

2019–2020 Florida Citrus Production Guide: Quick Reference Guide to the Worker Protection Standard (WPS)¹

Frederick M. Fishel²

For the complete details of the WPS, refer to How to Comply with the 2015 Revised Worker Protection Standard For Agricultural Pesticides: What Owners and Employers Need To Know (<http://www.pesticideresources.org/wps/htc/htcmanual.pdf>).

Introduction

The Worker Protection Standard (WPS) is a regulation originally issued by the US Environmental Protection Agency (EPA) in 1992 and most recently revised in 2015. This regulation is primarily intended to reduce the risks of illness or injury to workers and pesticide handlers resulting from occupational exposures to pesticides used in the production of agricultural plants on agricultural establishments (i.e., farms, forests, nurseries, and enclosed-space production facilities such as greenhouses). Workers are generally those who perform hand-labor tasks in pesticide-treated crops, such as harvesting, thinning, and pruning. Handlers are usually those that are in direct contact with pesticides through activities such as mixing, loading, or applying pesticides.

The WPS requires agricultural employers and commercial pesticide handler employers to provide specific information and protections to workers, handlers and other persons when WPS-labeled pesticide products are used on

agricultural establishments in the production of agricultural plants. It also requires owners of agricultural establishments to provide certain protections for themselves and their immediate family, requires handlers to wear label-specified clothing and personal protective equipment when performing handler activities, and requires owners to take measures to protect workers and other persons during pesticide applications.

Overview of the 2015 Revisions

The 2015 revisions to the Worker Protection Standard cover many different topic areas. The major revisions include:

- Annual mandatory training to inform workers and handlers about the required protections afforded to them.
- Expanded training that includes instructions to reduce take-home exposure from pesticides on work clothing, as well as other safety topics.
- Prohibition on anyone under 18 years old from being a pesticide handler or doing early-entry work during a restricted-entry interval (REI).
- Expanded mandatory posting of no-entry signs for outdoor production (e.g., farms, forests, and nurseries) if the REI is greater than 48 hours.

1. This document is CPMG-07, one of a series of the Entomology and Nematology Department, UF/IFAS Extension. Original publication date December 1995. Revised September 2013, April 2016, and March 2019. Visit the EDIS website at <https://edis.ifas.ufl.edu> for the currently supported version of this publication.

2. Frederick M. Fishel, professor, Agronomy Department, UF/IFAS Extension, UF/IFAS Citrus Research and Education Center, Lake Alfred, FL 33850.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. For more information on obtaining other UF/IFAS Extension publications, contact your county's UF/IFAS Extension office.

U.S. Department of Agriculture, UF/IFAS Extension Service, University of Florida, IFAS, Florida A & M University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Nick T. Place, dean for UF/IFAS Extension.

- New application exclusion zones (AEZ) up to 100 feet surrounding pesticide application equipment intended to protect workers and others from pesticide exposure during pesticide applications.
- Providing more than one way for workers and handlers to gain access to pesticide application information and safety data sheets: the sheets must be centrally posted and available on request by the workers themselves, through medical personnel or through a designated representative.
- If a respirator is required by the labeling, the employer must provide the handler with a medical evaluation, fit testing, and respirator training in compliance with the Occupational Safety and Health Administration's (OSHA's) Respiratory Protection Standard.
- Mandatory record-keeping to improve states' ability to follow up on pesticide violations and enforce compliance. Records of application-specific pesticide information, safety data sheets (SDS), worker/handler pesticide safety training and respirator medical evaluations, fit testing and respirator training must be kept for 2 years.
- Anti-retaliation provisions that are comparable to those of the US Department of Labor.
- If protective eyewear is required by the labeling, the employer must provide water for emergency eye flushing for handlers at pesticide mixing/loading sites.
- Expanded definition of immediate family and criteria for agricultural establishments that are eligible for the exemption for owners and their immediate families.
- Replaced the term "greenhouse" with "enclosed space production," which includes greenhouses, mushroom houses, hoop houses, high tunnels, and grow houses.
- Recordkeeping and posting of pesticide application information and hazard information (i.e., SDS).
- Anti-retaliation protections strengthened.
- Requirements for medical evaluation, fit testing and specific training for use of respirators and the associated recordkeeping.
- Provide specific amounts of water to be used for routine decontamination.
- Provide water for emergency eye flushing for handlers at mixing/loading sites if protective eyewear is required by the pesticide product labeling.
- Continued exemption for owners and their immediate family with an expanded definition of immediate family.
- During pesticide applications, agricultural employers must keep workers and other persons out of the AEZ surrounding the pesticide application equipment within the establishment's property boundary.

