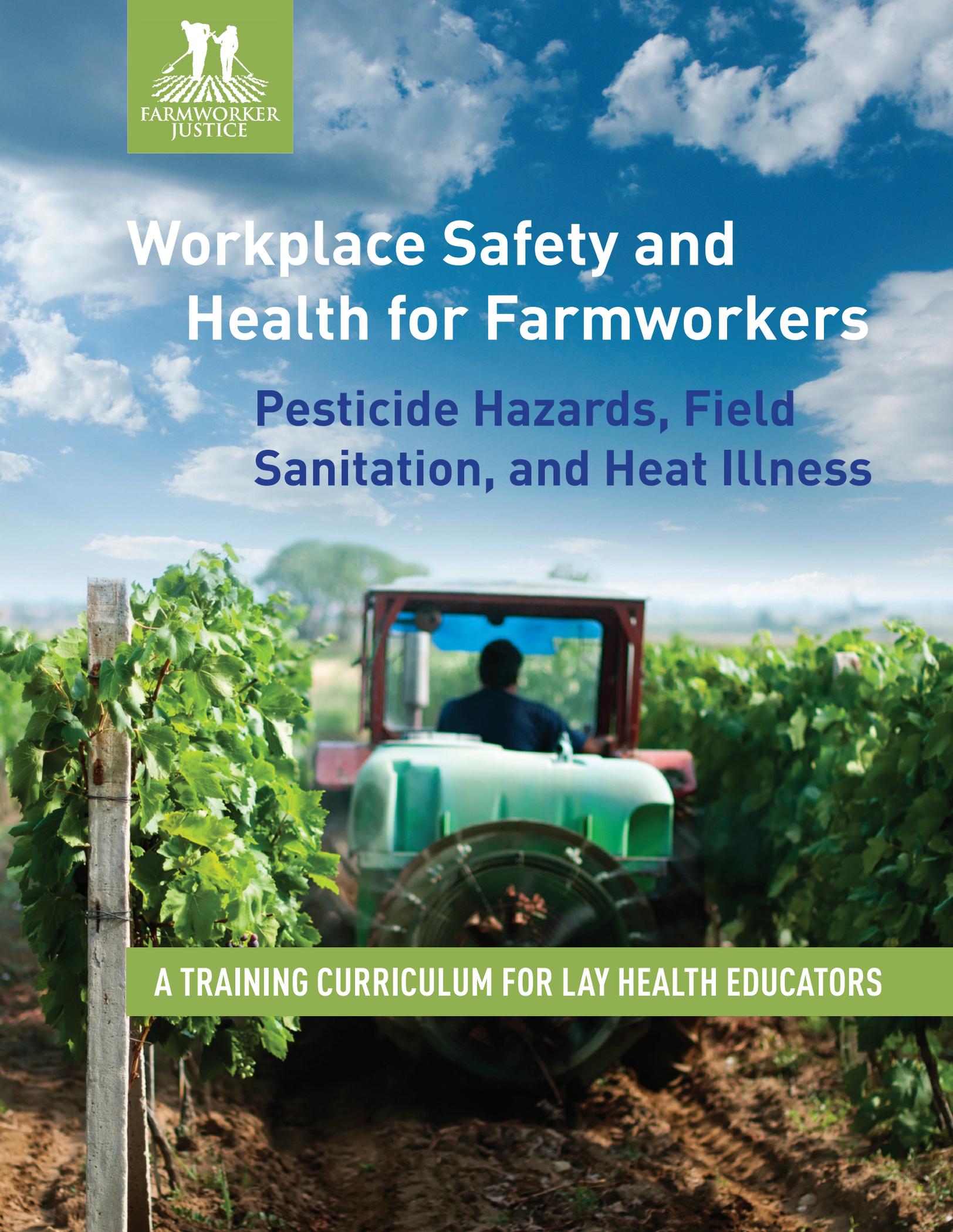




# Workplace Safety and Health for Farmworkers

**Pesticide Hazards, Field Sanitation, and Heat Illness**

A photograph of a green tractor with a blue canopy driving through a vineyard. The tractor is viewed from behind, moving away from the camera. The vineyard rows are lush green, and the sky is blue with scattered white clouds.

**A TRAINING CURRICULUM FOR LAY HEALTH EDUCATORS**

*Pesticide Hazards, Field Sanitation, and Heat Illness for Farmworkers: A Training Curriculum for Lay Health Educators* was created for the project “Institutionalizing Capacity to Improve Occupational Safety and Health of Farmworker Communities Nationwide,” with the support of the Occupational Safety and Health Administration (OSHA). The curriculum and materials were developed by Farmworker Justice.

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We extend our thanks to the participants in previous trainings whose input and suggestions have influenced and shaped our curriculum development.

**Pesticides, Field Sanitation, & Heat Illness for Farmworkers: Training Curriculum for Lay Health Educators**

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**Workplace Safety and Health for Farmworkers:  
Pesticide Hazards, Field Sanitation,  
and Heat Illness**

**A Training Curriculum for Lay Health Educators**



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# PRE-COURSE INFORMATION

This training curriculum is for organizations wanting to train lay health educators on the importance of pesticide safety, field sanitation, heat illness and workers' rights.

It briefly covers what it means to be a lay health educator and how to be an effective community educator. It reviews basic concepts related to pesticide exposure, poor field sanitation, heat illness on humans, and rights to a safe workplace.

## TRAINING GOAL

The goal of *Pesticide Hazards, Field Sanitation, and Heat Stress for Farmworkers: A Training Curriculum for Lay Health Educators* is to provide community based organizations that work with farmworkers a curriculum to train their lay health educators to disseminate important information to farmworkers on occupational hazards and their basic rights as they relate to agricultural work.

## SUGGESTED SCHEDULE

This training is meant to be covered in two days, although it could be stretched out over a longer period. The training goes from approximately 8:30 a.m. to 5:00 p.m. both days. A suggested agenda is provided as a guide on the following pages.

There is significant set-up to be done prior to the training.

## PARTICIPANTS

This training operates best with at least four or five experienced lay health educators. It can be done with a single organization or participants from a variety of organizations. The curriculum can be used to train lay health educators of any racial, ethnic, or cultural background or country of origin.

## MATERIALS & SUPPLIES

Materials needed for the course are listed with the instructions for each unit activity. A full list is also provided in the Handouts appendix of this guide.

## ADAPTING THE WORKSHOP

This manual is highly adaptable and can be used with farmworkers nationwide. However, the activities should always be adapted to the needs and characteristics of the community, taking into account the crops, pesticides, climates, and level of support for workers' rights that vary depending on the region, cultures and experiences of the community members.

## TRAINERS

Instructors with a background in occupational health and safety and experience in training / facilitating farmworkers are best qualified to lead *Pesticide Hazards, Field Sanitation, and Heat Stress for Farmworkers: A Training Curriculum for Lay Health Educators*.

If working with non-English speakers, it is best to have a trainer familiar with the language of the participants or an interpreter on hand.

