

DEPARTMENT OF AGRICULTURE
Office of Consumer and Environmental Regulation
(Amended at ARRS Committee)

302 KAR 26:020. Pesticide certification and licensing.

RELATES TO: KRS Chapter 217B, 40 C.F.R. 156, 170, 171, 7 U.S.C. 136

STATUTORY AUTHORITY: KRS 217B.050, 217B.060

NECESSITY, FUNCTION, AND CONFORMITY: KRS 217B.050 requires the Department of Agriculture to promulgate administrative regulations to implement the provisions of KRS Chapter 217B. KRS 217B.060 authorizes the department to establish classifications of pesticide licenses. This administrative regulation establishes a system of certification by examination for persons required to be licensed under KRS Chapter 217B.

Section 1. Applicability.

(1) A person shall not be issued a commercial or noncommercial license to apply pesticides unless he or she is:

- (a) At least eighteen (18) years of age; and
- (b) Certified by examination in a category consistent with the pesticide application.

(2) A person shall not purchase restricted use pesticides unless licensed in a category consistent with the purchase.

(3) A person shall qualify for a commercial or noncommercial license after passing an examination confirming competency in the category of license consistent with the intended application of pesticides. The license examinations shall serve as the examinations necessary to fulfill federal commercial pesticide applicator certification requirements.

(4) A pesticide operator, pesticide applicator, noncommercial applicator, or private applicator shall not apply any pesticide unless he or she has certified competency and licensed in a category consistent with the application, as established in this administrative regulation, with the exception of a registered trainee acting under the direct supervision of a licensed person.

(5) The department may, after payment of all applicable fees, waive the certification requirement and issue a license to any person who holds a valid license issued by another state, tribal, or federal agency, if the person is employed by a dealer registered in Kentucky and if the other state, tribal or federal agency:

- (a) Has requirements substantially similar to that of Kentucky; and
- (b) Agrees to reciprocate with Kentucky.

(6) An application Pesticides License-Certification Application submitted for a reciprocal license shall be accompanied by a twenty-five (25) dollar reciprocal fee.

(7) Exceptions. The requirements in this administrative regulation shall not apply to:

- (a) Persons conducting laboratory research involving restricted use pesticides; and
- (b) Doctors of medicine and doctors of veterinary medicine applying restricted use pesticides to patients during the course of the ordinary practice of those professions.

Section 2. General Requirements. To obtain certification to qualify for a license, a person shall take and pass, with a minimum score of seventy (70) percent, a certification examination in the category or categories in which certification is requested.

(1) The applicant shall submit form Pesticides License-Certification Application.

(2) Competency in the use and handling of pesticides shall be determined and based upon standards established in Sections 4 and 5 of this administrative regulation.

(3) The examination shall include the general standards applicable to all categories and the additional standards specifically identified for each category or subcategory in which a person desires to be certified.

(4) Examination standards. Examinations shall conform to the standards established in paragraphs (a) through (l) of this subsection.

(a) The examination shall be presented and answered in writing.

(b) The examination shall be proctored by an individual designated by the department and who is not seeking certification at any examination session that he or she is proctoring.

(c) Each person seeking certification shall present at the time of examination valid, government-issued photo identification or a declaration of identity and age as proof of identity and age to be eligible for certification.

(d) Candidates shall be monitored throughout the examination period.

(e) Candidates shall be instructed in examination procedures before beginning the examination.

(f) Examinations shall 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.

(g) Candidates shall not have verbal or non-verbal communication with anyone other than the proctor during the examination period.

(h) The examination, and portion of the examination, or any associated reference materials shall not be copied or retained by any person other than a person authorized by the department to copy or retain the examination or any associated reference materials.

(i) The only reference materials used during the examination shall be those approved by the department and provided and collected by the proctor.

(j) Reference materials provided to examinees shall be reviewed after the examination is complete to ensure that no portion of the reference material has been removed, altered, or destroyed.

(k) The proctor shall report to the department any examination administration inconsistencies or irregularities, including, for example, cheating, use of unauthorized materials, and attempts to copy or retain the examination.

(l) The department shall notify each candidate of the results of his or her examination.

(5) A person taking the certification examination shall:

(a) Pay an examination fee of twenty-five (25) dollars; and

(b) Submit to the department prior to taking the examination:

1. A valid government-issued photo identification; or

2. A declaration of identity and age.

(6) Examination fees shall be charged each time a person takes a certification examination and shall be charged regardless of the passing or failing of the examination.

(7) Upon successfully passing an examination, a person shall have thirty (30) days from the date of testing to pay the license fees for the requested licenses. Failure to pay the license fee (twenty-five (25) dollars for applicators, \$100 for operator) within thirty (30) days after the test date by any qualifying person shall require that person to retake and pass the examination and pay all required fees before issuance of a license could occur.

Section 3. License Categories. Commercial and non-commercial pesticide licenses shall be obtained in the categories of pesticide use or application as established in subsections (1) through (13) of this section. A private applicator license shall be obtained from the department pursuant to Section 7 of this administrative regulation.

(1) Agricultural pest control. This category shall be divided into the following subcategories:

(a) Plant. This subcategory shall include persons applying or supervising the application of pesticides in production of agricultural commodities including, for example, tobacco, peanuts, cotton, feed grains, soybeans and forage, vegetables, small

fruits, tree fruits and nuts, grasslands, non-crop agricultural lands, and greenhouses;
and

(b) Animal. This subcategory shall include persons applying or supervising the application of pesticides on animals including beef cattle, dairy cattle, swine, sheep, horses, goats, poultry, and livestock, and to places on or in which animals are confined.

