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Providing Protection From Pesticide Hazards

Pesticide handlers and other workers must be informed of the EPA's Worker Protection Standard. Are you equipped to educate them?

I work mostly with people who manage landscapes. They put in long hours during the day. If the sun is up, they are working, no matter what the weather conditions. Regardless of whether you are working in the landscape or raising landscape plants, you know there are certain hazards that go along with the job.

In the nursery and landscaping industry, aesthetics count. Clients want clean, pest-free plant material. Working in this industry, pesticide use is almost unavoidable. Pesticides are often necessary to save a crop or a single specimen. Using pesticides poses various levels of risk to the user, employees who are working in or near the treated area and the environment.

The EPA Worker Protection Standard (WPS) was written to protect agricultural workers and handlers from occupational exposure to pesticides. The requirements of the WPS were first published in 1992 and revised in 1995 to clarify numerous issues.

The [WPS] standard ... requires specific training and resources be provided to workers and pesticide handlers. It requires that all training information be given to workers and handlers in a language they can understand.



A handler must mix and load pesticides while wearing personal protective equipment.

You may employ workers who are designated as pesticide mixers, loaders or applicators. These folks are considered pesticide "handlers." Others who work in or near treated areas are considered "workers," and those who may enter a treated area within a certain period of time after a pesticide application are considered "early-entry workers" or "early-entry handlers" and have specific requirements for personal protective equipment (PPE). PPE requirements will vary depending on the pesticide label. An example of PPE required for early-entry workers would be: coveralls; chemical-resistant gloves made of barrier laminate, neoprene rubber, nitrile rubber or Viton; socks and shoes; and protective eyewear.

The WPS applies to workers and handlers in nurseries, greenhouses, forests and farms. There are certain things employers are required to do to provide protection to workers and handlers who may

come in contact with pesticides or pesticide-treated surfaces. Many of these are common-sense safety measures; others ensure that handlers and workers know what the risks are in the workplace.

This article focuses on some of the things the WPS requires of employers to protect workers and handlers. There are details about various requirements, including exceptions to rules in the "How to Comply Manual." Numerous training materials have been developed to instruct workers and handlers, which are available from the EPA via its distribution office or downloadable from its Web site. Many land-grant universities, extension services and state regulatory agencies may also have training materials available. These materials are also available commercially.

General requirements. The WPS has many general requirements for all agricultural employees: from posting an EPA-ap-

proved poster about pesticide safety and placing information about pesticide applications in a central location where they will be available to all who work on the premises to providing decontamination supplies for workers and handlers.

Additionally, pesticide labels have specific statements on them, explained in the WPS-compliant "Agricultural Use Requirements" section of the label. In this section, reference to compliance with the WPS is made, and specific information about the product is given. The restricted entry interval (REI) referred to in this section is the length of time that must pass before workers or anyone else may enter a treated area. These REIs vary for each product. REIs are just part of the information contained in this section of the label.

The standard also requires specific training and resources be provided to workers and pesticide handlers. It requires that all training information be

All untrained workers must receive the complete Worker Protection Standard pesticide safety training no more than five days after their initial employment has begun.



Numerous agricultural suppliers offer the worker safety poster, which is required to be posted in a central location at your company.

given to workers and handlers in a language they can understand. The standard also protects them from employers' retaliatory acts.

The most important requirement of the WPS is to train agricultural workers and handlers — including those working in greenhouses, nurseries and forests — on how to protect themselves from occupational exposures to pesticides.

Who must be trained? *Workers:* A worker is anyone who is employed (including self-employed) for any type of compensation and is doing tasks, such as harvesting, weeding, watering or any activity relating to the production of agricultural plants in a greenhouse, nursery, forest or farm. Anyone fitting this descrip-

tion is considered to be a worker under the WPS.

Handlers: Handlers have the same duties as workers, but they may also perform any of the following tasks that would put them in direct contact with pesticides:

- mixing and loading pesticides;
- opening pesticide containers;
- cleaning or repairing pesticide-application equipment;
- assisting with applications, including soil incorporation after a pesticide application;
- disposing of pesticides or pesticide containers;
- entering a greenhouse or other enclosed area after application and before the inhalation exposure level listed on the label has been reached to operate



A warning sign is set up in the landscape, with an attached note identifying the product used, time of application and re-entry interval.

ventilation equipment, to adjust or remove coverings — such as tarps — or to check air concentration levels;

