APPENDIX C

Specific sections of Parts 170 and 171 of Title 40, Code of Federal Regulations (Revised as of July 1, 2022)

Incorporation by reference into Sections 4-66-2, 4-66-57, 4-66-61, 4-66-62 of the Hawaii Administrative Rules

Adopted: _____, 2024

40 CFR Section 170.507:

40 CFR Section 170.507 Personal protective equipment.

(a) *Handler responsibilities.* Any person who performs handler activities involving a pesticide product must use the clothing and personal protective equipment specified on the pesticide product labeling for use of the product, except as provided in § 170.607 of this part.

(b) *Employer responsibilities for providing personal protective equipment.* The handler employer must provide to the handler the personal protective equipment required by the pesticide product labeling in accordance with this section. The handler employer must ensure that the personal protective equipment is clean and in proper operating condition. For the purposes of this section, long-sleeved shirts, short-sleeved shirts, long pants, short pants, shoes, and socks are not considered personal protective equipment, although such work clothing must be worn if required by the pesticide product labeling.

(1) If the pesticide product labeling requires that "chemical-resistant" personal protective equipment be worn, it must be made of material that allows no measurable movement of the pesticide being used through the material during use.

(2) If the pesticide product labeling requires that "waterproof" personal protective equipment be worn, it must be made of material that allows no

measurable movement of water or aqueous solutions through the material during use.

(3) If the pesticide product labeling requires that a "chemical-resistant suit" be worn, it must be a loose-fitting, one- or two-piece chemical-resistant garment that covers, at a minimum, the entire body except head, hands, and feet.

(4) If the pesticide product labeling requires that "coveralls" be worn, they must be loose-fitting, one- or two-piece garments that cover, at a minimum, the entire body except head, hands, and feet.

(5) Gloves must be the type specified on the pesticide product labeling.

(i) Gloves made of leather, cotton, or other absorbent materials may not be worn while performing handler activities unless gloves made of these materials are listed as acceptable for such use on the pesticide product labeling.

(ii) Separable glove liners may be worn beneath chemical-resistant gloves, unless the pesticide product labeling specifically prohibits their use. Separable glove liners are defined as separate glove-like hand coverings, made of lightweight material, with or without fingers. Work gloves made from lightweight cotton or poly-type material are considered to be glove liners if worn beneath chemical-resistant gloves. Separable glove liners may not extend outside the chemical-resistant gloves under which they are worn. Chemical-resistant gloves with non-separable absorbent lining materials are prohibited.

(iii) If used, separable glove liners must be discarded immediately after a total of no more than 10 hours of use or within 24 hours of when first put on, whichever comes first. The liners must be replaced immediately if directly contacted by pesticide. Used glove liners must not be reused. Contaminated liners must be disposed of in accordance with any Federal, State, or local regulations.

(6) If the pesticide product labeling requires that "chemical-resistant footwear" be worn, one of the following types of footwear must be worn:

(i) Chemical-resistant shoes.

(ii) Chemical-resistant boots.

(iii) Chemical-resistant shoe coverings worn over shoes or boots.

(7) If the pesticide product labeling requires that "protective eyewear" be worn, one of the following types of eyewear must be worn:

(i) Goggles.

(ii) Face shield.

(iii) Safety glasses with front, brow, and temple protection.

(iv) Full-face respirator.

(8) If the pesticide product labeling requires that a "chemical-resistant apron" be worn, a chemical-resistant apron that covers the front of the body from mid-chest to the knees must be worn.

(9) If the pesticide product labeling requires that "chemical-resistant headgear" be worn, it must be either a chemical-resistant hood or a chemical-resistant hat with a wide brim.

(10) The respirator specified by the pesticide product labeling must be used. Whenever a respirator is required by the pesticide product labeling, the handler employer must ensure that the requirements of paragraphs (b)(10)(i) through (iii) of this section are met before the handler performs any handler activity where the respirator is required to be worn. The handler employer must maintain for two years, on the establishment, records documenting the completion of the requirements of paragraphs (b)(10)(i) through (iii) of this section.