(2) Forest pest control. This category shall include persons applying or supervising the application of pesticides in forests, forest nurseries, and forest seed producing areas.

(3) Ornamental, turf and lawn care. This category shall include persons applying pesticides or impregnated fertilizer to control insects, weeds, and diseases in turf, lawns, and maintenance of ornamental trees, shrubs and flowers, including the control of pests that do not normally invade structures, such as bagworms, grubs, and moles. Licensure in this category shall qualify an applicator to make applications to interior plantscapes, sports turf, and golf courses.

(4) Seed treatment. This category applies to commercial applicators using or supervising the use of restricted use pesticides on seeds in seed treatment facilities.

(5) Aquatic pest control. This category shall include persons applying or supervising the application of any pesticide purposefully applied to standing or running water. Applicators holding a public health pest control license and engaged in public health-related activities may make applications requiring an aquatic pest control license.

(6) Right-of-way pest control. This category shall include persons applying or supervising the application of pesticides in the maintenance of public roads, utility lines, pipelines, railway rights-of-way, or other similar areas.

(7) Industrial, institutional, and structural pest control. This category shall apply to persons who use or supervise the use of pesticides in, on, or around food handling establishments, packing houses, and food-processing facilities; human dwellings; institutions, such as schools, hospitals, and prisons; and industrial establishments, including manufacturing facilities, warehouses, grain elevators, and any other structures and outside areas, public or private, for the protection of stored, processed, or manufactured products. Industrial, institutional, and structural, pest control shall be divided into the following subcategories:

(a) Structural pest management. Structural pest management shall include persons who use pesticides, other than fumigants, to control pests, general pests, and wood-destroying organisms that threaten the structural integrity, the human occupancy, or the contents of such structures. Persons licensed under this section shall be exempt from the certification license requirements of other categories if using or supervising the use of pesticides to control pests, general pests, and wood-destroying organisms in outside areas related to a structure;

(b) Structural fumigation. Structural fumigation shall include persons who use or supervise the use of a pesticide to fumigate anything other than soil, including structures intended for human occupancy; and

(c) Wood preservatives. This subcategory shall include persons who apply pesticides to wood and wood products to protect from wood-destroying organisms. Excluded from this category shall be persons engaged in structural pest control.

(8) Public health pest control. This category shall include state, tribal, federal or other governmental employees and contractors who use or supervise the use of pesticides in government-sponsored public health programs for the management and control of pests having medical and public health importance. Applicators holding a public health pest control license and engaged in public health-related activities may make applications requiring an aquatic pest control license.

(9) Regulatory pest control. This category shall include state, tribal, federal, or other local governmental employees and contractors who use or supervise the use of pesticides in government-sponsored programs for the control of regulated pests. Licensure in this

category does not authorize the purchase, use, or supervision of use of products for predator control authorized under federal law.

(10) Demonstration and research pest control. This category shall include individuals who demonstrate to the public the proper uses and techniques of applying pesticides or supervise the demonstration. Included in this group shall be persons such as extension specialists and county agents, individuals demonstrating methods used in public programs, and persons conducting field research with pesticides, and in so doing, apply or supervise the application of pesticides. This group shall include state and federal employees and other persons conducting field research on pesticides.

(11) Aerial. This category shall include persons applying pesticides using fixed or rotary wing aircraft or unmanned aerial vehicles. Persons obtaining this category shall also possess an additional license in another category that relates to the location of the intended target pest.

(12) Soil fumigation. This category shall include persons who use or supervise the use of a pesticide to fumigate soil.

(13) Non-soil fumigation. This category shall include persons who use or supervise the use of a pesticide to fumigate anything other than soil, excluding structures intended for human occupancy.

Section 4. Core Standards of Competency. Examinations shall be based on examples of problems and situations appropriate to the particular category or subcategory of the requested certification and shall include competency with:

(1) Label and labeling comprehension. Familiarity with pesticide labels and labeling and their functions, including:

- (a) The general format and terminology of pesticide labels and labeling;
- (b) Understanding instructions, warnings, terms, symbols, and other information commonly appearing on pesticide labels and labeling;
- (c) Understanding that it is a violation of federal law to use any registered pesticide in a manner inconsistent with its labeling;
- (d) Understanding labeling requirements that a certified applicator shall be physically present at the site of the application;
- (e) Understanding labeling requirements for supervising noncertified applicators working under the direct supervision of a certified applicator;
- (f) Understanding that applicators shall comply with all use restrictions and directions for use contained in pesticide labels and labeling, including being certified in the certification category appropriate to the type and site of the application;
- (g) Understanding the meaning of product classification as either general or restricted use and that a product may be unclassified;
- (h) Understanding and complying with product-specific notification requirements; and
- (i) Recognizing and understanding the difference between mandatory and advisory labeling language;

(2) Safety. Measures to avoid or minimize adverse health effects, including:

- (a) Understanding the different natures of the risks of acute toxicity and chronic toxicity, as well as the long-term effects of pesticides;
- (b) Understanding that a pesticide's risk is a function of exposure and the pesticide's toxicity;
- (c) Recognition of likely ways in which dermal, inhalation, and oral exposure could occur;
- (d) Common types and causes of pesticide mishaps;
- (e) Precautions to prevent injury to applicators and other individuals in or near treated areas;
- (f) Need for, and proper use of, protective clothing and personal protective equipment;

