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The Worker Protection Standard (WPS) requires agricultural employers to take steps **before, during, and after** pesticide applications to protect workers and handlers and to limit their exposure to pesticides while working in outdoor or enclosed space production areas.

This chapter contains an overview of many of the WPS responsibilities for employers, such as

- pesticide safety training,
- pesticide application information and safety data sheets (SDSs),
- notification of pesticide applications and treated areas under an REI,
- decontamination supplies,
- application exclusion zones (AEZ), and
- respiratory protection for handlers.

More thorough details about employers' responsibilities can be found in "How to Comply With the 2015 Revised Worker Protection Standard For Agricultural Pesticides," (EPA 735-B-16-001), also referred to as the "How to Comply Manual," which can be accessed and downloaded from the PERC and EPA websites:

PERC: pesticideresources.org/wps/htc

EPA: epa.gov/pesticide-worker-safety/pesticide-worker-protection-standard-how-comply-manual

Pesticide Safety Training

Agricultural employers must ensure that pesticide safety training is provided to workers before they enter a field or area where a pesticide has been applied or where a restricted-entry interval (REI) has been in effect within the last 30 days. Handlers must be trained before they handle any pesticide product that contains an Agricultural Use Requirements box, under Directions for Use, which references the WPS.

Under the WPS, the employer is not required to present the training, but must make sure each worker or handler working on the establishment has received pesticide safety training by a qualified WPS trainer in the previous 12 months.

Previously Trained Employees

If a worker or handler received training while working for a previous employer within the past year and the training can be verified, the new employer does not need to retrain the worker or handler until the training expires. The new employer must retain a copy of the training record as proof that training occurred. The new employer must also provide the employee with establishment-specific information, such as the location of the pesticide safety information, pesticide application information, safety data sheets (SDSs), and decontamination supplies.

The agricultural employer must keep a detailed WPS training record for two years following the training. **The training record details must include**

- the date of training,
- the employer's name,
- printed name and signature of the trained worker or handler,
- the trainer's name,
- documentation proving the trainer is qualified to provide the WPS worker or handler training,
- the type of training provided (worker or handler), and
- information about the EPA-approved materials that were used during the WPS training.



Photo courtesy of Jennifer Weber, Arizona Department of Agriculture

Training Records Provided upon Request

The federal WPS requires agricultural employers to maintain training records for two years. Therefore, it is highly recommended that trainers provide employers with copies of the WPS training record for their files. Some states require pesticide safety trainers to provide each trained worker and handler with a card verifying completion of a pesticide safety training.

Entry Restrictions During Pesticide Applications

During pesticide applications, agricultural employers must ensure workers do not enter or remain in the treated area or application exclusion zone (AEZ). In general, agricultural employers can accomplish this by scheduling applications and workers' tasks appropriately. Some supporting WPS requirements include

- posting application information at a central location,
- notifying workers orally about applications, and/or
- posting warning signs.

There are occasions when a WPS-trained worker must enter an area that is under a REI. In these instances, the employee becomes an "early-entry worker."

Examples of early-entry workers are those who will

- have **no contact with treated surfaces**, such as plants, soil, air, irrigation water or water standing in drainage ditches or puddles;
- have **limited contact with treated surfaces** in response to situations that were unforeseen, could not be delayed and do not involve hand labor;
- have **limited contact with treated surfaces while performing unforeseen irrigation tasks** that could not be delayed and do not involve hand labor;
- perform **short term tasks** that last less than one hour and do not involve hand labor; or
- enter to perform tasks in response to an **agricultural emergency** situation.

Exceptions for early-entry workers can be found in Chapter 3 of the "How to Comply With the 2015 Revised Worker Protection Standard For Agricultural Pesticides," (EPA 735-B-16-001). See Chapter 10 for a list of links.

BEFORE the “early-entry worker” is allowed to enter the area under the REI, the employer must provide the early-entry worker with the PPE listed on the pesticide product label for early-entry tasks, decontamination supplies, and the following information

- location of the area where the early-entry task will be performed,
- name of the pesticide(s) applied to the area,
- date and time the REI began and ends,
- exception that is the basis for the early-entry task,
- description of the tasks that may be performed under the exception,
- amount of time the worker is allowed to remain in the area,
- requirements on the pesticide product labeling for early-entry tasks,
- location of the pesticide safety information (EPA pesticide safety poster), and
- location of the decontamination supplies required for early-entry workers.

Early-Entry Exceptions and Limitations

There are several types of early-entry exceptions and limitations based on the type of task the worker will perform. The following table can serve as a guide for trainers who will provide early-entry workers with information about these exceptions and limitations prior to entry into the area under the REI.