(i) Handler employers must provide handlers with fit testing using the respirator specified on the pesticide product labeling in a manner that conforms to the provisions of 29 CFR 1910.134.

(ii) Handler employers must provide handlers with training in the use of the respirator specified on the pesticide product labeling in a manner that conforms to the provisions of 29 CFR 1910.134(k)(1)(i) through (vi).

(iii) Handler employers must provide handlers with a medical evaluation by a physician or other licensed health care professional that conforms to the provisions of 29 CFR 1910.134 to ensure the handler's physical ability to safely wear the respirator specified on the pesticide product labeling.

(c) *Use of personal protective equipment.* (1) The handler employer must ensure that personal protective equipment is used correctly for its intended purpose and is used according to the manufacturer's instructions.

(2) The handler employer must ensure that, before each day of use, all personal protective equipment is inspected for leaks, holes, tears, or worn places, and any damaged equipment is repaired or discarded.

(d) *Cleaning and maintenance.* (1) The handler employer must ensure that all personal protective equipment is cleaned according to the manufacturer's instructions or pesticide product labeling instructions before each day of reuse. In the absence of any such instructions, it must be washed thoroughly in detergent and hot water.

(2) If any personal protective equipment cannot or will not be cleaned properly, the handler employer must ensure the contaminated personal protective equipment is made unusable as apparel or is made unavailable for further use by employees or third parties. The contaminated personal protective equipment must be disposed of in accordance with any applicable laws or regulations. Coveralls or other absorbent materials that have been drenched or heavily contaminated with a pesticide that has the signal word "DANGER" or "WARNING" on the label must not be reused and must be disposed of as specified in this paragraph. Handler employers must ensure that any person who handles contaminated personal protective equipment described in this paragraph wears the gloves specified on the pesticide product labeling for mixing and loading the product(s) comprising the contaminant(s) on the equipment. If two or more pesticides are included in the

contaminants, the gloves worn must meet the requirements for mixing and loading all of the pesticide products.

(3) The handler employer must ensure that contaminated personal protective equipment is kept separate from non-contaminated personal protective equipment, other clothing or laundry and washed separately from any other clothing or laundry.

(4) The handler employer must ensure that all washed personal protective equipment is dried thoroughly before being stored or reused.

(5) The handler employer must ensure that all clean personal protective equipment is stored separately from personal clothing and apart from pesticide-contaminated areas.

(6) The handler employer must ensure that when filtering facepiece respirators are used, they are replaced when one of the following conditions is met:

(i) When breathing resistance becomes excessive.

(ii) When the filter element has physical damage or tears.

(iii) According to manufacturer's recommendations or pesticide product labeling, whichever is more frequent.

(iv) In the absence of any other instructions or indications of service life, at the end of eight hours of cumulative use.

(7) The handler employer must ensure that when gas- or vapor-removing respirators are used, the gas- or vapor-removing canisters or cartridges are replaced before further respirator use when one of the following conditions is met:

(i) At the first indication of odor, taste, or irritation.

(ii) When the maximum use time is reached as determined by a change schedule conforming to the provisions of 29 CFR 1910.134(d)(3)(iii)(B)(2).

(iii) When breathing resistance becomes excessive.

(iv) When required according to manufacturer's recommendations or pesticide

product labeling instructions, whichever is more frequent.

(v) In the absence of any other instructions or indications of service life, at the end of eight hours of cumulative use.

(8) The handler employer must inform any person who cleans or launders personal protective equipment of all the following:

(i) That such equipment may be contaminated with pesticides and there are potentially harmful effects from exposure to pesticides.

(ii) The correct way(s) to clean personal protective equipment and how to protect themselves when handling such equipment.

(iii) Proper decontamination procedures that should be followed after handling contaminated personal protective equipment.

(9) The handler employer must ensure that handlers have a place(s) away from pesticide storage and pesticide use areas where they may do all of the following:

(i) Store personal clothing not worn during handling activities.