- (g) Symptoms of pesticide poisoning;
 - (h) First aid and other procedures to be followed in case of a pesticide mishap; and
 - (i) 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;
- (3) Environment. The potential environmental consequences of the use and misuse of pesticides, including the influence of:
- (a) Weather and other indoor and outdoor climatic conditions;
 - (b) Types of terrain, soil, or other substrate;
 - (c) Presence of fish, wildlife, and other non-target organisms; and
 - (d) Drainage patterns;
- (4) Pests. The proper identification and effective control of pests, including:
- (a) The importance of correctly identifying target pests and selecting the proper pesticide product for effective pest control; and
 - (b) Verifying that the labeling does not prohibit the use of the product to control the target pest;
- (5) Pesticides. Characteristics of pesticides, including:
- (a) Types of pesticides;
 - (b) Types of formulations;
 - (c) Compatibility, synergism, persistence, and animal and plant toxicity of the formulations;
 - (d) Hazards and residues associated with use;
 - (e) Factors that influence effectiveness or lead to problems such as pesticide resistance; and
 - (f) Dilution procedures;
- (6) Equipment. Application equipment, including:
- (a) Types of equipment and advantages and limitations of each type; and
 - (b) Use, maintenance, and calibration procedures;
- (7) Application methods. Selecting appropriate application methods, including:
- (a) Methods used to apply various forms and formulations of pesticides;
 - (b) Knowledge of which application method to use in a given situation and that use of a fumigant and aerial application requires additional certification;
 - (c) How selection of application method and use of a pesticide could result in proper use, unnecessary or ineffective use, and misuse; and
 - (d) Prevention of drift and pesticide loss into the environment;
- (8) Laws and regulations. Knowledge of all applicable state, tribal, and federal laws and regulations;
- (9) Responsibilities of supervisors of noncertified applicators. Knowledge of the responsibilities of certified applicators supervising noncertified applicators, including:
- (a) Understanding and complying with requirements in 302 KAR 26:050 for commercial applicators who supervise noncertified applicators using pesticides;
 - (b) The recordkeeping requirements of pesticide safety training for noncertified applicators who use pesticides under the direct supervision of a certified applicator;
 - (c) Providing use-specific instructions to noncertified applicators using pesticides under the direct supervision of a certified applicator; and
 - (d) Explaining pertinent state, tribal, and federal laws and regulations to noncertified applicators who use pesticides under the direct supervision of a certified applicator;
- (10) Professionalism. Understanding the importance of:
- (a) Maintaining chemical security for restricted use pesticides;
 - (b) How to communicate information about pesticide exposures and risks with customers and the public; and
 - (c) Appropriate product stewardship for certified applicators.

Section 5. Specific Standards of Competency. In addition to meeting the requirements of Sections 3 and 4 of this administrative regulation, persons requesting certification for a specific category shall demonstrate competence relating to that category as established in subsections (1) through (12) of this section.

(1) Agricultural. This category shall be subdivided as follows:

(a) Plant. Persons requesting agricultural plant certification shall demonstrate practical knowledge of crops and specific pests of those crops for which they could be using pesticides. Practical knowledge shall be required concerning soil and water problems, pre-harvest intervals, reentry intervals, phytotoxicity, potential for environmental contamination, drift and non-target injury, and community problems resulting from the use of pesticides in agricultural areas; and

(b) Animal. Persons requesting agricultural animal certification shall demonstrate practical knowledge of agricultural animals and their associated pests and the relative hazards associated with such factors as formulation, application techniques, the age of animal, stress, and extent of treatment. Practical knowledge shall also be required concerning specific pesticide toxicities and residue potentials because host animals will frequently be used for food.

(2) Forestry. Persons requesting forest certification shall demonstrate practical knowledge of types of forests, forest nurseries, and seed production within the jurisdiction of the department and the pests involved. The required knowledge shall include the cyclic occurrence of certain pests and specific population dynamics as a basis for programming pesticide applications, the relevant organisms causing harm and their vulnerability to the pesticides to be applied, how to determine when pesticide use is proper, selection of application method and proper use of application equipment to minimize non-target exposures, and appropriate responses to meteorological factors and adjacent land use. The required knowledge also shall include the potential for phytotoxicity due to a wide variety of plants to be protected, for drift, for persistence beyond the intended period of pest control, and for non-target exposures.

(3) Ornamental, turf and lawn care. Persons requesting ornamental and turf certification shall demonstrate practical knowledge of pesticide problems associated with the production and maintenance of ornamental trees, shrubs, plantings, and turf, including cognizance of potential phytotoxicity due to a wide variety of plant material and non-target organisms, drift, and persistence beyond the intended period of pest control. Practical knowledge shall also be required concerning fungi, weeds, insect infestation, disease control, and fertility; the safe handling and proper application of pesticides and fertilizers; toxicity of pesticides to human and nontarget organisms; proper cleaning, disposal and containment techniques for pesticides; effects of pesticides on ground water; and the use of conveying or handling equipment. Because of the frequent proximity of application to human habitations, applicators in this category shall demonstrate practical knowledge of application methods that shall minimize or prevent hazards to humans, pets, and other domestic animals.

(4) Seed treatment. Persons requesting seed treatment certification shall demonstrate practical knowledge including recognizing types of seeds to be treated, the effects of carriers and surface active agents on pesticide binding and germination, the hazards associated with handling, sorting and mixing, and misuse of treated seed, the importance of proper application techniques to avoid harm to non-target organisms, and the proper disposal of unused treated seeds.

(5) Aquatic. Persons requesting aquatic certification shall demonstrate practical knowledge of the characteristics of various aquatic use situations, the potential for adverse effects on non-target plants, fish, birds, beneficial insects, and other organisms in the treated aquatic environment and downstream, and the principles of limited area application.