Effective January 2, 2018

- Expanded training content for workers and handlers (January 2, 2018 or within 6 months of EPA making training materials available but not before January 2, 2018).
- The expanded content that must be included in the pesticide safety information display (safety posters).
- Suspending applications. The requirement for handlers to suspend applications if anyone, other than a trained and equipped handler involved with the application, is in the AEZ, which can extend beyond the establishment's property boundary.

Duties for all Employees

These requirements apply to agricultural employers and commercial pesticide handler employers, except for the pesticide safety, application, and hazard information requirements that apply only to agricultural employers.

Anti-Retaliation

Employers must not retaliate against a worker or handler who attempts to comply with the WPS, files a complaint, or provides information in an investigation of alleged WPS noncompliance.

Minimum Age Requirements

Ensure that early-entry workers and all handlers are at least 18 years old.

Implementation Dates of the New WPS Requirements

Effective January 2, 2017

- Annual mandatory training for workers and handlers.
- No grace period to train workers (there has never been a grace period to train handlers).
- Recordkeeping of handler and worker training.
- Minimum age requirement of 18 years old for pesticide handlers or early-entry workers entering into a treated site before the REI has expired.
- Expanded mandatory posting of no-entry signs for outdoor production (e.g., farms, forests, and nurseries) if the REI is greater than 48 hours.

Pesticide Safety, Application, and Hazard Information

An agricultural employer must display or make certain information available on the establishment. Commercial pesticide handler employers do not have to comply with information display requirements.

1. Display or make available all of the information listed in #2 together in an easily accessible (“central”) location on the agricultural establishment.
2. The information includes:
 - EPA WPS safety poster or equivalent information, which must include some additional information by January 2, 2018, and must be kept current.
 - Application information that includes:
 - Product name, EPA registration number, and active ingredient
 - Crop or site treated, location, and description of the treated area
 - Date, start and end times of the application, and duration of restricted-entry interval (REI).
 - A copy of the safety data sheet (SDS) for the formulated product for each WPS-labeled pesticide applied.
3. In addition, display the EPA WPS safety poster (or equivalent) where decontamination supplies are located at permanent sites and where decontamination supplies are provided for 11 or more workers.
4. Allow workers and handlers unrestricted access to all of the information and keep all of the displayed information current and legible.
5. Display the EPA WPS safety poster or equivalent information before an application takes place and for 30 days after the REI expires.
6. Display the SDS and application information within 24 hours of the application and before workers enter treated areas. This information must be displayed for 30 days after the REI expires and kept in records on the agricultural establishment until 2 years after the REI expires.
7. Provide the SDS and application information upon request of a worker, handler, designated representative, or medical personnel within 15 days.

Pesticide Safety Training

Ensure that workers are trained before performing tasks in a pesticide-treated area (REI in effect within the last 30 days). Ensure that handlers are trained before performing any handler activity. There is no grace period for worker or handler training.

1. Train workers and handlers annually.
2. Present training using EPA-approved materials either orally from written materials or audio-visually. After January 2, 2018, the training must cover additional topics.
3. Trainers must be certified applicators or have completed an EPA-approved train-the-trainer program or be designated by the state or tribal pesticide enforcement agency.
4. Training must be delivered in a manner the employees can understand, and the trainer must be present and respond to questions.
5. Maintain training records on the establishment for 2 years from the training date for each worker and handler required to be trained on the agricultural establishment.

Pesticide Safety Training Content (Workers)

The pesticide safety training for workers under the revised WPS must include all of the following after January 2, 2018:

- The responsibility of agricultural employers to provide workers and handlers with information and protections designed to reduce work-related pesticide exposures and illnesses. This includes ensuring workers and handlers have been trained on pesticide safety, providing pesticide safety and application and hazard information, decontamination supplies and emergency medical assistance, and notifying workers of restrictions during applications and on entering pesticide-treated areas. A worker or handler may designate in writing a representative to request access to pesticide application and hazard information.
- How to recognize and understand the meaning of the posted warning signs used for notifying workers of restrictions on entering pesticide-treated areas on the establishment.
- How to follow directions and/or signs about keeping out of pesticide-treated areas subject to a restricted-entry interval and application exclusion zones.