(ii) Put on personal protective equipment at the start of any exposure period.

(iii) Remove personal protective equipment at the end of any exposure period.

(10) The handler employer must not allow or direct any handler to wear home or to take home employer-provided personal protective equipment contaminated with pesticides.

(e) *Heat-related illness.* Where a pesticide's labeling requires the use of personal protective equipment for a handler activity, the handler employer must take appropriate measures to prevent heat-related illness.

[80 FR 67567, Nov. 2, 2015]

40 CFR section 171.103(d)(13), (14), and (15):

40 CFR section 171.103 Standards for certification of

commercial applicators.

* * *

(d) *Specific standards of competency for each category of commercial applicators.* In addition to satisfying the requirements of paragraph (c) of this section, to be certified as commercial applicators, persons must demonstrate through written examinations practical knowledge of the principles and practices of pest control and proper and effective use of restricted use pesticides for each category for which they intend to apply restricted use pesticides, except as provided at §§ 171.303(a)(4) and 171.305(a)(5). The minimum competency standards for each category are listed in paragraphs (d)(1) through (15) of this section. Examinations for each category of certification listed in § 171.101 must be based on the standards of competency specified in paragraphs (d)(1) through (15) of this section and examples of problems and situations appropriate to the particular category in which the applicator is seeking certification.

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(13) *Soil fumigation.* Applicators must demonstrate practical knowledge of the pest problems and pest control practices associated with performing soil fumigation applications, including all the following:

(i) *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.

(ii) *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 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) *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.

(iv) *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.

(v) *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.

(vi) *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.

(vii) *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.

(viii) *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 a 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 labeling 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.

(14) *Non-soil fumigation.* Applicators must demonstrate practical knowledge of the pest problems and pest control practices associated with performing fumigation applications of restricted use pesticides to sites other than soil, including all the following:

(i) *Label & 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.

(ii) *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, 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 non-soil fumigants, including safe disposal of containers and contaminated materials, and management of empty containers.

(iii) *Non-soil fumigant chemical characteristics.* Characteristics of non-soil fumigants, including all of the following:

(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.

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

(iv) *Application.* Selecting appropriate application methods and timing, including all of the following:

(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.

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

(v) *Pest factors.* Pest factors that influence fumigant activity, including all of 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) *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 non-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) *Fumigant management plans and post-application summaries.* Information about fumigant management plans and when they are required, 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.

(viii) *Posting requirements.* Understanding posting requirements, including all of the following:

(A) Understanding who is allowed in an area being fumigated or after fumigation and who is prohibited from being in such areas.

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

(C) Proper choice and placement of warning signs.

(15) *Aerial pest control.* Applicators must demonstrate practical knowledge of the pest problems and pest control practices associated with performing aerial application of restricted use pesticides, including all the following:

(i) *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.

(ii) *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 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) *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.

(iv) *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.

(v) *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.

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[82 FR 1029, Jan. 4, 2017]

40 CFR section 171.105(d) and (e):

40 CFR section 171.105 Standards for certification of private applicators.

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(d) *Soil fumigation.* In addition to satisfying the requirements in paragraph (a) of this section, private applicators that use or supervise the use of a restricted use pesticide to fumigate soil must demonstrate practical knowledge of the pest problems and pest control practices associated with performing soil fumigant applications, including all the following:

(1) *Label and labeling comprehension.* Familiarity with the pesticide labels and labeling for products used to perform soil fumigation, including all of the following:

(i) Labeling requirements specific to soil fumigants.

(ii) 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 the direct supervision of certified applicators.

(iii) Entry-restricted period for different tarped and untarped field application scenarios.

(iv) Recordkeeping requirements imposed by product labels and labeling.

(v) Labeling provisions unique to products containing certain active ingredients.

(vi) Labeling requirements for fumigant management plans, such as 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; the elements of a fumigant management plan and resources available to assist the applicator in preparing a fumigant management plan; the person responsible for verifying that a 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.