(6) Right-of-way. Persons requesting right-of-way certification shall demonstrate practical knowledge of the types of environments (terrestrial and aquatic) traversed by rights-of-way, recognition of target pests, and techniques to minimize non-target exposure, runoff, drift, and excessive foliage destruction. The required knowledge also shall include the potential for phytotoxicity due to a wide variety of plants and pests to be controlled, and for persistence beyond the intended period of pest control.

(7) Industrial, institutional, and structural pest control. This category shall be subdivided as follows:

(a) Structural pest management. Persons requesting certification in this subcategory shall demonstrate practical knowledge of a wide variety of pests including general pests and wood destroying organisms. This practical knowledge shall include their life cycles, habits, types of formulations, insecticides appropriate for their control, minimum standards of application, and methods of application that avoid contamination of habitat and exposure of people and pets and a practical knowledge of an integrated pest management program to determine if and when a treatment is needed. Components of an integrated pest management program may include education, proper sanitation, structural repair, mechanical control techniques, and pesticide application. Because human exposure is frequently a potential problem, an applicant shall demonstrate practical knowledge of the specific factors that could lead to a hazardous condition. Because structural pest control may involve outdoor applications, an applicant shall also demonstrate practical knowledge of environmental conditions.

(b) Structural fumigation. Persons requesting certification in this subcategory shall demonstrate a practical knowledge of those pests for which treatment by fumigation is an appropriate control technique. This practical knowledge shall include their life cycles, fumigants appropriate for their control, and alternative control techniques. Because of the potential dangers inherent in the use of fumigant gases, especially in structures intended for human occupancy, the applicant shall demonstrate knowledge of:

1. 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;
2. Safety. Measures to minimize adverse health effects, including:
 - a. Understanding how certified applicators, noncertified applicators using fumigants under direct supervision of certified applicators, and bystanders can become exposed to fumigants;
 - b. Common problems and mistakes that can result in direct exposure to fumigants;
 - c. Signs and symptoms of human exposure to fumigants;
 - d. Air concentrations of a fumigant that require applicators to wear respirators or to 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 a buffer zone;
 - h. First aid measures to take in the event of exposure to a fumigant; and
 - i. 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;
3. Non-soil fumigant chemical characteristics. Characteristics of non-soil fumigants, including:
 - a. Chemical characteristics of non-soil fumigants;

- b. Specific human exposure concerns for non-soil fumigants;
 - c. How fumigants change from a liquid or solid to a gas;
 - d. How fumigants disperse in the application zone; and
 - e. Compatibility concerns for tanks, hoses, tubing, and other equipment;
4. Application. Selecting appropriate application methods and timing, including:
- a. Application methods and equipment commonly used for non-soil fumigation;
 - b. Site characteristics that influence fumigant exposure;
 - c. 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;
 - d. Conducting pre-application inspection of application equipment and the site to be fumigated;
 - e. Understanding the purpose and methods of sealing the area to be fumigated, including the factors that determine which sealing method to use;
 - f. Calculating the amount of product required for a specific treatment area;
 - g. Understanding the basic techniques for calibrating non-soil fumigant application equipment; and
 - h. Understanding when and how to conduct air monitoring and when it is required;
5. Pest factors. Pest factors that influence fumigant activity, including:
- a. Influence of pest factors on fumigant volatility;
 - b. Factors that influence gaseous movement through the area being fumigated and into the air;
 - c. Identifying pests causing the damage and verifying they can be controlled with fumigation;
 - d. Understanding the relationship between pest density and application rate; and
 - e. The importance of proper application rate and timing;
6. Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including:
- 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 if using specific non-soil fumigants and how to use them properly, including medical evaluation, fit testing, and required replacement of cartridges and canisters; and
 - 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 and when they are required, including:
- a. When a fumigant management plan shall be in effect, how long it shall be kept on file, where it shall be kept during the application, and who shall 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; and
 - d. The elements, purpose, and content of a post-application summary, who shall prepare it, and when it shall be completed; and
8. Posting requirements. Understanding posting requirements, including:
- a. Understanding who is allowed in an area being fumigated or after fumigation and who is prohibited from being in the areas;

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

c. Proper choice and placement of warning signs; and

(c) Wood preservative. Persons requesting certification in this category shall demonstrate practical knowledge in the use of wood preservatives, air monitoring procedures, personal protective clothing and equipment, hygiene, related health and safety measures, emergency procedures, and practices necessary to prevent environmental contamination.

(8) Public health. Persons requesting public health certification shall demonstrate practical knowledge of vector-disease transmission as it relates to and influences pesticide application programs. A wide variety of pests are involved, and pests shall be known and recognized. Appropriate life cycles and habitats shall be understood as a basis for control strategy. An applicant shall have practical knowledge of a great variety of environments ranging from streams to those conditions found in buildings. An applicant shall have knowledge of how to minimize damage to and contamination of areas treated, acute and chronic exposure of people and pets, and non-target exposures. An applicant shall also have a practical knowledge of the importance and employment of nonchemical control methods as sanitation, waste disposal, and drainage.

(9) Regulatory pest control. Persons requesting certification in this category shall demonstrate practical knowledge of regulated pests, applicable laws relating to quarantine and other regulation of pests, and the potential impact on the environment of pesticides used in suppression and eradication programs. They shall demonstrate knowledge of factors influencing introduction, spread, and population dynamics of relevant pests. Their knowledge shall extend beyond that required by their immediate duties because their services are frequently required in other areas of the country where emergency measures are invoked to control regulated pests and where individual judgments are necessary.

