WAC 16-228-15451 Standards for certification of commercial pesticide applicators, commercial pesticide operators, demonstration and research applicators, public operators, pest control consultants, and public pest control consultants. (1) Individuals seeking certification as commercial pesticide applicators, commercial pesticide operators, demonstration and research applicators, public operators, pest control consultants, and public pest control consultants must demonstrate practical knowledge of the principles and practices of pest control and proper and effective use of pesticides by passing a laws and safety exam that may include the following:

(a) Knowledge of the state and federal laws governing pesticide use;

(b) General pesticide label comprehension to include:

(i) General format and terminology of pesticide labels and labeling;

(ii) Understanding instructions, warnings, terms, symbols, and other information commonly appearing on pesticide labels and labeling;

(iii) Understanding that it is a violation of state and federal law to use any pesticide in a manner inconsistent with its labeling;

(iv) Understanding labeling requirements that a certified applicator must be physically present at the site of application;

(v) Understanding labeling requirements for supervising noncertified applicators working under the direct supervision of a certified applicator;

(vi) Understanding that applicators must comply with all use restrictions and directions for use listed on the pesticide label and labeling, including being certified in the appropriate license classification;

(vii) Understanding the meaning of product classification as either general or restricted use;

(viii) Understanding and complying with notification requirements specific to the product;

(ix) Recognizing and understanding the difference between mandatory and advisory labeling language.

(c) Safe use of pesticides to avoid or minimize adverse health effects including:

(i) Understanding the difference between acute and chronic toxicity;

(ii) Understanding that a pesticide's risk is a function of exposure and the pesticide's toxicity;

(iii) Understanding the different routes of exposure and how they may occur;

(iv) Common types and causes of pesticide mishaps;

(v) Precautions to prevent injury to applicators and other individuals in or near treated areas;

(vi) The need for, and proper use of, protective clothing and personal protective equipment;

(vii) Symptoms of pesticide poisoning;

(viii) First aid and other procedures to be followed in case of a pesticide mishap;

(ix) 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.

(d) Environmental fate of pesticides and the potential consequences of the use and misuse of pesticides including the influence of the following:

(i) Weather and other climatic conditions;

(ii) Types of terrain, soil, or other substrate;

(iii) Presence of fish, wildlife, and other nontarget organisms;

(iv) Drainage patterns.

(e) Proper identification and effective control of pests including the following:

(i) Importance of correctly identifying target pests and selecting the proper pesticide product for effective pest control;

(ii) Verifying that the label does not prohibit the use of the product to control the target pest.

(f) Characteristics of pesticides including the following:

(i) Types of pesticides and pesticide formulations;

(ii) Compatibility, synergism, persistence, and animal and plant toxicity of the formulations;

(iii) Hazards and residue associated with use;

(iv) Factors that influence effectiveness or lead to problems such as pesticide resistance;

(v) Dilution procedures.

(g) Application equipment including the following:

(i) Types of equipment and advantages and limitations of each;

(ii) Use, maintenance, and calibration procedures.

(h) Selecting appropriate application methods including the following:

(i) Methods to apply various forms and formulations of pesticides;

(ii) Knowledge of which application method to use in a given situation and that certain uses require additional certification;

(iii) How selection of application method and use of a pesticide may or may not result in proper use;

(iv) Prevention of drift and pesticide loss into the environment.

(i) Knowledge of the responsibilities of certified applicators supervising noncertified applicators including the following:

(i) Understanding and complying with requirements in WAC 16-228-1548 for certified applicators who supervise noncertified applicators using pesticides for those pesticide licenses listed in this subsection;

(ii) Recordkeeping requirements of pesticide safety training for noncertified applicators who use pesticides under the direct supervision of a certified applicator;

(iii) Providing use-specific instructions to noncertified applicators using pesticides under the direct supervision of a certified applicator;

(iv) Explaining pertinent state, tribal, and federal laws and regulations to noncertified applicators who use pesticides under the direct supervision of a certified applicator.

(j) Understanding the importance of professionalism including the following:

(i) Maintaining chemical security for pesticides;

(ii) How to communicate information about pesticide exposure and risks with customers and the public;

(iii) Appropriate product stewardship for certified applicators.

(2) In addition to satisfying the requirements of subsection (1) of this section, all applicators listed in subsection (1) of this section must demonstrate through written examination practical knowledge of the principles and practices of pest control and proper and effective use of pesticides for each classification in which they intend to

operate or consult. Minimum competency standards for each classification are listed in (a) through (o) of this subsection.

(a) Aerial pest control - Individuals must demonstrate practical knowledge of the pest problems and pest control practices associated with performing aerial application of pesticides including:

(i) 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 inversions;

(D) Label-mandated recordkeeping requirements for aerial pesticide applications including application conditions, if applicable.

