

An Employer's Guide to Worker Protection Standard Compliance

In 1992, the U.S. Environmental Protection Agency (EPA) issued the Worker Protection Standard. On January 2, 2017, EPA enacted key revisions to the Standard to decrease pesticide exposure incidents among farmworkers and their family members.

According to EPA, the 2015 revisions to the Agricultural Worker Protection Standard (WPS) are intended to align farmworker pesticide exposure protection with similar health protections afforded to other workers by the Occupational Safety & Health Act. At the same time, EPA acknowledged the WPS revisions accounted for the unique working environment of many agricultural jobs and the needs of the agricultural industry.

The WPS applies to all agricultural owners/employers when using a WPS-labeled pesticide product on an "agricultural establishment" directly related to the production of an "agricultural plant." This includes, but is not limited to, grains, fruits and vegetables, wood fiber or timber products, turf, and flowering and foliage plants and trees for commercial purposes.

This MU Extension publication is intended to provide a general overview of the WPS regulatory requirements that must be met in order for employers of handlers or workers to be in compliance with the WPS standard.

Terms

The WPS standard defines the following terms:

agricultural employers Those who employ or contract for service of workers, or who own or operate an agriculture establishment that employs workers.

agricultural workers Those employees that perform tasks related to the cultivation and harvesting of agricultural plants.

agricultural handler employers An owner or operator that hires pesticide handlers or whom is

self-employed as a pesticide handler on his or her agricultural establishment. Handlers are employees that handle pesticides in any way, including mixing, loading, transferring or applying pesticides; handling open pesticide containers; acting as a flagger; or cleaning, adjusting, handling or repairing contaminated equipment. It should be noted that owners and employers are not handler employers if pesticides applied on their agricultural establishment are applied by a commercial applicator or company and none of their employees perform any handler tasks.

It is important to note that workers and handlers are regulated differently under the WPS. Depending on the tasks being performed, you as an employer may need to provide the same employee (including yourself) with worker protection on some occasions and pesticide handler protection on other occasions.

Other important terms

These additional definitions will help you determine whether you are affected by the WPS and will help you understand the standard:

agricultural plants Plants grown or maintained for commercial or research purposes. Examples include food, feed or fiber plants; trees; turfgrass; flowers; shrubs; ornamentals; and seedlings.

agricultural establishment A farm, forest, nursery or greenhouse.

farm An operation other than a nursery or forest that produces agricultural plants outdoors.

forest An operation that produces agricultural plants outdoors for wood fiber or timber products.

greenhouse An operation that produces agricultural plants indoors in an area that is enclosed with nonporous covering and that is large enough to allow a person to enter. Examples are polyhouses, rhubarb houses, mushroom houses and caves, and traditional greenhouses. Malls, atriums, conservatories, arboretums and office buildings that grow or maintain

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plants primarily for decorative or environmental benefits are not included.

nursery An operation that produces agricultural plants outdoors for transplants to another location, or for flower or fern cuttings.

restricted-entry interval (REI) The time immediately after a pesticide application when entry into the treated area is limited.

The WPS covers pesticides that are used in the production of agricultural plants on farms and in forests, nurseries and greenhouses. Both general-use and restricted-use pesticides are covered by the WPS. The WPS does NOT cover pesticides applied in the following situations:

- On rights-of-way.
- On pastures or rangeland.
- For control of vertebrate pests, such as rodents.
- As attractants or repellents in traps.
- On the harvested portions of plants or on harvested timber.
- For mosquito abatement, Mediterranean fruit fly eradication, or similar government-sponsored, wide-area public pest control programs.
- On livestock or other animals, or in or around animal premises.
- On plants grown for other than commercial or research purposes, which may include plants in habitations, home fruit and vegetable gardens and home greenhouses.
- On plants that are on golf courses and public or private lawns and grounds; or in parks, ornamental gardens or other non-crop areas; or those that are intended only for decorative or environmental benefit. Pesticides used on sod farms, however, are covered by the WPS.
- For structural pest control, such as termite control and wood preservation.
- For research uses of unregistered pesticides.
- By injecting directly into agricultural plants. Direct injection does not include chemigation, soil incorporating or soil injection.