(10) Demonstration and research. Persons requesting certification in this category shall demonstrate practical knowledge of the potential problems, pests, and population levels reasonably expected to occur in a demonstration situation and the effects of pesticides on target and non-target organisms. In addition, they shall demonstrate competency in each pest control category applicable to their demonstrations. The person shall demonstrate an understanding of techniques to mitigate effects of pesticides on non-target organisms. Persons conducting demonstration pest control work shall possess a practical knowledge in each pest control category applicable to their demonstrations.

(11) Aerial pest control. Persons requesting certification in this category shall demonstrate practical knowledge of the pest problems and pest control practices associated with performing aerial application of pesticides, including:

(a) Labeling. Labeling requirements and restrictions specific to aerial application of pesticides including:

1. Spray volumes;
2. Buffers and no-spray zones; and
3. Weather conditions specific to wind and inversions;

(b) Application equipment. Understand how to choose and maintain aerial application equipment, including:

1. The importance of inspecting application equipment to ensure it is in proper operating condition prior to beginning an application;
2. Selecting proper nozzles to ensure appropriate pesticide dispersal and to minimize drift;
3. Knowledge of the components of an aerial pesticide application system, including pesticide hoppers, tanks, pumps, and types of nozzles;

4. Interpreting a nozzle flow rate chart;
 5. Determining the number of nozzles for intended pesticide output using nozzle flow rate chart, aircraft speed, and swath width;
 6. 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;
 7. Where to place nozzles to produce the appropriate droplet size;
 8. How to maintain the application system in good repair, including pressure gauge accuracy, filter cleaning according to schedule, and checking nozzles for excessive wear;
 9. How to calculate required and actual flow rates;
 10. How to verify flow rate using fixed timing, open timing, known distance, or a flow meter; and
 11. When to adjust and calibrate application equipment;
- (c) Application considerations. The applicator shall demonstrate knowledge of factors to consider before and during application, including:
1. Weather conditions that could impact application by affecting aircraft engine power, take-off distance, and climb rate, or by promoting spray droplet evaporation;
 2. How to determine wind velocity, direction, and air density at the application site; and
 3. The potential impact of thermals and temperature inversions on aerial pesticide application;
- (d) Minimizing drift. The applicator shall demonstrate knowledge of methods to minimize off-target pesticide movement, including:
1. How to determine drift potential of a product using a smoke generator;
 2. How to evaluate vertical and horizontal smoke plumes to assess wind direction, speed, and concentration;
 3. Selecting techniques that minimize pesticide movement out of the area to be treated; and
 4. Documenting special equipment configurations or flight patterns used to reduce off-target pesticide drift; and
- (e) Performing aerial application. The applicator shall demonstrate competency in performing an aerial pesticide application, including:
1. Selecting a flight altitude that minimizes streaking and off-target pesticide drift;
 2. Choosing a flight pattern that ensures applicator and bystander safety and proper application;
 3. The importance of engaging and disengaging spray precisely when entering and exiting a predetermined swath pattern;
 4. Tools available to mark swaths, such as global positioning systems and flags; and
 5. Recordkeeping requirements for aerial pesticide applications including application conditions if applicable.
- (12) Soil Fumigation. Persons requesting certification in this category shall demonstrate practical knowledge of the pest problems and pest control practices associated with performing soil fumigation applications, including:
- (a) Label and labeling comprehension. Familiarity with the pesticide labels and labeling for products used to perform soil fumigation, including:
1. Labeling requirements specific to soil fumigants;
 2. Requirements for certified applicators of fumigants, fumigant handlers and permitted fumigant handler activities, and the safety information that certified applicators shall provide to noncertified applicators using fumigants under their direct supervision;
 3. Entry-restricted periods for tarped and untarped field application scenarios;

4. Recordkeeping requirements; and
 5. Labeling provisions unique to fumigant products containing certain active ingredients;
- (b) Safety. Measures to minimize adverse health effects, including:
1. Understanding how certified applicators, noncertified applicators using fumigants under direct supervision of certified applicators, field workers, and bystanders can become exposed to fumigants;
 2. Common problems and mistakes that can result in direct exposure to fumigants;
 3. Signs and symptoms of human exposure to fumigants;
 4. Air concentrations of a fumigant that require that applicators wear respirators or exit the work area entirely;
 5. Steps to take if a fumigant applicator experiences sensory irritation;
 6. Understanding air monitoring, when it is required, and where and when to take samples;
 7. Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in a buffer zone;
 8. First aid measures to take in the event of exposure to a soil fumigant; and
 9. Labeling requirements for transportation, storage, spill clean-up, and emergency response for soil fumigants, including safe disposal of containers and contaminated soil, and management of empty containers;
- (c) Soil fumigant chemical characteristics. Characteristics of soil fumigants, including:
1. Chemical characteristics of soil fumigants;
 2. Specific human exposure concerns for soil fumigants;
 3. How soil fumigants change from a liquid or solid to a gas;
 4. How soil fumigants disperse in the application zone; and
 5. Compatibility concerns for tanks, hoses, tubing, and other equipment;
- (d) Application. Selecting appropriate application methods and timing, including:
1. Application methods, including, for example, water-run and non-water-run applications and equipment commonly used for each soil fumigant;
 2. Site characteristics that influence fumigant exposure;
 3. Understanding temperature inversions and their impact on soil fumigant application;
 4. 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;
 5. Conducting pre-application inspection of application equipment;
 6. Understanding the purpose and methods of soil sealing, including the factors that determine which soil sealing method to use;
 7. Understanding the use of tarps, including the range of tarps available, how to seal tarps, and labeling requirements for tarp removal, perforation, and repair;
 8. Calculating the amount of product required for a specific treatment area; and
 9. Understanding the basic techniques for calibrating soil fumigant application equipment;
- (e) Soil and pest factors. Soil and pest factors that influence fumigant activity, including:
1. Influence of soil factors on fumigant volatility and movement within the soil profile;
 2. Factors that influence gaseous movement through the soil profile and into the air;
 3. 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;