(2) *Safety.* Measures to minimize adverse health effects, including all of the following:

(i) Understanding how certified applicators, noncertified applicators using fumigants under the direct supervision of certified applicators, field workers, 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 the event of exposure to a soil fumigant.

(ix) 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:

(i) Chemical characteristics of soil fumigants.

(ii) Specific human exposure concerns for soil fumigants.

(iii) How soil fumigants change from a liquid or solid to a gas.

(iv) How soil fumigants disperse in the application zone.

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

(4) *Application.* Selecting appropriate application methods and timing, including all of the following:

(i) Application methods, including but not limited to water-run and non-water-run applications, and equipment commonly used for each soil fumigant.

(ii) Site characteristics that influence fumigant exposure.

(iii) Understanding temperature inversions and their impact on soil fumigant application.

(iv) 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.

(v) Conducting pre-application inspection of application equipment.

(vi) Understanding the purpose and methods of soil sealing, including the factors that determine which soil sealing method to use.

(vii) Understanding the use of tarps, including the range of tarps available, how to seal tarps, and labeling requirements for tarp removal, perforation, and repair.

(viii) Calculating the amount of product required for a specific treatment area.

(ix) 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:

(i) Influence of soil factors on fumigant volatility and movement within the soil profile.

(ii) Factors that influence gaseous movement through the soil profile and into the air.

(iii) 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.

(iv) Identifying pests causing the damage and verifying they can be controlled with soil fumigation.

(v) Understanding the relationship between pest density and application rate.

(vi) 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:

(i) Following labeling 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 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 recordkeeping.

(7) *Fumigant management plans and post-application summaries.* Information about fumigant management plans, 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 elements 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.

(8) *Buffer zones and posting requirements.* Understanding buffer zones and posting requirements, including all of the following:

(i) Buffer zones and the buffer zone period.

(ii) Identifying who may be in a buffer zone during the buffer zone period and who is prohibited from being in a buffer zone during the buffer zone period.

(iii) Using the buffer zone table from the labeling to determine the size of the buffer zone.

(iv) Factors that determine the buffer zone credits for application scenarios and calculating buffer zones using credits.

(v) Distinguishing buffer zone posting and treated area posting, including the pre-application and post-application posting timeframes for each.

(vi) Proper choice and placement of warning signs.

(e) *Non-soil fumigation.* In addition to satisfying the requirements in paragraph (a) of this section, private applicators that use or supervise the use of a restricted use pesticide to fumigate anything other than

soil must demonstrate practical knowledge of the pest problems and pest control practices associated with performing fumigation applications to sites other than soil, including all the following:

(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 all of the following:

(i) Understanding how certified applicators, handlers, 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) When air concentrations of a fumigant triggers handlers to wear respirators or to exit the work area entirely.

(v) Steps to take if a person using a fumigant 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 the 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.

(3) *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.

(4) *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 when specific conditions are present.

(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.

(5) *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.

(6) *Personal protective equipment.* Understanding what personal protective equipment is necessary and how to use it properly, including all of the following:

(i) Following labeling 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 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 recordkeeping.

(7) *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 elements 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.

(8) *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.

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[82 FR 1029, Jan. 4, 2017]

40 CFR section 171.201:

40 CFR section 171.201 Requirements for direct supervision of noncertified applicators by certified applicators.

(a) *Applicability.* This section applies to any certified applicator who allows or relies on a noncertified applicator to use a restricted use pesticide under the certified applicator's direct supervision.

(b) *General requirements.* (1) Requirements for the certified applicator.

(i) The certified applicator must have a practical knowledge of applicable Federal, State and Tribal supervisory requirements, including any requirements on the product label and labeling, regarding the use of restricted use pesticides by noncertified applicators.

(ii) The certified applicator must be certified in each category as set forth in §§ 171.101 and 171.105(a) through (f) applicable to the supervised pesticide use.

