Fumigation Pest Control Standards of Competence. The applicant shall demonstrate practical knowledge of:

(A) Fumigant label and labeling comprehension, including labeling requirements specific to soil fumigation, labeling requirements for certified applicators and handlers of fumigants, permitted fumigant handler activities, and the safety information that certified applicators must provide to noncertified applicators using fumigants under the direct supervision of certified applicators;

(B) Entry-restricted period for different tarped and untarped field applications, recordkeeping requirements imposed by labels and labeling, and labeling provisions unique to products containing certain active ingredients;

(C) Labeling requirements for fumigation management plans, such as when a fumigant

management plan must be in effect, how long must it be kept on file, where must it be kept during application, and who must have access to it;

(D) The elements of a fumigation plan and resources for preparing a plan, responsibility for verifying that the fumigant management plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed;

(E) Measures to minimize adverse effects, including understanding how certified applicators, field workers, and bystanders can become exposed to fumigants;

(F) How common problems and mistakes can result in direct exposure to fumigants, the signs and symptoms of human exposure to fumigants, air concentrations, and requirements for respirators;

(G) The steps to take if a fumigant applicator experiences sensory irritation, air monitoring, when required and when to sample the air, buffer zones, first aid measures, and the labeling requirements for transportation, storage, spill cleanup, and emergency response for soil fumigants, including safe disposal of containers and contaminated soil;

(H) Characteristics of soil fumigants, including specific human exposure concerns, how soil fumigants change from liquid or solid to a gas, how soil fumigants disperse in the application zone, and compatibility concerns for tanks, hoses, tubing, and other equipment;

(I) Selecting appropriate application methods and timing, including application methods for water-run and non-water-run applications, equipment used for each soil fumigant, and site characteristics that influence fumigant exposure;

(J) Temperature inversions and their impact on soil fumigant applications, weather conditions that could impact timing of soil fumigation application, pre-application inspection of application equipment, the purpose and methods of soil sealing, and which methods to use;

(K) The use of tarps, how to seal tarps, labeling requirements for tarp removal, perforation, and repair, calculating the amount of fumigant required for a specific treatment area, and understanding the basic techniques for calibrating soil fumigation equipment;

(L) Soil and pest factors that influence fumigant activity, including influence of soil factors on fumigant volatility and movement within the soil and factors that influence gaseous movement through soil and air;

(M) Soil characteristics, including how they affect the success of a soil fumigant application, accessing soil moisture, and correcting for soil characteristics that could hinder a successful soil fumigation, pest(s) identification and verification that the soil fumigant will control pest(s), the relationship between pest density and application rate, and proper application depth and timing;

(N) Personal protective equipment (PPE), including following all label directions requiring PPE use and selecting, inspecting, using, caring for, and replacing PPE;

(O) The types of respirators required when using specific soil fumigants and how to use

respirators properly (medical evaluation, fit testing, and required replacement of cartridges and canisters), labeling requirements and other laws applicable to medical evaluation for respirator use, fit test, training, and recordkeeping;

(P) Fumigant management plans and post-application summaries, including when a fumigation management plan must be in effect, how long it must be kept on file, where it must be kept during a fumigant application, and who must have access to it;

(Q) The elements of a fumigant management plan and resources available for preparing a plan, the person responsible for verifying that a fumigation management plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed;

(R) Buffer zones and posting requirements, including buffer zones and buffer zone periods, identifying those who can be in the buffer zone and those who cannot be in the buffer zone during the buffer zone period;

(S) How to use the buffer zone table from the labeling to determine the size of the buffer zone, factors that determine the buffer zone credits for application scenarios, and calculating buffer zones using credits; and

(T) Distinguishing buffer zone posting and treated area posting, including the pre-application and post-application posting timeframes for each and the proper choice and placement of warning signs.

(5) Category 22 – Non-soil Fumigation Pest Control Standards of Competence. The applicant shall demonstrate a practical knowledge of:

(A) The use of fumigants on sites other than soil, including label and labeling comprehension of products used to perform non-soil fumigations and labeling requirements specific to non-soil fumigants;

(B) Safety measures to minimize adverse health effects, including understanding how applicators and bystanders can become exposed to fumigants, common problems and mistakes that can result in direct exposure to fumigants, and the signs and symptoms of human exposure to fumigants;

(C) When air concentrations trigger applicators, handlers, and workers to wear respirators or to exit the application site, the steps to take if an applicator using a fumigant experiences exposure, and first aid measures to take in the event of exposure to a fumigant;

(D) When to monitor and sample air, monitoring buffer zones and who is permitted to be in the buffer zone, labeling requirements for transportation, storage, spill clean up, and emergency response to non-soil fumigants, the safe disposal of containers and contaminated materials, and management of empty containers;

(E) Non-soil fumigant chemical characteristics, including chemical characteristics of non-soil

fumigants, specific human exposure concerns for non-soil fumigants, how fumigants change from a liquid or solid to a gas, and how fumigants disperse in the application zone;

(F) Compatibility concerns for tanks, hoses, tubing, and other equipment;

(G) Appropriate application methods and timing, including application methods and equipment commonly used for non-soil fumigation, site characteristics that influence fumigant exposure, and conditions that could impact timing of non-soil fumigations, such as air stability, air temperature, humidity, and wind currents, and labeling restrictions limiting applications when specific conditions are present;

(H) Conducting pre-application inspections of equipment and the site to be fumigated, the purpose and methods of sealing the area to be fumigated, and the factors that determine when and which sealing methods to use;

(I) Calculating the amount of fumigant required to treat the site, basic techniques for calibrating non-soil fumigant application equipment, and understanding when and how to conduct air monitoring and when it is required;

(J) Pest factors that influence fumigant activity, including influence of pest factors on fumigant volatility, factors that influence gaseous movement through the area being fumigated and into the air, and identifying pests causing the damage and verifying they can be controlled with fumigation;

(K) The relationship between pest density and application rate and the importance of proper application rate and timing;

(L) Personal protective equipment, including how to use it properly, following labeling directions for required personal protective equipment, and selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment;

(M) The different types of respirators required when using non-soil fumigants and how to use them properly, including when to replace cartridges and canisters;

(N) Labeling requirements and other laws applicable to medical evaluations and fit testing for respirator use and applicable training and recordkeeping;

(O) When fumigation management plans and post-application summaries are required, including when a fumigation management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it;

(P) The elements found in a fumigation management plan and resources available to assist the applicator in preparing the fumigant management plan, who is responsible for verifying the plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed; and

(Q) Posting requirements, including understanding who is allowed in an area being fumigated or

after fumigation and who is prohibited from being in such area, distinguishing fumigant labeling-required posting and treated area posting, including the pre-application and post-application posting timeframes for each, and the proper choice and placement of warning signs.

(6) Category 23 – Aerial Pest Control Standards of Competence. The applicant shall demonstrate a practical knowledge of:

(A) The pest problems and pest control practices associated with performing aerial applications;

(B) Labeling requirements and restrictions specific to aerial application of pesticides, spray volumes, buffer and no-spray zones, and weather conditions specific to wind and inversions;

(C) Label-mandated recordkeeping requirements for aerial pesticide applications including application conditions;

(D) Application equipment, including how to choose and maintain aerial application equipment, inspecting application equipment to ensure it is in proper operating condition prior to beginning an application, selecting proper nozzles to ensure appropriate pesticide dispersal and to minimize drift;

(E) The components of an aerial pesticide application system (pesticide hoppers, tanks, pumps, and types of nozzles) and nozzle flow charts;

(F) Determining the number of nozzles for intended pesticide output using a nozzle flow rate chart, aircraft speed, and swath width;

(G) How nozzles are placed to compensate for uneven dispersal due to uneven airflow from wingtip vortices, helicopter rotor turbulence, and aircraft propeller turbulence and where to place nozzles to produce the appropriate droplet size;

(H) How to maintain the application system in good repair, including pressure gauge accuracy, filter cleaning according to schedule, and checking nozzles for excessive wear;

(I) How to calculate required and actual flow rates, how to verify flow rate using fixed timing, open timing, known distance, or a flow meter, and when to adjust and calibrate application equipment;

(J) Application factors to consider before and during the application, including weather conditions that could impact application by affecting aircraft engine power, take-off distance, climb rate, and spray droplet evaporation;

(K) How to determine wind velocity, direction, and air density at the application site and potential impact of thermals and temperature inversions on aerial pesticide application;

(L) Methods to minimize off-target pesticide movement, including determining drift potential of a product by use of a smoke generator and how to evaluate vertical and horizontal smoke plumes to assess wind direction, speed, and concentration;

(M) Selecting techniques that minimize pesticide movement out of the treated area and how to document special equipment configurations or flight patterns used to reduce off-target pesticide drift;

(N) Performing an aerial pesticide application, including selecting a flight altitude that minimizes streaking and off-target pesticide drift and choosing a flight pattern that ensures applicator and bystander safety and proper application; and

(O) The importance of engaging and disengaging spray precisely when entering a predetermined swath pattern at the application site and the tools used to mark swath patterns, such as global positioning systems and flags.

Attachment 6-A

Chapter 281 RSMo 2 CSR 70-25.010 Definitions

2 CSR 70-25.010 (10)

Legal age—eighteen (18) years, for license and certification as noncertified RUP applicators, pesticide technicians, and certified applicators. ~~[unless otherwise provide by law:]~~ Individuals who are sixteen (16) or seventeen (17) years of age and supervised by an immediate family member who is a certified private applicator are eligible to obtain certification as a certified provisional private applicator.

Attachment 6-B

2 CSR 70-25.110 Standards of Competence for the Certification of Commercial Applicators, Noncommercial Applicators, ~~and~~ Public Operators, and Noncertified RUP Applicators

(1) Commercial applicators, noncommercial applicators, and public operators shall pass an examination to demonstrate competence in the use of pesticides based on the general standards of competence and shall pass an examination based on the specific standards of competence for at least one (1) of the certification categories listed in 2 CSR 70-25.100.

(2) Noncertified RUP applicators shall pass an examination to demonstrate competence in the use of restricted use pesticides based on the general standards of competence found in section 3 of this rule.

~~(2)~~(3) General Standards of Competence for ~~[All Certification Categories]~~ CORE examination. The applicant shall demonstrate a practical knowledge of:

(A) Pesticide labels and labeling, including-

1. ~~[t]~~The format and terminology of pesticide labels and labeling, and an understanding of instructions, warnings, terms, symbols, and other information commonly appearing on pesticide labels.
2. ~~[The applicant shall demonstrate a practical knowledge of t]~~The classification of pesticides as to general or restricted use and that a pesticide may be unclassified.
3. Understanding labeling requirements relating to supervising noncertified applicators who are working under the direct supervision of a certified applicator.
4. Understanding label requirements that a certified applicator must be physically present at the site of the application.
5. Recognizing and understanding the difference between mandatory and advisory labeling language.
6. Understanding that they must comply with all use restrictions and directions for use found on the label and labeling, including being certified in the certification category appropriate to the type and site of application and that it is a violation of state and federal law to use any registered ~~[must understand the necessity for the use of a]~~ pesticide in a manner inconsistent with its labeling.

(B) Applicator pesticide safety, including-

1. ~~[t]~~The factors of pesticide safety including pesticide toxicity, hazard to man, and common exposure routes.
2. ~~[The applicator must demonstrate a practical knowledge of t]~~The types and causes of pesticide accidents~~[, — a practical knowledge of]~~ and the precautions necessary to guard against injury to applicators and other individuals in or near treated areas.
3. Understanding the different natures of the risks of acute toxicity, as well as the long-term effects of pesticides.

4. ~~[a practical knowledge of t]~~ The need for, and the use of, protective clothing and equipment.
5. ~~[a practical knowledge of s]~~ Symptoms of pesticide poisoning[;].
6. ~~[and a practical knowledge of f]~~ First aid and other procedures to be followed in case of pesticide accidents.
7. ~~[The applicant shall demonstrate a practical knowledge of p]~~ Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers including precautions to be taken to prevent children from having access to pesticides and pesticide containers.

(C) Environment, including-

1. ~~[The applicant shall demonstrate a practical knowledge of the environment, including p]~~ Potential environmental consequences of the use, and the misuse, of pesticides as may be influenced by such factors as weather and other climatic conditions; ~~[as may be influenced by]~~ types of terrain, soil, and other substrate; ~~[as may be influenced by]~~ the presence of fish, wildlife, and other non-target organisms; and ~~[as may be influenced by]~~ drainage patterns.

(D) Pests and pest recognition, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pests and pest recognition, including t]~~ The common features of pest organisms and the characteristics of pest damage as a means of pest recognition[;].
2. ~~[and a practical knowledge of]~~ [p] Pest development, including the biology and habits of pests as may be relevant to problem identification in pest control.
3. **Correctly selecting the proper pesticide product(s) for effective pest control by verifying the labeling does not prohibit the use of the product for the control of the target pest(s) or use site.**

(E) Pesticides, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticides, including t]~~ Types of pesticides, types of pesticide formulations, compatibility, synergism, persistence, and the toxicity of various pesticides and pesticide formulations to animals and plants.
2. ~~[a practical knowledge of t]~~ The hazards and residues associated with pesticide use.
3. ~~[a practical knowledge of f]~~ Factors which influence pesticide effectiveness or lead to such problems as resistance to pesticides[; and a practical knowledge of]
4. ~~[d]~~ Dilution procedures.

(F) Pesticide equipment, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticide equipment, including t]~~ The types of equipment and the advantages and limitations of each type[;].
2. ~~[and a practical knowledge of t]~~ The use, maintenance, and calibration of pesticide equipment.
3. **Drift prevention and pesticide loss into the environment.**

(G) Application techniques, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticide application techniques, including m]~~Methods and procedures used to apply various formulations of pesticides ~~[solutions and gases, together with a knowledge of which]~~ and the application technique to use in a given situation.
2. ~~[a practical knowledge of the relationship of discharge and placement of a pesticide to the proper use of the pesticide as well as to the unnecessary use of the pesticides;]~~ Understanding how selection of application method and use of a pesticide may result in proper use, unnecessary or ineffective use, and misuse.
3. ~~[and a practical knowledge of t]~~The prevention of pesticide drift and of pesticide loss into the environment.
4. Which application method to use in a given situation and that use of a fumigant or aerial application requires additional certification.