(ii) Understanding how to choose and maintain aerial application equipment including 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 appropriate pesticide dispersal and to minimize drift;

(C) Knowledge of the components of an aerial pesticide application system including pesticide hoppers, tanks, pumps, and types of nozzles;

(D) Interpreting a nozzle flow rate 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 rates;

(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.

(iii) Factors to consider before and during application including:

(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.

(iv) Methods to minimize off-target movement including:

(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 being treated;

(D) Documenting special equipment configurations or flight patterns used to reduce off-target pesticide drift.

(v) Competency in performing an aerial pesticide application including:

(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.

(b) Aquatic antifouling - Individuals must demonstrate practical knowledge of:

(i) The characteristics of aquatic antifouling paints;

(ii) Restrictions on the use of these pesticides;

(iii) Potential for adverse effects on humans, nontarget organisms, and the environment;

(iv) Labels and labeling comprehension.

(c) Aquatic irrigation - Individuals must demonstrate practical knowledge of:

(i) The characteristics of various aquatic use situations;

(ii) The potential for adverse effects on nontarget organisms, beneficial insects, and other organisms in the immediate aquatic environment and downstream;

(iii) The principles of limited area application.

(d) Aquatic pest control - Individuals must demonstrate practical knowledge of:

(i) The characteristics of various aquatic use situations;

(ii) The potential for adverse effects on nontarget organisms, beneficial insects, and other organisms in the immediate aquatic environment and downstream;

(iii) The principles of limited area application.

(e) Demonstration and research - Individuals must demonstrate practical knowledge of:

(i) The potential problems, pests, and population levels reasonably expected to occur in a demonstration situation;

(ii) The effects of pesticide use on target and nontarget organisms;

(iii) Individuals must also demonstrate competency in each license classification applicable to their demonstration.

(f) Insect and disease control – Individuals must demonstrate practical knowledge of insect and disease pest control in agricultural, ornamental, turf, and right-of-way situations including:

(i) Crops, grasslands, noncrop agricultural lands, ornamental plants, and turf and pests associated with those areas;

(ii) Preharvest or restricted entry intervals, other entry-restricted periods, and other areas;

(iii) Potential for phytotoxicity, drift, persistence beyond the intended period of pest control, environmental contamination, nontarget exposure, and other problems resulting from the use of pesticides to control insects and diseases;

(iv) Application methods to minimize hazards to humans, pets, other domestic animals, and nontarget organisms and to minimize runoff;

(v) Types of environments traversed by rights-of-way;

(vi) Recognition of target pests.

(g) Livestock pest control - Individuals must demonstrate practical knowledge of such animals and their associated pests including:

(i) Specific pesticide toxicity and residue potential;

(ii) Hazards associated with factors such as formulation, application techniques, age of animals, stress, and extent of treatment.

(h) Pest control operator - General and structural - Individuals must demonstrate practical knowledge of residential, industrial, institutional, and structural pests including:

(i) Recognizing those pests and signs of their presence, habitats, life cycles, biology, and behavior, as it may be relevant to problem identification and control;

(ii) Types of formulations appropriate for control of residential, industrial, institutional, and structural pests;

(iii) Methods of application that avoid contamination of food, minimize damage to and contamination of areas treated, minimize acute and chronic exposure of people and pets, and minimize environmental impacts.

(i) Public health - Individuals must demonstrate practical knowledge of:

(i) Pests that are important vectors of disease including recognizing the pests and signs of their presence, habitats, life cycles, biology, and behavior as it may be relevant to problem identification and control;

(ii) How to minimize damage to and contamination of areas to be treated, acute and chronic exposure of people and pets, and nontarget exposure.

(j) Seed treatment - Individuals must demonstrate practical knowledge of the characteristics of pest control in seed including:

(i) Recognizing types of seeds to be treated;

(ii) The effects of carriers and surface active agents on pesticide binding and germination;

(iii) The hazards associated with handling, sorting, and mixing;

(iv) Misuse of treated seed;

(v) The importance of proper application techniques to avoid harm to nontarget organisms;

(vi) The proper disposal of unused treated seed.

(k) Soil fumigation - Individuals must demonstrate practical knowledge of the pest problems and pest control practices associated with performing soil fumigation including the following:

(i) Familiarity with the pesticide labels and labeling for products used to perform soil fumigation including 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;

(C) Entry-restricted period for different tarped and untarped field application scenarios;

(D) Recordkeeping requirements imposed by product labels and labeling;

(E) Labeling provisions unique to products containing active ingredients.

(ii) Measures to minimize adverse health effects including the following:

(A) Understanding how certified applicators, noncertified applicators using fumigants under the direct supervision of certified applicators, field workers, 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 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 a buffer zone;

(H) First aid measures to take in the event of exposure to a soil fumigant;

(I) 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.

(iii) Characteristics of soil fumigants including 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.

(iv) Selecting appropriate application methods and timing including the following:

(A) Application methods including, but not limited to, water-run and nonwater-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 and labeling statements limiting applications during specific weather conditions;

(E) Conducting preapplication 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.

