

## WORKING SAFELY WITH PESTICIDES





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## Section 1: Training Program Introduction

*This guide will help you develop a training program that will support a safe and productive workplace environment for your employees. It will help you to:*

- Prepare and organize your training session
- Assemble training materials
- Present the PowerPoint® slide show
- Conduct training exercises
- Stimulate discussion that applies to the topic presented in the presentation and to your organization's work environment
- Document the training and training feedback for continuous improvement

### Training Objectives

When the training is complete, participants will be able to:

- Recognize pesticide hazards and health effects.
- Know how to get necessary safety and health information.
- Understand entry restrictions.
- Know how to use pesticide equipment safely.
- Understand the importance of PPE and good hygiene.
- Know what to do in an emergency involving pesticide exposure.

### Rationale for Training

Pesticides are hazardous substances that can poison and kill employees who do not know or do not take proper precautions. The U.S. Environmental Protection Agency (EPA) estimates that 10,000–20,000 workers are diagnosed with pesticide poisoning every year. To prevent incidents involving pesticides and to be in compliance with state and federal regulations, you must adequately train employees to recognize pesticide hazards and take proper precautions before they can be allowed to handle pesticides or work in areas where pesticides are applied.

### Regulatory Overview

29 CFR 1910.1200 and 40 CFR 170

Pesticides are regulated both by the Occupational Safety and Health Administration (OSHA) and the EPA. States may also regulate pesticide use.

The use of pesticides in general industry is covered by OSHA's Hazard Communication Standard (29 CFR 1910.1200). The Hazard Communication Standard requires employers to tell employees about the hazards of chemicals they work with or around and how to work safely to avoid harmful exposures.

Pesticide use is also regulated by EPA's Worker Protection Standard (WPS) (40 CFR 170). These regulations cover workers at any farm, forest, nursery, or greenhouse that uses pesticides. The Worker Protection Standard requires employers to provide agricultural workers and pesticide handlers with training and safeguards such as warnings, restrictions, and personal protective equipment (PPE) to protect their health on the job.



According to EPA's Worker Protection Standard, agricultural workers are employees who harvest, weed, or water agricultural plants.

Pesticide handlers are defined as those who:

- Mix, load, apply, or transport pesticides;
- Assist with applications, including the incorporation of the pesticide into the soil after application has occurred;
- Act as flaggers;
- Handle equipment that may contain pesticide residues;
- Handle open pesticide containers, or dispose of them;
- Act as crop advisors; or
- Enter a greenhouse after application of pesticides and before the permissible inhalation exposure level has been reached.

### **Training Requirements**

Training requirements for agricultural workers are contained in the EPA regulations at 40 CFR 170.130. Training requirements for pesticide handlers may be found in Part 170.230.

According to the regulations, a training program for agricultural workers should contain, at a minimum, the following elements:

- Where and in what form pesticides may be encountered during work activities;
- Hazards of pesticides and health effects;
- Routes of entry into the body;
- Symptoms of pesticide poisoning;
- Emergency first aid and how to obtain emergency treatment;
- Routine and emergency decontamination procedures;
- Hazards of pesticide drift and residues on clothing; and
- Warnings about taking pesticides or pesticide containers home.

Training for pesticide handlers should contain, at a minimum, the following elements:

- Format and meaning of information on container labels;
- Hazards of pesticides and health effects;
- Routes of entry into the body;
- Symptoms of pesticide poisoning;
- Emergency first aid and how to obtain emergency treatment;
- Routine and emergency decontamination procedures;
- Need for and appropriate use of PPE;
- Prevention, recognition, and 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; and
- Warnings about taking pesticides or pesticide containers home.



**Trainer qualifications.** The person conducting the training must be knowledgeable in the subject matter covered by the elements contained in the training program, and as it relates specifically to the workplace that the training will address. EPA regulations state that trainers must meet at least one of the following criteria:

- Be currently certified as an applicator of restricted-use pesticides under 40 CFR 171;
- Be currently designated as a trainer of certified applicators or pesticide handlers by a state, federal, or tribal agency; or
- Have completed a pesticide safety train-the-trainer program approved by a state, federal, or tribal agency.

**Audience.** This training program is designed to provide basic safety and health information for both agricultural workers and pesticide handlers. Additional jobspecific training may be required for pesticide handlers in order to comply with EPA regulations—for example, site-specific safety requirements and procedures for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.

**Training frequency.** Agricultural workers and pesticide handlers must be trained before being assigned to a job that involves potential pesticide exposure. Training must qualify them for an EPA-approved Worker Protection Standard certificate. To qualify for a certificate, trainees must show understanding of and proficiency in all required training areas. Employees must be retrained and recertified at least every 5 years.

**Delivery method and format.** Trainers may use hands-on demonstration, classroom, audiovisual and any other method of training that leads to comprehension and understanding of the topic. There should be an opportunity for interactive questions and answers with the person conducting the training session. Training information must be presented in a manner that agricultural workers and pesticide handlers can understand—in other words, through a translator, if necessary, for non-English-speaking employees.