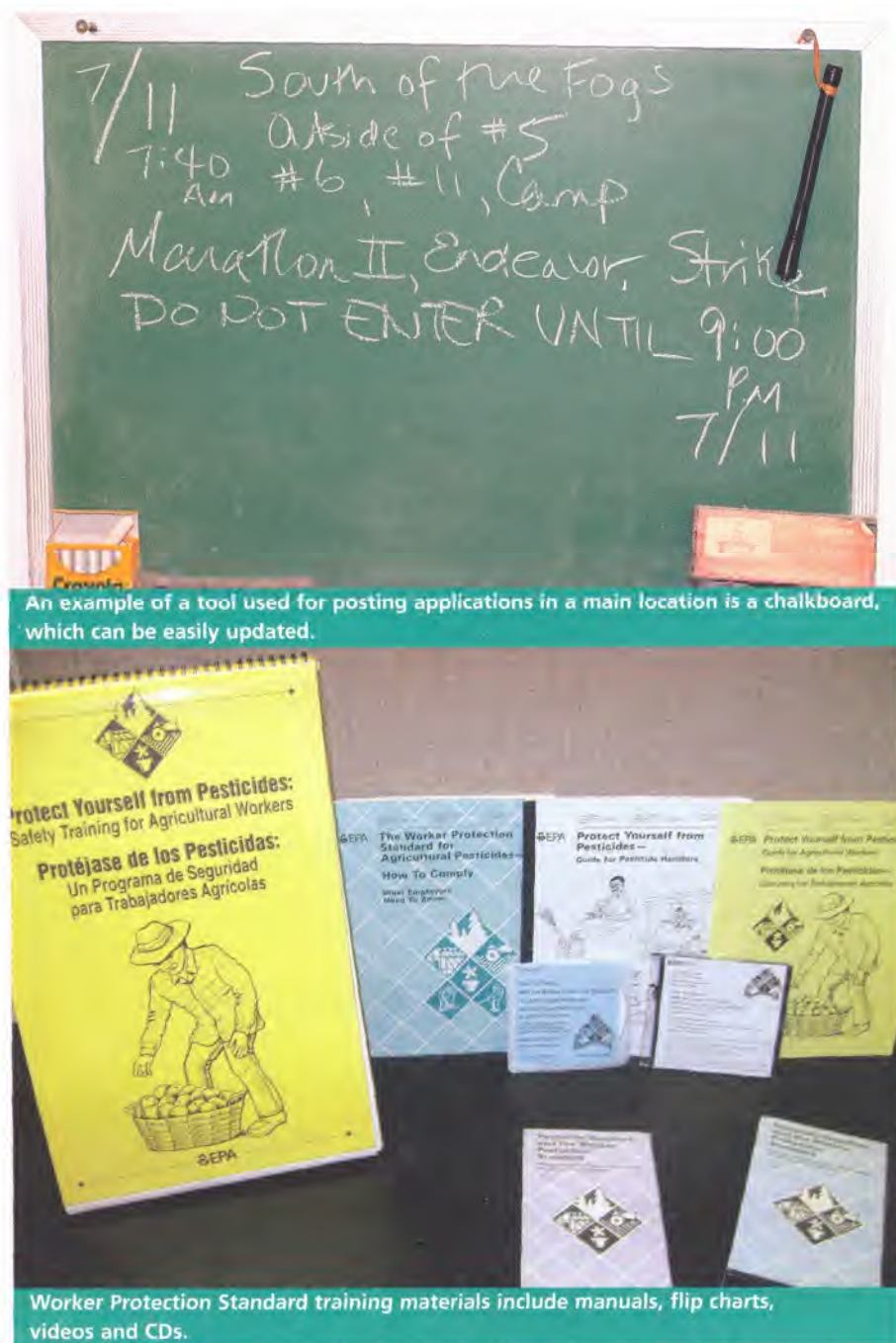
- entering an outdoor treated area after application of any soil fumigant to adjust or remove soil coverings; and
- performing tasks during any pesticide application before inhalation exposure level or ventilation criteria listed on the label has been met.

Crop advisors: Employers must provide their crop advisors with the WPS protections required for pesticide handlers if a crop advisor enters an area on an agricultural establishment while a pesticide is being applied; before any inhalation exposure level listed in the pesticide labeling has been reached or before one of the ventilation criteria in the WPS or in the pesticide labeling has been reached; and while an REI is in effect. There are certain exceptions noted in the "How to Comply Manual."

When must workers be trained? All untrained workers must receive the complete WPS pesticide safety training no more than five days after their initial employment has begun.

Workers must be given basic pesticide safety training before they enter any treated area, or an area where an REI has

Pesticide safety training materials for workers and handlers must either be Worker Protection Standard training materials developed by the EPA or equivalent material that contains at least the same concepts.



An example of a tool used for posting applications in a main location is a chalkboard, which can be easily updated.

Worker Protection Standard training materials include manuals, flip charts, videos and CDs.

been in effect within the past 30 days.