(2) Requirements for the noncertified applicator. The certified applicator must ensure that each noncertified applicator using a restricted use pesticide under his or her direct supervision meets all of the following requirements before using a restricted use pesticide:

(i) The noncertified applicator has satisfied the qualification requirements under paragraph (c) of this section.

(ii) The noncertified applicator has been instructed within the last 12 months in the safe operation of any equipment he or she will use for mixing, loading, transferring, or applying pesticides.

(iii) The noncertified applicator has met the minimum age required to use restricted use pesticides under the supervision of a certified applicator. A noncertified applicator must be at least 18 years old, except that a noncertified applicator must be at least 16 years old if all of the following requirements are met:

(A) The noncertified applicator is using the restricted use pesticide under the direct supervision of a private applicator who is an immediate family member.

(B) The restricted use pesticide is not a fumigant, sodium cyanide, or sodium fluoroacetate.

(C) The noncertified applicator is not applying the restricted use pesticide aerially.

(3) Use-specific conditions that must be met in order for a noncertified applicator to use a restricted use pesticide. The certified applicator must ensure that all of the following requirements are met before allowing a noncertified applicator to use a restricted use pesticide under his or her direct supervision:

(i) The certified applicator must ensure that the noncertified applicator has access to the applicable product labeling at all times during its use.

(ii) Where the labeling of a pesticide product requires that personal protective equipment be worn for mixing, loading, application, or any other use activities, the certified applicator must ensure 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.

(iii) The certified applicator must provide to each noncertified applicator before use of a restricted use pesticide 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 the conditions of application (e.g., equipment, method of application, formulation) might increase or decrease the risk of adverse effects. The certified applicator must provide this information in a manner that the noncertified applicator can understand.

(iv) The certified applicator must 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 applicator, other persons, or the environment.

(v) The certified applicator must ensure that a means to immediately communicate with the certified applicator is available to each noncertified applicator using restricted use pesticides under his or her direct supervision.

(vi) The certified applicator must be physically present at the site of the use being supervised when required by the product labeling.

(vii) If the certified applicator is a commercial applicator, the certified applicator must create or verify the existence of the records required by paragraph (e) of this section.

(c) *Noncertified applicator qualifications.* Before any noncertified applicator uses a restricted use pesticide under the direct supervision of the certified applicator, the supervising certified applicator must ensure that the noncertified applicator has met at least one of the following qualifications:

(1) The noncertified applicator has been trained in accordance with paragraph (d) of this section within the last 12 months.

(2) The noncertified applicator has met the training requirements for an agricultural handler under 40 CFR 170.501 of this title within the last 12 months.

(3) The noncertified applicator has met the requirements established by a certifying authority that meet or exceed the standards in § 171.201(c)(1).

(4) The noncertified applicator is currently a certified applicator but is not certified to perform the type of application being conducted or is not certified in the jurisdiction where the use will take place.

(d) *Noncertified applicator training program.* (1) General noncertified applicator training must be presented to noncertified applicators either orally from written materials or audiovisually. The information must be presented in a manner that the noncertified applicators can understand, such as through a translator. The person conducting the training must be present during the entire training program and must respond to the noncertified applicators' questions.

(2) The person who conducts the training must meet one of the following criteria:

(i) Be currently certified as an applicator of restricted use pesticides under this part.

(ii) Be currently designated as a trainer of certified applicators or pesticide handlers by EPA, the certifying authority, or a State, Tribal, or Federal agency having jurisdiction.

(iii) Have completed an EPA-approved pesticide safety train-the-trainer program for trainers of handlers under 40 CFR part 170.

(3) The noncertified 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 applicator training materials must include, at a minimum, the following:

(i) Potential hazards from toxicity and exposure that pesticides present to noncertified applicators and their families, including acute and chronic effects, delayed effects, and sensitization.

(ii) Routes through which pesticides can enter the body.

(iii) Signs and symptoms of common types of pesticide poisoning.

(iv) Emergency first aid for pesticide injuries or poisonings.