4. Identifying pests causing the damage and verifying they can be controlled with soil fumigation;
 5. Understanding the relationship between pest density and application rate; and
 6. The importance of proper application depth and timing.
- (f) Personal protective equipment. Understanding what personal protective equipment is necessary and how to use it properly, including all of the following:
1. Following labeling directions for required personal protective equipment;
 2. Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment;
 3. 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; and
 4. Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recordkeeping;
- (g) Fumigant management plans and post-application summaries. Information about fumigant management plans, including:
1. When a fumigant management plan shall be in effect, how long it shall be kept on file, where it shall be kept during the application, and who shall have access to it;
 2. The elements of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan;
 3. The person responsible for verifying that a fumigant management plan is accurate; and
 4. The elements, purpose and content of a post-application summary, who shall prepare it, and when it shall be completed; and
- (h) Buffer zones and posting requirements. Understanding buffer zones and posting requirements, including:
1. Buffer zones and the buffer zone period;
 2. Identifying who is allowed in a buffer zone during the buffer zone period and who is prohibited from being in a buffer zone during the buffer zone period;
 3. Using the buffer zone table from the labeling to determine the size of the buffer zone;
 4. Factors that determine the buffer zone credits for application scenarios and calculating buffer zones using credits;
 5. Distinguishing buffer zone posting and treated area posting, including the pre-application and post-application posting timeframes for each; and
 6. Proper choice and placement of warning signs.
- (13) Non-soil fumigation. Persons requesting certification in this category shall demonstrate practical knowledge of the pest problems and pest control practices associated with performing fumigation applications of pesticides to sites other than soil and specifically excluding structures intended for human occupancy, including:
- (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:
1. Understanding how certified applicators, noncertified applicators using fumigants under direct supervision of certified applicators, and bystanders can become exposed to fumigants;
 2. Common problems and mistakes that can result in direct exposure to fumigants;
 3. Signs and symptoms of human exposure to fumigants;
 4. Air concentrations of a fumigant that require applicators to wear respirators or to exit the work area entirely;
 5. Steps to take if a fumigant applicator experiences sensory irritation;

6. Understanding air monitoring, when it is required, and where and when to take samples;
 7. Buffer zones, including procedures for buffer zone monitoring and who is permitted to be in a buffer zone;
 8. First aid measures to take in the event of exposure to a fumigant; and
 9. 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:
1. Chemical characteristics of non-soil fumigants;
 2. Specific human exposure concerns for non-soil fumigants;
 3. How fumigants change from a liquid or solid to a gas;
 4. How fumigants disperse in the application zone; and
 5. Compatibility concerns for tanks, hoses, tubing, and other equipment;
- (d) Application. Selecting appropriate application methods and timing, including:
1. Application methods and equipment commonly used for non-soil fumigation;
 2. Site characteristics that influence fumigant exposure;
 3. 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;
 4. Conducting pre-application inspection of application equipment and the site to be fumigated;
 5. Understanding the purpose and methods of sealing the area to be fumigated, including the factors that determine which sealing method to use;
 6. Calculating the amount of product required for a specific treatment area;
 7. Understanding the basic techniques for calibrating non-soil fumigant application equipment; and
 8. Understanding when and how to conduct air monitoring and when it is required;
- (e) Pest factors. Pest factors that influence fumigant activity, including:
1. Influence of pest factors on fumigant volatility;
 2. Factors that influence gaseous movement through the area being fumigated and into the air;
 3. Identifying pests causing the damage and verifying they can be controlled with fumigation;
 4. Understanding the relationship between pest density and application rate; and
 5. 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:
1. Following labeling directions for required personal protective equipment;
 2. Selecting, inspecting, using, caring for, replacing, and disposing of personal protective equipment;
 3. 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; and
 4. Labeling requirements and other laws applicable to medical evaluation for respirator use, fit tests, training, and recordkeeping;
- (g) Fumigant management plans and post-application summaries. Information about fumigant management plans and when they are required, including:
1. When a fumigant management plan shall be in effect, how long it shall be kept on file, where it must be kept during the application, and who shall have access to it;

2. The elements of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan;
 3. The person responsible for verifying that a fumigant management plan is accurate; and
 4. The elements, purpose and content of a post-application summary, who shall prepare it, and when it shall be completed; and
- (h) Posting requirements. Understanding posting requirements, including:
1. Understanding who is allowed in an area being fumigated or after fumigation and who is prohibited from being in such areas;
 2. Distinguishing fumigant labeling-required posting and treated area posting, including the pre-application and post-application posting timeframes for each; and
 3. Proper choice and placement of warning signs.

Section 6. Competency Certification Maintenance.