There are a number of exceptions to this rule, including if a worker or handler has an EPA-approved WPS card; has been trained within the past five years and has proof of the previous training; is currently a certified applicator of restricted-use pes-

ticides; or is currently trained — specified in the EPA's certification and training regulations — as a handler who works under the supervision of a certified applicator. Handlers must be trained before they do any handling task.

Handlers and workers must be trained

at least once every five years, counting from the end of the month in which the previous training was completed. It's also a good idea to have your trained workers and handlers sign an affidavit indicating [that they have received the required training, and it should include the date when it took place. Keep these records on file. Some states do not issue EPA training verification cards; other states do. Check with your pesticide regulatory agency to determine whether your state recognizes verification cards.

Who can conduct handler and worker training? A person who can conduct handler training is certified as an applicator of restricted-use pesticides; is designated as a trainer of certified pesticide applicators or pesticide handlers by a state, federal or tribal agency; and has completed a pesticide safety train-the-trainer program approved by a state, federal or tribal agency.

Any person qualified to be a handler trainer as described above can conduct worker training. Pesticide safety training materials for workers and handlers must either be WPS training materials developed by the EPA or equivalent material that contains at least the same concepts.

Pesticide safety training basics. As soon as a worker enters employment in a nursery, he or she must be told where and in what form pesticides may be encountered during work activities. Examples of different pesticide forms are liquids, powders or granules on or in plants, as well as soil, irrigation water or drifting from nearby applications. Workers must also be informed that they will receive more training within five days. Surfactants used in watering systems often have WPS requirements on their labels. Be sure you are providing all the protections — including REIs — to workers and handlers using surfactants or working in areas where they have been applied.

Workers must be taught how to prevent pesticides from entering their bodies by:

- following directions and/or signs about keeping out of treated or restricted areas;

Some states do not issue EPA training verification cards; other states do. Check with your pesticide regulatory agency to determine whether your state recognizes verification cards.



There are numerous types of gloves available, so be sure you have the gloves the pesticide label requires.



Something as simple as training handlers to wash their gloves before taking them off can significantly reduce pesticide contact.



Workers without shirts, wearing shorts and baseball caps may not understand their risk of pesticide exposure.

- washing before eating, drinking, using chewing gum or tobacco, or going to the bathroom;
- wearing clean work clothing that protects your body from pesticide residues;
- showering when you get home from work and putting on clean clothes;
- laundering work clothes separately from other clothes before wearing them

Criteria for training workers. WPS training for workers must be in a language the worker can understand and contain at least the following information:

- where and in what form pesticides may be encountered during work activities;
- hazards of pesticides resulting from toxicity and exposure, including acute, chronic and 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;
- how to obtain emergency medical care;
- routine and emergency decontamination procedures, including emergency eye-flushing techniques;
- hazards from chemigation and drift;
- hazards from pesticide residues on clothing;
- warnings about taking pesticides or pesticide containers home; and
- an explanation of the WPS requirements designed to protect workers, including application and entry restrictions, design and posting of warning signs, oral warnings, availability of specific information about applications and protection against retaliatory acts.

Criteria for training handlers. WPS training for handlers also must be in a language the worker can understand and contain at least the following information:

- format and meaning of information on pesticide labels and in labeling, including safety information, such as precautionary statements about human health hazards;
- hazards of pesticides resulting from toxicity and exposure, including acute, chronic and delayed effects, and sensitization;
- signs and symptoms of common types of pesticide poisoning;
- how to obtain emergency medical care;
- emergency first aid for pesticide injuries or poisonings;
- routine and emergency decontamination procedures, including emergency eye-flushing techniques;
- need for and appropriate use of PPE;
- prevention, recognition and first-aid treatment of heat-related illnesses;
- 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;



A handler applying pesticide to a bed of plants is about to reach a warning sign viewable from the front of the bed.

- warnings about taking pesticides or pesticide containers home; and
- an explanation of WPS requirements that handler employers must follow for the protection of handlers and others, including the prohibition against applying pesticides in a manner that will cause contact with workers or other persons, the requirement to use PPE, the provisions for training and decontamination, and protection against retaliatory acts.

The WPS consists of basic, common-sense, pesticide safety requirements. The requirements provide workers and handlers the protection they need to perform their work safely, without the risk of pesticide exposure.

There are numerous additional requirements, such as providing decontamination sites and PPE; emergency assistance, including transportation to medical facilities; exchange of information between pesticide applicator contractors and employers, which are then relayed to workers; special restrictions during application; monitoring handlers in greenhouses; equipment safety training; and specific requirements for early-entry workers.

Each employer should have a copy of the 2005 version of the "How to Comply Manual." It can be downloaded from the EPA Web site or obtained through your state regulatory agency. Worker and handler training materials have been trans-

lated into numerous languages and will help facilitate training of non-English-speaking workers and handlers. Find more information about these materials from your state lead agency or online at www.epa.gov.

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