Duties for all employers

Some of the WPS requirements with which employers must comply are the same whether the employees are workers or handlers. The following describe these requirements.

Information at a central location

For the benefit of all employees, information must be posted at an easily seen, central location at each agricultural establishment (for example, in a break room

or a common gathering area). This information posted must include:

- EPA Worker Protection Standard Safety Poster.
- Name, address and telephone number of the nearest emergency medical facility.
- Information about each pesticide application including the product name, EPA registration number and active ingredients, location and description of the treated areas, time and date of the application, and the REI for the treated area. The REI is listed on the pesticide WPS labeling either under the heading “Agricultural Use Requirements” in the “Directions for Use” section of the pesticide label, or next to the crop or application method to which it applies. This information must be posted before the application takes place and until at least 30 days after the REI expires. If there is no REI for the pesticide applied, the posting must remain at least 30 days after the end of the application.

Workers and handlers must be told where the information is posted and allowed access to it at all times. They must be informed when updates occur. The posted information must be kept legible and current.

Pesticide safety training

Workers and handlers must receive annual training using EPA approved content. The list of content areas that must be covered in the training can be found in the EPA “How to Comply” Manual found in the Resource section. As an employer, using EPA approved training materials assures that your employee WPS training content is in compliance with content requirements. The training must be conducted by a certified applicator or by someone who has completed an EPA approved train-the-trainer program.

This training is required for any employee that will be working as a handler or performing any “worker tasks” in an area where pesticides have been applied or an REI has been in effect in the last 30 days. The training can be delayed if they were trained in the past 12 months, but the time period between training should not exceed a year between their previous handler and/or worker training.

The training must be conducted in a manner and language that the employee can understand. The trainer must be present and available to answer questions. This is especially important if the training involves multimedia (videos, online sessions, etc.) about which employees have questions or need clarification.

The WPS requires that employers maintain a record of any training an employee receives for two years. This record must include the trainee’s printed name and access signature, the date of training, the trainer’s name, evidence of the trainer’s qualification to conduct the

Table 1. Decontamination site requirements for selected workers and tasks.

Task	Decontamination supplies	Emergency eyewash
Handler during mixing and loading	Each handler must have access to 3 gallons of water, soap, single use towels and a clean change of clothing or coveralls	If label requires eye protection, or the handler is using a pressurized closed mixing system, the handler must have access to: <ul style="list-style-type: none"> • A system that delivers gently at least 0.4 gallons of water per minute for at least 15 minutes, or • 6 gallons of water in a container that provides a gentle eye wash for 15 minutes
Handler is performing tasks other than mixing and loading	Each handler must have access to 3 gallons of water, soap, single use towels and a clean change of clothing or coveralls	If label requires eye protection, each handler must have immediate access to at least a pint of water in a portable container.
Early-entry workers during the early-entry tasks	Each handler must have access to 3 gallons of water, soap and single use towels	If label requires eye protection, each early-entry worker must have immediate access to at least a pint of water in a portable container
Handlers and early-entry workers at PPE changing area	Each must have access to water, soap and single use towels	

training, and the EPA approval number for the training materials. An employee may request, and you as an employer must provide, a current and complete copy of the employee’s training record.

Decontamination site

Employers must provide a site where workers and handlers can wash pesticides and residue from their hands and bodies. Specific site requirements relate to the type of worker and the tasks being performed (examples provided in Table 1).

Employers must provide safe and cool water for washing, eye flushing and drinking. This may not be tank-stored water that also is used for mixing pesticides.

A decontamination site must be within one-fourth mile of the employee’s worksite, outside of a pesticide treated area and outside an area that is under an REI. If the worksite is more than one-fourth mile from the nearest point of vehicular access, the decontamination site may be located at that nearest access point.

The period of time that an employer must provide decontamination supplies for their employees is dependent on the REI length. Supplies must be provided from the time workers enter a treated area until:

- 30 days after the REI expires when the pesticide used has an REI greater than 4 hours, or
- 7 days after the REI expires when the pesticide used has an REI of 4 hours or less.

Employers must provide handlers with the previously mentioned supplies at each mixing site and at the place where personal protective equipment (PPE) is removed at the end of a task. Worker decontamination sites

may not be in areas being treated or are under an REI. Handler decontamination sites may be in the treated area in which the handler is working as long as the materials are stored in enclosed containers.