# SUGGESTED TWO-DAY TRAINING AGENDA

## Day One

Time	Length	Activities	Page
<b>8:30</b>	<b>30 minutes</b>	<b>Arrival, Registration and Welcome</b>	
9:00	65 minutes	Unit 1: Introductions and Overview <ul style="list-style-type: none"> <li>• Introductory Icebreaker</li> <li>• Workshop Norms</li> <li>• Workshop Objectives</li> <li>• What Does It Mean to Be a Promotor/a?</li> <li>• Pre-Test</li> </ul>	7
<b>10:05</b>	<b>15 minutes</b>	<b>Break</b>	
10:20	85 minutes	Unit 2: Overview of Pesticides and Health <ul style="list-style-type: none"> <li>• What Are Pesticides?</li> <li>• Where Are Pesticides?</li> <li>• Routes of Exposure</li> <li>• Pesticides and the Human Body</li> <li>• Pesticide Residues</li> <li>• Pesticide Related Illnesses: Acute Symptoms</li> <li>• Pesticide Related Illnesses: Chronic Health Effects</li> </ul>	15
<b>12:10</b>	<b>60 minutes</b>	<b>Lunch</b>	
1:10	35 minutes	Unit 3: Pesticides and Children <ul style="list-style-type: none"> <li>• Children and Pesticide Exposure</li> <li>• Health Risks for Children</li> </ul>	29
1:45	85 minutes	Unit 4: Protecting Ourselves and Our Families <ul style="list-style-type: none"> <li>• Pesticides and Your Workplace</li> <li>• Reducing Pesticide Exposure In the Workplace</li> <li>• Protecting Ourselves From Pesticide Exposure</li> <li>• Protecting Our Families From Pesticide Exposure</li> </ul>	35
<b>3:20</b>	<b>15 minutes</b>	<b>Break</b>	
3:35	60 minutes	Unit 4 continued <ul style="list-style-type: none"> <li>• Barriers to Reducing Pesticide Exposure</li> <li>• What to Do If Exposed to Pesticides</li> </ul>	47
4:35	45 minutes	Unit 5: Pesticides and the Law <ul style="list-style-type: none"> <li>• Worker Protection Standard</li> </ul>	51
<b>5:20</b>		<b>End Time</b>	

## Day Two

Time	Length	Activities	Page
<b>8:30</b>	<b>30 minutes</b>	<b>Arrival and Welcome</b>	
9:00	15 minutes	Unit 6: Review <ul style="list-style-type: none"> <li>Review Activity: Repollo Caliente</li> </ul>	55
9:15	35 minutes	Unit 7: Farmworkers and Field Sanitation <ul style="list-style-type: none"> <li>What Is Field Sanitation and Why Does It Matter?</li> <li>Field Sanitation and the Law</li> </ul>	59
9:50	30 minutes	Unit 8: Heat Related Illnesses <ul style="list-style-type: none"> <li>Heat Illness and Heat Stroke</li> <li>Case Study</li> </ul>	65
<b>10:20</b>	<b>15 minutes</b>	<b>Break</b>	
10:35	80 minutes	Unit 8 continued <ul style="list-style-type: none"> <li>Preventing Heat Illness</li> <li>Heat Stress and the Law</li> <li>Understanding Your Rights at Work</li> </ul>	69
11:55	25 minutes	Unit 9: Effective Training Techniques <ul style="list-style-type: none"> <li>What is Interactive Training?</li> </ul>	75
<b>12:20</b>	<b>60 minutes</b>	<b>Lunch</b>	
1:20	80 minutes	Unit 9 continued <ul style="list-style-type: none"> <li>Teaching Back to Your Community</li> <li>Presentation Practice</li> </ul>	78
<b>2:40</b>	<b>15 minutes</b>	<b>Break</b>	
2:55	60 minutes	<ul style="list-style-type: none"> <li>Presentation Practice continued</li> </ul>	79
3:55	35 minutes	Unit 10: Conclusion <ul style="list-style-type: none"> <li>Post Test</li> <li>Workshop Evaluation</li> </ul>	81
<b>4:30</b>		<b>End Time</b>	



## Introductions and Overview

- Introductory Icebreaker
- Workshop Norms
- Workshop Objectives
- What Does it Mean to Be a Promotor/a
- Pre-Test



# INTRODUCTORY ICEBREAKER

## OBJECTIVE

- To create a comfortable environment for working and sharing experiences and to share knowledge about each other's experiences and backgrounds

## METHOD

- 1 Give a brief welcome to the participants and introduce yourself. Do this in both Spanish and English and explain that the workshop will often be in both languages and that participants should feel comfortable using whatever language they would like to express themselves.
- 2 Ask the group what languages they feel most comfortable speaking. Let everyone know that it's okay to ask for clarification if they don't understand something.
- 3 Choose a dynamic icebreaker, one that will get people to stand up and be active for a few minutes.
- 4 On a flip chart, write down the information you want each person to share about him/herself. For example:
  - Name
  - Where he/she was born
  - Any experience he/she has had as a farmworker (or family members)
  - Why he/she is interested in participating in this project
- 5 Within the icebreaker, ask participants to share this information about themselves with the group.

## MATERIALS

- Flip chart
- Markers



## RECOMMENDED TIME

20 minutes



## WORKSHOP NORMS

### OBJECTIVE

- To agree upon and generate a list to promote a positive learning environment.

### METHOD

- 1 Explain that you would like to have a positive and comfortable learning environment for all of the workshops. The group should feel free to actively participate in the learning process.
- 2 Explain that it is helpful if everyone agrees on what this environment should be.
- 3 Ask the participants to brainstorm the norms or ground rules for the workshop.
- 4 For each idea that is made, have the group come to a consensus and then write the idea on a flip chart. Try to encourage some of the following responses:
  - The responsibility of learning needs to be shared by everyone
  - Everyone should participate actively in all the activities of the sessions
  - The sessions should begin and finish on time
  - Respect the views of others
  - Learn from each other's experiences
  - Maintain the confidentiality of any personal information shared by the participants
  - No cell phones or laptops
  - Wait for others to speak, if you have already participated
- 5 Remind the group that the workshop will be more successful if they actively participate in the training. It is not the job of the facilitator to "teach" the participants. Instead, everyone needs to share the responsibility of learning.
- 6 Hang the flip chart on the wall after completing the exercise.

### MATERIALS

- Flip chart
- Markers



### RECOMMENDED TIME

5 minutes



# WORKSHOP OBJECTIVES

## OBJECTIVE

- To be sure that all the participants understand what they will learn during the workshop and to learn participant expectations for the workshop.

## METHOD

- 1 On flipchart (ahead of time) write out the workshop objectives listed on the following page. Hang up sheet of paper and ask volunteers to read the objectives aloud.
- 2 Ask if there are any questions or objectives that they would like to cover that are not included on the list.
  - If some are mentioned that you do intend to cover, add them to the list (or explain how they are encompassed by another objective).
  - If something is mentioned that you do not plan to cover, you should explain that you will not cover it but that you'll make a note that it may be of interest for future trainings.
- 3 Tell the group that throughout the workshop they should feel free to ask questions whenever there is anything they don't understand.

## MATERIALS

- Flip chart
- Markers
- Workshop Objectives (Handout)



## RECOMMENDED TIME

5 minutes



## Objectives

- 1) To learn about pesticides; health risks, symptoms and ways to reduce or minimize exposure at home or at an agricultural work place
- 2) To learn about field sanitation; components and practical measures farmworkers can take to reduce exposure to hazardous situations
- 3) To learn about heat stress; causes, symptoms, dangers, and preventive measures
- 4) To learn about workers' rights; protections available under local, state, and federal law
- 5) To learn about local resources available to provide assistance and more information about health and safety at work



# WHAT DOES IT MEAN TO BE A PROMOTOR/A?

## OBJECTIVE

- This is an important activity to do at the beginning of the training in order to establish a common understanding for what it means to be a *promotor*, gauge the expectations of the participants, and provide a realistic view of what *promotores* might expect once they are engaged in their volunteer health outreach.