(v) Routine and emergency decontamination procedures, including emergency eye flushing techniques. Noncertified 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 applicators must also be instructed to wash or shower with soap and water, shampoo hair, and change into clean clothes as soon as possible.

(vi) How and when to obtain emergency medical care.

(vii) After working with pesticides, wash hands before eating, drinking, using chewing gum or tobacco, or using the toilet.

(viii) Wash or shower with soap and water, shampoo hair and change into clean clothes as soon as possible after working with pesticides.

(ix) Potential hazards from pesticide residues on clothing.

(x) Wash work clothes before wearing them again and wash them separately from other clothes.

(xi) Do not take pesticides or pesticide containers used at work to your home.

(xii) Potential hazards to children and pregnant women from pesticide exposure.

(xiii) 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.

(xiv) How to report suspected pesticide use violations to the appropriate State or Tribal agency responsible for pesticide enforcement.

(xv) 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.

(xvi) Need for, and appropriate use and removal of, personal protective equipment.

(xvii) How to recognize, prevent, and provide first aid treatment for heat-related illness.

(xviii) Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.

(xix) Environmental concerns such as drift, runoff, and wildlife hazards.

(xx) Restricted use pesticides may be used only by a certified applicator or by a noncertified applicator working under the direct supervision of a certified applicator.

(xxi) The certified applicator's responsibility to provide to each noncertified 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 applicator can understand.

(xxii) The certified applicator's responsibility to ensure that each noncertified applicator has access to the applicable product labeling at all times during its use.

(xxiii) 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 applicator has clean, labeling-required personal protective equipment in proper operating condition and that the personal protective equipment is worn and use correctly for its intended purpose.

(xxiv) 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 applicator, other persons, or the environment.

(xxv) The certified applicator's responsibility to ensure that a means to immediately communicate with the certified applicator is available to each noncertified applicator using restricted use pesticides under his or her direct supervision.

(e) *Recordkeeping.* (1) Commercial applicators must create or verify the existence of records documenting that each noncertified applicator has the qualifications required in paragraph (c) of this section. For each noncertified applicator, the records must contain the

information appropriate to the method of qualification as provided in paragraphs (e)(1)(i) through (e)(1)(iv).

(i) If the noncertified applicator was trained in accordance with paragraph (c)(1) of this section, the record must contain all of the following information:

(A) The noncertified applicator's printed name and signature.

(B) The date the training requirement in paragraph (c) of this section was met.

(C) The name of the person who provided the training.

(D) The title or a description of the training provided.

(ii) If the noncertified applicator was trained as an agricultural handler under 40 CFR 170.501 in accordance with paragraph (c)(2) of this section, the record must contain all of the information required at 40 CFR 170.501(d)(1).

(iii) If the noncertified applicator qualified by satisfying the requirements established by the certifying authority, as described in paragraph (c)(3) of this section, the record must contain the information required by the certifying authority.

(iv) If the noncertified applicator is a certified applicator who is not certified to perform the type of application being conducted or not certified in the jurisdiction where the use will take place, as described in paragraph (c)(4) of this section, the record must include all of the following information:

(A) The noncertified applicator's name.

(B) The noncertified applicator's certification number.

(C) The expiration date of the noncertified applicator's certification.

(D) The certifying authority that issued the certification.

(2) The commercial applicator must create or verify the existence of the record containing the

information in paragraph (e)(1) of this section before allowing the noncertified applicator to use restricted use pesticides under his or her direct supervision.

(3) The commercial applicator supervising any noncertified applicator must have access to records documenting the information required in paragraph (e)(1) of this section at the commercial applicator's principal place of business for two years from the date the noncertified applicator used the restricted use pesticide.

(f) *Exceptions.* The requirements in § 171.201(a) through (e) of this part do not apply to the following persons:

(1) Persons conducting laboratory research involving restricted use pesticides.

(2) Doctors of Medicine and Doctors of Veterinary Medicine applying restricted use pesticides to patients during the course of the ordinary practice of those professions.

[82 FR 1040, Jan. 4, 2018]