(v) Soil and pest factors that influence fumigant activity including 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 fumigation application, assessing soil moisture, and correcting soil characteristics that could hinder a successful soil fumigation 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.

(vi) Understanding what personal protective equipment is necessary and how to use it properly including 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.

(vii) Information about fumigant management plans including 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.

(viii) Understanding buffer zones and posting requirements including the following:

(A) Buffer zones and the buffer zone period;

(B) Identifying who is and is not allowed in a buffer zone during the buffer zone period;

(C) Using the buffer zone table from the labeling to determine the size of the buffer zone;

(D) Factors that affect buffer zone size and calculating buffer zones based on those factors;

(E) Distinguishing between buffer zone posting and treated area posting including the preapplication and post-application posting time frames for each;

(F) Proper choice and placement of warning signs.

(l) Space (nonsoil) fumigation - Individuals must demonstrate practical knowledge of the pest problems and pest control practices associated with performing fumigation application of pesticides to sites other than soil including:

(i) Familiarity with the pesticide labels and labeling for products used to perform space fumigation including labeling requirements specific to space fumigants;

(ii) Measures to minimize adverse health effects including the following:

(A) Understanding how certified applicators, noncertified applicators using fumigants under the 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;

(I) Labeling requirements for transportation, storage, spill clean-up, and emergency response for space fumigants including safe disposal of containers and contaminated materials, and management of empty containers.

(iii) Characteristics of space fumigants including the following:

(A) Chemical characteristics of space fumigants;

(B) Specific human exposure concerns for space fumigants;

(C) How fumigants change from a liquid or solid to a gas;

(D) How fumigants disperse in the application zone;

(E) Compatibility concerns for tanks, hoses, tubing, and other equipment.

(iv) Selecting appropriate application methods commonly used for space fumigation;

(A) Application methods and equipment commonly used for space fumigation;

(B) Site characteristics that influence fumigant exposure;

(C) Conditions that could impact timing of space fumigant application such as air stability, air temperature, humidity, and wind current, and labeling statements limiting applications under specific conditions;

(D) Conducting preapplication 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 for a specific treatment area;

(G) Understanding the basic techniques for calibrating space fumigant application equipment;

(H) Understanding when and how to conduct air monitoring and when it is required.

(v) Pest factors that influence fumigant activity including the following:

(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;

(E) The importance of proper application rate and timing.

(vi) Understanding what personal protective equipment is necessary and how to use it properly including the following:

(A) Following label 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 space 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.

(vii) Information about fumigant management plans and when they are required including 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.

(viii) Understanding posting requirements including the following:

(A) Understanding who is and is not allowed in an area being fumigated or after fumigation;

(B) Distinguishing fumigant label-required posting and treated area posting including the preapplication and post-application posting time frames for each;

(C) Proper choice and placement of warning signs.

(m) Vertebrate pest control - Individuals must demonstrate practical knowledge of:

(i) Crops, grasslands, noncrop agricultural lands, ornamental plants, and turf and vertebrate pests associated with those areas, including recognizing those pests and signs of their presence, habitats, life cycles, biology, and behavior;

(ii) Potential for adverse effects on humans, nontarget organisms, and the environment as a result of the use of pesticides for vertebrate pest control;

(iii) Potential for persistence of the pesticide beyond the intended period of pest control;

(iv) Application methods to minimize hazards to humans, pets, other domestic animals, and nontarget organisms and to minimize run-off;

(v) Comprehension of laws and regulations applicable to the control of vertebrate pests;

(vi) Types of environments traversed by rights-of-way;

(vii) Labels and labeling comprehension.

(n) Weed control - Individuals must demonstrate practical knowledge of weed control in agricultural, ornamental, turf, and right-of-way situations including:

(i) Crops, grasslands, noncrop agricultural lands, ornamental plants, turf, and right-of-way areas (terrestrial and aquatic), and weed pests associated with those areas;

(ii) Preharvest or restricted entry intervals and other entry-restricted periods and areas;

(iii) Potential for phytotoxicity due to a wide variety of plants and pests to be controlled, drift, persistence beyond the intended period of pest control, environmental contamination, nontarget exposure, and other problems resulting from the use of pesticides to control weeds including run-off, drift, and excessive foliage destruction;

(iv) Application methods to minimize hazards to humans, pets, other domestic animals, and nontarget organisms;

(v) Recognition of target pests.

(o) Wood treatment - Individuals must demonstrate practical knowledge of:

(i) Characteristics of wood preservatives;

(ii) Recognizing pests and signs of their presence;

(iii) Potential for adverse effects on humans and the environment as a result of the use of wood preservatives for the control of wood damaging pests;

(iv) Measures to minimize adverse health effects and method of application;

(v) Labels and labeling comprehension.

[Statutory Authority: RCW 17.21.030(2) and 15.58.040(2). WSR 25-22-065, s 16-228-15451, filed 10/31/25, effective 1/1/26.]