## METHOD

- 1 Prepare three pieces of flipchart paper, each with a different topic:
  1. “The goals of a *promotor/a*”
  2. “The challenges of a *promotor/a*”
  3. “Characteristics of a successful *promotor/a*”
- 2 Post the topics in different areas of the room. Ask the *promotores* to circulate and note ideas on each paper.
- 3 Once all *promotores* have had time to record their ideas, gather them in a large group. Ask if there are some participants present that are already *promotores*. If there are, ask if there are three or four that would like to talk about their experiences and lead the discussion.
- 4 Have new *promotores* gather in a circle around the experienced *promotores*. As you go through each topic on the flipchart paper, ask both new and seasoned *promotores* for their ideas. This is a good moment to set a foundation for mentorship between the two groups.
- 5 Record any additional ideas under the appropriate topic areas. This is a great time to tell the *promotores* how important their role in the community is and how they are able to make a difference in the community through their work. Make sure you draw out the ideas around volunteering in one’s community—why this is important and what this means.

## MATERIALS

- Flip chart
- Markers



## RECOMMENDED TIME

20 minutes



1

## Goals of a promotor/a

Examples:

- "I want to learn more about health and share what I learn"
- "I want to prevent more illnesses in my family and friends"

2

## Challenges of a promotor/a

Examples:

- "I work so much already so I don't have much free time"
- "I've never done public speaking before"
- "I might not be able to communicate the key messages well"

3

## Characteristics of a successful promotor/a

Examples:

- "Cares about the people in the community"
- "Interested in learning new things"
- "Able to gain people's trust"



# PRE-TEST ACTIVITY

## OBJECTIVE

- Assess participants' prior knowledge before beginning the course.

## METHOD

- 1 Distribute the Pre-Test to the participants before starting the workshop.
- 2 Explain that this is a questionnaire to help the facilitator make sure that she is presenting the information effectively and doing her job well.
- 3 Ask participants to answer the questions without consulting with anyone else.
- 4 If anyone has questions or needs help to answer the questions, ask the facilitator.
- 5 When all have finished, collect the pre-tests.

## MATERIALS

- Pre-Test (Trainer Materials)



## RECOMMENDED TIME

15 minutes



## Overview of Pesticides & Health

- *What Are Pesticides?*
- *Where Are Pesticides?*
- *Routes of Exposure*
- *Pesticides and the Human Body*
- *Pesticide Related Illness: Acute Symptoms*
- *Pesticide Related Illness: Chronic Health Effects*



# WHAT ARE PESTICIDES?

## OBJECTIVE

- To understand what the word “pesticide” means and to understand why pesticides are used.

## METHOD

- 1 Stand at the front of the room and ask the group to name many types of “pests.” Write what they say on flipchart paper.
- 2 After they have named ten or so pests, ask them to name the types of pesticides (insecticide, herbicide, fungicide, microbicide, rodenticide) and write these on another sheet of flipchart paper that is next to the one with the types of pests.
- 3 Now, ask them if they have named some pests that each kind of pesticide will control. (Usually, fungus, bacteria, virus, or weeds are the ones that can be missed.)
- 4 Ask them to draw from their personal experience and knowledge to develop a definition of “pesticide” and write what they decide upon on flipchart paper. The following words or terms might be included in their definition (you can use these as examples if they’re stuck):
  - preventing
  - destroying
  - repelling
  - mitigating
  - controlling
  - killing

## MATERIALS

- Flip chart
- Markers



## RECOMMENDED TIME

30 minutes



# WHERE ARE PESTICIDES?

## OBJECTIVE

- To understand why it can be so difficult to know if a pesticide has been used.

## METHOD

- Start by asking participants the different physical forms of pesticides.
  - liquids or sprays
  - powders or granules
  - gases
- Ask participants what they think are reasons for using pesticides on farms:
  - help manage weeds
  - allow farms to produce more food on less land
  - kill insects and fungus in the soil or on plants
- Ask participants if they can ALWAYS see, feel, smell, or taste pesticides?
  - Many pesticides are invisible and can remain on plants in a transparent form called residues. Often you cannot see, smell, taste, or feel the chemicals, but they still pose a safety threat.
- Tell participants that you are now going to demonstrate how some chemicals are invisible and cannot be detected. Bring out the three bottles:
  - One bottle with water
  - One bottle with water and about 1/3 cup of clear bleach
  - One bottle with water and a clear, unscented liquid or powder - for example, add a squirt of unscented bug repellent or a packet of artificial sweetener].

## MATERIALS

- Three bottles: one filled with water; one filled with water and 1/3 cup bleach; and one filled with water and a clear, unscented liquid or powder



## RECOMMENDED TIME

25 minutes

5

Move the three bottles around on the table so that no one remembers which one has which ingredients inside.

- Ask for a volunteer to come up to the front of the room and identify which bottle has the bleach in it (by just looking at it, not smelling it).
- Ask another volunteer to identify which bottle has the unscented chemical in it by just smelling the water.
- If the volunteer is certain, ask if they would be willing to drink the water - but make sure that they do not!

6

Review the activity and explain that much of the time it is impossible to know if there are pesticides present so one must be cautious all the time. Use the following discussion guide.

**Ask:** *How can you know if one pesticide is more dangerous than the other?*

- Can we tell by the color? **NO**. Can we tell by smell? **NO**.
- Some people think that the most harmful pesticides have a bad smell. Explain that you cannot tell how dangerous a pesticide is by its color or smell.
- Often the pesticide smell is due to the solvent it is mixed with. For that reason, pesticides of different levels of harmfulness can smell the same.

**Explain** what “pesticide residues” are.

- Pesticide residues are the substance left over on plants, leaves, fruits, vegetables, and soil after a pesticide has been sprayed. You can’t always see or smell residues but they can still affect you.
- Sometimes you can see and feel residues but sometimes you cannot.
- Residues are often left on plants even after it is safe to enter a field that has had pesticides applied.
- Farmworkers regularly come into contact with residues and, even though they may enter the fields, they still need to protect themselves from these daily exposures and be careful not to expose their families when they go home.

**Answer** any questions and explain that throughout the course we will review much of this material.



# ROUTES OF EXPOSURE

## OBJECTIVE

- To recognize how farmworkers might be exposed to pesticides and their residues.

## METHOD

- 1 Divide the participants into four groups, giving each group one of the images representing routes of exposure.
- 2 Ask each group to discuss what is occurring in their photograph. Discuss the following points:
  - Why is this part of the body vulnerable?
  - How is this body part exposed to pesticides?
  - What can farmworkers do to better protect this body part?
  - Are members of your community vulnerable to this type of exposure? Describe some experiences you or your community members have experienced.
- 3 After participants have discussed each of the photos, ask them if they know the four ways in which someone's body is exposed to pesticides. If they don't know, share that the skin, the nose (breathing it in), the eyes, and mouth are the four ways of entry. Then ask them what they think the most common form is (answer: through their skin).