(H) ~~[The applicant shall demonstrate a practical knowledge of the applicable s]~~State and federal pesticide laws and regulations.

(I) Responsibility of certified applicators supervising noncertified applicators, including-

1. Understanding and complying with all regulations for certified applicators who supervise noncertified applicators using general use and restricted use pesticides and the regulatory requirements for recordkeeping for noncertified applicators who have demonstrated competency in the safe use of all pesticides.
2. Providing use-specific instructions to noncertified applicators prior to using general use and restricted use pesticides under the direct supervision of a certified applicator.
3. Pertinent state and federal pesticide laws and regulations for explanation to noncertified applicators who use general use and restricted use pesticides under the direct supervision of certified applicators.

(J) Professionalism, including-

1. Understanding of the importance for maintaining chemical security for all pesticides and how to communicate information about pesticide exposure and risks with the public.
2. Pesticide product stewardship.

Attachment 6-C

2 CSR 70-25.090 Examinations for Certified Commercial Applicators, Certified Noncommercial Applicators, Certified Public Operators, ~~and~~ Certified Private Applicators, Certified Provisional Private Applicators, Noncertified RUP Applicators, and Pesticide Dealers.

(1) Applicants for a certified commercial applicator license, ~~a~~ certified noncommercial applicator license, or ~~a~~ certified public operator license shall take ~~a~~ written examinations based on the general standards of competence and category specific standards of competence provided in 2 CSR 70-25.110. Applicants for a certified private applicator license or certified provisional private applicator license may take a written examination for each requested category defined in 2 CSR 70-25.140 based on the standards of competence provided in 2 CSR 70-25.150. Applicants for a noncertified RUP applicator license shall take a written examination based on the general standards of competence provided in 2 CSR 70-25.110 (3). Applicants for a pesticide dealer license shall take a written examination based on the laws and regulations governing the use and sale of pesticides and the pesticide dealer's responsibility in carrying on the business of a pesticide dealer. ~~When recommended by the director, the a~~ Applicants ~~shall take a written and oral examination and~~ may be required to conduct a practical demonstration of competence, in addition to written examinations.

(2) Examinations shall cover material judged by the director to be pertinent to the request contained in the application.

(3) Applicants must present at the time of examination a valid, government-issued photo identification or other form of similarly reliable identification authorized by the director as proof of identity and age to be eligible for certification.

~~(3)~~(4) Any applicant who gives or receives unauthorized assistance during an examination shall be dismissed from the examination and his/her ~~markings or results~~ examination shall be voided. ~~Any such person shall be required to make reapplication for a license.~~

~~(4)~~(5) Only persons authorized by the director may be in the examination room during the examination. ~~The director may require identification for all applicants.~~

(6) Only director-approved reference material provided by the examination proctor may be used during the examination. All reference material will be collected and examined by the examination proctor to ensure no portion of the reference material has been removed, altered, or destroyed. No portion of any examination or reference material may be copied or retained by any person other than a person authorized by the director. Any applicant found to have removed, altered, or destroyed any portion of the reference material shall have his/her examination results voided.

~~(5)~~(7) Any applicant who fails to attain a passing score of at least seventy percent (70%) on any

examination may request **through the normal registration process** ~~[in writing, by regular mail,]~~ to retake the examination. ~~[The director will then inform the applicant, in writing, by regular mail, of the time and place the applicant may retake the examination. Upon failing the examination three (3) times, or failing to take the examination as scheduled three (3) times, the applicant shall reapply for a license.]~~

~~[(6)]~~**(8)** All examination~~s taken to satisfy requirements of the Missouri Pesticide Use Act]~~ **results are valid for one (1) year and** shall be retained by the department for at least one (1) year from the date they were completed. Individuals who do not apply for a license during that one (1)-year period must ~~[be reexamined before their license application will be accepted.]~~ **reexamine.**

***Note: these examination standards are part of the plan only. They will not be implemented in rule.**

- The examination must be proctored by an individual designated by the certifying authority and who is not seeking certification at any examination session that he or she is proctoring.
- Candidates must be monitored throughout the examination period.
- Candidates must be instructed in the examination procedures before beginning the examination.
- Examinations must be kept secure before, during, and after the examination period so that only the candidates have access to the examination, and candidate have access only in the presence of the proctor.
- Candidates must not have verbal or non-verbal communication with anyone other than the proctor during the examination period.
- The proctor reports to the certifying authority any examination administration inconsistencies or irregularities, including but not limited to cheating, use of unauthorized materials, and attempt to copy or retain the examination.
- The certifying authority must notify each candidate of the results of his or her examination.
- Additional information about exam standards including a link to the handbook can be found by visiting the following link:
<https://agriculture.mo.gov/plants/pesticides/certexam.php>

Attachment 6-E

281.080. Exemptions.

The provisions of sections 281.010 to 281.115 relating to licenses and requirements for their issuance shall not apply to:

- (1) Veterinarians using pesticides on animals during the normal course of veterinary practice, as long as he is not regularly engaged in the business of using pesticides for hire amounting to a principal or regular occupation or does not publicly hold himself out as a pesticide applicator;
- (2) Doctors of medicine or doctors of osteopathy using or prescribing pesticides in the practice of medicine;
- (3) Government and private research personnel using pesticides under laboratory type conditions.

Attachment 7-A

Chapter 281 RSMo 2 CSR 70-25.010 Definitions

2 CSR 70-25.010 (10)

Legal age—eighteen (18) years, for license and certification as noncertified RUP applicators, pesticide technicians, and certified applicators. ~~[unless otherwise provide by law.]~~ Individuals who are sixteen (16) or seventeen (17) years of age and supervised by an immediate family member who is a certified private applicator are eligible to obtain certification as a certified provisional private applicator.

2 CSR 70-25.130 Requirements for a Certified Private Applicator License or Certified Provisional Private Applicator License

(1) A certified private applicator license or certified provisional private applicator license will be issued to any private applicator who meets the following requirements:

~~(C) Applicants shall submit to the director a verification of training signed by the applicant and an authorized pesticide trainer; and~~

~~(D)~~ (A) Be of legal age;

Attachment 7-B

2 CSR 70-25.150 ~~[Course of Instruction and]~~ Standards of Competence for **the Certification of [Certified] Private Applicators**

- (1) **To qualify for private applicator certification or provisional private applicator certification, [Certified] private applicators ~~[shall attend a course of instruction]~~ are required to read and demonstrate competency in the understanding of pesticide labels and labeling and shall: ~~[approved by the director as required by section 281.040, RSMo (1986).]~~**
 - (A) ~~[The]~~ **Attend a University of Missouri Extension private applicator ~~[course of instruction]~~ General Agricultural Pest Control certification training program;**
 - (B) **Complete a University of Missouri Extension private applicator General Agricultural Pest Control on-line certification training program; or**
 - (C) **Pass the department's private applicator General Agricultural Pest Control certification examination. ~~[shall encompass the standards of competence as provided in section (3) of this rule. Private applicators also shall be instructed as to the general pest problems and general pest control practices associated with agricultural operations, proper storage, application, handling and disposal of pesticides and pesticide containers and the legal responsibilities of private applicators.]~~**
- (2) **Private applicators must obtain certification in Category 20 – General Agricultural Pest Control prior to becoming certified in one of the additional private applicator certification categories. Private applicators that use restricted use pesticides to fumigate soil must also obtain certification in Category 21 – Soil Fumigation Pest Control. Private applicators that use restricted use pesticides to fumigate non-soil commodities or non-soil sites must also obtain certification in Category 22 – Non-Soil Fumigation Pest Control. Private applicators that apply restricted use pesticides through aerial application must also obtain certification in Category 23 – Aerial Pest Control. The certification training programs, on-line certification training programs, and certification examinations provided for Categories 20, 21, 22, and 23 shall encompass the standards of competence as provided in sections (3), (4), (5), and (6) of this rule.**
- ~~[(2)]~~ (3) **Category 20 – General Agricultural Pest Control Standards of Competence. The applicant shall demonstrate practical knowledge of:**
 - (A) **The recognition of common agricultural pests, ~~[and the recognition of the]~~ damage caused by these pests[;], the importance of selecting proper pesticide products for effective control, and the importance of verifying that the label does not prohibit the use of the product to control the target pest(s) or use site;**
 - (B) ~~[The r]~~ **Reading and understanding ~~[of]~~ the label and labeling information, including general format and terminology, ~~[including]~~ the common name of the pesticide[;], the pest to**

be controlled[;], timing and methods of [the] application of the pesticide[;], signal words, symbols, safety precautions[;], pre-harvest intervals[;], reentry intervals, and disposal procedures for pesticides and pesticide containers;

(C) All use restrictions and directions for use found on the label and labeling, certification requirements in the appropriate category to use restricted use pesticides, and State and Federal pesticide laws requiring the use of any registered pesticide in a manner consistent with its labeling;

(D) The meaning of product classification, the difference between mandatory and advisory labeling language, direct supervision including understanding when a certified applicator must be physically present at the site of the application based on labeling requirements, labeling requirements for supervising noncertified applicators, and understanding and complying with product-specific notification requirements;

(E) The application of pesticides in accordance with label and labeling instructions and warnings, including the ability to prepare the proper concentration of the pesticides to be used under particular circumstances, taking into account factors such as the area to be covered, speed in which application equipment will be driven, and the quantity to dispense in a given period of operation;

(F) The characteristics of pesticides, including types of pesticides, types of formulations, compatibility, synergism, persistence, animal and plant toxicity, hazards and residues associated with use, factors influencing effectiveness or leading to problems such as pesticide resistance, and dilution procedures;

(G) The recognition of local environmental situations that must be considered during application to avoid contamination[;] and potential environmental consequences of the use and misuse of pesticides, including weather and other climatic conditions, types of terrain, soil, or other substrate, presence of fish, wildlife, and non-target organisms, and drainage patterns;

(H) ~~[The recognition of poisoning symptoms and procedures to follow in case of a pesticide accident.]~~ Measures to avoid or minimize adverse health effects, common types and causes of pesticide mishaps, needs for and proper use of personal protective clothing and equipment, and precautions to prevent injury to applicators and other individuals in or near treated areas;

(I) Likely ways pesticide exposure may occur, symptoms of pesticide poisoning, the difference between acute toxicity and chronic toxicity and their long term effects, understanding that a pesticide's risk is a function of exposure and the pesticide's toxicity, and first aid and other procedures to be followed in case of a pesticide mishap;

(J) Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers, including precautions to be taken to prevent children from having access to pesticides and pesticide containers;

(K) Application equipment, including types of equipment and the advantages and limitations of each, uses, maintenance, and calibration procedures;

(L) Selecting appropriate application methods including methods used to apply various forms and formulations of pesticides, which application method to use in a given situation, and that use of a fumigant or aerial application requires additional certification, and how the selection of application method and use of a pesticide may result in unnecessary, ineffective use and misuse;

(M) The prevention of pesticide drift and pesticide loss into the environment;

(N) The state and federal pesticide laws and regulations, including the Worker Protection Standard in 40 CFR Part 170;

(O) The certified applicator responsibilities and requirements related to supervision of noncertified applicators, including being able to explain appropriate state and federal pesticide laws and regulations to noncertified applicators and providing use-specific instructions for the site and pesticide used to noncertified applicators using pesticides under the direct supervision of a certified private applicator ensuring that the noncertified applicator has access to the applicable product labeling at all times during use, ensuring that any noncertified applicator has clean labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose, ensuring that before each day of use the equipment is in proper operating condition and can be used without risk of reasonably foreseeable adverse effects to the noncertified applicator, other persons, or the environment, ensuring that a means to immediately communicate with the certified applicator is available, the certified applicator must be physically present at the site of the use being supervised when required by the label, and ensuring the required use records are being maintained;

(P) The importance of maintaining secure storage for pesticides and other chemicals and how to communicate information about pesticide exposures and risks with agricultural workers and handlers and other persons;

(Q) Agricultural Pest Control, including specific pests of relevant agricultural commodities and the control of such pests with pesticides, how to avoid contamination of ground and surface waters, understanding pre-harvest and restricted entry intervals and entry-restricted periods and areas, and understanding specific pesticide toxicity and residue potential when pesticides are applied to animal or animal product agricultural commodities; and

(R) Hazards associated with using pesticides on animals or places in which animals are confined based on formulation, application technique, age of animal, stress, and extent of treatment.

~~[(3) Attendance of an approved course of instruction by the private applicator shall be verified by the signature of the instructor and the signature of the private applicator on a verification document provided by the director. The document shall be forwarded to the Missouri Department of Agriculture as proof of attendance. Upon receipt of the document of verification of attendance, the director shall forward to the private applicator a certified private applicator license.]~~

Attachment 7-C

2 CSR 70-25.090 Examinations for Certified Commercial Applicators, Certified Noncommercial Applicators, Certified Public Operators, ~~and~~ Certified Private Applicators, Certified Provisional Private Applicators, Noncertified RUP Applicators, and Pesticide Dealers.

(1) Applicants for a certified commercial applicator license, ~~a~~ certified noncommercial applicator license, or ~~a~~ certified public operator license shall take ~~a~~ written examinations based on the general standards of competence and category specific standards of competence provided in 2 CSR 70-25.110. Applicants for a certified private applicator license or certified provisional private applicator license may take a written examination for each requested category defined in 2 CSR 70-25.140 based on the standards of competence provided in 2 CSR 70-25.150. Applicants for a noncertified RUP applicator license shall take a written examination based on the general standards of competence provided in 2 CSR 70-25.110 (3). Applicants for a pesticide dealer license shall take a written examination based on the laws and regulations governing the use and sale of pesticides and the pesticide dealer's responsibility in carrying on the business of a pesticide dealer. ~~[When recommended by the director, the a]~~ Applicants ~~[shall take a written and oral examination and]~~ may be required to conduct a practical demonstration of competence.

(2) Examinations shall cover material judged by the director to be pertinent to the request contained in the application.

(3) Applicants must present at the time of examination a valid, government-issued photo identification or other form of similarly reliable identification authorized by the director as proof of identity and age to be eligible for certification.