Employer information exchange

An agricultural employer must be informed when a pesticide is to be applied on his or her agricultural establishment by a commercial applicator. The agricultural employer is responsible for providing all WPS protections to employees, including oral notification or posting, training, decontamination and emergency assistance. The commercial handler’s employer must provide the agricultural employer with the following information:

- Location and description of area to be treated.
- Time and date of application.
- Product name, EPA registration number, active ingredients and REI.
- Whether both oral warnings and treated area posting are required on the product labeling.
- Entry restrictions and other safety requirements for treated areas.

Operators of agricultural establishments must make sure that the commercial applicator and his or her employer are aware of all areas on the establishment where pesticides will be applied, where an REI may be in effect while the commercial handler is on the establishment and any restrictions on entering those areas.

Emergency assistance

An employer must promptly provide transportation to an appropriate medical facility when there is any possibility that any handler or worker has been poisoned or injured by pesticides. The employer must provide to medical personnel the product safety data sheet that includes the product name, EPA registration number, list of active ingredients, and emergency first aid and medical information for the product. The employer should also provide the medical personnel with a description of how the pesticide was used and information about the victim's exposure.

Additional duties for employers of agricultural workers

As defined by EPA, an "agricultural worker" is an employee hired solely to perform tasks associated with cultivating and harvesting of agricultural plants. Workers do not perform tasks associated with handling, mixing or applying pesticides. The next section provides an overview of WPS worker requirements.

Notification regarding application

Employers are expected to provide oral or written notification about pesticide applications to all workers. Written notification is done by posting the approved warning signs at entrances to any areas being treated with pesticides or where the worker will be within one-fourth mile of a treated area that might be under a REI. The approved warning signs must be posted:

- In areas where the REI is greater than 48 hours for outdoor agricultural production or 4 hours for an enclosed space.
- No more than 24 hours before application and must be removed within 3 days after the end of the REI.
- Where signs can be seen by employees at all normal entrances or access points.

Oral warnings must be delivered in a manner understood by workers, using an interpreter if necessary. Oral warnings must contain the following information:

- Location and description of the treated area.
- The length of the REI.
- Specific directions not to enter during the REI.

As stated previously, an REI specified on the label is the time immediately after a pesticide application that it is safe to enter the treated area without wearing PPE and having additional training. The REI is based on the toxicity of the compound that was used. The REI for a compound can typically be found in the Agricultural Use Requirements section of the product label.

Restrictions during application

Employers must make sure that they prohibit workers and other individuals from entering an area where pesticides are being applied. Only handlers that have been properly trained, are wearing required PPE and are involved in the application of the pesticides may enter the area during application. For more information, refer to the EPA "[How to Comply](#)" [Manual](#) found in the Resource section of this publication.

Restrictions after application

Employers must keep workers out of a pesticide-treated area during the REI with only two exceptions:

- Early entry with no contact. No-contact early entry means that employees may enter a treated area during an REI if they **do not touch or are not touched by any pesticide residues**, including residues found:
 - On agricultural plants and weeds.
 - On or in soil or the planting medium.
 - In irrigation water or water standing in drainage ditches or puddles.
 - In air, if the pesticide remains suspended after application, such as after fumigation or after a smoke, mist, fog or aerosol application.
 - Note: avoiding contact by using PPE does not qualify as no-contact early entry.
- Early entry with contact for short-term, emergency, or specially excepted tasks, which must comply with additional restrictions. Early entry with limited contact allows trained employees to enter a treated area during an agricultural emergency. The EPA definition of "agricultural emergency" and procedures that must be followed during an emergency are found on page 50 of the "[How to Comply](#)" [Manual](#) referenced in the Resources section of this publication.

Additional duties for employers of agricultural handlers

In addition to the requirements previously discussed in this publication, agricultural employers whose employees perform handler duties must comply with additional WPS training, monitoring and protection requirements. The following is an overview of the additional employer duties or requirements for agricultural handlers. More detailed information can be found in the EPA "[How to Comply](#)" [Manual](#) referenced in the Resources section of this publication.