## MATERIALS

- "Routes of Exposure" images depicting the four different ways pesticides enter the body (eyes, nose, mouth, and skin)



## RECOMMENDED TIME

10 minutes



# PESTICIDES AND THE HUMAN BODY

## OBJECTIVE

- To understand the dangers of pesticide exposure and how pesticides can affect the human body.

## METHOD

- 1 Tape two to four pieces of flipchart paper together and ask for a volunteer to draw the outline of a human body. Tape the drawing of the body to the wall.
- 2 Distribute sticky notes to the participants and ask each participant to attach a sticky note to a part of the body where a pesticide might enter.
- 3 Review the four routes of exposure (eyes, mouth, nose, skin). Ask the participants which route is the most common path of exposure (skin).
- 4 Tell the participants to think about how they might prevent exposure to these parts of the body. We will discuss this later in the training.

## MATERIALS

- Newsprint / flip chart paper
- Markers
- Different colored sticky notes (Post-It Notes)
- Photos (see Step 6)
- Handout 1: Exposure to Pesticides



## RECOMMENDED TIME

15 minutes

## Other Factors that Influence Toxicity or Harmfulness

- 5 Tell the participants that pesticides do not affect everyone the same way. There are factors that influence how harmful a substance will be to a particular person.
- 6 Pass the following photos (with captions) to several of participants:
  - Children and the elderly may be more vulnerable.
  - A pregnant woman may be more vulnerable and a fetus may be exposed to pesticides through the placenta.
  - People who have chronic diseases are more vulnerable.
  - People who have malnutrition are more vulnerable.
  - Pesticides are chemicals that should not be mixed with other substances inside the body, like medicines and alcohol.

7

Ask the volunteers who have the photos with captions to present the people who are more vulnerable to pesticides to the group and to say why they think this might be.

Other factors that can determine if a person will be injured by a pesticide include the **quantity** of the substance to which a person is exposed, the **time period** of exposure, and the possibility of **repeated exposures** over time.

8

Distribute **Handout 1: Exposure to Pesticides**. You might ask participants additional follow up questions such as:

- How do you feel looking at this handout?
- Do you think you have ever been exposed to pesticides? Why or why not?



# PESTICIDE-RELATED ILLNESSES: ACUTE SYMPTOMS

## OBJECTIVE

- To recognize the acute symptoms of pesticide poisoning.

## METHOD

- 1 Define what is meant by the term “acute symptoms.” (These are symptoms that pesticide exposure can cause immediately or soon after exposure.)
- 2 Distribute **Handout 2: Short-Term Symptoms** and **Handout 3: Serious Symptoms**

### Acute Poisoning

- 3 Print the Pesticide Symptom Cards or write the following symptoms on small pieces of paper. Pass them out among all of the participants:
  - Nausea and vomiting
  - Headache
  - Dizziness
  - Blurred vision or irritated eyes
  - Irritated nose and throat
  - Skin rashes
  - Sleeplessness
  - Fatigue
  - Stomach cramps
  - Excessive sweating
  - Weakness, confusion, difficulty concentrating
- 4 Ask the participants to use the tape to affix each symptom to the outline of the body that was previously taped to the wall. Each symptom should be placed on the part of the body that would be most affected.
- 5 After everyone has returned to their seats, ask a few volunteers to name the symptoms they taped to the outline of the body. Ask participants to name a few of the other symptoms they see taped to the wall.

## MATERIALS

- Human Body outline (previous activity)
- Pesticide Symptom Cards (Trainer Materials)
- Handout 2: Short-Term Symptoms
- Handout 3: Serious Symptoms



## RECOMMENDED TIME

15 minutes

- 6 Ask why it is important that we know the symptoms of pesticide poisoning.
- 7 Finally, ask if anyone in the group has experienced these symptoms or seen another person who experiences these symptoms. Which are most common?
- 8 Tell the group that these symptoms are common to a lot of illnesses, like a cold or flu. They or their health professional may be uncertain as to whether the symptoms are effects of pesticide exposure or other ailments.

When these symptoms are caused by pesticide exposure, they will normally begin two to three hours (and within 12 hours) after exposure. Generally, pesticide exposure will cause two or more symptoms.

Explain to them that if they or a co-worker begin(s) to experience several of these symptoms within 12 hours of using or being around pesticides, this may be an incident of pesticide poisoning. (Later on we will discuss what to do in case of suspected pesticide poisoning.)

### Serious Acute Symptoms

- 9 Remind the participants that we are talking about acute poisoning symptoms and what we mean by “acute.” (These are symptoms that pesticide exposure can cause immediately or soon after exposure.)
- 10 Explain that we will now talk about a few of the more serious symptoms of pesticide poisoning. Pass out the following conditions associated with severe pesticide poisoning printed on small pieces of paper:
  - Shortness of breath
  - Loss of consciousness
  - Drooling or foaming from the mouth and nose
  - Convulsions/seizures
  - Death
- 11 Ask each participant holding one of these symptoms to tell the rest of the group what their paper says and then to tape it to the body outline.
- 12 Once all the symptoms are taped to the body outline, ask why it is important that farmworkers know the symptoms of pesticide poisoning.
- 13 **Handout 3: Serious Symptoms** lists some of the most serious acute symptoms. If a person has any of these symptoms and does not receive immediate medical attention, it can be fatal. Tell the group that if anyone is experiencing any of these symptoms, emergency medical help must be obtained immediately by either calling 911 or taking the person to a hospital. (We will talk more later about what to do if someone is exposed to pesticides.)



# PESTICIDE-RELATED ILLNESSES: CHRONIC HEALTH EFFECTS

## OBJECTIVE

- To identify chronic illnesses related to pesticide exposure.

## METHOD

- 1 Ask if anyone knows what “**chronic**” means. Chronic health effects are health problems that may develop over a period of time from even low levels of exposure to pesticides. Some health effects appear weeks, months or even years after the exposure occurred. Chronic conditions are usually persistent and not easily cured.
- 2 Tell participants to look at **Handout 4: Chronic Health Effects** and to read the list of conditions associated with long-term pesticide exposure.
  - Cancer (leukemia, brain, bladder, uterine)
  - Infertility
  - Miscarriage
  - Birth defects (cleft palate, missing or deformed limbs)
  - Nervousness, memory loss, loss of intellectual functioning or mood changes
  - Parkinson’s disease
  - Learning delays/developmental difficulties
  - Asthma
  - Allergies
- 3 Ask participants why it is important for farmworkers to know about chronic health effects of pesticide exposure. (It is important because farmworkers should **ALWAYS** use protective behaviors when working in the fields. This will minimize the long-term exposure to pesticides.)
- 4 Unroll and hang on the wall “The Timeline of Daniel’s Life as a Farmworker.” Review the information on the timeline, adding in other interesting and entertaining information to make Daniel seem relatable. Here are some examples:
  - Daniel moved to the United States from Mexico when he was 19 years old.
  - He decided to come to Florida because his cousin was already there and he said he knew of a job working in oranges.

## MATERIALS

- Timeline of Daniel’s Life as a Farmworker (see example)
- Handout 4: Chronic Health Effects



## RECOMMENDED TIME

15 minutes

- After two years, working in oranges, he heard from a friend from his hometown that the work was better in California so he decided to move there where he found work in the grapes.
- Add in information about when he married and had kids and cover his work in about three to five kinds of agricultural products over the course of about 25 years.

At the end, ask the participants if they think Daniel's story is realistic. Do they know anyone like Daniel?