~~[(3)]~~(4) Any applicant who gives or receives unauthorized assistance during an examination shall be dismissed from the examination and his/her ~~[markings or results]~~ examination shall be voided. ~~[Any such person shall be required to make reapplication for a license.]~~

~~[(4)]~~(5) Only persons authorized by the director may be in the examination room during the examination. ~~[The director may require identification for all applicants.]~~

(6) Only director-approved reference material provided by the examination proctor may be used during the examination. All reference material will be collected and examined by the examination proctor to ensure no portion of the reference material has been removed, altered, or destroyed. No portion of any examination or reference material may be copied or retained by any person other than a person authorized by the director. Any applicant found to have removed, altered, or destroyed any portion of the reference material shall have his/her examination results voided.

~~[(5)]~~(7) Any applicant who fails to attain a passing score of at least seventy percent (70%) on any examination may request through the normal registration process ~~[in writing, by regular mail,]~~ to retake the examination. ~~[The director will then inform the applicant, in writing, by regular mail, of]~~

~~the time and place the applicant may retake the examination. Upon failing the examination three (3) times, or failing to take the examination as scheduled three (3) times, the applicant shall reapply for a license.]~~

~~[(6)](8) All examination[s taken to satisfy requirements of the Missouri Pesticide Use Act] results are valid for one (1) year and shall be retained by the department for at least one (1) year from the date they were completed. Individuals who do not apply for a license during that one (1)-year period must [be reexamined before their license application will be accepted.] reexamine.~~

*Note: these examination standards are part of the plan only. They will not be implemented in rule.

- Examinations must be proctored by an individual designated by the certifying authority and who is not seeking certification at any examination session that he or she is proctoring.
- Candidates must be monitored throughout the examination period.
- Candidates must be instructed in examination procedure before beginning the examination.
- Examinations must be kept secure before, during and after the examination period so that only the candidates have access to the examination, and candidates have access only in the presence of the proctor.
- Candidates must not have verbal or non-verbal communication with anyone other than the proctor during the examination.
- The proctor must report to the certifying authority any examination administration inconsistencies or irregularities, including but not limited to cheating, use of unauthorized materials, and attempts to copy or retain the examination.
- The certifying authority must notify the candidate of the results of his or her examination.
- Additional information about exam standards including a link to the handbook can be found by visiting the following link: <https://agriculture.mo.gov/plants/pesticides/certexam.php>

2 CSR 70-25.130 Requirements for a Certified Private Applicator License or Certified Provisional Private Applicator License

(1) A certified private applicator license or certified provisional private applicator license will be issued to any private applicator who meets the following requirements:

~~(A) Applicants shall submit to the director a verification of training signed by the applicant and an authorized pesticide trainer; and~~

~~(B)~~ (A) Is of legal age;

(B) Is a producer of agricultural commodities as defined in section 2 CSR 70-25.010;

(C) Presents a valid, government-issued photo identification, or other form of similarly reliable identification approved by the director, as proof of identity and age at the time of the training program or examination to be eligible for certification or recertification; and

(D) ~~Private applicators~~ Individuals shall meet one of the following three (3) options, except those applicants seeking a certified provisional private applicator license are not eligible for certification in Category 21 – Soil Fumigation Pest Control, Category 22 – Non-Soil Fumigation Pest Control, or Category 23 – Aerial Pest Control:

1. ~~[The applicant shall have a]~~ Attend~~[ed]~~ a private applicator **General Agricultural Pest Control certification** training program ~~[provided by the director and presented by the University of Missouri Cooperative Extension Service or the applicant shall have demonstrated competence in the safe and proper use of pesticides by completing any other program of pesticide training approved by the director.]~~ approved by the director as required by section 281.040 and provided and presented by the University of Missouri Extension. The ~~private applicator's~~ individual's attendance of an approved private applicator certification training program and successful demonstration of competency in comprehending pesticide label and labeling directions for use shall be verified by the signature of the University of Missouri Extension instructor and the signature of the ~~private applicator~~ individual on a verification document provided by the director. The document shall be forwarded to the Missouri Department of Agriculture as proof of attendance and evidence of successful demonstration of competency in comprehending pesticide label and labeling directions for use. After completion of the in-person certification training program, individuals will qualify for certification upon completing the application process for licensing;

2. Attend a private applicator on-line certification training program approved by the director as required by section 281.040 and provided and presented by the University of Missouri Extension. Immediately following the completion of an on-line private applicator certification training program the University of Missouri Extension shall forward verification of the ~~private applicator's~~ individual's successful completion of the training program, including evidence of the ~~private applicator's~~ individual's demonstration of competency in comprehending pesticide label and labeling directions for use. After completion of the on-line certification training program, individuals will qualify for certification upon completing the application process for licensing; or

3. Pass appropriate private applicator category certification examination(s) based on the standards of competence for Category 20 – General Agricultural Pest Control, Category 21 – Soil Fumigation Pest Control, Category 22 – Non-soil Fumigation Pest Control, and Category 23 – Aerial Pest Control. Examination results will be forwarded to the Missouri

Department of Agriculture. ~~Private applicators~~ Individuals with passing scores of at least seventy percent (70%) will qualify for certification upon completing the application process for licensing.

(2) Individuals holding a valid certified private applicator license may continue to purchase and use restricted use pesticides until such time existing license expires or five (5) years from the effective date of this regulation, which ever date is less.

Attachment 7-D

281.080. Exemptions.

The provisions of sections 281.010 to 281.115 relating to licenses and requirements for their issuance shall not apply to:

- (1) Veterinarians using pesticides on animals during the normal course of veterinary practice, as long as he is not regularly engaged in the business of using pesticides for hire amounting to a principal or regular occupation or does not publicly hold himself out as a pesticide applicator;
- (2) Doctors of medicine or doctors of osteopathy using or prescribing pesticides in the practice of medicine;
- (3) Government and private research personnel using pesticides under laboratory type conditions.

Attachment 8

Certification period and Quality of Continuing Education Required to Maintain Certification

2 CSR 70-25.050 Review of Certification or License

- (1) The director may investigate the need for hearings to deny, suspend, revoke, or modify a license, certification, or permit. These investigations may extend to license qualifications and possible violations of the Missouri Pesticide Use Act.
- (2) Additional training or reexamination of certified commercial applicators, certified noncommercial applicators, and certified public operators ~~is [shall be]~~ required within three (3) years from initial certification and within each subsequent three (3)-year period. Additional training shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of pesticides.
 - (A) Certified commercial applicators, certified noncommercial applicators, and certified public operators must attend a recertification training program approved by the department that meets the general standards of competency and category specific standards of competency for each category of certification; or
 - (B) Certified commercial applicators, certified noncommercial applicators, and certified public operators must pass the general standards of competence exam (CORE) and each category exam for which the applicator is certified.
- (3) Additional training of pesticide technicians is required within three (3) years from initial licensing and within each subsequent three (3)-year period. Pesticide technicians may attend a recertification training program approved by the department that meets the category specific standards of competency for each category in which the technician is licensed or by completing eight (8) hours classroom training for each category in which the technician is licensed. Additional training shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of pesticides.
- ~~(3)~~(4) Additional training or reexamination of certified private applicators ~~[shall be]~~ is required within five (5) years from initial certification and within each subsequent five (5)-year period. This additional training and reexamination shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of agricultural pesticides.
 - (A) Certified private applicators must complete the additional training requirement by attending a department approved University of Missouri Extension private applicator in-person or on-line certification training program for each category of certification; or
 - (B) Certified private applicators must pass the examination(s) for each category of certification: 20 – General Agricultural Pest Control, 21 – Soil Fumigation Pest Control, 22 – Non-soil Fumigation Pest Control, or 23 – Aerial Pest Control.

(5) All licenses are invalid upon the expiration of the license, recertification date, or retraining date.

(6) If additional training or reexamination is not completed within sixty (60) days following the certification or retraining expiration date the certified commercial applicator, certified noncommercial applicator, certified public operator, certified private applicator, or licensed pesticide technician will be cancelled and the individual shall be required to satisfy all the requirements of licensure as if such person was never licensed.

Recertification Based on Written Exams

The Missouri Department of Agriculture’s exam questions come from the CORE and category manuals. Manuals will be reviewed and new questions will be written that meet or exceed the competency standards for commercial and private applicators. Next, we will work with our testing vendor to provide exam questions and will conduct a final review of the exams to ensure accuracy. The exams will ensure commercial and private applicators demonstrate the level of competence required by §171.103 and §171.105 respectively. Through measureable exam data, the exam questions will be reviewed and modified accordingly. Additionally, new exam questions will be created as category manuals are revised.

Recertification Based on Continuing Education – Content

2 CSR 70-25.110 Standards of Competence for the Certification of Commercial Applicators, Noncommercial Applicators, ~~and~~ Public Operators, and Noncertified RUP Applicators

~~(2)~~(3) General Standards of Competence for ~~[All Certification Categories]~~ CORE examination. The applicant shall demonstrate a practical knowledge of:

(A) Pesticide labels and labeling, including-

1. ~~[t]~~The format and terminology of pesticide labels and labeling, and an understanding of instructions, warnings, terms, symbols, and other information commonly appearing on pesticide labels.
2. ~~[The applicant shall demonstrate a practical knowledge of t]~~The classification of pesticides as to general or restricted use and **that a pesticide may be unclassified.**
3. **Understanding labeling requirements relating to supervising noncertified applicators who are working under the direct supervision of a certified applicator.**
4. **Understanding label requirements that a certified applicator must be physically present at the site of the application.**
5. **Recognizing and understanding the difference between mandatory and advisory labeling language.**
6. **Understanding that they must comply with all use restrictions and directions for use found on the label and labeling, including being certified in the certification category appropriate**

to the type and site of application and that it is a violation of state and federal law to use any registered ~~[must understand the necessity for the use of a]~~ pesticide in a manner inconsistent with its labeling.

(B) Applicator pesticide safety, including-

1. ~~[t]~~The factors of pesticide safety including pesticide toxicity, hazard to man, and common exposure routes.
2. ~~[The applicator must demonstrate a practical knowledge of t]~~The types and causes of pesticide accidents~~[, — a practical knowledge of f]~~ and the precautions necessary to guard against injury to applicators and other individuals in or near treated areas.
3. **Understanding the different natures of the risks of acute toxicity, as well as the long-term effects of pesticides.**
4. ~~[a practical knowledge of t]~~The need for, and the use of, protective clothing and equipment.
5. ~~[a practical knowledge of s]~~Symptoms of pesticide poisoning[;].
6. ~~[and a practical knowledge of f]~~First aid and other procedures to be followed in case of pesticide accidents.
7. ~~[The applicator shall demonstrate a practical knowledge of p]~~Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers including precautions to be taken to prevent children from having access to pesticides and pesticide containers.

(C) Environment, including-

1. ~~[The applicant shall demonstrate a practical knowledge of the environment, including p]~~Potential environmental consequences of the use, and the misuse, of pesticides as may be influenced by such factors as weather and other climatic conditions; ~~[as may be influenced by]~~ types of terrain, soil, and other substrate; ~~[as may be influenced by]~~ the presence of fish, wildlife, and other non-target organisms; and ~~[as may be influenced by]~~ drainage patterns.

(D) Pests and pest recognition, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pests and pest recognition, including t]~~The common features of pest organisms and the characteristics of pest damage as a means of pest recognition[;].
2. ~~[and a practical knowledge of]~~ [p]Pest development, including the biology and habits of pests as may be relevant to problem identification in pest control.
3. **Correctly selecting the proper pesticide product(s) for effective pest control by verifying the labeling does not prohibit the use of the product for the control of the target pest(s) or use site.**

(E) Pesticides, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticides, including t]~~Types of pesticides, types of pesticide formulations, compatibility, synergism, persistence, and the toxicity of various pesticides and pesticide formulations to animals and plants.

2. ~~[a practical knowledge of t]~~The hazards and residues associated with pesticide use.
3. ~~[a practical knowledge of f]~~Factors which influence pesticide effectiveness or lead to such problems as resistance to pesticides~~[-; and a practical knowledge of]~~
4. ~~[e]~~Dilution procedures.

(F) Pesticide equipment, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticide equipment, including t]~~The types of equipment and the advantages and limitations of each type~~[,]~~.
2. ~~[and a practical knowledge of t]~~The use, maintenance, and calibration of pesticide equipment.
3. Drift prevention and pesticide loss into the environment.

(G) Application techniques, including-

1. ~~[The applicant shall demonstrate a practical knowledge of pesticide application techniques, including m]~~Methods and procedures used to apply various formulations of pesticides~~[solutions and gases, together with a knowledge of which]~~ and the application technique to use in a given situation.
2. ~~[a practical knowledge of the relationship of discharge and placement of a pesticide to the proper use of the pesticide as well as to the unnecessary use of the pesticides;]~~ Understanding how selection of application method and use of a pesticide may result in proper use, unnecessary or ineffective use, and misuse.
3. ~~[and a practical knowledge of t]~~The prevention of pesticide drift and of pesticide loss into the environment.
4. Which application method to use in a given situation and that use of a fumigant or aerial application requires additional certification.

(H) ~~[The applicant shall demonstrate a practical knowledge of the applicable s]~~State and federal pesticide laws and regulations.

(I) Responsibility of certified applicators supervising noncertified applicators, including-

1. Understanding and complying with all regulations for certified applicators who supervise noncertified applicators using general use and restricted use pesticides and the regulatory requirements for recordkeeping for noncertified applicators who have demonstrated competency in the safe use of all pesticides.
2. Providing use-specific instructions to noncertified applicators prior to using general use and restricted use pesticides under the direct supervision of a certified applicator.
3. Pertinent state and federal pesticide laws and regulations for explanation to noncertified applicators who use general use and restricted use pesticides under the direct supervision of certified applicators.

(J) Professionalism, including-

1. Understanding of the importance for maintaining chemical security for all pesticides and how to communicate information about pesticide exposure and risks with the public.

2. Pesticide product stewardship.

2 CSR 70-25.110 Standards of Competence for the Certification of Commercial Applicators, Noncommercial Applicators, ~~and~~ Public Operators, and Noncertified RUP Applicators

~~[(3)]~~ (4) Specific Standards of Competence for Certification of Commercial Applicator, Noncommercial Applicator, and Public Operator Categories. The applicant shall demonstrate a practical knowledge of at least one of the following categories:

(A) Category 1—Agricultural Pest Control.

