



## **PURPOSE**

The objective of this document is to outline the required procedures for employees at the Coastal Research and Education Center (CREC) who are exposed to pesticides when completing their work and must utilize the Pesticide Handling Facility. These procedures should be followed by all employees working at CREC who handle, mix, and/or apply pesticides, to reduce harm from pesticides to themselves, other workers, and the environment. Coastal REC is dedicated to keeping our employees and the environment healthy and safe. By establishing and enforcing this document, we can work to diminish the adverse effects of pesticides.

## **SCOPE**

Employees can be exposed to pesticides when working at the Pesticide Handling Facility at CREC. Pesticides are associated with hazards and illnesses that can adversely affect humans, wildlife, and non-target plants. Pesticides can cause acute and delayed effects that can be severe. These procedures apply to any employee working at the CREC Pesticide Handling Facility.

### **Reference Standard**

Environmental Protection Agency: 730-N-16-001

## **Responsibilities**

1. Each pesticide handler is responsible for handling, mixing, loading, transferring, and/or applying pesticides in a safe manner with other workers, wildlife, and the environment in mind.
2. If a pesticide handler is not comfortable with any of the procedures below, they are responsible for requesting assistance.
3. Each pesticide handler is responsible for following the procedures outlined in this document.
4. Each pesticide handler is responsible for maintaining a clean work environment at the Pesticide Handling Facility and bringing any concerns of potential pesticide spills or hazards to the attention of the CREC Safety Officer.



*Current Revision Date*  
**02 FEB 2024**

*Origin Date*  
**02 FEB 2024**

*Document Number*  
**SOP-005-CREC**

*Rev Level*  
**A**

5. A CREC technician, holding a current South Carolina (SC) certified pesticide applicator's license, or another current SC pesticide license holder, is responsible for training new and current employees on the Worker Protection Standard (WPS) annually.

## Definitions

- Adjuvant: substances added to pesticides before application such as diluents, surfactants, oils, conditioning agents, or defoaming agents.
- Agricultural Worker: someone who works in areas where pesticides have been applied or works on equipment that applies pesticides.
- Personal Protective Equipment (PPE): equipment such as gloves, respirators, chemical resistant suits, etc. used to protect the body from the harmful effects of pesticides. PPE requirements are listed on the label of the pesticide.
- Pesticide: chemical, biological, or physical means to get rid of a pest. Pests can be insects, rodents, weeds, fungi, or nematodes.
  - The word pesticide in this document refers to chemical pesticides such as insecticides or herbicides that are applied in the field or greenhouse to prevent, decrease, or eliminate pests.
- Pesticide Handler: someone who mixes, loads, transfers, or applies pesticides, including those who clean, handle, adjust, or repair the parts of mixing, loading, or application equipment that may contain pesticide residues. A pesticide handler may have a pesticide license. A full description of Pesticide Handler can be found at the EPA's following website page entitled "Definition of a Pesticide Handler Under the Worker Protection Standard":

### [EPA Worker Protection Standard: Definition of Pesticide Handler](#)

- Safety Data Sheet (SDS): a document given by a manufacturer of a pesticide that lists chemical properties, toxicity, first aid, hazards, personal protective equipment, and emergency procedures to follow in the case of a spill, leak, or exposure to the pesticide.
- Worker Protection Standard (WPS): a program established by the Environmental Protection Agency to protect agricultural workers and pesticide handlers from the dangers of pesticide exposure.



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## Procedures

### Key Locations:

- Pesticide Handling Facility:
  - Pesticide Residue Mitigation Facility
  - Pesticide Storage Facility
  - Dry Pesticide Weighing Facility
  - Pesticide Mixing Area

### For pesticide handlers:

- Utilizing the Pesticide Storage Facility:
  - Before entering the Pesticide Storage Facility, turn on the exhaust fan and light with the external switch located on the wall beside the door and allow to run for two minutes prior to entry. Acquire and put on any necessary PPE during this time. After the fan has run for two minutes, unlock the door, and enter the building.
  - Upon entering the Pesticide Storage Facility, scan the area for any potential pesticide spills. If spills are noticed, report the spills to the CREC safety officer and organize a cleanup of the spill.
  - After selecting the needed pesticide and/or adjuvant container, re-lock the cabinet the container came out of.
  - After acquiring the needed pesticide container and upon exiting the Pesticide Storage Facility, exit the building, turn off the lights and exhaust fan, and lock the door.
- Utilizing the Dry Pesticide Weighing Facility:
  - Before entering the Dry Pesticide Weighing Facility, turn on the light and fume hood fan using the external switches located on the wall beside the door.
  - Upon entering the Dry Pesticide Weighing Facility, locate and put on appropriate PPE.
  - Next, locate any needed measuring supplies. Measuring supplies are stored in cabinets in the Dry Pesticide Weighing Facility.
  - Next, make sure only to open containers containing dry pesticides under the fume hood, to minimize any potential exposure.