5

Make the following points:

- Many people work in agriculture a long time without thinking about all the possible exposures, both big and small, they may have had.
- They also may have encountered several different types of pesticides when they moved from crop to crop.
- When we talk about "Chronic Health Effects" of pesticides, we are talking about the health conditions that may develop because a person was exposure over the long-term.

## TIMELINE OF DANIEL'S LIFE AS A FARMWORKER

1988



4 years  
Strawberries  
California

1992



5 years  
Grapes  
California

1996



3 years  
Apples  
Washington

2000



2004

2 years  
Oranges  
Florida



2008

11 years  
Apples  
Washington



2014



## Pesticides and Children

- Children and Pesticide Exposure
- Health Risks for Children



# CHILDREN AND PESTICIDE EXPOSURE

## OBJECTIVE

- To understand how children are especially vulnerable to the harmful effects of pesticides.

## METHOD

- 1** Write the following three questions on flipchart paper and ask for three volunteers to fill in the group's answers to each question. Do one question at a time.
  - What are some things that kids love to do? (solicit answers like play, run, crawl)
  - Where do young children often play? (solicit answers like outside, on the ground)
  - What are some behaviors that might expose children to pesticides? (solicit answers like hand-to-mouth behaviors, curiosity, trying new things-both tasting/exploring)
- 2** Ask participants: Can you think of specific situations in which children are exposed to pesticides? (Examples: hugging a parent when they come home from work, playing in the car that parents drive home from work, playing with parents' boots that they wear to work)
- 3** Pick up the doll and ask them what the most obvious difference is between you and your baby. Ask for many possible responses.
  - Smaller size
  - Sensitive skin
  - Behaviors (such as playing on the ground)
  - Habits (such as putting hands in mouth)
- 4** Explain that, because of these factors, children can have greater pesticide exposures than adults.

## MATERIALS

- Flip chart
- Markers
- Doll
- Handout 5: Pesticides and Children



## RECOMMENDED TIME

20 minutes



### Discussion Guide

*Are there other reasons why children are more affected by toxins than adults would be?*

- Children are more affected by poisons than adults because their bodies are still developing.
- There are other crucial moments of development when exposure to a toxic substance could result in lifelong damage.

*At what life stage are people most susceptible to the harmful effects of chemicals?*

- Generally, a fetus in the mother's womb is most susceptible.
- For a fetus, the initial development of the limbs and organ systems occurs during the first three months and it is most vulnerable during this time period.

*How could the developing fetus be exposed to poisons?*

- If the mother is exposed to pesticides, lead or other harmful chemicals during pregnancy, the chemical can enter the mother's blood stream and cross over to the fetus through the placenta.

*Some important organs and systems continue to develop after birth*

- The **brain** continues to develop significantly until the child is approximately 8 years old.
- The **liver** plays an important role in detoxifying chemicals that enter the body. If a baby is exposed to poisons before the liver is fully mature, she will not be as able to detoxify the substance and avoid its harmful effects, as an adult would be.
- The **immune system** helps the body fight off exposures to harmful substances (e.g., germs and toxic chemicals). When a baby is born, its immune system is immature and doesn't help it fight off toxic exposures as effectively as an adult's immune system would.

Distribute **Handout 5: Pesticides and Children**.



# HEALTH RISKS FOR CHILDREN

## OBJECTIVE

- To understand the long-term health risks for children from pesticide exposure.

## METHOD

- 1 Explain that we will now talk about the long-term effects of pesticides on children.
- 2 Remind the participants why children may be more vulnerable to pesticide exposure than adults. (They are smaller than adults and their bodies are still developing.)
  - Very little is known about the long-term effects of pesticides on humans but more studies are now being performed.
  - One reason why it is so difficult to prove that pesticides have a direct effect on long-term health is that science has not described the exact way that pesticides cause chronic (long-term) health conditions.
  - However, scientists are able to study children who are exposed to pesticides and compare them to children who are not exposed to pesticides.
  - When they study hundreds of children who are exposed and hundreds who are not exposed and they see that more exposed children suffer from the same health problems and unexposed children do not, it is possible to say that the pesticide exposure is associated with the health problems the exposed children have.
- 3 Describe the CHAMACOS study in Salinas, California (<http://cerch.org/research-programs/chamacos/>).
  - Since 2002, a group of scientists have been studying children whose mothers and/or fathers are farmworkers in Salinas, California.
  - They began by asking over 300 pregnant women if they would like to be a part of the study.
  - They did some medical testing and kept notes on the mothers' pregnancies
  - Once the children were born, they continued to study the children. There are now about 600 children in the study.
  - The children are now turning [...] years old (Do the math: They were born in 2002) and they are still meeting with the researchers to do tests.

## MATERIALS

- Handout 5: Pesticides and Children



## RECOMMENDED TIME

15 minutes

4

Share what the researchers have found so far:

- Mothers who were exposed to pesticides during pregnancy had overall shorter pregnancies, which means more babies were born prematurely.
- The children of mothers exposed to pesticides during pregnancy are more likely to have the following problems:
  - Lower IQ scores and to have problems with cognitive functioning (perception, thinking, reasoning, and remembering)
  - Problems paying attention
  - Slower psychomotor development (physical skills such as movement, coordination, manipulation, dexterity, grace, strength, speed)
  - Slower mental development (the growth of the brain, spine, and nerves)



## Protecting Ourselves & Our Families

- Pesticides and Your Workplace
- Reducing Pesticide Exposures in the Workplace
- Protecting Ourselves from Pesticide Exposure
- Protecting Families from Pesticide Exposure
- Barriers to Reducing Pesticide Exposure
- What to Do If Exposed to Pesticides



# PESTICIDES AND YOUR WORKPLACE

## OBJECTIVE

- To better understand the information contained in pesticide labels.

## METHOD

**1** Ask: How can farmworkers find out the harmfulness (or toxicity) of the pesticides to which they are exposed at work?

- If they don't mention it, explain that the harmfulness is found on the pesticide label.

**2** Have the participants find the information listed on **Handout 6 - "Reading a Pesticide Label" worksheet** and work in pairs to fill in the worksheet as best they can.

**3** Once participants have filled in the worksheet with the information found on the pesticide labels, ask if they found everything. If they did not, tell them it's okay. The pesticide labels are hard to read.

**4** Now, go through the bolded terms below. Ask each participant what they found and then explain the information below:

**Signal word** (e.g., danger, warning, caution)

- **Danger:** If the pesticide contains an active ingredient that is very poisonous, the label will read "Danger." The products that are most immediately harmful will also have a skull and cross bones on the label.
- **Warning:** On moderately poisonous products, the pesticide label will read "Warning."
- **Caution:** For less immediately harmful products, the label will read "Caution."

**Symptoms of acute poisoning:** The label will also contain information about some of the immediate effects of overexposure.

**Brand Name and Common Name:** The "brand name" is given to it by the company that sells it (e.g., "Raid" is a brand name for a popular household insecticide). The "common" or "chemical" name is the name given to a specific active ingredient that is used by all companies that include this ingredient in their products.

## MATERIALS

- Flip chart
- Markers
- 2-4 sample pesticide labels
- Handout 6: Reading a Pesticide Label Worksheet



## RECOMMENDED TIME

15 minutes

- 5 Ask participants about other information that can be found on a pesticide label, aside from health. Write their suggestions on the flipchart. If they don't suggest it, mention the following:

**Restricted Entry Interval (REI):** The amount of time (hours or days) that must elapse between pesticide application and the time when workers can re-enter a field to do hand labor activities such as pruning, thinning or harvesting.