1. Subcategory a—Agricultural Plant Pest Control.

- A. ~~[The applicant shall demonstrate a practical knowledge of t]~~The crops to which pesticides will be applied.
- B. ~~[and a practical knowledge of t]~~The specific pests of those crops.
- C. ~~[A practical knowledge is required concerning p]~~Potential soil and water problems, preharvest~~[ed]~~ intervals, reentry intervals, phytotoxicity due to a wide variety of plants to be protected, drift, persistence beyond the intended period of pest control, ~~[-and concerning the]~~ potential for environmental contamination, ~~[the]~~ potential for injury to nontarget plants and animals, and ~~[the]~~ potential for causing community problems resulting from the use of pesticides in agricultural areas.

2. Subcategory b—Agricultural Animal Pest Control.

- A. ~~[The applicant who applies pesticides directly to animals, or to the harborages of animals, must demonstrate a practical knowledge of these a]~~Animals or the harborages of animals to which the pesticides are applied and their associated pests.
- B. ~~[A practical knowledge also is required concerning s]~~Specific pesticide toxicity to animals and ~~[concerning]~~ the potential for illegal pesticide residues when these animals are to be used for human or animal food.
- C. ~~[The applicant also must demonstrate a practical knowledge of]~~ Hazards associated with pesticide formulations and application techniques as they apply to animals of various ages and animals under various types of stress~~[- and a practical knowledge concerning]~~ and the extent of treatment ~~[of those animals]~~.

(B) Category 2—Forest Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of t]~~The types of forest, forest nurseries, ~~[and]~~ seed production, and ~~[a practical knowledge of]~~ the pests involved.
2. ~~[The applicant shall possess a practical knowledge of t]~~The cyclic occurrence of certain pests~~[-]~~.
3. ~~[and a practical knowledge of s]~~Specific population dynamics as a basis for programming pesticide applications.
4. ~~[Applicants shall demonstrate a practical knowledge regarding n]~~Nontarget plants and animals and their vulnerability to pesticides.

5. ~~[The applicator must demonstrate a practical knowledge of c]~~Control methods which will minimize the possibility of secondary problems such as the unintended effects on wildlife and which will minimize problems of pollution.
6. ~~[The applicator must demonstrate a practical knowledge of s]~~Specialized equipment, especially as it relates to meteorological factors and adjacent land use.
7. Relevant organisms causing harm and their vulnerability to the pesticides to be applied.
8. How to determine when pesticide use is proper.
9. The selection of application method.
10. Potential for phytotoxicity due to a wide variety of plants to be protected, drift, and persistence beyond the intended period of pest control.

(C) Category 3—Ornamental and Turf Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of p]~~Pesticide problems associated with the production and maintenance of ornamental trees, shrubs, plantings, and the production and maintenance of turf.
2. ~~[The applicant shall demonstrate a practical knowledge concerning p]~~Potential phytotoxicity (chemical burn of plant tissue) due to a wide variety of plant material involved.
3. ~~[The applicant shall demonstrate a practical knowledge concerning p]~~Pesticide drift.
4. ~~[and a practical knowledge concerning t]~~The persistence of pesticides beyond the intended period of pest control.
5. ~~[Because of the frequent proximity of human habitations to application activities the applicant shall demonstrate a practical knowledge of a]~~Application methods which will minimize or prevent hazards to humans, pets, and other domestic animals.
6. Non-target exposures.

(D) Category 4—Seed Treatment.

1. ~~[The applicant shall demonstrate a practical knowledge of t]~~The types of seeds which require chemical protection against pests.
2. ~~[and a practical knowledge of f]~~Factors such as seed coloration, pesticide carriers, and surface active agents which influence pesticide binding and may affect germination.
3. ~~[The applicant shall demonstrate a practical knowledge of t]~~The hazards associated with the handling, sorting, and mixing of treated seed.
4. ~~[The applicant shall demonstrate practical knowledge of t]~~The problems regarding the misuse of seed treated with pesticides, such as the introduction of treated seed into food and feed channels.
5. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The proper disposal of unused treated seed.
6. The importance of proper application techniques to avoid harm to non-target organisms.

(E) Category 5—Aquatic Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of t]~~The secondary effects which can be caused by improper application rates, incorrect formulations, and the faulty application of those pesticides used in this category.
2. ~~[The applicant shall demonstrate a practical knowledge of v]~~Various water use situations and the potential for downstream adverse effects.
3. ~~[The applicant shall demonstrate a practical knowledge of t]~~The potential adverse effects of pesticides on nontarget plants, fish, birds, beneficial insects, and other organisms which may be present in aquatic environments.
4. ~~[The applicant shall demonstrate a practical knowledge of t]~~The principles of limited area applications.

A. Subcategory b—Sewer Root Pest Control.

(I) Pesticide labels and labeling for pesticides including metam-sodium pesticide products used for sewer root pest control.

(II) Pesticide safety and the need for the use of personal protective equipment, including problems and mistakes leading to exposure and the signs and symptoms of human and environmental exposure.

(III) Equipment used to perform sewer root pest control applications.

(IV) Proper storage, handling, transport, spills, cleanup, and disposal including the disposal of excess material, waste, and containers.

(F) Category 6—Right-of-Way Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The wide variety of environments involved in right-of-way pest control.
2. ~~[The applicant shall demonstrate a practical knowledge of p]~~Problems of pesticide run off, pesticide drift, and ~~[problems of]~~ excess foliage destruction.
3. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The recognition of target pest organisms involved in right-of-way pest control.
4. ~~[The applicant shall demonstrate a practical knowledge of h]~~Herbicides and the need for containing these pesticides within the right-of-way area.
5. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The impact of pesticides on adjacent areas and communities.
6. Potential for phytotoxicity due to a wide variety of plants and pests to be controlled.
7. Persistence beyond the intended period of pest control.

(G) Category 7—Structural Pest Control.

1. Subcategory a—General Structural Pest Control.

- A. ~~[The applicant shall demonstrate a practical knowledge of a]~~A wide variety of structural pests, including the life cycle and habits of these pests.
- B. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The types of formulations appropriate for the control of these pests.
- C. ~~[The applicant shall demonstrate a practical knowledge concerning t]~~The application of pesticides in a manner to avoid damage to the structure, contamination of food,

contamination of the structure and surrounding area, and exposure of people and pets.

- D. ~~[The applicant shall demonstrate a practical knowledge of t]~~The specific factors which may lead to a hazardous condition, including continuous exposure in the various situations encountered in this category.
- E. ~~[The applicant must also demonstrate practical knowledge of e]~~Environmental conditions relating to outdoor applications of pesticides used in this category.

2. Subcategory b—Termite Pest Control.

- A. ~~[The applicant shall demonstrate a practical knowledge of t]~~Termites, including their life cycle and habits and a practical knowledge of termite damage.
- B. ~~[The applicant shall demonstrate a practical knowledge of v]~~Various associated wood-destroying organisms, including, but not limited to, powder post beetles, carpenter ants, and other wood destroying insects.
- C. ~~[The applicant shall demonstrate a practical knowledge concerning undue]~~**The use of pesticides in a manner to avoid** exposure to humans, domestic pets, and other nontarget organisms[;].
- D. ~~[as well as a practical knowledge concerning p]~~Potential contamination of the environment and associated problems.
- E. **Types of formulations appropriate for control.**

3. Subcategory c—Fumigation Pest Control.

~~[The applicant shall demonstrate a practical knowledge concerning a wide variety of pests associated with those structures subject to fumigation. The applicant shall demonstrate a practical knowledge regarding the use of the various fumigants, including application techniques, and the use of specialized safety equipment and specialized application techniques. The applicant shall demonstrate a practical knowledge concerning the use of fumigants in a manner to avoid contamination of food and surrounding areas and to prevent exposure of humans and pets. The applicant shall demonstrate a practical knowledge of the specific factors which may lead to a hazardous condition, including continuous exposure in the various situations encountered in this category. The applicant also must demonstrate practical knowledge of environmental conditions relating to outdoor applications of pesticides used in this category.]~~

- A. **Label and labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform non-soil fumigation, including labeling requirements specific to non-soil fumigants.**
- B. **Safety. Measures to minimize adverse health effects, including all of the following:**
 - I. **Understanding how certified applicators, noncertified applicators, and bystanders can become exposed to fumigants.**
 - II. **Common problems and mistakes that can result in direct exposure to fumigants.**
 - III. **Signs and symptoms of human exposure to fumigants**
 - IV. **Air concentrations of a fumigant that require applicators to wear respirators or to exit the work area entirely.**

- V. Steps to take if a fumigant applicator experiences sensory irritation.
 - VI. Understanding air monitoring, when it is required, and where and when to take samples.
 - VII. Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in a buffer zone.
 - VIII. First aid measures to take in event of exposure to a fumigant.
 - IX. Labeling requirements for transportation, storage, spill clean up, and emergency response for non-soil fumigants, including safe disposal of containers and contaminated materials, and management of empty containers.
- C. Non-soil fumigant chemical characteristics. Characteristics of non-soil fumigants including all of the following:
- I. Chemical characteristics of non-soil fumigants.
 - II. Specific human exposure concerns for non-soil fumigants.
 - III. How fumigants change from a liquid or solid to a gas.
 - IV. How fumigants disperse in the application zone.
 - V. Compatibility concerns for tanks, hoses, tubing, and other equipment.
- D. Application. Selecting appropriate application methods and timing, including all of the following:
- I. Application methods and equipment commonly used for non-soil fumigation.
 - II. Site characteristics that influence fumigant exposure.
 - III. Conditions that could impact timing of non-soil fumigant application, such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications under specific conditions.
 - IV. Conducting pre-application inspection of application equipment and the site to be fumigated.
 - V. Understanding the purpose and methods of sealing the area to be fumigated, including the factors that determine which sealing method to use.
 - VI. Calculating the amount of product required for a specific treatment area.
 - VII. Understanding the basic techniques for calibrating non-soil fumigant application equipment.
 - VIII. Understanding when and how to conduct air monitoring and when it is required.
- E. Pest factors. Pest factors that influence fumigant activity, including all of the following:
- I. Influence of pest factors on fumigant volatility.
 - II. Factors that influence gaseous movement through the area being fumigated and into the air.

- III. Identifying pests causing the damage and verifying they can be controlled with fumigation.
 - IV. Understanding the relationship between pest density and application rate.
 - V. The importance of proper application rate and timing.
 - F. Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following:
 - I. Following label directions for required personal protective equipment.
 - II. Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment.
 - III. Understanding the types of respirators required when using specific non-soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters.
 - IV. Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recording.
 - G. Fumigant management plans and post-application summaries. Information about fumigant management plans and when they are required, including all of the following:
 - I. When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it.
 - II. The element of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan.
 - III. The person responsible for verifying that a fumigant management plan is accurate.
 - IV. The elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed.
 - H. Posting requirements. Understanding posting requirements, including all of the following:
 - I. Understanding who is allowed in an area being fumigated or after fumigation and who is prohibited from being in such areas.
 - II. Distinguishing fumigant labeling-required posting and treated area posting, including the pre-application and post-application posting timeframes for each.
 - III. Proper choice and placement of warning signs.
- (H) Category 8—Public Health Pest Control.
1. ~~[The applicant shall demonstrate a practical knowledge of v]~~ Vector-disease transmission as it relates to, and influences, pesticide application problems.

2. ~~[The applicator shall demonstrate a practical knowledge concerning a wide variety of~~ **p]Pests commonly** involved in public health pest control, including the life histories and habits of these pests.
3. ~~[The applicant shall demonstrate a practical knowledge concerning a great variety of~~ **e]Environments and sites commonly found in public health pest control**, which range from streams to those conditions found in buildings.
4. ~~[The applicant shall demonstrate a practical knowledge of t]~~The importance of, and employment of, such nonchemical control methods as sanitation, waste disposal, and drainage.
5. **How to minimize damage to and contamination of areas treated.**
6. **Acute and chronic exposure of people and pets.**
7. **Non-target exposures.**

(I) Category 9—Regulatory Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of r]~~Regulated pests, applicable laws pertaining to pest quarantine, and other forms of pest regulation and the potential impact on the environment of pesticides used in suppression and eradication programs.
2. ~~[The applicant shall demonstrate a practical knowledge concerning f]~~Factors influencing introduction, spread, and population dynamics of relevant pests.
~~[The applicant shall demonstrate a practical knowledge which shall extend beyond that required by the immediate duties of the applicator since the services of the applicator frequently are required in other areas of the country where emergency measures are invoked to control regulated pests and where individual judgements must be made in new situations.]~~

(J) Category 10—Demonstration and Research Pest Control.

1. ~~[The applicant shall meet c]~~Comprehensive standards reflecting a broad spectrum of pesticide uses.
2. ~~[The applicant shall demonstrate a practical knowledge of p]~~Problems, pests, and population levels occurring in each demonstration or research situation ~~[required]~~.
3. ~~[The applicant shall demonstrate a]~~An understanding of pesticide-organism interactions and the importance of integrating pesticide use with other control methods.
4. **Effects of restricted use pesticides on target and non-target organisms.**
5. The applicant shall not only demonstrate competence in the category of Demonstration and Research Pest Control but ~~[also shall demonstrate the category competencies which apply to the area of expertise in which the applicant shall conduct demonstrations and research]~~ **must also be certified in the proper category(ies) of use.**

(K) Category 11—Wood Products Pest Control.

1. ~~[The applicant shall demonstrate a practical knowledge of w]~~Wood degradation and a general knowledge of pesticides used to prevent or control the degradation.
2. ~~[The applicant shall demonstrate a]~~An understanding of the pesticides used to preserve wood, including a knowledge of solution formulations, application techniques, hazards to

man, domestic animals, and the environment, and the safe and proper means of container storage and disposal.

(L) Category 12— Soil Fumigation Pest Control.

