



# WORKER PROTECTION STANDARD

*Brochure #3*

## NURSERIES and GREENHOUSES

The U.S. Environmental Protection Agency (EPA) has issued final rules governing the protection of employees on farms, and in forests, nurseries, and greenhouses from occupational exposure to agricultural pesticides. The new Worker Protection Standard (WPS) covers:

- **agricultural workers** -- performing tasks related to the cultivation and harvesting of plants, including pruning, sucker removal, watering, and re-potting, and
- **pesticide handlers** -- assigned to mix, load or apply agricultural pesticides; enter greenhouses to operate ventilation equipment after applications; handle equipment with residues; adjust or remove soil fumigant coverings, etc.

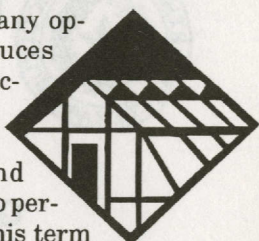
If you are an employer of agricultural workers or pesticide handlers, the WPS requires you to provide your employees information about and protections against pesticide exposure. These measures include decontamination supplies, safety training, and personal protective equipment and are described in *Brochure #1, Duties of Employers*.

Although most of the requirements of the WPS affect all agricultural establishments equally, there are several special requirements for nurseries and greenhouses. This brochure only summarizes those additional duties and special application restrictions.



## GREENHOUSES

A greenhouse is any operation which produces plants inside any structure or space that is enclosed with a non-porous covering and that is large enough to permit worker entry. This term includes, but is not limited to, traditional greenhouses, polyhouses, enclosed hoop houses, and similar structures.



### Monitoring Handlers

Employers must ensure someone maintains constant visual or voice contact with any handler who is applying or otherwise handling the fumigant in a greenhouse. This includes handlers who enter the greenhouse during fumigation to operate ventilation systems, adjust tarps or other coverings used in the fumigation or check air concentration levels.

In the event of a pesticide emergency, the monitor must be prepared to enter the greenhouse. Therefore, the person monitoring the fumigant handler must:

- be trained as a pesticide handler, and
- have immediate access to the personal protective equipment (PPE) that the fumigant labeling requires for applicators so the monitor can enter safely.

### Special Application Restrictions

Employers must ensure that workers and other persons do not enter specific areas within a greenhouse during -- and, in some instances, after -- certain pesticide applications. This is described in the chart to the upper right.

During any application described in **COLUMN A**, do not allow or direct any person, other than an appropriately trained and equipped handler, to be in the areas specified in **COLUMN B**.

## Special Application Restrictions in Greenhouses

COLUMN A	COLUMN B	COLUMN C	COLUMN D
<b>When a pesticide is applied:</b>	<b>Workers and other persons are prohibited in:</b>	<b>Until:</b>	<b>After the expiration of time in COLUMN C until the REI expires, the entry-restricted area is:</b>
1. As a fumigant.	Entire greenhouse <b>plus</b> any adjacent structure that cannot be sealed off from the treated area.	The ventilation criteria below are met.	No entry restrictions after ventilation criteria are met.
2. As a <ul style="list-style-type: none"> <li>■ smoke, or</li> <li>■ mist, or</li> <li>■ fog, or</li> <li>■ aerosol.</li> </ul>	Entire enclosed area.	The ventilation criteria below are met.	Entire enclosed area.
3. Under circumstances (other than in 1 or 2) for which the pesticide labeling requires the applicator to wear a respirator.	Entire enclosed area.	The ventilation criteria below are met.	Pesticide-treated area.
4. Other than in 1, 2 or 3, but: <ul style="list-style-type: none"> <li>■ from a height of greater than 12 inches from the planting medium, or</li> <li>■ as a fine spray, or</li> <li>■ using a spray pressure greater than 40 pound per square inch.</li> </ul>	Pesticide-treated area <b>plus</b> 25-feet in all directions within the entire enclosed area.	Application is complete.	Pesticide-treated area.
5. In any other manner.	Pesticide-treated area.	Application is complete.	Pesticide-treated area.