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- Next, measure the necessary amount of dry pesticide while making sure to only do so under the fume hood.
- Next, close the dry pesticide container while under the fume hood.
- Exit the Dry Pesticide Weighing Facility and return the dry pesticide container to its storage location in the Pesticide Storage Facility, making sure to follow the same procedures previously outlined under “Utilizing the Pesticide Storage Facility”.
- Next, triple rinse any measuring supplies used to weigh dry pesticide material and dispose of in trash if disposable.
- Finally, shut and lock the door to the Dry Pesticide Weighing Facility, then turn off the lights and fume hood exhaust fan.
- Utilizing Pesticide Mixing Area:
  - Wear appropriate PPE as required by each individual product label.
  - Select an appropriately sized measuring container for the product to be measured.
  - Acquire any liquid pesticides to be utilized from the Pesticide Storage Facility, making sure to follow the same procedures outlined under “Utilizing the Pesticide Storage Facility”.
  - Measure all liquid pesticide products over the stainless-steel sink. If any pesticide is spilled on the sink area, carefully use water to wash it into the sink drain, which will contain the spill to the Pesticide Residue Mitigation Facility.
- Utilizing Water Meter and Tank Mixing Pesticide:
  - Press the “PGM” button on the water meter controller repeatedly until the correct digit is flashing. Next, press the up or down arrow to select the correct number. Finally repeat these steps until the correct number of gallons is displayed and press “Enter”.
  - Next, make sure the drain valve on the sprayer tank intended for use is in the closed position.
  - Next, connect the hose from the water meter to the air gap filling device attached to the spray tank and press the “Start” button. The valve on the water meter hose can be slowly and slightly closed to control the amount of flow from the filling device to the tank. This will be important when rinsing the measuring container containing pesticide, so material is not splashed.



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- Next, lower the measuring container containing pesticide into the spray tank and empty the contents into the tank. Then use the reduced flow water stream from the filling device to wash out any rinsate from the pesticide measuring container.
- Next, start the spray pump to agitate the newly mixed solution.
- Next, open the valve on the water meter hose to its fully open position to finish filling the tank.
- Next, triple rinse any measuring containers which contained pesticides making sure that all rinsate is contained within the stainless-steel sink.
- Finally, once the tank is filled with the desire amount of water carrier, disconnect the water meter hose from the filling device and place the lid back on the top of the spray tank.
- Emptying and Cleaning Spray Tank After Application:
  - Park the tractor outside the Pesticide Handling Facility, making sure to stay off the concrete floor. Extend the small hose reel to rinse off the tractor tires before entering the facility. Bringing mud/dirt into the facility can clog filters and screens in the Pesticide Residue Mitigation Facility. Then, pull onto the concrete pad in the Pesticide Handling Facility.
  - Use the tank rinsing nozzle to complete an initial rinse of the inside of the spray tank while the spray pump remains on, and agitation continues.
  - Return to the field where pesticide application took place and spray out rinsate of the initial tank cleaning.
  - Again, park outside the Pesticide Handling Facility and rinse mud/dirt off the tractor tires.
  - Next, enter the facility and park the tractor so the spray tank drain is inside the sloped floor area and its contents will be contained and funneled to the drain. Then open the spray tank drain valve and drain the tank.
  - Rinse the spray tank two more times, utilizing tank cleaners when possible and necessary, while allowing to drain into sloped floor.
  - Finally, turn off the spray pump.



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## TRAINING & EDUCATION

New employees shall be trained on the Worker Protection Standard as set forth by the Environmental Protection Agency and Coastal REC's Pesticide Worker and Handler Procedures before any work in field or greenhouses can be done. After that, training on WPS and the use of pesticides at Coastal REC shall be completed annually. This training makes employees aware of the hazards associated with pesticides, know how to safely apply pesticides, and ways to mitigate exposures and the hazards of pesticides.

Training must be given by a qualified trainer. A qualified trainer is someone who has a valid South Carolina Pesticide License.

Training records must be kept with the name of the EPA approved training given, printed and signed name of the trainer and their qualifications, printed and signed name of the trainee, and date the training was given. Records must be kept for 3 years by the Worker Protection Standard Trainer.

An employee that has a valid South Carolina pesticide license is exempt from WPS training, if proof of license is given to the Worker Protection Safety Trainer. Review of the Coastal REC Pesticide Worker and Handler Procedures is required annually.

## REVISION HISTORY

Revision	Date	Summary of change	Author	Approver
A	02/2/2024	Initial issue	Tyler Campbell, Taylor McLaughlin, Hal Hanvey	<i>Patrick Wechter</i> 02.05.2024