1. Label and labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform soil fumigation, including all of the following:
 - A. Labeling requirements specific to soil fumigants.
 - B. Requirements for certified applicators of fumigants, fumigant handlers, and permitted fumigant handler activities, and the safety information that certified applicators must provide to noncertified applicators using fumigants under their direct supervision.
 - C. Entry-restricted periods for tarped and untarped field application scenarios.
 - D. Recordkeeping requirements.
 - E. Labeling provisions unique to fumigant products containing certain active ingredients.
2. Safety. Measures to minimize adverse health effects, including all of the following:
 - A. Understanding how certified applicators, noncertified applicators using fumigants under direct supervision of certified applicators, field workers, and bystanders can become exposed to fumigants.
 - B. Common problems and mistakes that can result in direct exposures to fumigants.
 - C. Signs and symptoms of human exposure to fumigants.
 - D. Air concentrations of a fumigant that require that applicators wear respirators or exit the work area entirely.
 - E. Steps to take if a fumigant applicator experiences sensory irritation.
 - F. Understanding air monitoring, when it is required, and where and when to take samples.
 - G. Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in the buffer zone.
 - H. First aid measures to take in the event of exposure to a soil fumigant.
 - I. Labeling requirements for transportation, storage, spill cleanup, and emergency response for soil fumigants, including safe disposal of containers and contaminated soil, and management of empty containers.
3. Soil fumigant chemical characteristics. Characteristics of soil fumigants including all of the following:
 - A. Chemical characteristics of soil fumigants.
 - B. Specific human exposure concerns for soil fumigants.
 - C. How soil fumigants change from a liquid or solid to a gas.
 - D. How soil fumigants disperse in the application zone.
 - E. Compatibility concerns for tanks, hoses, tubing, and other equipment.
4. Application. Selecting appropriate application methods and timing, including all of the following:
 - A. Application methods, including but not limited to water-run and non-water-run applications, and equipment commonly used for each soil fumigant.
 - B. Site characteristics that influence fumigant exposure.
 - C. Understanding temperature inversions and their impact on soil fumigant application.

- D. Weather conditions that could impact timing of soil fumigant application, such as air stability, air temperature, humidity, and wind currents, and labeling statements limiting applications during specific weather conditions.
 - E. Conducting pre-application inspection of application equipment.
 - F. Understanding the purpose and methods of soil sealing, including the factors that determine which soil sealing method to use.
 - G. Understanding the use of tarps, including the range of tarps available, how to seal tarps, and labeling requirements for tarp removal, perforation, and repair.
 - H. Calculating the amount of product required for a specific treatment area.
 - I. Understanding the basic techniques for calibrating soil fumigant application equipment.
5. Soil and pest factors. Soil and pest factors that influence fumigant activity, including all of the following:
- A. Influence of soil factors on fumigant volatility and movement within the soil profile.
 - B. Factors that influence gaseous movement through the soil profile and into the air.
 - C. Soil characteristics, including how soil characteristics affect the success of a soil fumigant application, assessing soil moisture, and correcting for soil characteristics that could hinder a successful soil fumigant application.
 - D. Identifying pest causing the damage and verifying they can be controlled with soil fumigation.
 - E. Understanding the relationship between pest density and application rate.
 - F. The importance of proper application depth and timing.
6. Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following:
- A. Following labeling directions for required personal protective equipment.
 - B. Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment.
 - C. Understanding the types of respirators required when using specific soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters.
 - D. Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recordkeeping.
7. Fumigant management plans and post-application summaries. Information about fumigant management plans, including all of the following:
- A. When a fumigant management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it.
 - B. The elements of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan.
 - C. The person responsible for verifying that a fumigant management plan is accurate.
 - D. The elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed.
8. Buffer zones and posting requirements. Understanding buffer zones and posting requirements, including all of the following:

- A. Buffer zones and the buffer zone period.
- B. Identifying who is allowed in the buffer zone during the buffer zone period and who is prohibited from being in a buffer zone during the buffer zone period.
- C. Using the buffer zone table from the labelling to determine the size of the buffer zone.
- D. Factors that determine the buffer zone credits for application scenarios and calculating buffer zones using credits.
- E. Distinguishing buffer zone posting and treated area posting, including the pre-application and post-application posting timeframes for each.
- F. Proper choice and placement of warning signs.

(M) Category 13—Aerial Pest Control.

1. Labeling. Labeling requirements and restrictions specific to aerial application of pesticides including:
 - A. Spray volumes.
 - B. Buffers and no-spray zones.
 - C. Weather conditions specific to wind and inversions.
2. Application equipment. Understand how to choose and maintain aerial application equipment, including all of the following:
 - A. The importance of inspecting application equipment to ensure it is in proper operating condition prior to beginning an application.
 - B. Selecting proper nozzles to ensure it is in proper operating condition prior to beginning an application.
 - C. Knowledge of components of an aerial pesticide application system, including pesticide hoppers, tanks, pumps, and types of nozzles.
 - D. Interpreting a nozzle flow chart.
 - E. Determining the number of nozzles for intended pesticide output using nozzle flow rate chart, aircraft speed, and swath width.
 - F. How to ensure nozzles are placed to compensate for uneven dispersal due to uneven airflow from wingtip vortices, helicopter rotor turbulence, and aircraft propeller turbulence.
 - G. Where to place nozzles to produce the appropriate droplet size.
 - H. How to maintain the application system in good repair, including pressure gauge accuracy, filter cleaning according to schedule, and checking nozzles for excessive wear.
 - I. How to calculate required and actual flow rate.
 - J. How to verify flow rate using fixed timing, open timing, known distance, or a flow meter.
 - K. When to adjust and calibrate application equipment.
3. Application considerations. The applicator must demonstrate knowledge of factors to consider before and during application, including all of the following:
 - A. Weather conditions that could impact application by affecting aircraft engine power, take-off distance, and climb rate, or by promoting spray droplet evaporation.

- B. How to determine wind velocity, direction, and air density at the application site.
 - C. The potential impact of thermals and temperature inversions on aerial pesticide application.
4. Minimizing drift. The applicator must demonstrate knowledge of methods to minimize off-target pesticide movement, including all of the following:
 - A. How to determine drift potential of a product using a smoke generator.
 - B. How to evaluate vertical and horizontal smoke plumes to assess wind direction, speed, and concentration.
 - C. Selecting techniques that minimize pesticide movement out of the area to be treated.
 - D. Documenting special equipment configurations or flight patterns used to reduce off-target pesticide drift.
 5. Performing aerial application. The applicator must demonstrate competency in performing an aerial pesticide application, including all of the following:
 - A. Selecting a flight altitude that minimizes streaking and off-target pesticide drift.
 - B. Choosing a flight pattern that ensures applicator and bystander safety and proper application.
 - C. The importance of engaging and disengaging spray precisely when entering and exiting a predetermined swath pattern.
 - D. Tools available to mark swaths, such as global positioning systems and flags.
 - E. Recordkeeping requirements for aerial pesticide applications including application conditions if applicable.
 6. The applicant shall not only demonstrate competence in the category of Aerial Pest Control, but must also be certified in the proper category(ies) of use.

2 CSR 70-25.150 [~~Course of Instruction and~~] Standards of Competence for **the Certification of ~~[Certified]~~ Private Applicators**

- (1) To qualify for private applicator certification or provisional private applicator certification, ~~[Certified]~~ private applicators ~~[shall attend a course of instruction]~~ are required to read and demonstrate competency in the understanding of pesticide labels and labeling and shall: ~~[approved by the director as required by section 281.040, RSMo (1986).]~~
 - (A) ~~[The]~~ Attend a University of Missouri Extension private applicator ~~[course of instruction]~~ General Agricultural Pest Control certification training program;
 - (B) Complete a University of Missouri Extension private applicator General Agricultural Pest Control on-line certification training program; or
 - (C) Pass the department's private applicator General Agricultural Pest Control certification examination. ~~[shall encompass the standards of competence as provided in section (3) of this rule. Private applicators also shall be instructed as to the general pest problems and general pest control practices associated with agricultural operations, proper storage, application, handling and disposal of pesticides and pesticide containers and the legal responsibilities of private applicators.]~~

(2) Private applicators must obtain certification in Category 20 – General Agricultural Pest Control prior to becoming certified in one of the additional private applicator certification categories. Private applicators that use restricted use pesticides to fumigate soil must also obtain certification in Category 21 – Soil Fumigation Pest Control. Private applicators that use restricted use pesticides to fumigate non-soil commodities or non-soil sites must also obtain certification in Category 22 – Non-Soil Fumigation Pest Control. Private applicators that apply restricted use pesticides through aerial application must also obtain certification in Category 23 – Aerial Pest Control. The certification training programs, on-line certification training programs, and certification examinations provided for Categories 20, 21, 22, and 23 shall encompass the standards of competence as provided in sections (3), (4), (5), and (6) of this rule.

~~((2))~~ (3) Category 20 – General Agricultural Pest Control Standards of Competence. The applicant shall demonstrate practical knowledge of:

(A) The recognition of common agricultural pests, ~~[and the recognition of the]~~ damage caused by these pests~~;~~, the importance of selecting proper pesticide products for effective control, and the importance of verifying that the label does not prohibit the use of the product to control the target pest(s) or use site;

(B) ~~[The r]~~Reading and understanding ~~[of]~~ the label and labeling information, including general format and terminology, ~~[including]~~ the common name of the pesticide~~;~~, the pest to be controlled~~;~~, timing and methods of ~~[the]~~ application of the pesticide~~;~~, signal words, symbols, safety precautions~~;~~, pre-harvest intervals~~;~~, reentry intervals, and disposal procedures for pesticides and pesticide containers;

(C) All use restrictions and directions for use found on the label and labeling, certification requirements in the appropriate category to use restricted use pesticides, and State and Federal pesticide laws requiring the use of any registered pesticide in a manner consistent with its labeling;

(D) The meaning of product classification, the difference between mandatory and advisory labeling language, direct supervision including understanding when a certified applicator must be physically present at the site of the application based on labeling requirements, labeling requirements for supervising noncertified applicators, and understanding and complying with product-specific notification requirements;

(E) The application of pesticides in accordance with label and labeling instructions and warnings, including the ability to prepare the proper concentration of the pesticides to be used under particular circumstances, taking into account factors such as the area to be covered, speed in which application equipment will be driven, and the quantity to dispense in a given period of operation;

(F) The characteristics of pesticides, including types of pesticides, types of formulations, compatibility, synergism, persistence, animal and plant toxicity, hazards and residues associated with use, factors influencing effectiveness or leading to problems such as pesticide resistance, and dilution procedures;

(G) The recognition of local environmental situations that must be considered during application to avoid contamination[;] and potential environmental consequences of the use and misuse of pesticides, including weather and other climatic conditions, types of terrain, soil, or other substrate, presence of fish, wildlife, and non-target organisms, and drainage patterns;

(H) ~~[The recognition of poisoning symptoms and procedures to follow in case of a pesticide accident.]~~ Measures to avoid or minimize adverse health effects, common types and causes of pesticide mishaps, needs for and proper use of personal protective clothing and equipment, and precautions to prevent injury to applicators and other individuals in or near treated areas;

(I) Likely ways pesticide exposure may occur, symptoms of pesticide poisoning, the difference between acute toxicity and chronic toxicity and their long term effects, understanding that a pesticide's risk is a function of exposure and the pesticide's toxicity, and first aid and other procedures to be followed in case of a pesticide mishap;

(J) Proper identification, storage, transport, handling, mixing procedures, and disposal methods for pesticides and used pesticide containers, including precautions to be taken to prevent children from having access to pesticides and pesticide containers;

(K) Application equipment, including types of equipment and the advantages and limitations of each, uses, maintenance, and calibration procedures;

(L) Selecting appropriate application methods including methods used to apply various forms and formulations of pesticides, which application method to use in a given situation, and that use of a fumigant or aerial application requires additional certification, and how the selection of application method and use of a pesticide may result in unnecessary, ineffective use and misuse;

(M) The prevention of pesticide drift and pesticide loss into the environment;

(N) The state and federal pesticide laws and regulations, including the Worker Protection Standard in 40 CFR Part 170;

(O) The certified applicator responsibilities and requirements related to supervision of noncertified applicators, including being able to explain appropriate state and federal pesticide laws and regulations to noncertified applicators and providing use-specific instructions for the site and pesticide used to noncertified applicators using pesticides under the direct supervision of a certified private applicator ensuring that the noncertified applicator has access to the applicable product labeling at all times during use, ensuring that any noncertified applicator has

clean labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose, ensuring that before each day of use the equipment is in proper operating condition and can be used without risk of reasonably foreseeable adverse effects to the noncertified applicator, other persons, or the environment, ensuring that a means to immediately communicate with the certified applicator is available, the certified applicator must be physically present at the site of the use being supervised when required by the label, and ensuring the required use records are being maintained;

(P) The importance of maintaining secure storage for pesticides and other chemicals and how to communicate information about pesticide exposures and risks with agricultural workers and handlers and other persons;

(Q) Agricultural Pest Control, including specific pests of relevant agricultural commodities and the control of such pests with pesticides, how to avoid contamination of ground and surface waters, understanding pre-harvest and restricted entry intervals and entry-restricted periods and areas, and understanding specific pesticide toxicity and residue potential when pesticides are applied to animal or animal product agricultural commodities; and

(R) Hazards associated with using pesticides on animals or places in which animals are confined based on formulation, application technique, age of animal, stress, and extent of treatment.