- (1) To maintain eligibility for licensure renewal, each person certified and licensed under this administrative regulation, other than a private applicator or a non-certified applicator established in 302 KAR 26:070, shall in the three (3) year period prior to the annual renewal application submission, attend at least twelve (12) continuing education units (CEU) of training, approved by the department in accordance with subsection (2) of this section, in the use and application of pesticides.
- (2) All continuing education units approved by the department shall consist of at least one (1) topic from the core standards of competency listed in Section 4 of this administrative regulation and at least one (1) topic from the specific standards of competency listed in Section 5 of this administrative regulation.
- (3) At least one (1) CEU credit shall be obtained from the Specific Standards of Competency listed in Section 5 of this administrative regulation related to each category of license held by the person.
- (4) Credit shall be awarded in full continuing education units only.
- (5) Failure to obtain at least twelve (12) CEU credits within three (3) year period prior to renewal shall result in the licensee not being granted a new license until:
 - (a) The former license holder successfully passes the competency examination for the license associated with the CEU deficiency; and
 - (b) All required fees and any associated fines are paid.

Section 7. Private Applicators.

- (1) Private applicator certification and licensing.
 - (a) Before using or supervising the use of a restricted use pesticide as a private applicator, a person shall obtain a license after being certified as having the necessary competency to use restricted use pesticides for pest control in the production of agricultural commodities.
 - (b) There shall be no fee for this license.
 - (c) Persons seeking certification as private applicators shall demonstrate practical knowledge of the principles and practices of pest control associated with the production of agricultural commodities and effective use of restricted use pesticides, including:
 1. Label and labeling comprehension. Familiarity with pesticide labels and labeling and their functions, including:
 - a. The general format and terminology of pesticide labels and labeling;
 - b. Understanding instructions, warnings, terms, symbols, and other information commonly appearing on pesticide labels and labeling;
 - c. Understanding that it is a violation of Federal law to use any registered pesticide in a manner inconsistent with its labeling;

- d. Understanding when a certified applicator shall be physically present at the site of the application based on labeling requirements;
 - e. Understanding labeling requirements for supervising noncertified applicators working under the direct supervision of a certified applicator;
 - f. Understanding that applicators shall comply with all use restrictions and directions for use contained in pesticide labels and labeling;
 - g. Understanding that additional certification and licensing is required to use restricted use pesticides for fumigation or aerial application;
 - h. Understanding the meaning of product classification as either general or restricted use and that a product may be unclassified;
 - i. Understanding and complying with product-specific notification requirements; and
 - j. Recognizing and understanding the difference between mandatory and advisory labeling language;
2. Safety. Measures to avoid or minimize adverse health effects, including:
- a. Understanding the different natures of the risks of acute toxicity and chronic toxicity, as well as the long term effects of pesticides;
 - b. Understanding that a pesticide's risk is a function of exposure and the pesticide's toxicity;
 - c. Recognition of likely ways in which dermal, inhalation, and oral exposure could occur;
 - d. Common types and causes of pesticide mishaps;
 - e. Precautions to prevent injury to applicators and other individuals in or near treated areas;
 - f. Need for, and proper use of, protective clothing and personal protective equipment.
 - g. Symptoms of pesticide poisoning;
 - h. First aid and other procedures to be followed in case of a pesticide mishap; and
 - i. 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;
3. Environment. The potential environmental consequences of the use and misuse of pesticides, including the influence of:
- a. Weather and other climatic conditions;
 - b. Types of terrain, soil, or other substrate;
 - c. Presence of fish, wildlife, and other non-target organisms; and
 - d. Drainage patterns;
4. Pests. The proper identification and effective control of pests, including:
- a. The importance of correctly identifying target pests and selecting the proper pesticide product; and
 - b. Verifying that the labeling does not prohibit the use of the product to control the target pest;
5. Pesticides. Characteristics of pesticides, including:
- a. Types of pesticides;
 - b. Types of formulations;
 - c. Compatibility, synergism, persistence, and animal and plant toxicity of the formulations;
 - d. Hazards and residues associated with use;
 - e. Factors that influence effectiveness or lead to problems such as pesticide resistance; and
 - f. Dilution procedures;

6. Equipment. Application equipment, including:
 - a. Types of equipment and advantages and limitations of each type.
 - b. Uses, maintenance, and calibration procedures.
7. Application methods. Selecting appropriate application methods, including:
 - a. Methods used to apply various forms and formulations of pesticides;
 - b. Knowledge of which application method to use in a given situation and that use of a fumigant or aerial application requires additional certification;
 - c. How selection of application method and use of a pesticide could result in proper use, unnecessary or ineffective use, and misuse; and
 - d. Prevention of drift and pesticide loss into the environment;
8. Laws and regulations. Knowledge of all applicable state, tribal, and federal laws and regulations, including understanding the Worker Protection Standard in 40 C.F.R. Part 170 and the circumstances where compliance is required;
9. Responsibilities for supervisors of noncertified applicators. Certified applicator responsibilities related to supervision of noncertified applicators, including:
 - a. Understanding and complying with requirements in 302 KAR 26:070 for private applicators who supervise noncertified applicators using restricted use pesticides;
 - b. Providing use-specific instructions to noncertified applicators using restricted use pesticides under the direct supervision of a certified applicator; and
 - c. Explaining appropriate State, Tribal, and Federal laws and regulations to noncertified applicators working under the direct supervision of a certified applicator;
10. Stewardship. Understanding the importance of:
 - a. Maintaining chemical security for restricted use pesticides; and
 - b. How to communicate information about pesticide exposures and risks with agricultural workers and handlers and other persons; and
11. Agricultural pest control. Practical knowledge of pest control applications to agricultural commodities including:
 - a. Specific pests of relevant agricultural commodities;
 - b. How to avoid contamination of ground and surface waters;
 - c. Understanding pre-harvest and restricted entry intervals and entry restricted periods and areas;
 - d. Understanding specific pesticide toxicity and residue potential when pesticides are applied to animal or animal product agricultural commodities; and
 - e. Relative 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.