**Personal Protective Equipment (PPE):** The clothing or equipment that the employer must provide and maintain for pesticide mixers, loaders or applicators. PPE includes gloves, respirators, closed mixing and loading systems, closed tractor cabs, etc.

**First Aid:** Steps to take in the event of suspected poisoning.

**Use Instructions:** The crops on which the product can be used, how much to use, when to use it, the need to avoid spray or runoff into water bodies, etc. All of these label directions should be understood by the workers who mix, load and apply the pesticide so that they can carefully follow them. Failure to follow the label directions can lead to injury to people or contamination of the environment (e.g., pollution of nearby water bodies, death of fish or birds).

- 6 Ask participants what information they would like to know about pesticides that isn't included in the label. Write their suggestions on the flip chart.

If they don't mention it, suggest the following:

**Chronic Health effects:** Pesticide labels rarely provide information about the long-term effects that may occur from exposure to the product. In fact, many pesticides that cause severe long-term health effects, like cancer, are the least immediately harmful. As such, the absence of a skull and cross bones does not mean that the product is safe.

**Inert Ingredients:** Pesticides also contain the ingredients that are designed to make it easier to apply or to stay on the crop longer. These chemicals, which are not intended to kill the pest, are called "inert" or "other" ingredients. The "inert" or "other" ingredients can cause injury to people either immediately or over the long term (e.g., benzene, a solvent that may cause cancer).

# READING A PESTICIDE LABEL - EPA SAMPLE

1. Restricted use pesticide statement (if applicable)

## RESTRICTED USE PESTICIDE

**Due to (insert reason)**

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

2. Product name, brand, or trademark

**PRODUCT NAME**

3. Ingredient statement (may appear on back panel if packaging does not provide adequate space on front panel)

ACTIVE INGREDIENT(S):.....90.00%

OTHER INGREDIENT(S).....10.00%

TOTAL:.....100.00%

This product contains \_\_\_\_\_ lbs of [a.i.] per gallon.

4. Child hazard warning statement (if applicable)

**Product information: (what is product used for)**  
**KEEP OUT OF REACH OF CHILDREN**

5. Signal word (if applicable)

**SIGNAL WORD**

**(ENGLISH\SPANISH)**

"Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)"

6. First aid statement (may appear on back panel if there is a note indicating this on front panel)

### First Aid

If Swallowed

If Inhaled

If on Skin

If in Eyes

Reminder to have label with you when calling emergency phone number or going for treatment. Emergency phone number.

Note to Physician:

7. Skull and crossbones symbol and the word "Poison" (if applicable)

**SEE OTHER PANEL FOR PRECAUTIONARY STATEMENTS**

**Poison**



8. Net contents/net weight

**Net Contents** \_\_\_\_\_



# REDUCING PESTICIDE EXPOSURES IN THE WORKPLACE

## OBJECTIVE

- To identify ways in which people are exposed to pesticides in the workplace.

## METHOD

- 1 Divide the group into four groups.
- 2 Give each group a pesticide exposure scenario drawing.
- 3 Explain to the group that they have 10 minutes to examine the picture they were given and formulate answers to the following questions. Write the questions on flip chart paper and post them at the front of the room.
  - Are the farmworkers being exposed to pesticides?
  - How might a farmworker protect him/herself from exposure?
  - What are the rights of the worker in this situation?
- 4 Ask each group to identify a spokesperson to present the group's answers to the rest of the participants.
- 5 Have each group present their drawing to the rest of the participants, give a summary of their picture, and answer the questions.

## MATERIALS

- Flip chart
- Markers
- 4 Pesticide Exposure Scenario Drawings (Trainer Materials)
- Handout 7: How to Diminish Contact with Pesticides in the Fields

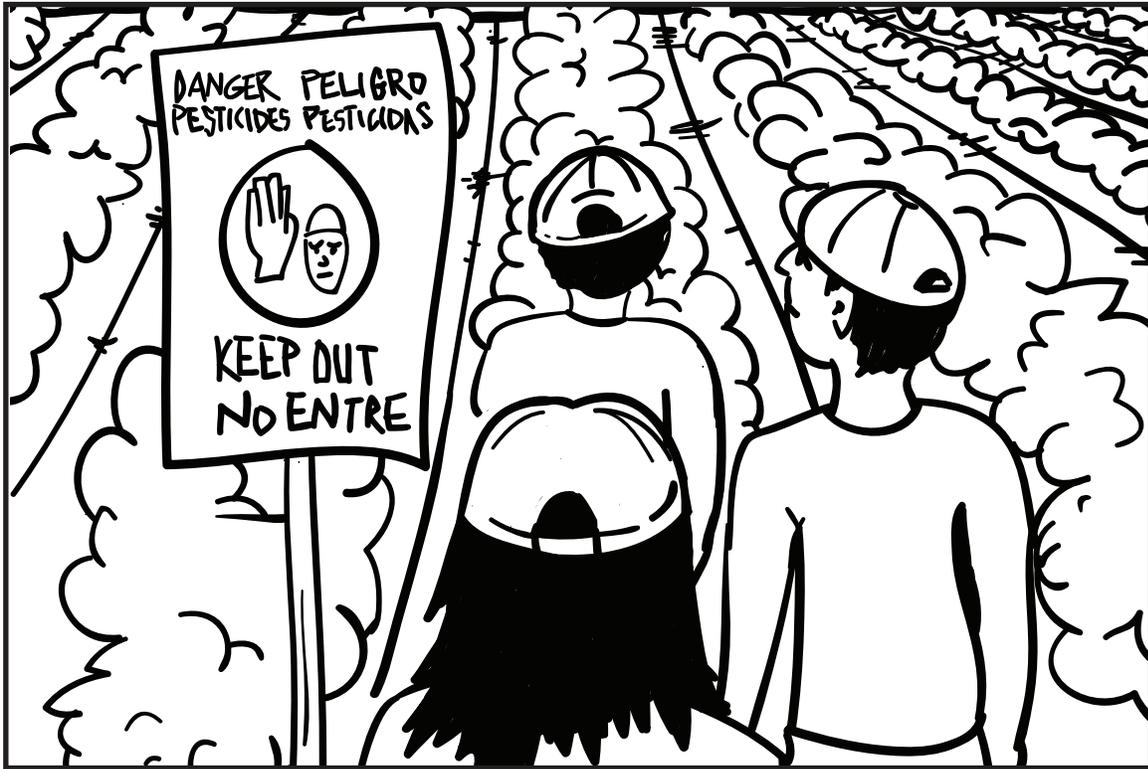


## RECOMMENDED TIME

30 minutes



### Drawing 1: Workers entering a field when a “danger-do not enter” sign is present



#### The main points to cover with this drawing:

- Workers have a right to be notified when an REI is in effect in any field in which they will work or through which are likely to walk.
- A pesticide warning sign is posted when hazardous pesticides are used. A rule for workers to follow: If workers see a sign, they should be told – or ask – whether the REI is in effect.
- If the REI is in effect, the workers should stay out of the field to avoid the risk of injury from contact with pesticide residues on the plant, soil, or foliage.
- If a worker is directed to perform routine hand labor tasks (e.g., planting, pruning or harvesting) in a field that has been posted with a warning sign, she should ask if the REI is in effect. If it is, the worker should ask to receive PPE. If none is provided, the worker should not work in that field on that day.
- If an unprotected worker is directed to pick crops in a field that is covered by an REI, the worker can file a complaint under the Worker Protection Standard. Find out which agency handles these complaints in your state. If a complaint is found to be valid, the state agency may issue a warning letter or impose a fine.