~~[(3) Attendance of an approved course of instruction by the private applicator shall be verified by the signature of the instructor and the signature of the private applicator on a verification document provided by the director. The document shall be forwarded to the Missouri Department of Agriculture as proof of attendance. Upon receipt of the document of verification of attendance, the director shall forward to the private applicator a certified private applicator license.]~~

(4) Category 21 – Soil Fumigation Pest Control Standards of Competence. The applicant shall demonstrate practical knowledge of:

(A) Fumigant label and labeling comprehension, including labeling requirements specific to soil fumigation, labeling requirements for certified applicators and handlers of fumigants, permitted fumigant handler activities, and the safety information that certified applicators must provide to noncertified applicators using fumigants under the direct supervision of certified applicators;

(B) Entry-restricted period for different tarped and untarped field applications, recordkeeping requirements imposed by labels and labeling, and labeling provisions unique to products containing certain active ingredients;

(C) Labeling requirements for fumigation management plans, such as when a fumigant management plan must be in effect, how long must it be kept on file, where must it be kept

during application, and who must have access to it;

(D) The elements of a fumigation plan and resources for preparing a plan, responsibility for verifying that the fumigant management plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed;

(E) Measures to minimize adverse effects, including understanding how certified applicators, field workers, and bystanders can become exposed to fumigants;

(F) How common problems and mistakes can result in direct exposure to fumigants, the signs and symptoms of human exposure to fumigants, air concentrations, and requirements for respirators;

(G) The steps to take if a fumigant applicator experiences sensory irritation, air monitoring, when required and when to sample the air, buffer zones, first aid measures, and the labeling requirements for transportation, storage, spill cleanup, and emergency response for soil fumigants, including safe disposal of containers and contaminated soil;

(H) Characteristics of soil fumigants, including specific human exposure concerns, how soil fumigants change from liquid or solid to a gas, how soil fumigants disperse in the application zone, and compatibility concerns for tanks, hoses, tubing, and other equipment;

(I) Selecting appropriate application methods and timing, including application methods for water-run and non-water-run applications, equipment used for each soil fumigant, and site characteristics that influence fumigant exposure;

(J) Temperature inversions and their impact on soil fumigant applications, weather conditions that could impact timing of soil fumigation application, pre-application inspection of application equipment, the purpose and methods of soil sealing, and which methods to use;

(K) The use of tarps, how to seal tarps, labeling requirements for tarp removal, perforation, and repair, calculating the amount of fumigant required for a specific treatment area, and understanding the basic techniques for calibrating soil fumigation equipment;

(L) Soil and pest factors that influence fumigant activity, including influence of soil factors on fumigant volatility and movement within the soil and factors that influence gaseous movement through soil and air;

(M) Soil characteristics, including how they affect the success of a soil fumigant application, accessing soil moisture, and correcting for soil characteristics that could hinder a successful soil fumigation, pest(s) identification and verification that the soil fumigant will control pest(s), the relationship between pest density and application rate, and proper application depth and timing;

(N) Personal protective equipment (PPE), including following all label directions requiring PPE use and selecting, inspecting, using, caring for, and replacing PPE;

(O) The types of respirators required when using specific soil fumigants and how to use respirators properly (medical evaluation, fit testing, and required replacement of cartridges and

canisters), labeling requirements and other laws applicable to medical evaluation for respirator use, fit test, training, and recordkeeping;

(P) Fumigant management plans and post-application summaries, including when a fumigation management plan must be in effect, how long it must be kept on file, where it must be kept during a fumigant application, and who must have access to it;

(Q) The elements of a fumigant management plan and resources available for preparing a plan, the person responsible for verifying that a fumigation management plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed;

(R) Buffer zones and posting requirements, including buffer zones and buffer zone periods, identifying those who can be in the buffer zone and those who cannot be in the buffer zone during the buffer zone period;

(S) How to use the buffer zone table from the labeling to determine the size of the buffer zone, factors that determine the buffer zone credits for application scenarios, and calculating buffer zones using credits; and

(T) Distinguishing buffer zone posting and treated area posting, including the pre-application and post-application posting timeframes for each and the proper choice and placement of warning signs.

(5) Category 22 – Non-soil Fumigation Pest Control Standards of Competence. The applicant shall demonstrate a practical knowledge of:

(A) The use of fumigants on sites other than soil, including label and labeling comprehension of products used to perform non-soil fumigations and labeling requirements specific to non-soil fumigants;

(B) Safety measures to minimize adverse health effects, including understanding how applicators and bystanders can become exposed to fumigants, common problems and mistakes that can result in direct exposure to fumigants, and the signs and symptoms of human exposure to fumigants;

(C) When air concentrations trigger applicators, handlers, and workers to wear respirators or to exit the application site, the steps to take if an applicator using a fumigant experiences exposure, and first aid measures to take in the event of exposure to a fumigant;

(D) When to monitor and sample air, monitoring buffer zones and who is permitted to be in the buffer zone, labeling requirements for transportation, storage, spill clean up, and emergency response to non-soil fumigants, the safe disposal of containers and contaminated materials, and management of empty containers;

(E) Non-soil fumigant chemical characteristics, including chemical characteristics of non-soil fumigants, specific human exposure concerns for non-soil fumigants, how fumigants change from

a liquid or solid to a gas, and how fumigants disperse in the application zone;

(F) Compatibility concerns for tanks, hoses, tubing, and other equipment;

(G) Appropriate application methods and timing, including application methods and equipment commonly used for non-soil fumigation, site characteristics that influence fumigant exposure, and conditions that could impact timing of non-soil fumigations, such as air stability, air temperature, humidity, and wind currents, and labeling restrictions limiting applications when specific conditions are present;

(H) Conducting pre-application inspections of equipment and the site to be fumigated, the purpose and methods of sealing the area to be fumigated, and the factors that determine when and which sealing methods to use;

(I) Calculating the amount of fumigant required to treat the site, basic techniques for calibrating non-soil fumigant application equipment, and understanding when and how to conduct air monitoring and when it is required;

(J) Pest factors that influence fumigant activity, including influence of pest factors on fumigant volatility, factors that influence gaseous movement through the area being fumigated and into the air, and identifying pests causing the damage and verifying they can be controlled with fumigation;

(K) The relationship between pest density and application rate and the importance of proper application rate and timing;

(L) Personal protective equipment, including how to use it properly, following labeling directions for required personal protective equipment, and selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment;

(M) The different types of respirators required when using non-soil fumigants and how to use them properly, including when to replace cartridges and canisters;

(N) Labeling requirements and other laws applicable to medical evaluations and fit testing for respirator use and applicable training and recordkeeping;

(O) When fumigation management plans and post-application summaries are required, including when a fumigation management plan must be in effect, how long it must be kept on file, where it must be kept during the application, and who must have access to it;

(P) The elements found in a fumigation management plan and resources available to assist the applicator in preparing the fumigant management plan, who is responsible for verifying the plan is accurate, and the elements, purpose, and content of a post-application summary, who must prepare it, and when it must be completed; and

(Q) Posting requirements, including understanding who is allowed in an area being fumigated or after fumigation and who is prohibited from being in such area, distinguishing fumigant labeling-

required posting and treated area posting, including the pre-application and post-application posting timeframes for each, and the proper choice and placement of warning signs.

(6) Category 23 – Aerial Pest Control Standards of Competence. The applicant shall demonstrate a practical knowledge of:

(A) The pest problems and pest control practices associated with performing aerial applications;

(B) Labeling requirements and restrictions specific to aerial application of pesticides, spray volumes, buffer and no-spray zones, and weather conditions specific to wind and inversions;

(C) Label-mandated recordkeeping requirements for aerial pesticide applications including application conditions;

(D) Application equipment, including how to choose and maintain aerial application equipment, inspecting application equipment to ensure it is in proper operating condition prior to beginning an application, selecting proper nozzles to ensure appropriate pesticide dispersal and to minimize drift;

(E) The components of an aerial pesticide application system (pesticide hoppers, tanks, pumps, and types of nozzles) and nozzle flow charts;

(F) Determining the number of nozzles for intended pesticide output using a nozzle flow rate chart, aircraft speed, and swath width;

(G) How nozzles are placed to compensate for uneven dispersal due to uneven airflow from wingtip vortices, helicopter rotor turbulence, and aircraft propeller turbulence and where to place nozzles to produce the appropriate droplet size;

(H) How to maintain the application system in good repair, including pressure gauge accuracy, filter cleaning according to schedule, and checking nozzles for excessive wear;

(I) How to calculate required and actual flow rates, how to verify flow rate using fixed timing, open timing, known distance, or a flow meter, and when to adjust and calibrate application equipment;

(J) Application factors to consider before and during the application, including weather conditions that could impact application by affecting aircraft engine power, take-off distance, climb rate, and spray droplet evaporation;

(K) How to determine wind velocity, direction, and air density at the application site and potential impact of thermals and temperature inversions on aerial pesticide application;

(L) Methods to minimize off-target pesticide movement, including determining drift potential of a product by use of a smoke generator and how to evaluate vertical and horizontal smoke plumes to assess wind direction, speed, and concentration;

(M) Selecting techniques that minimize pesticide movement out of the treated area and how to

document special equipment configurations or flight patterns used to reduce off-target pesticide drift;

(N) Performing an aerial pesticide application, including selecting a flight altitude that minimizes streaking and off-target pesticide drift and choosing a flight pattern that ensures applicator and bystander safety and proper application; and

(O) The importance of engaging and disengaging spray precisely when entering a predetermined swath pattern at the application site and the tools used to mark swath patterns, such as global positioning systems and flags.

Process State Uses to Approve Continuing Education

Section 281.100, 2 CSR 70-25.050, and 2 CSR 70-25.130 of the Missouri Pesticide Use Act and regulations authorizes the Missouri Department of Agriculture Bureau of Pesticide Control, to establish minimum criteria for recertifying Missouri certified Commercial and Noncommercial Pesticide Applicators and Public Operators.

Each recertification training course must be approved in advance by the Bureau of Pesticide Control. No course will be given post approval. Individuals attending courses prior to approval will **NOT** be recertified.

The Bureau cannot approve a course for a period of time when staff are not available to monitor the program. Please submit programs as early as possible. Programs will be reviewed in order received.

For a course to be considered for recertification credit in Missouri, the program must comply with the following:

- The course must be open to the public without discrimination.
 - A final, written course agenda must be received by the Bureau of Pesticide Control at least 45 days (90 preferred) in advance of the proposed program. The agenda must include:
 - A. Program curriculum with a detailed description of each topic.
 - B. Times allotted for each section,
 - C. List of proposed speakers and qualifications.
 - D. Location, date, and time of the program.
 - E. Applicator participation method.
 - F. Estimated number of Missouri applicators expected to attend the program.
 - G. Attendance verification procedure.
- Failure to supply the required information, will be grounds for rejection.

Copies of the training materials (audio, visual, and printed) should be available for Bureau review upon request.

The Bureau will attempt to work with any group to improve courses which do not qualify for recertification credit. It is the program sponsor's responsibility to acquire the needed materials and/or speakers for the program.

The program sponsor shall provide a sign-in sheet for attendees desiring Missouri recertification credit. This is in addition to the program registration procedure. The sign-in sheet must contain: the applicator's name, business name, business address, and Missouri pesticide license number. The sign-in sheets will be presented to the Bureau personnel at the close of registration or when requested by the Bureau personnel.

How the State Ensures the Ongoing Quality of the Continuing Education

Bureau of Pesticide Control personnel will monitor all in-state recertification programs. Time and space must be approved for Bureau personnel to distribute and collect recertification forms at the end of the program. All fees charged for the recertification program shall be waived for Bureau of Pesticide Control personnel monitoring the program. Bureau personnel shall be provided copies of all materials distributed to the program attendees.

Final approval of a recertification program depends upon actual program content. If, in the opinion of the personnel monitoring the program, the approved curriculum was not followed, the course content was altered so that it no longer met the minimum standards, or if the coverage of the topics was inadequate, they may leave the program and recertification would not be granted to those attending the program.

These guidelines may change without notice. However, once a program is approved using a particular set of guidelines, the sponsor will not be required to change the content of the program.

In-state recertification programs will be monitored by program staff to ensure the applicator's successful completion of the program.

Attachment 9

Requirements for the certified applicator and supervisor responsibilities

281.048. Noncertified RUP applicator license — application, issuance and renewal, fee — authority of licensee, limitation by director, when — notification by licensee of changes — retraining — display of license. — 1. No individual shall use or determine the need for the use of any restricted use pesticide while working under the direct supervision of a certified commercial applicator until the individual has met the requirements of this section.

2. No individual shall use restricted use pesticides while working under the direct supervision of a certified noncommercial applicator or certified public operator until the individual has met the requirements of this section.

3. Application for a noncertified RUP applicator's license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall issue or renew a noncertified RUP applicator license once an individual has met the requirements set forth in 40 CFR section 171.201(c)(1) or (3). The director shall collect an annual fee of thirty-five dollars for each noncertified RUP applicator license issued. The license shall be valid for one year unless revoked or suspended by the department prior to its expiration. Any individual whose application is denied shall receive a written explanation as to the determination of the denial.

5. Individuals holding a valid noncertified RUP applicator license may use and determine the need for the use of restricted use pesticides, general use pesticides, and minimum risk pesticides under the direct supervision of a certified commercial applicator and only for the categories in which the commercial applicator is certified. The director may limit the license of the applicant to the use of certain pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified.

6. Every certified commercial applicator, certified noncommercial applicator, or certified public operator providing direct supervision to a licensed noncertified RUP applicator shall immediately notify the director when the licensed noncertified RUP applicator has changed address from which the applicator or operator will operate as a licensed noncertified RUP applicator or when the noncertified RUP applicator's employment has been terminated. The director shall immediately issue a revised license upon which shall be printed the change of address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

7. A noncertified RUP applicator may complete retraining requirements and renew the

applicator's license without a certified commercial applicator, certified noncommercial applicator, or certified public operator working from the same physical location.

8. Every licensed noncertified RUP applicator shall display the applicator's license in a prominent place at the site, location, or office from which the applicator will operate as a noncertified RUP applicator, that place, location, or office being at the address printed on the license.

281.035. Certified commercial applicator's license required when, annual fee — application for license, how made — examinations — records to be kept — incapacity of sole certified applicator, effect of — display of license — change of address, notice. —

1. No individual shall engage in the business of determining the need for the use of, supervising the use of, supervising the determination of the need for the use of, or using any pesticide, in categories as specified by regulation, on the lands of another at any time without a certified commercial applicator's license issued by the director. A certified commercial applicator shall not determine the need for the use of, supervise the use of, supervise the determination of the need for the use of, or use any pesticide for any particular purpose unless the certified commercial applicator has demonstrated such certified commercial applicator's competence to use pesticides for that purpose by being certified by the director in the proper certification category. The director shall require an annual fee of sixty-five dollars for each certified commercial applicator's license issued. No certified commercial applicator shall knowingly authorize, direct, or instruct any individual to engage in determining the need for the use of or using any general use pesticide or minimum risk pesticide on the land of another at any time unless such individual is a pesticide technician or pesticide technician trainee in such categories as specified by regulation or is working under the direct supervision of a certified commercial applicator so authorizing, directing or instructing, in which case the certified commercial applicator shall be liable for any use of a general use pesticide or minimum risk pesticide by an individual operating under the certified commercial applicator's direct supervision. The certified commercial applicator or the employer shall assure that the director is informed in writing within ten days of the employment of any person as a pesticide technician or pesticide technician trainee.