- Where and in what forms pesticides may be encountered during work activities, and potential sources of pesticide exposure on the agricultural establishment. This includes exposure to pesticide residues that may be on or in plants, soil, tractors, application and chemigation equipment, or used personal protective equipment, and that pesticides may drift through the air from nearby applications or be in irrigation water.
- Potential hazards from toxicity and exposure that pesticides present to workers and their families, including acute and chronic effects, delayed effects, and sensitization.
- Routes through which pesticides can enter the body.
- Signs and symptoms of common types of pesticide poisoning.
- Emergency first aid for pesticide injuries or poisonings.
- Routine and emergency decontamination procedures, including emergency eye-flushing techniques; how if pesticides are spilled or sprayed on the body to use decontamination supplies to wash immediately or rinse off in the nearest clean water, including springs, streams, lakes or other sources if more readily available than decontamination supplies; and as soon as possible, to wash or shower with soap and water, shampoo hair, and change into clean clothes.
- How and when to obtain emergency medical care.
- When working in pesticide-treated areas, wear work clothing that protects the body from pesticide residues and wash hands before eating, drinking, using chewing gum or tobacco, or using the toilet.
- Wash or shower with soap and water, shampoo hair, and change into clean clothes as soon as possible after working in pesticide-treated areas.
- Potential hazards from pesticide residues on clothing.
- Wash work clothes before wearing them again and wash them separately from other clothes.
- Do not take pesticides or pesticide containers used at work to your home.
- Safety data sheets providing hazard, emergency medical treatment and other information about the pesticides used on the establishment workers and handlers may come in contact with. Agricultural employers have a responsibility to do all of the following:
 - Display safety data sheets for all pesticides used on the establishment.
 - Provide workers and handlers information about the location of the safety data sheets on the establishment.
 - Provide workers and handlers unimpeded access to safety data sheets during normal work hours.
- The rule prohibits agricultural employers from allowing or directing any worker to mix, load or apply pesticides or assist in the application of pesticides unless the worker has been trained as a handler.
- The responsibility of agricultural employers to provide specific information to workers before directing them to perform early-entry activities. Workers must be 18 years old to perform early-entry activities.
- Potential hazards to children and pregnant women from pesticide exposure.
- Keep children and nonworking family members away from pesticide-treated areas.
- After working in pesticide-treated areas, remove work boots or shoes before entering your home, and remove work clothes and wash or shower before having physical contact with children or family members.
- How to report suspected pesticide-use violations to the state or tribal agency responsible for pesticide enforcement.
- The rule prohibits agricultural employers from intimidating, threatening, coercing, or discriminating against any worker or handler for complying with or attempting to comply with the requirements of this rule, or because the worker or handler provided, caused to be provided or is about to provide information to the employer or the EPA or its agents regarding conduct that the employee reasonably believes violates this part, and/or made a complaint, testified, assisted, or participated in any manner in an investigation, proceeding, or hearing concerning compliance with this rule.

Pesticide Safety Training Content (Handlers)

The pesticide safety training for handlers under the revised WPS must include all of the training points/topics for workers PLUS the following after January 2, 2018:

- Information on proper application and use of pesticides.
- Handlers must follow the portions of the labeling applicable to the safe use of the pesticide.
- Format and meaning of information contained on pesticide labels and in labeling applicable to the safe use of the pesticide.

- Need for and appropriate use and removal of all personal protective equipment.
 - How to recognize, prevent, and provide first aid treatment for heat-related illness.
 - Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.
 - Environmental concerns, such as drift, runoff, and wildlife hazards.
 - Handlers must not apply pesticides in a manner that results in contact with workers or other persons.
 - The responsibility of handler employers to provide handlers with information and protections designed to reduce work-related pesticide exposures and illnesses. This includes providing, cleaning, maintaining, storing, and ensuring proper use of all required personal protective equipment; providing decontamination supplies; and providing specific information about pesticide use and labeling information.
 - Handlers must suspend a pesticide application if workers or other persons are in the application exclusion zone.
 - Handlers must be at least 18 years old.
 - The responsibility of handler employers to ensure handlers have received respirator fit-testing, training and medical evaluation if they are required to wear a respirator by the product labeling.
 - The responsibility of agricultural employers to post treated areas as required by this rule.
2. Provide water that is safe and cool enough for washing, eye-flushing, and drinking. Do not use water that is also used for mixing pesticides unless steps are taken to ensure safety.
 3. Provide handlers with decontamination supplies where personal protective equipment (PPE) is removed at the end of a task.
 4. Provide handlers with decontamination supplies at each mixing and loading site.
 5. When a product requires protective eyewear for handlers, and/or when using a closed system under pressure, provide the following in mixing and loading areas: a system that can deliver gently running water at 0.4 gallons per minute for at least 15 minutes or 6 gallons of water in containers suitable for providing a gentle eye-flush for about 15 minutes.
 6. When applying a product that requires protective eyewear, provide 1 pint of water per handler in portable containers that are immediately available to each handler.
 7. Do not put worker decontamination supplies in areas being treated or under an REI.
 8. For handlers, decontamination supplies must be kept outside the treated area, or any area under an REI, unless they are protected from contamination in closed containers.