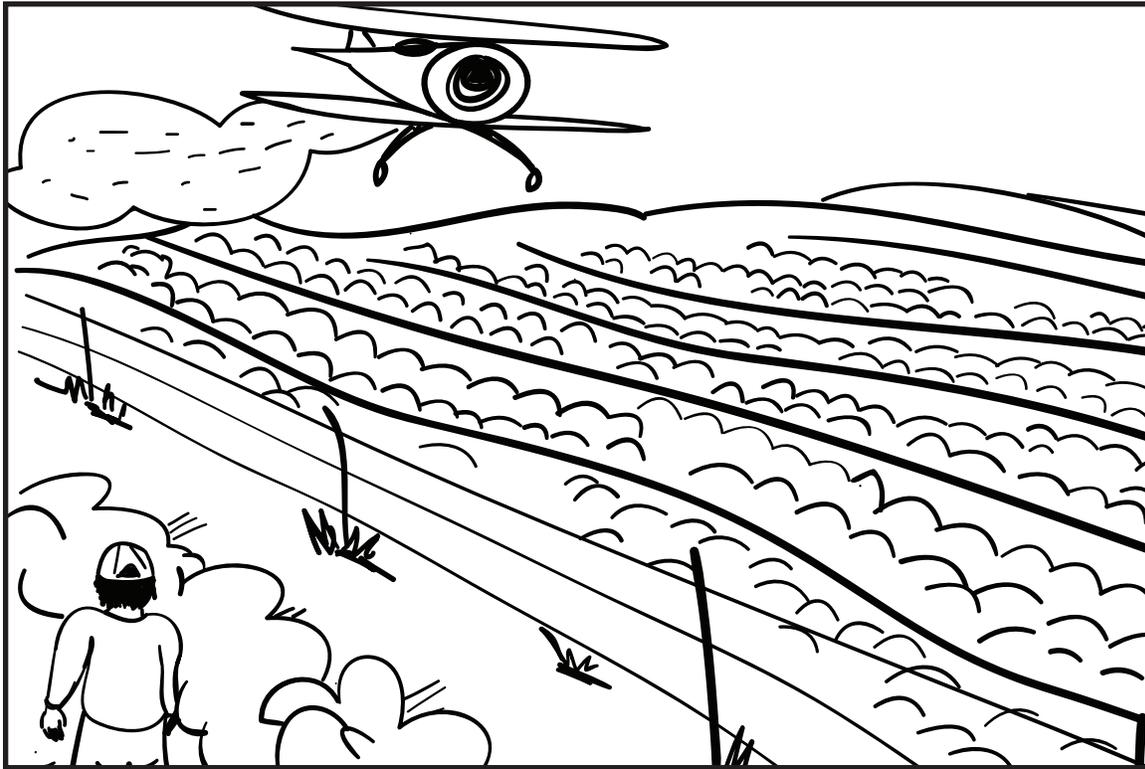
## Drawing 2: Worker picking strawberries with sweat on his face



### The main points to cover with this drawing:

- The worker may be exposed to pesticide residues on the crop, soil or other treated surfaces. Even if the REI has expired, the worker may still be injured.
- When the skin is wet (e.g., due to sweat), the pesticide residues will enter the body more easily.
- The worker should take reasonable steps to reduce exposure:
  - long-sleeved shirt
  - long pants
  - shoes and socks
  - wash hands before eating or smoking, and before and after going to the bathroom
  - eat away from treated areas
- Workers have the right to receive basic safety training once every five years.
- Workers have a right to have handwashing water available to wash pesticide residues off their bodies.
- Workers have a right to be notified when they will be working in (or are likely to walk through) an area that has been treated with pesticides and is covered by an REI.

### Drawing 3: Workers exposed to pesticides through drift



#### The main points to cover with this drawing:

- Pesticides may drift into a work area when they are being applied to an adjacent field. At times, the workers may see this occurring. At other times, the pesticide application may have occurred when the workers were not present.
- The drift may occur from pesticides being applied by either the workers' own employer or a nearby employer.
- When drift exposure occurs during or soon after application, the pesticide will not have had sufficient time to degrade and is still toxic.
- It is unlawful to apply any pesticide in a manner that will cause drift onto nearby individuals who are not wearing personal protective equipment.
- If the worker sees the pesticide application occurring and feels or smells the mist, she or he should
  - leave the field immediately
  - wash and change clothes as soon as possible
- If the worker feels ill, she or he should seek medical assistance immediately.
- If drift is due to a pesticide application conducted by the worker's own employer, the worker or her medical provider can request information about the incident.
- If the pesticide was applied by a different employer, only the health care provider can request pesticide incident information.

### Drawing 4: A worker bringing home an empty pesticide container to use in the home



#### The main points to cover with this drawing:

- Pesticide residues are likely to remain in the container. They can contaminate anything placed in the container – and anyone who touches the container.
- The pesticide label requires that a container be rinsed three times and then buried or incinerated. These containers are not intended to be reused.
- Pesticide users are required by law to properly dispose of used containers.
  - If a grower leaves an empty pesticide container lying around, the worker can file a pesticide complaint.
  - If a violation is found, the grower may receive a fine.
- Workers should never bring empty pesticide containers home or reuse them for any purpose.
- Workers should never bring home agricultural pesticides for home use.
- Workers have the right to receive training about safely using pesticides and the right to a safe workplace, this includes information on not bringing pesticides or their containers home.



# PROTECTING OURSELVES FROM PESTICIDE EXPOSURE

## OBJECTIVE

- To understand how appropriate work clothes can help reduce pesticide exposure.

## METHOD

1 Review appropriate clothing.

- Ask the group to name the articles of clothing a farmworker should wear in the fields to be most protected from pesticide exposure.
- Write their answers on flipchart paper.
- When they are finished, ask them if anything is missing.
- Explain that even appropriate clothes cannot totally prevent exposure, but that clean clothes that cover the skin will reduce exposure.
- Explain that cotton clothing is the most comfortable to wear because it allows sweat to evaporate and keeps the skin cooler.
- Draw attention to **Handout 8 - Work Clothing**. Review the appropriate types of work clothes.

2 Review protective behaviors.

- Review **Handout 7: How to Diminish Contact with Pesticides in the Fields**.
- Review the behaviors that protect against pesticide exposure:
  - Wash hands with soap and water before eating or smoking and before and after going to the bathroom.
  - Do not eat in the fields.
  - Do not enter a field that has been sprayed with pesticides before it is safe to do so.
  - Leave the field if pesticides are being applied in the same field or are drifting from another field.