Specific instructions for handlers

Before performing any handling tasks, handlers must either be able to read, or employers must inform

their handler employees in a manner the employee will understand all pesticide labeling instructions for safe use. In addition, employers must keep pesticide labels accessible to each handler during the entire handling task and inform handlers of how to use assigned handling equipment safely before they use it. When commercial handlers will be on an agricultural establishment, the employer must inform them beforehand about areas on the establishment where pesticides will be applied, where an REI will be in effect, and entry restrictions on these areas.

Monitoring

Employers must make visual or voice contact at least every two hours with anyone handling pesticides labeled with a skull and crossbones symbol (signal word: Danger-Poison). In addition, the employer must make sure that a trained handler equipped with label-specific PPE maintains constant visual or voice contact with any handler performing fumigant-related tasks such as applications or air level monitoring in an enclosed space such as a greenhouse.

Equipment safety

Employers of handlers must make sure that equipment used for mixing, loading, transferring or applying pesticides is inspected and repaired or replaced as needed. Only appropriately trained and equipped handlers may operate, repair, clean or adjust pesticide handling equipment that contains pesticides or pesticide residues.

Personal protective equipment

WPS requires that employers must provide and their handlers must wear personal protective equipment (PPE) and other work attire as defined on the product label. For additional information related to the selection and use of personal protective equipment identified on the label, owners and trainers may want to review MU Extension publication G1917, [Personal Protective Equipment for Working with Pesticides](https://extension.missouri.edu/publications/g1917) (<https://extension.missouri.edu/publications/g1917>). That publication provides additional information to assist in identifying and selecting appropriate PPE. Owners should also see MU Extension publication G1914, [Laundering Pesticide-Contaminated Clothing](https://extension.missouri.edu/publications/g1914) (<https://extension.missouri.edu/publications/g1914>) which discusses the proper way to handle and care for clothing worn during the application of pesticides.

WPS establishes that employers must provide their handlers with all PPE required for tasks identified on the pesticide label. Employers must also make sure PPE is clean, in good operating condition, worn and used

correctly, inspected before each day of use, and repaired or replaced as needed.

The revised standard specifically requires that, if the PPE section of a product label indicates the user must wear a respirator, it is the employer's responsibility to supply the handler with the appropriate pesticide respirator. The employer must also comply with the following WPS and Occupational Safety and Health Administration (OSHA) requirements:

- **Medical evaluation.** A medical evaluation by a physician or other licensed healthcare professional must be performed on handlers to assess if they can use a respirator without putting their health at risk. The medical evaluation must be done before the handler is fitted or uses a respirator.
- **Fit testing.** Annual respirator fit testing must be conducted to assure that the required respirator(s) fits properly.
- **Respirator use and maintenance training.** Annual training must be provided to all respirator users. The training must cover how to properly use, care for and store respirator equipment. Owners and/or employers should establish a recordkeeping system that includes training dates and times, training content, list of instructor(s) and participants involved in the training.
- **Record retention:** All records related to medical evaluations, fit testing and training of respirator users must be maintained for at least two years.

The WPS does address omitting certain labeled personal protective equipment during the mixing and loading of the pesticides. If you are using a closed system or working in an enclosed cab, PPE exceptions are allowed unless expressly prohibited by the product labeling. If in doubt, use the PPE recommended on the label.

Replacing respirator purifying elements

Air-purifying dust filter masks trap particulate in the fibrous filter material, and the mask wearer continues to breathe in the poisonous vapors emitted from the trapped particles. Thus it is strongly recommended that pesticide handlers never wear a dust filter mask but only use National Institute of Occupational Safety and Health (NIOSH) approved chemical cartridge air purifying or air supplied respirators. Employers should establish guidelines and train handlers in proper care and maintenance, including cartridge and canister replacement and respirator storage. These guidelines should be based on manufacturer recommendations for cartridge/canister replacement, pesticide products used and the environment (especially the oxygen and chemical concentration).

Cleaning of PPE

The employer must also make sure that:

- PPE is cleaned, inspected and repaired before each use.
- PPE is cleaned according to the manufacturer's instructions.
- PPE that is nonreusable or cannot be cleaned is disposed of properly.
- PPE is washed and stored separately from personal clothing.
- Clean PPE is dried appropriately.