(2) Private applicator minimum age. A private applicator shall be at least eighteen (18) years old.

(3) Private applicator competency. The certification of competency for each private applicator candidate shall be established based upon the standards established in paragraph (a) of this subsection in order to assure that private applicators have the competency to use and supervise the use of restricted use pesticides in accordance with applicable state, tribal, and federal laws and regulations. Either a written examination process as established in paragraph (a) of this subsection or a non-examination training process as established in paragraph (b) of this subsection shall be used to assure the competency of private applicators.

(a) Determination of competency certification by examination. If an examination process is used to determine the competency of private applicators, the examination process shall meet all of the requirements of Section 2(4) of this administrative regulation.

(b) Training for competency certification without examination. Any candidate for certification as a private applicator may complete a training program approved by the department to establish competency. A training program to establish private applicator competency shall conform to the criteria established in subparagraphs 1. and 2. of this paragraph.

1. Identification. Each person seeking certification shall present a valid, government-issued photo identification, or a declaration of identity and age at the time of the training program to be eligible for certification.

2. Training programs for private applicator certification. The training program for private applicator certification shall cover the competency standards established in subsection (1)(c) of this section in sufficient detail to allow the private applicator to demonstrate practical knowledge of the principles and practices of pest control and proper and effective use of restricted use pesticides.

(4) Exceptions. The requirements in this section shall not apply to:

(a) Persons conducting laboratory research involving restricted use pesticides; and

(b) Doctors of medicine and doctors of veterinary medicine applying restricted use pesticides to patients during the course of the ordinary practice of those professions.

(5) Renewals. A private applicator's license shall be deemed automatically renewed at the moment of issuance for the following two (2) calendar years from the calendar year of issuance.

Section 8. Credentials. If a person meets all the requirements to obtain a category-specific license under KRS Chapter 217B and this administrative regulation, the department shall issue a document signifying that he or she is licensed and certified in the category for which he or she qualifies.

(1) Inactive status.

(a) If an applicator or operator, for any reason, changes status and is no longer employed by a dealer or a structural pest management company but elects to maintain his or her license, the licensee shall do so by advising the department of the change and the reason for the change.

(b) The department shall then issue to that person a notification that the license shall be held in inactive status.

(c) The license holder shall be required to maintain certification and pay the annual renewal fee.

(d) The licensee shall not be required to register as a dealer or be permitted to perform any type of regulated activity until the license is reactivated and properly assigned to a dealer.

(2) Kentucky Department of Agriculture employee license and certification. An employee of the department shall not obtain or maintain any pesticide license other than a noncommercial or private applicator license during the term of employment with the department unless required by the department in the performance of official duties.

Section 9. License Renewal and Employment Reporting.

(1) Each license issued by the department shall expire on December 31 of each calendar year.

(2) Failure to renew a license, after January 31 of each year, shall result in the former license holder being required to retest as an initial applicant, after any applicable fines are paid.

(3) At the time of license renewal, each dealer or structural pest management company shall submit to the department a list with the following information on each employee:

(a) Name;

(b) Address; and

(c) Primary telephone number.

(4) Within thirty (30) days of the addition or termination of an employee, the dealer or structural pest management company shall submit to the department the information required in subsection (3) of this section for each new or terminated employee.

Section 10. Conversion of License Categories and Qualifying Certifications. Upon final adoption of this administrative regulation the following conversion of categories and qualifying certifications will become effective:

(1) A licensee holding a current Category 1(a) Agricultural Pest Control, Plant and Animal shall convert to holding both a Category 1(a) Agricultural Pest Control, Plant and a Category 1(b) Agricultural Pest Control, Animal, without any additional qualification by examination or training certification. Upon expiration of any license category the licensee shall obtain qualification by examination or training certification;

(2) A licensee holding a current Category 1(b) Agricultural Pest Control, Agricultural Fumigation shall convert to holding both a Category 12, Soil Fumigation, and a Category 13, Non-Soil Fumigation, without any additional qualification by examination or training certification. Upon expiration of any license category the licensee shall obtain qualification by examination or training certification;

(3) A licensee holding a current Category 18, Golf Course, Category 19, Interior Landscapes, or Category 20, Sports Turf, shall convert to holding a Category 3 Ornamental, Turf and Lawn Care, without any additional qualification by examination or training certification. Upon expiration of any license category the licensee shall obtain qualification by examination or training certification; and

(4) A licensee holding a current Category 17, Wood Preservatives, shall convert to holding a Category 7(c), Wood Preservatives, without any additional qualification by examination or training certification. Upon expiration of any license category the licensee shall obtain qualification by examination or training certification.

Section 11. Structural Pest Control and Fumigation Licenses. A person holding a general pest and wood-destroying organism or fumigation license shall be, by reason of KRS 217B.180(3), certified to purchase or use restricted-use pesticides. This shall not relieve them from obtaining certification under the federal law as contained in the federal Insecticides, Fungicide, and Rodenticide Act of 1972, as amended, 7 U.S.C. 136 et seq. The certification of persons certified under KRS 217B.180(3) may be modified, suspended, or revoked pursuant to 302 KAR 26:150. To maintain certification, persons certified pursuant to KRS 217B.180(3) shall meet the requirements of 302 KAR 26:020.

Section 12. Material Incorporated by Reference.

(1) "Pesticides License-Certification Application" (2019), is incorporated by reference.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Kentucky Department of Agriculture, 107 Corporate Drive, Frankfort, Kentucky 40601, Monday through Friday, 8 a.m. to 4:30 p.m.

(49 Ky.R. 193, 767; eff. 10-20-2022.)

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