### Ventilation Criteria for Greenhouses

After some types of pesticide applications, employers must adequately ventilate the areas in **COLUMN B** before allowing workers to enter. If **COLUMN C** of the chart above indicates that ventilation restrictions apply, make sure one of the following criteria is met:

- the concentration of the pesticide in the air is measured to be less than or equal to any inhalation exposure level required on the labeling.
- if no inhalation exposure level is listed on the labeling, keep workers out until after:
  - 10 air exchanges, or

- 2 hours of ventilation using fans or other mechanical ventilating systems, or
- 4 hours of ventilation using vents, windows or other passive ventilation, or
- 11 hours with no ventilation followed by 1 hour of mechanical ventilation, or
- 11 hours with no ventilation followed by 2 hours of passive ventilation, or
- 24 hours with no ventilation.

### Restricted-Entry Intervals (REIs)

The restricted-entry interval is the time immediately after a pesticide application

when entry into the treated area is limited.

After applicable ventilation criteria are met and until the REI expires do not allow workers into the area described in **COLUMN D**. Workers may, however, enter areas just outside the treated area that were off-limits during the application.

### Notification to Workers

In greenhouses, all treated areas must be posted with WPS warning signs. Post signs so they can be seen from all points where workers usually enter the treated area, including doorways, aisles, and other walking routes in and through greenhouses. If the pesticide labeling requires both types of notification, then employers must also notify workers orally.



## NURSERIES

A nursery is any operation engaged in the outdoor production of cut flowers, ferns or other plants that will be used in their entirety in another location. Such plants include, but are not limited to, flowering and foliage plants or trees; tree seedlings; live Christmas trees; vegetable, fruit, and ornamental transplants; and turfgrass produced for sod.



### Special Application Restrictions in Nurseries

Employers must make sure that, during certain nursery applications, workers and other persons do not enter treated areas on the nursery. In some circumstances, that prohibition extends beyond the treated area.

During any application described in **COLUMN A** of the chart below, do not allow or direct any person, other than an appropriately trained and equipped handler, to be in the areas on the nursery specified in **COLUMN B**. Do not allow workers to re-enter the treated area until the REI has expired.

### Special Application Restrictions in Nurseries

COLUMN A	COLUMN B
<p><b>While a pesticide is being applied:</b></p> <p>1. (a) Applied:</p> <ul style="list-style-type: none"> <li>■ aurally, or</li> <li>■ in an upward direction, or</li> <li>■ using a spray pressure greater than 150 pounds per square inch</li> </ul> <p>(b) Applied as a:</p> <ul style="list-style-type: none"> <li>■ fumigant,    ■ fog, or</li> <li>■ smoke,      ■ aerosol.</li> <li>■ mist,</li> </ul>	<p><b>Workers and other persons are prohibited in:</b></p> <p>Pesticide-treated area <b>plus</b> 100 feet in all directions on the nursery</p>
<p>2. (a) Applied downward using:</p> <ul style="list-style-type: none"> <li>■ a height of greater than 12 inches from the planting medium; or</li> <li>■ a fine spray; or</li> <li>■ a spray pressure greater than 40 pounds per square inch and less than 150 pound per square inch.</li> </ul> <p>(b) Under conditions other than described above but for which the pesticide labeling requires the applicator to wear a respirator.</p>	<p>Pesticide-treated area <b>plus</b> 25 feet in all directions on the nursery.</p>
<p>3. In any other manner.</p>	<p>Pesticide-treated area.</p>

Pesticide labels will soon reflect the new Worker Protection Standard requirements. All pesticide products affected by the WPS will carry a statement under the new *Agricultural Use Directions* section of the labeling. This statement will instruct users to comply with all provisions of the WPS. **If you are using a pesticide product with labeling that refers to the Worker Protection Standard, you must comply with the WPS.**

### OTHER PUBLICATIONS AVAILABLE

#### *Worker Protection Standard Brochure #1: Duties of Employers*

Topics include central information displays, pesticide safety training, notice about applications, personal protective equipment, and much more.

#### *Worker Protection Standard Brochure #2: WPS & Family Businesses*

This brochure explains the many WPS exemptions for family-owned and operated agricultural businesses.

#### *The Worker Protection Standard for Agricultural Pesticides: How Soon Do You Need to Comply?*

An EPA bulletin which explains compliance dates and contains detailed information about the rule.

#### *PPE Product List: A Buyer's Guide*

From eye protection to footwear, a 16-page directory listing a wide selection of manufacturers and dealers of personal protective equipment.

For these brochures and more information about the Worker Protection Standard, contact:



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