Table 2.1: Early-Entry Worker Exceptions and Limitations

IF AN EARLY-ENTRY WORKER WILL:					
	Have NO contact with a treated surface	Have limited contact with a treated surface	Have limited contact under an irrigation exemption	Perform short term tasks for less than 1 hour	Assist with or respond to an agricultural emergency
Can this person contact treated surfaces?	NO	Allowed contact of treated surfaces with hands, forearms, feet, and lower legs	Allowed contact of treated surfaces with hands, forearms, feet, and lower legs	YES	YES
Can this person participate in hand labor tasks during the REI?	YES (1)	NO	Only allowed to perform irrigation tasks	NO	YES
How long can this person remain in the area under the REI in a 24-hour period?	There is NO time limit	There is an 8 hour time limit per worker	There is an 8 hour time limit per irrigator	There is a 1 hour time limit per worker	There is NO time limit except for double notification products, which have a 4 hour time limit per worker
Is there a restriction that states this person is only allowed into the area under the REI when the situation is “unforeseen?”	NO	YES	NO	NO	YES
Does this person need to wear the PPE listed on the label for early-entry workers?	NO	YES	YES	YES	YES
How long must this person wait before entering the area under the REI?	Until after the respiratory or ventilation criteria are met	4 hours after the application ends and respiratory or ventilation criteria are met	4 hours after the application ends and respiratory or ventilation criteria are met	4 hours after the application ends and respiratory or ventilation criteria are met	4 hours after the application ends and respiratory or ventilation criteria are met
Is early entry allowed if the pesticide applied in the area requires BOTH oral and written notification about the application?	YES	NO	NO	YES	NO, although there is a 4 hour time limit per 24 hour period for these products
Is the employer required to notify early-entry workers about the situation and explain the exemption is being used?	YES	YES	YES	YES	YES

(1)Hand labor is only allowed if the hand labor will not result in any contact with any pesticide treated surfaces. For example, if the pesticide is incorporated into the soil during the application (and is not a fumigant) or if it is a soil-drench application in a nursery or enclosed space production, it may be possible to do hand labor and not contact any pesticide treated surfaces.

Pesticide Safety Information Poster or Display

The pesticide safety poster or display provides basic hygienic and safety steps workers and handlers learned during training and should use to reduce their exposure to pesticides at work. It also contains contact information for reporting pesticide use violations and for nearby medical facilities in case of an emergency.

The employer must make this information available at a central location on the establishment. The information must be provided in a manner workers and handlers can understand, and must be posted before the application and for 30 days after the REI has expired. The poster must also be displayed at permanent decontamination supply sites and other decontamination supply locations when there are 11 or more workers.

Pesticide Application and Hazard Information at the Central Location

Employers must make available pesticide application information and hazard information in the form of SDSs for each pesticide applied. This information must be readily available at a central location on the establishment, such as a break room or common gathering area that is accessible to all employees during regular work hours.

The information must be displayed within 24 hours after the end of the application and before employees enter the pesticide treated area. It must be continuously available for 30 days after the end of the last applicable REI, or until workers or handlers are no longer on the establishment, whichever comes first.

The hazard information that is made available must be in the form of an SDS from the manufacturer of the pesticide.

The application information must contain

- the product name, EPA registration number, and active ingredient(s) of the pesticide;
- the crop or site treated and the location and description of the treated area(s);
- the date and start time of the pesticide application;
- the time that the application was completed; and
- the duration of the REI for that application.



Photo courtesy of Ed Crow, Penn State Pesticide Education Program

Application Records

The agricultural employer must retain the pesticide application records and SDSs on the agricultural establishment for two years after the expiration of the REI. The employer must provide the pesticide application records and SDSs to workers, handlers, treating medical personnel, and designated representatives upon request.

Oral and Posted Pesticide Application Notification of Treated Areas



Photo courtesy of Chazzbo Media

In addition to displaying the safety poster, pesticide application records and hazard information at a central location, agricultural employers must notify workers about pesticide-treated areas on the establishment. This notification must be provided either orally or by posting the warning sign at the entrances of pesticide-treated areas. Posting requirements are dependent on the label instructions and the length of the REI.

Notification in Outdoor and Enclosed Space Production Areas

The posted warning sign is required whenever a site on the agricultural establishment has been treated with a pesticide that has

- an REI greater than 48 hours for outdoor agricultural production,
- an REI greater than 4 hours for enclosed space agricultural production, or
- a label statement requiring double notification.

The employer can choose whether to orally notify employees about the application or post the area when using a pesticide that does not require double notification or with REIs less than those listed above.

Warning Sign Posting Locations for Outdoor Agricultural Production

When posting warning signs at an outdoor production area that is under an REI, the signs must be visible from all reasonably expected points of worker entry to the restricted area. This includes access roads and each border with any worker housing area within 100 feet of the treated area, as well as walking routes into the treated area. If these entry points do not exist, the signs must be posted to allow maximum visibility.