**Trainee evaluation.** Measures of training effectiveness can be performance based (observed behavior), or by written or oral test.

**Recordkeeping.** Training records should be kept showing when the training was held, what was covered, who gave the training and the trainer's qualifications, and who attended. Workers and handlers who have verified EPA approved WPS worker or handler training cards do not have to be retrained unless you have reason to believe that the card is invalid.

**State requirements.** Provisions of state safety and health laws might affect pesticide safety training. Be sure to check your state's regulations for any additional training requirements.

### **Basic Principles of Adult Learning**

Most adults are self-directed learners; they want to learn what they want, when they want, and how they want. Adult learners have their own style of learning that includes four key elements: motivation,



reinforcement, retention, and transference. See the **Basic Principles of Adult Learning** guide in this product for more information about the key elements of adult learning and other insights for training adults.

## Section 2: Training Program Preparation

*This section will help you prepare for your presentation and ensure that you have all the materials you will need. You may use different materials that cover the topic if you believe they will be more effective.*

### Resources and Materials

The following resources and materials should be available for every training session:

- A quiet room with basic accommodations for the comfort of trainees
- Sign-in sheet (included with this product)
- Printed copies of the training program (PowerPoint slide show notes, slide show handouts, exercises, and employee handouts)
- Copies of relevant regulations or company policies (if applicable)
- Computer and projector with the PowerPoint slide show loaded
- Screen or blank wall for projecting the slide show
- Copies of the evaluation form (optional)
- Copies of the quiz (optional)

Have the following materials available for Pesticide Safety training:

- Examples of pesticide container labels
- Example of a pesticide warning sign
- Example of a pesticide safety poster
- Examples of pesticide equipment used by trainees
- Examples of PPE used by your workers

See the **Appendix: Training Program Support Materials** section for a complete list of support materials that come with this product.

### Prepare the PowerPoint Slide Show

Before presenting the PowerPoint slide show, read the PowerPoint slides, slide show notes, the handouts, the exercises, and the quiz.

Prepare equipment and other support materials as suggested and appropriate for your workplace.

**Slide show notes.** The following slide show notes describe recommended interactive activities and materials to have on hand as you present the slide show. Each note is also embedded with the slide show notes for each slide to assist you as you are presenting your training program. They are listed here in the sequence that they are presented in the slide show:



- Explain procedures for reporting any symptoms of pesticide poisoning.
- Explain where and in what form pesticides might be encountered in the jobs performed by trainees.
- Review safety requirements for handling, transporting, storing, mixing, and disposing of pesticides, including general procedures for spill cleanup.
- Bring examples of container labels to the meeting and review the safety and health information on the label.  
*Materials to have on hand: Examples of pesticide container labels.*
- Bring examples of safety signs to the meeting and review the information on the signs.  
*Materials to have on hand: Example of a pesticide warning sign.*
- Bring an example of a pesticide safety poster to the meeting and review the information provided.  
*Materials to have on hand: Example of a pesticide safety poster.*
- At the transition slide, answer any questions and conduct an exercise, if appropriate.
- Explain trained entry rules and describe circumstances where entry might be required before the expiration of the restricted entry interval.
- Review safe operating procedures for any pesticide equipment used by trainees.  
*Materials to have on hand: Examples of pesticide equipment used by trainees.*
- Bring examples of the PPE used by your workers to the meeting. Explain under what circumstances each piece of PPE should be worn. Be sure to give workers full information about the type of respirator to be used and the requirements for safe use.  
*Materials to have on hand: Examples of PPE used by your workers.*
- Demonstrate the proper procedure for inspecting PPE. Explain the procedure for turning in worn or damaged PPE for a replacement.
- Review safe hygiene rules. Identify the location of eye flushing and cleanup areas near trainees' work areas.
- Review first-aid procedures for the pesticides to which trainees could be exposed. Tell trainees how to call for emergency medical assistance and where to go for follow-up treatment.
- At the transition slide, answer any questions and conduct an exercise, if appropriate.
- Give trainees the quiz.

### **Customize Slides, Slide Show Notes, and Quiz**

The information contained in the PowerPoint slide show covers general guidelines and regulatory requirements for the topic that is presented. You may want to modify the slide show and quiz to meet site-specific objectives and policies or local regulatory requirements. If you have the PowerPoint software application on your computer, you may add, modify, or delete slides and slide show notes to meet your needs. See the **How to Customize PowerPoint** guide in this product for more information..

**Customize specific slides and slide show notes.** Customize specific slides and slide show notes. You may want to modify some slides and/or slide show notes to include information specific to your workplace. In the slide show notes of select slides in this presentation, we have recommended that you consider making such modifications.