Separate from the pesticide safety training, employers must tell workers and handlers where to find the following on the worksite: EPA WPS safety poster (or equivalent), application information, SDSs and decontamination supplies.

Decontamination Supplies

1. Establish accessible decontamination supplies located together within ¼ mile of all workers (when required) and handlers.
 - 1 gallon of water per worker and 3 gallons of water per handler at the beginning of each work period for routine and emergency decontamination;
 - Plenty of soap and single-use towels. Note: Hand sanitizers and wet towelettes are insufficient; and,
 - A clean coverall (or other clean change of clothes) for handlers.

Employer Information Exchange

1. Before any application, commercial pesticide handler employers must make sure the owner/operator of an agricultural establishment where a pesticide will be applied is aware of:
 - Location and description of area to be treated;
 - Date of application, estimated start time and estimated end time of the application;
 - Product name, EPA registration number, active ingredient(s), and REI;
 - Whether the product label requires both oral warnings and treated area posting; and
 - All other safety requirements on labeling for workers or other people.

2. Owners/operators of agricultural establishments must make sure any commercial pesticide handler employer they hire is aware of:

- Specific location and description of any treated areas where an REI is in effect that the commercial handler may be in or walk within ¼ mile of, and
- Restrictions on entering those areas.

The commercial pesticide employer must pass this information along to the handler doing the work.

Emergency Assistance

If there is reason to believe a worker or handler has been exposed to pesticides, during or within 72 hours, and needs emergency medical treatment, employers must do the following:

1. Promptly make transportation available to an appropriate emergency medical facility.
2. Promptly provide to the treating medical personnel the following information related to each pesticide product to which the person may have been exposed:
 - Safety Data Sheet
 - Product name, EPA registration number, and active ingredient(s).
 - Description of how the pesticide was used on the agricultural establishment.
 - Circumstances that could have resulted in exposure to the pesticide.

Additional Duties for Worker Employers

These restrictions apply to agricultural employers who employ workers.

Restrictions during Applications

During pesticide applications, keep workers and everyone other than appropriately trained and equipped handlers out of the treated area (for all types of applications) and out of:

1. The application exclusion zone (AEZ) for outdoor production, or
2. A specified area that varies by the type of application until the ventilation criteria are met for enclosed space production.

Restricted-Entry Intervals (REIs)

Do not direct or allow any worker to enter or remain in the treated area until the REI has expired and all posted warning signs are removed or covered. Read the exceptions in the full reference: <http://www.pesticideresources.org/wps/htc/htcmanual.pdf>.

Notice about Applications

1. Orally warn workers and post treated areas if required by the pesticide labeling.
2. If not, post warning signs if the REI is greater than:
 - 48 hours for outdoor production, or
 - 4 hours for enclosed space production.
3. For all other applications, either orally warn workers or post warning signs.

Posted Warning Signs

1. Post legible 14" x 16" WPS-design warning signs no more than 24 hours prior to an application; keep posted during REI; remove or cover before workers enter and within 3 days after the end of the REI.
2. Post signs so they can be seen at all reasonably expected entrances to treated areas.
3. Warning signs can be smaller than 14" x 16" under certain conditions. All warning signs must meet specific requirements.

Oral Warnings

1. Before each application, tell workers who are on the establishment (in a manner they can understand):
 - Location and description of treated area;
 - Date and times entry is restricted;
 - AEZ, REI, and not to enter during REI.
2. Workers who enter the establishment after application starts must receive the same warning at the start of their work period.

Additional Duties for Handler Employers

These requirements apply to commercial pesticide handler employers and agricultural employers who employ handlers.

Application Restrictions and Monitoring

1. Do not allow handlers to apply a pesticide so that it contacts, directly or through drift, anyone other than appropriately trained and equipped handlers.
2. Handlers must suspend applications when anyone other than appropriately trained and equipped handlers enters the AEZ. This goes into effect on January 2, 2018.
3. When anyone is handling a highly toxic pesticide with a skull-and-crossbones, maintain sight or voice contact every 2 hours.
4. Make sure a trained handler equipped with labeling-specific PPE maintains constant voice or visual contact with any handler in an enclosed-space production site (e.g., greenhouses, high tunnels, indoor grow houses) while applying a fumigant

Specific Instructions for Handlers

1. Before handlers do any handling task, inform them, in a manner they can understand, of all pesticide labeling instructions for safe use.
2. Ensure that the handler has access to product labeling during the entire handling task.