Photo courtesy of James Hollyer, University of Hawai'i at Mānoa

Posting Location for Enclosed Space Production Areas

When posting in an enclosed space production area, whether the entire space is being treated or a specific area, posted warning signs must be visible from all reasonably expected points of worker entry.

Posting Requirements

Workers must not be permitted into the treated area while the warning signs are posted, except as permitted under the early-entry exceptions. Warning signs must be

- posted in outdoor or enclosed space production areas no more than 24 hours before the start of the pesticide application,
- visible and legible during the entire REI, and
- removed or covered no more than 3 days after the end of the REI.

Oral Notification

If the REI for the pesticide that was applied to the area does not meet the requirement for posting of warning signs, the employer may orally notify workers of the pesticide treated areas. If employers provide oral notification, they must tell workers

- the description and location of pesticide-treated areas subject to restriction,
- the date and time entry into pesticide-treated areas is restricted during the application and after the application,
- not to enter the treated area until the REI has expired and all posting signs have been removed or covered, and
- not to enter the AEZ.

The above information must be provided

- in a manner the worker understands,
- before the application begins if a worker will be at the establishment at the start of the application, and
- at the beginning of the work period if the worker arrives at the establishment when the pesticide application is taking place, or when a REI is in effect.

Double Notification

Some product labels require the employer to provide both oral warnings and posted warning signs, which is called “double notification.” If double notification is required on the label, the employer must use both notification systems.

Exceptions to Oral or Posted Pesticide Notifications

Employers do not need to provide oral or posted notification if any of the following apply:

1. **In enclosed space production areas**, no worker will enter the entire structure from the start of the application through the end of the REI.
2. **In outdoor production**, no worker will enter or walk within 1/4 mile of the treated area from the start of the application through the end of the REI.
3. The employee made the application and is aware of the related restrictions.

Application Exclusion Zones (AEZ)

Employers must make sure during a pesticide application in outdoor production (farm, forest, nursery), only trained and equipped handlers are in the area being treated and within a specific distance away from the pesticide application equipment. This area is called the pesticide AEZ. The employer must ensure that handlers involved in the pesticide application understand they must suspend the application if a worker or other person is in the AEZ during a pesticide application in outdoor production. Handlers can continue the application once no one is within the AEZ.

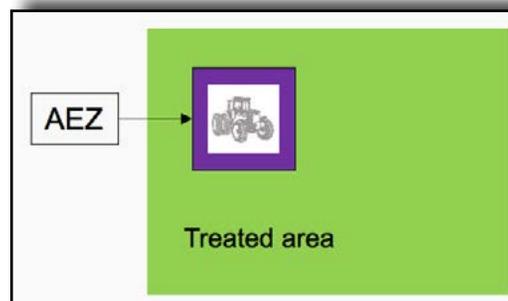


Photo courtesy of EPA Region 3

The AEZ may also apply to a neighboring or adjacent agricultural establishment if the establishment is within certain distances.

100 Foot AEZ

When the pesticide is sprayed through a nozzle producing **fine or small spray droplets**, the AEZ is the area that extends 100 feet horizontally from the application equipment in all directions.

The AEZ is ALWAYS 100 feet, no matter the distance or droplet size, when the pesticide is applied aerially, by air blast, or as a fumigant, smoke, mist or fog.

25 Foot AEZ

When the pesticide is sprayed from a **height greater than 12 inches**, through a nozzle producing **medium to coarse spray droplets**, the AEZ is the area that extends 25 feet horizontally from the application equipment in all directions.

No AEZ

When the pesticide is sprayed from a **height less than or equal to 12 inches**, through a nozzle producing **medium to coarse spray droplets**, the AEZ does not apply.

Table 2.2: AEZ Distances Based on Height and Droplet Size

AEZ Distance	Application Height	Droplet Size
100'	>12"	fine or small
25'	>12"	medium or coarse
0'	≤12"	medium or coarse

Enclosed Space Production Areas

After a pesticide application is made in an enclosed space production area, employers must not allow worker entry into an enclosed space structure until the air concentration level specified on the label is met. If no air concentration level is specified on the label, workers must wait until proper ventilation criteria is met. For more information, refer to the How to Comply Manual, which can be accessed through the resources listed in Chapter 10.

Decontamination Supplies for Workers

Under certain circumstances, employers must provide workers and handlers with supplies for routine and emergency decontamination.

When workers will be performing tasks that involve contact with pesticide-treated surfaces, the employer must provide the following items for routine decontamination and emergency eyewash:

- at least 1 gallon of water per worker at the beginning of each worker's shift,
- soap, and
- single use towels.

Location

Decontamination supplies must be located no more than 1/4 of a mile from the workers' current work location, and must be located outside of a pesticide-treated area and outside an area that is under an REI.