Employers must inform people who clean or launder PPE that it may be contaminated with pesticides. They must inform them of the potentially harmful effects of exposure to pesticides and show them how to protect themselves and how to clean PPE correctly.

Disposal of PPE

Handlers must understand that coveralls and other clothing that are heavily contaminated with an undiluted pesticide having a Danger or Warning signal word must be discarded. Employers must adhere to the federal, state and local laws/guidelines when disposing of PPE that cannot be cleaned correctly.

Application restrictions

Agricultural employers must train their handlers that:

- Pesticides need to be applied so they do not come into contact with any person either directly or through drift.
- They should suspend application if a worker or other person enters the application exclusion zone (AEZ).
- During the REI, no one should enter a treated area or come into contact with anything treated with the pesticides to which the REI applies.
- During the REI, only appropriately trained and equipped handlers and early-entry workers are allowed into the area.

- When two or more pesticides with different REIs are applied at the same time, make sure the longest REI of all the pesticides applied is used.
- Only appropriately trained and equipped handlers and early-entry workers can enter and work in areas before the re-entry period expires, and they must:
 - Wait at least 4 hours after the pesticide application is completed before entering.
 - Wear the PPE specified on the pesticide label for early-entry tasks.
 - Enter and work on a short-term task for up to eight hours per day.
 - Follow any other restrictions specified on the pesticide label or in any special exception under which the early-entry takes place.

Additional early-entry with limited contact requirements and specifics related to other WPS provisions—no contact, short-term, irrigation and agricultural emergencies—can be found in “Table 4: Summary of Early-Entry Requirements” on Page 55 of the [“How to Comply” Manual](#) referenced in the Resources section of this publication

Keep everyone out of application exclusion zones

Application exclusion zone (AEZ) is a term introduced in the revised WPS rule. The AEZ, which refers to the area surrounding the pesticide application equipment “points of discharge,” was established to protect any bystanders, including family members from potential exposure and pesticide drift from nearby applications. The AEZ is applicable and enforceable only on the agricultural employer's property. During pesticide applications, employers must make sure that the AEZ is free of all persons other than appropriately trained and equipped handlers. Employers must assure that qualified handlers understand and comply with the AEZ requirement that any pesticide application process must

Table 2. AEZ distances defined by the WPS.

Category	Application type	Spray height	Distance requirement
1	<ul style="list-style-type: none"> • Aerial • Fumigant, smoke, mist or fog • Air blast • Spray with extra fine, very fine or fine droplets 	Any	At least 100 feet in all directions
2	Applications not listed in Category 1 and spray with medium droplets (or larger)	Greater than 12 inches	At least 25 feet in all directions
3	Any other application type not described in category 1 or 2		No AEZ required

be suspended immediately should someone else enter the AEZ.

The WPS establishes the AEZ based on the type of sprayer and the sprayer height of the spray nozzle and droplet size. Table 2 lists these distances.

The standard established that third party handlers (commercial applicators) may apply pesticide on an agricultural establishment if the owner/employer notifies the handler that family members, workers and other bystanders have been notified and plan to stay inside a closed building within an AEZ during application.

Resource

The EPA and the Pesticide Educational Resources Collaborative have developed a "[How to Comply](https://epa.gov/pesticide-worker-safety/pesticide-worker-protection-standard-how-comply-manual)" [Manual](https://epa.gov/pesticide-worker-safety/pesticide-worker-protection-standard-how-comply-manual) (https://epa.gov/pesticide-worker-safety/pesticide-worker-protection-standard-how-comply-manual). The manual is recommended for owners, employers and managers engaged in the production of agricultural plants as well as crop advisors and commercial (for-hire) pesticide handlers. The manual includes:

- Details to help determine if the WPS requirements apply to you.

- Information on how to comply with the WPS requirements, including exceptions, restrictions, exemptions, options and examples.
- A Quick Reference Guide of the basic requirements.
- New and revised definitions that may affect your WPS responsibilities.
- Explanations to help you better understand the WPS requirements and how they may apply to you.

Contacts

For more information about WPS, contact

- Missouri Department of Agriculture
[Bureau of Pesticide Control](http://agriculture.mo.gov/plants/pesticides/)
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- [Your local MU Extension Center](https://extension.missouri.edu/locations)
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