Make sure that any modification or deletion of information does not diminish your ability to achieve your training goals or meet regulatory requirements.

The slides cannot be changed in the PDF version (included with this product) of the PowerPoint slide show. If you want to modify the slide show notes to correspond to any changes in the PowerPoint slide show, this can be done in the “notes” view of PowerPoint.

**Customize the quiz.** The quiz can be easily modified; simply type in your changes using Microsoft Word or other standard word processing application. In order to preserve the original document, change the name of the file before saving it.

### **Prepare Materials and Schedule the Training Session**

**Computer projection.** If you have a computer video projection system, run a test to make sure the PowerPoint slide show runs properly.

**Overhead projection.** If you plan to use an overhead projector, print the PowerPoint slide show slides out on transparencies. The slides will be clearer if they are printed in color. If you don't have a color printer, your local print or copy store can print out color transparencies for you.

**Slide show handouts.** PowerPoint offers four options for printing slide show handouts: six slides per page, four slides per page, three slides per page, and two slides per page (in the print dialogue). We recommend you print copies of the PowerPoint slide show in three-slides-per-page format if you want trainees to take notes during the slide show. See the **How to Customize PowerPoint** guide in this product for information about printing slide show handouts.

**Employee handouts.** Prepare and copy any handouts, such as the employee handouts provided with this product, or any site-specific handouts you may have.

**Exercises.** Determine which exercises you plan to conduct, and prepare any materials or equipment you need.

**Scheduling.** Schedule the class for a date and time convenient to most trainees. Groups of 15 or fewer people are ideal.

## **Section 3: Training Program Presentation**

*This section provides tips and suggestions for presenting training materials to trainees.*

### **Present to Trainees**

The time it will take to present the PowerPoint slide show and conduct the exercises will vary depending on the size of your facility, the complexity of issues in your workplace, the level of knowledge and





comprehension of the topic by trainees, and the amount of site-specific information. In general, assume each slide will take 2 to 3 minutes to cover. If you practice your presentation, keep in mind that presentations typically take longer during the actual training.

You can use your own words rather than read from the slide show notes.

**Training tip:** Consider varying the format within your training program two or three times during each hour of training. For example, switch from the PowerPoint slide show to an exercise after 20 minutes of slides, then return to the PowerPoint. Most people learn via more than one format (e.g., seeing images, reading text, hearing, and activity); a multimodal presentation keeps trainees interested and energized.

### **Trainee Participation**

Involve trainees as much as possible by asking them questions and getting them to talk about their own jobs. Encourage them to make suggestions they may have on how to improve conditions in the workplace related to the topic.

Ask trainees to talk about experiences in their workplace related to the topic. Use real-life examples as often as possible to reinforce learning.

### **Handout(s)**

Give each trainee a copy of the handout(s) before the slide show or after the quiz.

### **Exercises**

Multiple exercises for this topic are included with this product for your use during or after the PowerPoint slide show. The exercises may also be used independently of the slide show. Exercises are an excellent mechanism for reinforcing the training.

### **Questions and Answers**

Answer any questions the best that you can. Even if you don't have the technical knowledge to answer a lot of questions on the topic, you can still answer the important questions about the way that your workplace is addressing the topic-related issues. Follow up with responses to employee questions either personally, through the employee's supervisor, or the facility's intranet, if applicable.

### **Follow-Up**

Document that the training took place and who attended. Also, provide the trainees with documentation that they have completed training (such as a certificate of completion), and be sure to notify any trainees who failed to satisfactorily complete the training.

### **Complete these follow-up tasks:**

- Distribute the **Certificate** to successful trainees as proof of completion of training (optional).
- Distribute the **Evaluation Form** to employees and collect the completed forms (optional).
- Place copies of the **Quiz** results in each trainee's personnel file.
- File one copy of the **Attendee Sign-In Sheet** with the workplace records, and file one copy in the trainer's files.



- Fill in the appropriate information on the **Training Record** for each employee.
- Within 2 weeks of giving the training, talk to some of the employees and supervisors to make sure they understood what was presented and how it applies to them.

## Appendix: Training Program Support Materials

*Below is a list of support materials included with this product to help you prepare the training program and document your activities.*

### **Additional Training Materials**

- **Certificate**—A customizable certificate of completion for attendees. The file allows the user to type in the training topic and the trainee's name.
- **Exercise**—An activity to help trainees apply their knowledge of work practices.
- **Employee Handout**—A single-page summary of key facts the trainee should know about the topic.

### **Forms**

- **Attendee Sign-In Sheet**—A record of training program attendees.
- **Evaluation Form**—An evaluation by trainees of the performance of the trainer.
- **Training Record**—A record of all training sessions for each employee, including the date for refresher training.

### **Guidance**

- **Basic Principles of Adult Learning**—A guide for training adult learners.
- **How to Customize PowerPoint**—A guide with instructions for using the PowerPoint application program and customizing the content of slides and slide show notes.