2. No certified commercial applicator shall knowingly authorize, direct, or instruct any individual to engage in determining the need for the use of or using any restricted use pesticide on the land of another at any time unless such individual is licensed as a noncertified RUP applicator while working under the direct supervision of a certified commercial applicator so authorizing, directing, or instructing, in which case the certified commercial applicator shall be liable for any use of a restricted use pesticide by an individual operating under the certified commercial applicator's direct supervision.

3. Application for a certified commercial applicator's license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall not issue a certified commercial applicator's license until the applicant is certified by passing an examination provided by the director to demonstrate to the director the applicant's competence and knowledge of the proper use of pesticides under the classifications the applicant had applied for, and the applicant's knowledge of the standards prescribed by regulations for the certification of commercial applicators.

5. The director may renew any certified commercial applicator's license under the classification for which such applicant is licensed, upon successful completion of approved recertification training or reexamination for additional knowledge that may be required to use pesticides safely and properly either manually or with equipment the applicant has been licensed to operate.

6. If the director finds the applicant qualified to use pesticides in the classification for which application has been made, and if the applicant files evidence that the requirement for bonds or insurance has been met as required under section 281.065, the director shall issue a certified commercial applicator's license limited to the classifications for which the applicant is qualified, which shall expire one year from date of issuance unless the license has been revoked or suspended prior thereto by the director for cause; provided, such financial responsibility required under section 281.065 does not expire at an earlier date, in which case the license shall expire upon the expiration date of the financial responsibility. The director may limit the license of the applicant to the use of certain pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified. If a license is not issued as applied for, the director shall inform the applicant in writing of the reasons therefor.

7. The director shall require each certified commercial applicator or the certified commercial applicator's employer to maintain records with respect to applications of any pesticide, including pesticides used under direct supervision by licensed pesticide technicians, pesticide technician trainees, and licensed noncertified RUP applicators. Such relevant information as the director may deem necessary may be specified by regulation. Such records shall be kept for a period of three years from the date of the application of the pesticide to which such records refer, and the director shall, upon request in writing, be furnished with a copy of such records by any certified commercial applicator or the certified commercial applicator's employer.

8. A person or individual engaged in the business of using pesticides on the lands of another, who is deprived of such person's or individual's sole certified commercial applicator by reason of death, illness, incapacity, or any absence which the director determines is unavoidable, is authorized to continue business operations without the services of a certified commercial applicator for a period of time deemed appropriate by the director, but not to exceed sixty days; except that, no restricted use pesticide shall be used, or caused to be used, by such person or individual. Any such person or individual shall immediately notify the director as to the absence of such person's or individual's sole certified commercial applicator.

9. Every certified commercial applicator shall display the certified commercial applicator's license in a prominent place at the site, location, or office from which the certified commercial applicator will operate as a certified commercial applicator; that place, location, or office being at the address printed on the license.

10. Every certified commercial applicator who changes the address from which the certified commercial applicator will operate as a certified commercial applicator shall immediately notify the director. The director shall immediately issue a revised license upon which shall be printed the changed address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

281.037. Certified noncommercial applicator's license, when required — application for license, examination, fee — scope of license — records to be kept — display of license — change of address, notice. —

1. Any individual who is not certified pursuant to section 281.035, 281.040, or 281.045 shall not use, or supervise the use of, any restricted use pesticide without a certified noncommercial applicator license. A certified noncommercial applicator shall not use, or supervise the use of, any restricted use pesticide for any purpose unless the certified noncommercial applicator has demonstrated the certified noncommercial applicator's competence to use pesticides for that purpose by being certified by the director in the proper certification category.

2. No certified noncommercial applicator shall knowingly authorize, direct, or instruct any individual to engage in using any restricted use pesticide on lands or structures owned, leased, or rented by the certified noncommercial applicator or the certified noncommercial applicator's employer unless such individual is licensed as a noncertified RUP applicator while working under the direct supervision of a certified noncommercial applicator so authorizing, directing, or instructing, in which case the certified noncommercial applicator shall be liable for any use of a restricted use pesticide by an individual operating under the certified noncommercial applicator's direct supervision.

3. Application for a certified noncommercial applicator license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall not issue a certified noncommercial applicator license until the applicant is certified by passing an examination provided by the director to demonstrate to the director the applicant's competence and knowledge of the proper use of pesticides under the classifications for which the applicant has applied, and the applicant's knowledge of the standards prescribed by regulations for the certification of noncommercial applicators.

5. If the director finds the applicant qualified to use restricted use pesticides in the classification for which the applicant has applied, the director shall issue a certified

noncommercial applicator license limited to the applicator categories in which the applicant is certified. The license shall expire one year from the date of issuance unless the license has been revoked or suspended prior thereto by the director for cause. The director may limit the license of the applicant to the use of certain restricted use pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified. If a license is not issued as applied for, the director shall inform the applicant in writing of the reasons therefor.

6. The director may renew any certified noncommercial applicator license under the classification for which the license is issued upon successful completion of approved recertification training or reexamination for additional knowledge that may be required to apply pesticides safely and properly.

7. The director shall collect a fee of thirty-five dollars for each certified noncommercial applicator license issued.

8. Any certified noncommercial applicator may use, or supervise the use of, restricted use pesticides only to or on lands or structures owned, leased or rented by the certified noncommercial applicator or the certified noncommercial applicator's employer.

9. The director shall require the certified noncommercial applicator or the certified noncommercial applicator's employer to maintain records with respect to applications of restricted use pesticides. Any relevant information that the director may deem necessary may be required by regulation. Such records shall be kept for a period of three years from the date of the application of the pesticide to which such records refer, and the director shall, upon request in writing, be furnished with a copy of such records by any certified noncommercial applicator or the certified noncommercial applicator's employer.

10. Every certified noncommercial applicator shall display the certified noncommercial applicator's license in a prominent place at the site, location, or office from which the certified noncommercial applicator will operate as a certified noncommercial applicator; that place, location, or office being at the address printed on the license.

11. Every certified noncommercial applicator who changes the address from which the certified noncommercial applicator will operate as a certified noncommercial applicator shall immediately notify the director. The director shall immediately issue a revised license upon which shall be printed the changed address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

281.045. Certified operator license, when required — application, requirements, examination — maintenance of records — liability of governmental agencies — display of license — change of address, notice — volunteers, use of pesticides without a license. — 1. All agencies of the state of Missouri and the political subdivisions thereof, and any other governmental agency shall

be subject to the provisions of sections 281.010 to 281.115 and rules adopted thereunder concerning the use of restricted use pesticides.

2. Public operators for agencies listed in subsection 1 of this section shall not use, or supervise the use of, any restricted use pesticides on any land or structure without a certified public operator license issued by the director. The certified public operator shall not use or supervise the use of any restricted use pesticide for any purpose unless the certified public operator has demonstrated the certified public operator's competence to use pesticides for that purpose by being certified by the director in the proper certification category.

3. No certified public operator shall knowingly authorize, direct, or instruct any individual to engage in using any restricted use pesticide on lands or structures unless such individual is licensed as a noncertified RUP applicator while working under the direct supervision of a certified public operator so authorizing, directing, or instructing, in which case the certified public operator shall be liable for any use of a restricted use pesticide by an individual operating under the certified public operator's direct supervision.

4. Application for a certified public operator license shall be submitted to the director on a designated form obtained from the department. Each application shall include all information prescribed by the director by regulation.

5. The director shall not issue a certified public operator license until the applicant is certified by passing an examination provided by the director to demonstrate to the director the applicant's competence and knowledge of the proper use of pesticides under the classifications for which the applicant has applied, and the applicant's knowledge of the standards prescribed by regulations for the certification of public operators.

6. If the director finds the applicant qualified to use pesticides in the classification for which the applicant has applied, the director shall issue a license, without a fee, to the certified public operator who has so qualified. The certified public operator license shall be valid only when the operator is acting as an operator using, or supervising the use of, restricted use pesticides in the course of the operator's employment. A certified public operator license shall expire three years from the date of issuance unless the license has been revoked or suspended prior thereto by the director for cause. The director may limit the license of the applicant to the use of certain restricted use pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified. If a license is not issued as applied for, the director shall inform the applicant in writing of the reasons therefor.

7. The director may renew any certified public operator license under the classification for which that applicant is licensed upon successful completion of approved recertification training or reexamination for additional knowledge that may be required to use pesticides safely and properly either manually or with equipment the applicant has been licensed to operate.

8. The director shall require the certified public operator, or the certified public operator's employer, to maintain records with respect to applications of restricted use pesticides. Any relevant information which the director may deem necessary may be required by regulation. Such records shall be kept for a period of three years from the date of the application of the pesticide to which such records refer, and the director shall, upon request in writing, be furnished with a copy of such records by any certified public operator or the certified public operator's employer.

9. Agencies listed in subsection 1 of this section shall be subject to a legal action by any person damaged by any use of any pesticide, which may be brought in the county where the damage or any part thereof occurred.

10. Every certified public operator shall display the certified public operator's license in a prominent place at the site, location, or office from which the certified public operator will operate as a certified public operator, that place, location, or office being at the address printed on the license.

11. Every certified public operator who changes the address from which the certified public operator will operate as a certified public operator shall immediately notify the director. The director shall immediately issue a revised license upon which shall be printed the changed address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

12. Any person who volunteers to work for a public agency may use general use pesticides without a license under the supervision of the public agency on lands owned or managed by the state agency, political subdivision, or governmental agency.

Chapter 281 RSMo 2 CSR 70-25.010 Definitions

(3) Direct supervision or directly supervised by—process by which a competent, noncertified applicator **or certified provisional private applicator** [~~or pesticide technician~~] uses or **commercially** determines the need for the use of a pesticide(s) while acting under control of a certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** [~~operator, or private applicator with a permit~~] **and while employed with the same business entity as their direct supervisor**. The certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** [~~operator or private applicator with a permit~~] **must be certified in categories of supervision and** is responsible for the actions of the noncertified applicator **or certified provisional private applicator** [~~pesticide technician while~~] **who** [~~using~~] **uses** or [~~determining~~] **determines** the need for the use of a pesticide(s) even though the certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** [~~operator or private applicator with a~~] is not present during the use [~~of pesticides~~]. This requires, at a minimum, that—

(A) Certified **commercial applicators, certified noncommercial applicators, certified public operators, or certified private applicators** [~~operators or private applicators with a permit~~] and noncertified applicators **or certified provisional private applicators** [~~pesticide technicians~~] **must** work from the same physical location;

(B) **Prior to certified commercial applicators, certified noncommercial applicators, certified public operators, and certified private applicators providing direct supervision for noncertified applicator and certified provisional private applicator uses of restricted use pesticides, they must ensure the noncertified applicator and certified provisional private applicator is properly licensed;**

(C) While applying pesticides, noncertified applicators **or certified provisional private applicators** [~~or pesticide technicians~~] shall have in their possession either a work order, job ticket, invoice, or similar document for that pesticide application. Each document shall include, at a minimum:

1. Name and license [~~or permit~~] number of the certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** [~~operator or private applicator with a permit~~] providing direct supervision;
2. Name of the noncertified applicator or name and license number of the pesticide **technician, noncertified RUP applicator, or certified provisional private applicator** being directly supervised; and
3. Name of the person requesting the pesticide use, [~~and~~] the address or **a** brief description of the pesticide [~~(s)~~] use location, and the use date.

(D) The certified **commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator** providing direct supervision must provide the noncertified applicator **or certified provisional private applicator** [~~or pesticide technician~~] with a complete copy of the label and labeling for each pesticide used by the noncertified applicator **or certified provisional private applicator** [~~or pesticide technician~~] and the label and labeling must be in the possession of the noncertified applicator **or certified provisional private applicator** [~~or pesticide technician~~] while using pesticides. The noncertified applicator **or certified provisional private applicator** [~~or pesticide technician~~] shall be required to follow all label and labeling directions;

(E) When the label of a pesticide product requires that personal protective equipment be worn for mixing, loading, application, or any other use activities, the certified commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator must ensure that any noncertified applicator or certified private applicator has clean, label-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose;

(F) The certified commercial applicator, certified noncommercial applicator, certified public operator, or certified private applicator providing direct supervision must ensure, before each day of use, equipment used for mixing, loading, transferring, or applying pesticides is in proper

operating condition as intended by the manufacturer, and can be used without risk of reasonably foreseeable adverse effects to noncertified applicators, other persons, or the environment;

(G) Certified commercial applicators, certified noncommercial applicators, certified public operators, or certified private applicators [~~operators or private applicators with a permit~~] shall be available and, when needed, respond by phone, radio, or in person when noncertified applicators or certified provisional private applicators [~~or pesticide technicians~~] use pesticides; and

(H) Certified commercial applicators, certified noncommercial applicators, certified public operators, or certified private applicators [~~operators or private applicators with a permit~~] shall be at the pesticide use site when required by the pesticide label.

2 CSR 70-25.110 Standards of Competence for the Certification of Commercial Applicators, Noncommercial Applicators, [~~and~~] Public Operators, and Noncertified RUP Applicators

~~(2)~~(3) General Standards of Competence for All Certification Categories. The applicant shall demonstrate a practical knowledge of:

- (I) Responsibility of certified applicators supervising noncertified applicators, including-
1. Understanding and complying with all regulations for certified applicators who supervise noncertified applicators using general use and restricted use pesticides and the regulatory requirements for recordkeeping for noncertified applicators who have demonstrated competency in the safe use of all pesticides.
 2. Providing use-specific instructions **specific to the site and pesticide used** noncertified applicators prior to using general use and restricted use pesticides under the direct supervision of a certified applicator.
 3. Pertinent state and federal pesticide laws and regulations for explanation to noncertified applicators who use general use and restricted use pesticides under the direct supervision of certified applicators.
 4. **The restricted use pesticide applied by the noncertified applicator is not a fumigant, sodium cyanide, or sodium fluoroacetate.**
 5. **The noncertified applicator is not applying the restricted use pesticide aerially.**

*Note: Only section (I) is included as it is the only section under the general standards of competence that pertains to noncertified applicators.