Equipment Safety

1. Inspect pesticide handling equipment before each day of use, and repair or replace as needed.
2. Allow only appropriately trained and equipped handlers to repair, clean, or adjust pesticide equipment that contains pesticides or residues, unless they are not employed on the establishment. See Additional Agricultural Employer Duties for information regarding non-employed persons.

Personal Protective Equipment (PPE) Handlers Must Use

1. Provide handlers with the PPE required by the pesticide labeling, and be sure it is:
 - Clean and in operating condition,
 - Worn and used according to the manufacturer's instructions,
 - Inspected before each day of use, and
 - Repaired or replaced as needed.

2. When a respirator is required by product labeling, provide handlers with:
 - A medical evaluation to ensure the handler is physically able to safely wear the respirator,
 - Training in respirator use, and
 - A fit test to ensure the respirator fits correctly.
3. Keep records on the establishment of these items for 2 years.
3. Take steps to avoid heat-related illness when labeling requires the use of PPE for a handler activity.
4. Provide handlers a pesticide-free area for:
 - Storing personal clothing not in use,
 - Putting on PPE at start of task, and
 - Taking off PPE at end of task.
5. Do not allow used PPE to be taken home.

Care of PPE

1. Store and wash used PPE separately from other clothing and laundry.
2. If PPE will be reused, clean it before each day of reuse, according to the instructions from the PPE manufacturer, unless the pesticide labeling specifies other requirements. If there are no other instructions, wash in detergent and hot water.
3. Dry the clean PPE before storing.
4. Store clean PPE away from personal clothing and apart from pesticide-contaminated areas.

Replacing Respirator Purifying Elements

1. Replace particulate filters or filtering facepiece respirators when any following condition is met:
 - When breathing becomes difficult;
 - When the filter is damaged or torn;
 - When the respirator label or pesticide label requires it;
 - After 8 total hours of use, in the absence of any other instructions or indications of service life.
 - Replace vapor-removing cartridges/canisters when any following condition is met:
 - When odor/taste/irritation is noticed;

- When the respirator label or pesticide label requires it (whichever is shorter);
- When breathing resistance becomes excessive;
- After 8 total hours of use, in the absence of any other instructions or indications of service life.

Disposal of PPE

1. Discard, do not clean, coveralls and other absorbent materials that are heavily contaminated with pesticide having a signal word “DANGER” or “WARNING.” When discarding PPE, ensure that it is unusable as apparel or made unavailable for further use.
2. Follow federal, state, and local laws when disposing of PPE that cannot be cleaned correctly.

Instructions for People Who Clean PPE

The handler employer must inform people who clean or launder PPE:

1. That PPE may be contaminated with pesticides,
2. Of the potential for harmful effects of exposure to pesticides,
3. How to protect themselves when handling PPE,
4. How to clean PPE correctly, and
5. Decontamination procedures to follow after handling contaminated PPE.

Additional Agricultural Employer Duties

Before allowing persons not directly employed by the establishment to clean, repair, or adjust pesticide application equipment, provide the following information:

1. The equipment may be contaminated with pesticides;
2. The potentially harmful effects of pesticide exposure;
3. How to handle equipment to limit exposure to pesticides;
4. How to wash themselves and/or their clothes to remove and prevent exposure to pesticide residues.

Employer Responsibilities for Supervisors and Labor Contractors

Employers must provide sufficient information to supervisors and/or labor contractors to ensure compliance with the revised WPS. Specify:

- The tasks supervisors/labor contractors must do, and
- The information they must provide to workers/handlers.

Employers are liable for a penalty under FIFRA if a supervisor or labor contractor acting for them fails to comply with the revised WPS requirements.

Additional Information

Fishel, Fred M. and Tatiana Sanchez. 2016. *Worker Protection Standard: Application Exclusion Zone (AEZ)*. PI263. Gainesville: University of Florida Institute of Food and Agricultural Sciences. <https://edis.ifas.ufl.edu/pi263>

US EPA. 2016. How to Comply with the 2015 Revised Worker Protection Standard for Agricultural Pesticides: What Owners and Employers Need to Know. EPA 735-B-16-001. United States Environmental Protection Agency. <http://www.pesticideresources.org/wps/htc/htcmanual.pdf>