Duration

The number of days decontamination supplies must be provided for workers is dependent on the length of the REI of the pesticide that was applied to the site. Decontamination supplies must be provided from the time workers first enter the treated area until at least

- 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.

Hand sanitizing liquids or gels do not meet the soap requirement. Wet wipes or towelettes cannot be used as soap or single-use towels.

Decontamination Supplies for Handlers and Early-Entry Workers

The agricultural employer must also provide handlers and early-entry workers with supplies for routine and emergency decontamination and eyewash. Because early-entry workers may be exposed to higher residue levels than a worker who enters the area after the REI has expired, it is important early-entry workers have access to decontamination supplies similar to those provided to handlers.

The following table describes the decontamination supplies the employer must provide for each type of task and area.

Table 2.3: Decontamination Supplies for Handlers & Early-Entry Workers

Employee/Tasks	Decontamination Supplies	Additional Eyewash
<p>Handler during mixing and loading tasks</p>	<ul style="list-style-type: none"> • 3 gallons of water per handler, • soap, • single-use towels, and • a change of clothing or coveralls to use in case of an emergency. 	<p>If the label requires the handler to use protective eyewear or the handler uses a pressurized closed-mixing system, the employer must provide either</p> <ul style="list-style-type: none"> • a system that delivers gently running water at a rate of at least 0.4 gallons per minute for 15 minutes, or • 6 gallons of water in containers that provide a gentle eye-flush for 15 minutes.

<p>Handler during tasks other than mixing and loading</p>	<ul style="list-style-type: none"> • 3 gallons of water per handler, • soap, • single-use towels, and • a change of clothing or coveralls to use in case of an emergency. 	<p>If the label requires eye protection, the employer must provide</p> <ul style="list-style-type: none"> • at least 1 pint of water per handler in a portable container that is immediately available to the handler.
<p>Early-entry worker during early-entry tasks</p>	<ul style="list-style-type: none"> • 3 gallons of water per early-entry worker, • soap, and • single-use towels. 	<p>If the label requires eye protection, the employer must provide</p> <ul style="list-style-type: none"> • at least 1 pint of water per early-entry worker in a portable container that is immediately available to the early-entry worker.
<p>Handler and early-entry worker at PPE changing area</p>	<ul style="list-style-type: none"> • water, • soap, and • single-use towels. 	

The decontamination supplies must be located

- outside a treated area or an area under REI, unless the soap, water, single use towels, and change of clothing are protected from pesticide contamination in closed containers;
- not more than 1/4 of a mile from, or the nearest point of vehicular access to, the handler's and early-entry worker's work site;
- at mixing sites;
- in the aircraft or at the aircraft loading site for aerial applicators; and
- in the area where handlers and early-entry workers will put on and remove their protective clothing and PPE.

Emergency Assistance

The employer is responsible for providing emergency assistance, in the event a worker or handler has potentially been exposed to a pesticide at work, or if they show symptoms that may be caused by a pesticide. The employer must provide the name, address, and phone number of a nearby medical facility on the pesticide safety information poster at a central location.



Photo courtesy of Jennifer Weber, Arizona Department of Agriculture

Safety data sheets (SDSs) for each pesticide applied in the previous 30 days must also be accessible at a central location. The employer must also keep copies of the SDSs for 2 additional years and make them available to employees upon request. These resources can be very useful for gathering and providing product information during pesticide exposure situations.

If there is a reason to believe that a worker or handler has been exposed to pesticides while working or is experiencing possible pesticide illness or injury, the employer must provide the following:

- transportation to a nearby medical facility capable of providing emergency care treatment to a person exposed to pesticides, and

- copies of the applicable SDSs, product name and EPA registration number, and the active ingredient for each pesticide to which the worker or handler may have been exposed. These items and information must be provided to the worker, handler, or medical personnel via the worker or handler.

Protections Against Retaliation

The WPS prohibits employers from retaliating against workers and handlers for complying, or attempting to comply, with the WPS for reporting employer violations to EPA, state or a tribal pesticide regulatory agency. Examples of retaliation include intimidation, firing, demotion, or otherwise discriminating against a worker or handler.

Respiratory Protection for Handlers

If the pesticide product label requires the handler to use a respirator, the employer must ensure the handler completes a respiratory protection program prior to working with the pesticide. The employer must pay for each element of the respiratory protection program, which includes

- a medical evaluation, including time for the handler to complete a medical evaluation questionnaire;
- follow-up visit with a physician, if deemed necessary by the physician reviewing the medical evaluation questionnaire;
- all of the label-required respiratory equipment for the product(s) the handler will use;
- training on the proper use, seal checking, care, and maintenance of the respiratory equipment; and
- annual fit testing with the respiratory equipment the handler will use.

Respiratory Protection Recordkeeping System

The employer must keep records of the medical evaluation, fit testing, and respirator training for 2 years.



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