Chapter 281 RSMo 2 CSR 70-25.010 Definitions

(10) Legal age—eighteen (18) years, for license and certification as noncertified RUP applicators, pesticide technicians, and certified applicators. ~~[unless otherwise provide by law:]~~ Individuals who are sixteen (16) or seventeen (17) years of age and supervised by an immediate family member who is a certified private applicator are eligible to obtain certification as a certified provisional private applicator.

Noncertified applicator qualifications

281.048. Noncertified RUP applicator license — application, issuance and renewal, fee — authority of licensee, limitation by director, when — notification by licensee of changes — retraining — display of license. — 1. No individual shall use or determine the need for the use of any restricted use pesticide while working under the direct supervision of a certified commercial applicator until the individual has met the requirements of this section.

2. No individual shall use restricted use pesticides while working under the direct supervision of a certified noncommercial applicator or certified public operator until the individual has met the requirements of this section.

3. Application for a noncertified RUP applicator's license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall issue or renew a noncertified RUP applicator license once an individual has met the requirements set forth in 40 CFR section 171.201(c)(1) or (3). The director shall collect an annual fee of thirty-five dollars for each noncertified RUP applicator license issued. The license shall be valid for one year unless revoked or suspended by the department prior to its expiration. Any individual whose application is denied shall receive a written explanation as to the determination of the denial.

5. Individuals holding a valid noncertified RUP applicator license may use and determine the need for the use of restricted use pesticides, general use pesticides, and minimum risk pesticides under the direct supervision of a certified commercial applicator and only for the categories in which the commercial applicator is certified. The director may limit the license of the applicant to the use of certain pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified.

6. Every certified commercial applicator, certified noncommercial applicator, or certified public operator providing direct supervision to a licensed noncertified RUP applicator shall immediately notify the director when the licensed noncertified RUP applicator has changed address from which the applicator or operator will operate as a licensed noncertified RUP applicator or when the noncertified RUP applicator's employment has been terminated. The director shall immediately issue a revised license upon which shall be printed the change of

address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

7. A noncertified RUP applicator may complete retraining requirements and renew the applicator's license without a certified commercial applicator, certified noncommercial applicator, or certified public operator working from the same physical location.

8. Every licensed noncertified RUP applicator shall display the applicator's license in a prominent place at the site, location, or office from which the applicator will operate as a noncertified RUP applicator, that place, location, or office being at the address printed on the license.

Noncertified applicator training program(s)

NEW - 281.048 - Noncertified Restricted Use Pesticide (RUP) applicator license required, application, requirements, and fee.

281.048. Noncertified RUP applicator license — application, issuance and renewal, fee — authority of licensee, limitation by director, when — notification by licensee of changes — retraining — display of license. — 1. No individual shall use or determine the need for the use of any restricted use pesticide while working under the direct supervision of a certified commercial applicator until the individual has met the requirements of this section.

2. No individual shall use restricted use pesticides while working under the direct supervision of a certified noncommercial applicator or certified public operator until the individual has met the requirements of this section.

3. Application for a noncertified RUP applicator's license shall be submitted to the director on a designated form obtained from the department. Each application shall include such information as prescribed by the director by regulation.

4. The director shall issue or renew a noncertified RUP applicator license once an individual has met the requirements set forth in 40 CFR section 171.201(c)(1) or (3). The director shall collect an annual fee of thirty-five dollars for each noncertified RUP applicator license issued. The license shall be valid for one year unless revoked or suspended by the department prior to its expiration. Any individual whose application is denied shall receive a written explanation as to the determination of the denial.

5. Individuals holding a valid noncertified RUP applicator license may use and determine the need for the use of restricted use pesticides, general use pesticides, and minimum risk pesticides under the direct supervision of a certified commercial applicator and only for the categories in which the commercial applicator is certified. The director may limit the license of the applicant to

the use of certain pesticides, or to certain areas, or to certain types of equipment if the applicant is only so qualified.

6. Every certified commercial applicator, certified noncommercial applicator, or certified public operator providing direct supervision to a licensed noncertified RUP applicator shall immediately notify the director when the licensed noncertified RUP applicator has changed address from which the applicator or operator will operate as a licensed noncertified RUP applicator or when the noncertified RUP applicator's employment has been terminated. The director shall immediately issue a revised license upon which shall be printed the change of address. The director shall not collect a fee for the issuance of a revised license. The expiration date of the revised license shall be the same as the expiration date for the original license.

7. A noncertified RUP applicator may complete retraining requirements and renew the applicator's license without a certified commercial applicator, certified noncommercial applicator, or certified public operator working from the same physical location.

8. Every licensed noncertified RUP applicator shall display the applicator's license in a prominent place at the site, location, or office from which the applicator will operate as a noncertified RUP applicator, that place, location, or office being at the address printed on the license.

2 CSR 70-25.153 Stipulations and Training requirements for noncertified RUP applicators

(1) Applicants for a noncertified RUP applicator license shall complete one of the following options.

(A) Pass a written examination based on the general standards of competence provided in 2 CSR 70-25.101(3); or

(B) Complete a noncertified RUP applicator training program.

1. Prior to employment of noncertified RUP applicators, certified applicators or their employers must have an approved training program. Approved training programs shall be valid until revoked.
2. Noncertified RUP applicator training must be presented to noncertified RUP applicators either orally from written materials or audiovisually. The information must be presented in a manner that the noncertified RUP applicators can understand.
3. The person conducting the training must be currently certified as an applicator of restricted use pesticides or employed as an educator with a land grant college or university or other public educational institutions or professional associations. The person conducting the training must also be present during the entire training program and must respond to the noncertified applicators' questions.
4. The noncertified RUP applicator training materials must include the information that noncertified applicators need in order to protect themselves, other people, and the

environment before, during, and after making a restricted use pesticide application. The noncertified RUP applicator training materials must include, at a minimum, information regarding the following:

1. Potential hazards from toxicity and exposure that pesticides present to noncertified applicators and their families, including acute and chronic effects, delayed effects, and sensitization.
2. Routes through which pesticides can enter the body.
3. Signs and symptoms of common types of pesticide poisoning.
4. Emergency first aid for pesticide injuries or poisonings.
5. Routine and emergency decontamination procedures, including emergency eye flushing techniques. Noncertified RUP applicators must be instructed that if pesticides are spilled or sprayed on the body, to immediately wash or to rinse off in the nearest clean water. Noncertified RUP applicators must also be instructed to wash or shower with soap and water, shampoo hair, and change into clean clothes as soon as possible.
6. How and when to obtain emergency medical care.
7. After working with pesticides, wash hands before eating, drinking, using chewing gum or tobacco, or using the toilet.
8. Wash or shower with soap and water, shampoo hair and change into clean clothes as soon as possible after working with pesticides.
9. Potential hazards from pesticide residues on clothing.
10. Wash work clothes before wearing them again and wash them separately from other clothes.
11. Do not take pesticides or pesticide containers used at work to your home.
12. Potential hazards to children and pregnant women from pesticide exposure.
13. After working with pesticides, remove work boots or shoes before entering your home, and remove work clothes and wash or shower before physical contact with children or family members.
14. How to report suspected pesticide use violations to the appropriate state or tribal agency responsible for pesticide enforcement.
15. Format and meaning of information contained on pesticide labels and in labeling applicable to the safe use of the pesticide, including the location and meaning of the restricted use product statement, how to identify when the labeling requires the certified applicator to be physically present during the use of the pesticide, and information on personal protective equipment.
16. Need for, and appropriate use and removal of, personal protective equipment.
17. How to recognize, prevent, and provide first aid treatment for heat related illness.
18. Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.

19. Environmental concerns such as drift, runoff, and wildlife hazards.
 20. Restricted use pesticides may be used only by a certified applicator or by a noncertified RUP applicator working under the direct supervision of a certified applicator.
 21. The certified applicator's responsibility to provide each noncertified RUP applicator instructions specific to the site and pesticide used. These instructions must include labeling directions, precautions, and requirements applicable to the specific use and site, and how the characteristics of the use site (e.g., surface and ground water, endangered species, local population, and risks) and the conditions of application (e.g., equipment, method of application, formulation, and risks) might increase or decrease the risk of adverse effects. The certified applicator must provide these instructions in a manner the noncertified RUP applicator can understand.
 22. The certified applicator's responsibility to ensure that each noncertified RUP applicator has access to the applicable product labeling at all times during its use.
 23. The certified applicator's responsibility to ensure that where the labeling of a pesticide product requires that personal protective equipment be worn for mixing, loading, application, or any other use activities, each noncertified RUP applicator has clean, labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and used correctly for its intended purpose.
 24. The certified applicator's responsibility to ensure that before each day of use equipment used for mixing, loading, transferring, or applying pesticides is in proper operating condition as intended by the manufacturer, and can be used without risk of reasonably foreseeable adverse effects to the noncertified RUP applicator, other persons, or the environment.
 25. The certified applicator's responsibility to ensure that a means to immediately communicate with the certified applicator is available to each noncertified RUP applicator using restricted use pesticides under his or her direct supervision.
5. Certified applicators must submit to the director a Notice of Training form provided by the director.
 6. Certified applicators shall keep and maintain a copy of the Notice of Training form and noncertified RUP applicator license for a period of two (2) years from the date the training was completed.
- (2) Additional training of noncertified RUP applicators is required annually. Training shall pertain to maintaining competence and meeting the needs of changing technology in the safe and proper use of pesticides.
- (A) Licensed noncertified RUP applicators must complete a training program meeting the requirements of paragraph 4 of subsection (B) of this rule.

(3) Reexamination of noncertified RUP applicators is required within three (3) years from initial licensure and within each subsequent three (3) year period.

(A) Licensed noncertified RUP applicators must reexamine on the general standards of competence exam (CORE).

Recordkeeping requirements for noncertified applicator training

The Missouri Department of Agriculture will maintain records of exams for noncertified RUP applicators that choose to take the exam(s) to become licensed. The noncertified applicator's that complete training to become licensed, will be required to keep a copy of their license at the certified applicator's principal place of business for a period of two years from the date the noncertified RUP applicator used the restricted use pesticide, to document records of training.

Exemptions

281.080. Exemptions.

The provisions of sections 281.010 to 281.115 relating to licenses and requirements for their issuance shall not apply to:

- (1) Veterinarians using pesticides on animals during the normal course of veterinary practice, as long as he is not regularly engaged in the business of using pesticides for hire amounting to a principal or regular occupation or does not publicly hold himself out as a pesticide applicator;
- (2) Doctors of medicine or doctors of osteopathy using or prescribing pesticides in the practice of medicine;
- (3) Government and private research personnel using pesticides under laboratory type conditions.



PESTICIDE TECHNICIAN NOTICE OF TRAINING

DATE

TRAINEE NAME		BUSINESS NAME		
BUSINESS ADDRESS		CITY	STATE	ZIP CODE
PROGRAM TITLE		CATEGORY (CHECK ONE ONLY) <input type="checkbox"/> 3 <input type="checkbox"/> 7A <input type="checkbox"/> 7B		APPROVAL CODE

CLASSROOM TRAINING	LIST ALL TRAINING DATES	HOURS	TRAINER'S NAME AND SIGNATURE (IF APPLICABLE, TRAINER'S LICENSE NUMBER)
PEST IDENTIFICATION			
EQUIPMENT			
PESTICIDES			
ALTERNATIVE CONTROL METHODS			
LABELS			
PESTICIDE HAZARDS AND SAFETY			
PESTICIDE SPILLS			
PESTICIDE LAWS			

ON-THE-JOB TRAINING	LIST ALL TRAINING DATES	HOURS	SIGNATURE OF CERTIFIED ON-THE-JOB TRAINER	TRAINER'S LICENSE NO.
PEST IDENTIFICATION				
EQUIPMENT				
PESTICIDES				
ALTERNATIVE CONTROL METHODS				
PESTICIDE HAZARDS AND SAFETY				
PESTICIDE SPILLS				

I certify that all above information is true, complete and correct to the best of my knowledge and belief, and is made in good faith.

TRAINEE SIGNATURE	DATE
COMPANY REPRESENTATIVE	DATE

Attachment 9



MISSOURI DEPARTMENT OF AGRICULTURE
DIVISION OF PLANT INDUSTRIES
Noncertified RUP Notice of Training

BUREAU OF PESTICIDE CONTROL
PO BOX 630
JEFFERSON CITY, MO 65102

Noncertified applicator name:
Business name:
Business address:
Date training was completed:
Name of person providing training:
Title/description of the training provided:
Signature of noncertified applicator:
Signature of person who provided training:



MISSOURI DEPARTMENT OF AGRICULTURE
 PESTICIDE PROGRAM
 PO BOX 630
 JEFFERSON CITY, MO 65102



45679



MISSOURI DEPT OF AGRICULTURE
 PESTICIDE PROGRAM
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License Expires:

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USAPlants ID:

License No:

License Expires:

Recertified Until:



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CHRIS CHINN, DIRECTOR

DAWN WALL, SUPERVISOR

CHRIS CHINN
 DIRECTOR

DAWN WALL
 SUPERVISOR

Attachment 10



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 DIRECTOR

DAWN WALL
 SUPERVISOR

Attachment 10



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NON TRANSFERABLE
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 DIRECTOR

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NON TRANSFERABLE

USAPlants ID:

License No:

License Expires:

Recertified Until:



86527

CHRIS CHINN
 DIRECTOR

DAWN WALL
 SUPERVISOR

Attachment 10



MISSOURI DEPARTMENT OF AGRICULTURE
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82380

Noncertified RUP LICENSE
Applicator

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 JEFFERSON CITY, MO 65102

Noncertified RUP Applicator LICENSE

NON TRANSFERABLE
 CATEGORY: 3

USAPlants ID:

License No:

License Expires:

Retrained Until:



82380

CHRIS CHINN
 DIRECTOR

DAWN WALL
 SUPERVISOR

Attachment 10