## MATERIALS

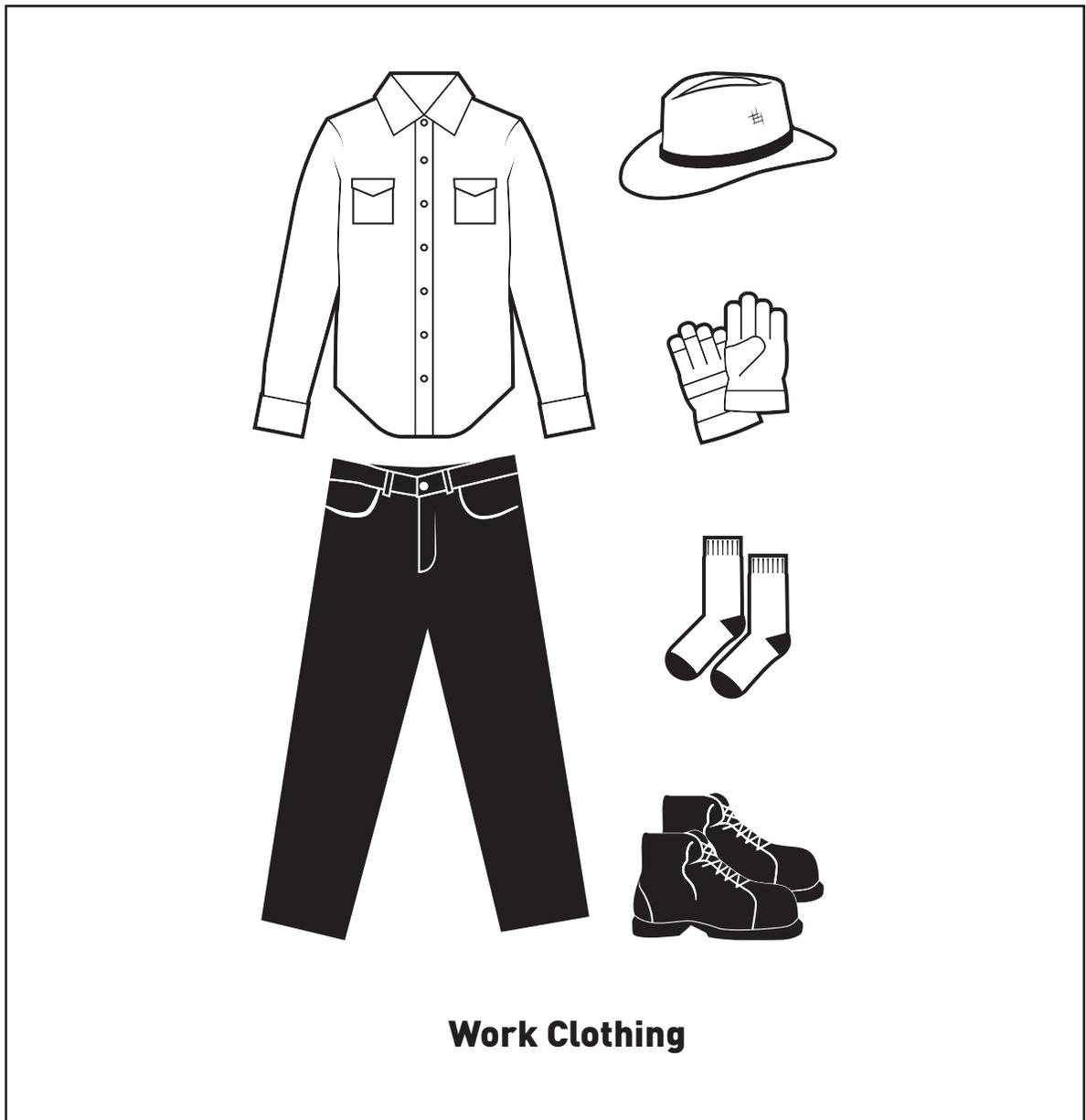
- Handout 7: How to Diminish Contact with Pesticides in the Fields
- Handout 8: Work Clothing



## RECOMMENDED TIME

20 minutes

- Address the following myth:
  - Some people think that washing your hands with cold water while your body is hot will give you arthritis. This is not true.
  - Washing with soap and water is the best way to remove pesticide residues from your skin.
  - What other myths have you heard in your community about health?





# PROTECTING FAMILIES FROM PESTICIDE EXPOSURE

## OBJECTIVE

- To identify practical ways that workers can reduce their family's exposure to pesticides.

## METHOD

- 1 Distribute **Handout 9: How to Protect Families from Pesticide Exposure** and review.
- 2 Review the behaviors that farmworkers can use to protect their families from pesticide exposure. Ask participants to name some things farmworkers can do to protect their families:

- Change clothing before leaving work (or, at least, before entering the home).
- Cover the seat of the car if you do not change clothing before driving home.
- Avoid hugging or playing with children or other family members, until you have bathed and changed clothes.
- Bathe with soap, shampoo, and water immediately upon arriving home.
- Leave the work boots outside of the home.
- Wash work clothes separately from the clothing of the rest of the family
- Never bring pesticides home from work
- Never bring home or reuse empty pesticide containers

## MATERIALS

- Flip chart
- Markers
- Handout 9: How to Protect Families from Pesticide Exposure



## RECOMMENDED TIME

30 minutes



# BARRIERS TO REDUCING PESTICIDE EXPOSURE

## OBJECTIVE

- To identify barriers to reducing pesticide exposure, understand why barriers exist, and develop strategies to help farmworkers overcome the barriers they face.

## METHOD

**1** Define and understand “barriers to health.”

- Ask the group to define the term “barrier.” What do we mean when we talk about “barriers to health?”
- Even though we might know how to protect our health, we don’t always do the right things.
- Give these examples:
  - “I know I should eat more vegetables but I always want to eat pizza.”
  - “I know I should exercise after work but I always feel too tired when I get home.”
- Ask the participants if they have any examples like this. They do not have to give personal examples.
- The reasons we don’t always do what’s right for our health can be very complicated and each person may have reasons that others don’t always understand.

**2** Lead a discussion: Why is it hard to talk about barriers?

- Sometimes people are embarrassed to say why they don’t do what’s best for their health. Ask the participants why people might be embarrassed to talk about these things. (Examples: They may not like to admit that they don’t eat enough vegetables or don’t exercise enough. They may have other issues that prevent them from protecting their health, like lack of money or sick family members.)
- It is important that we approach each person with understanding and avoid judging them.
- A promotor is the perfect person to help farmworkers learn to overcome the barriers they face in protecting themselves from pesticides.

## MATERIALS

- Flip chart
- Markers



## RECOMMENDED TIME

30 minutes

### 3

Discuss: How can a promotor help?

- After a farmworker has learned the information on pesticides and safety, what are some reasons she or he may not do all the right things?
  - What are some reasons a farmworker does not always wear the right protective clothing?
  - What are some reasons a farmworker does not change clothes immediately upon arriving home?
  - What are some reasons a farmworker will continue to work in a field when pesticides are drifting from another field?
  - Why don't all farmworkers make complaints when they are exposed to pesticides and feel sick?
- Ask the participants what they think they can do to help farmworkers protect themselves.
  - First, educate – the more a person hears information (in different ways and from different people) the more likely they will make a change.
  - Ask farmworkers what changes they think they can make. Even if they can't make all the changes, what are some that will be easier for them to start?
  - Ask farmworkers, what they need to make a change. Some examples are:
    - More information on pesticides
    - More information on how to protect children
    - Protective clothing
    - Information on how to make a complaint
    - Assurance that they will not lose their job
    - Information in a language that is easier for them to understand



# WHAT TO DO IF EXPOSED TO PESTICIDES

## OBJECTIVE

- To learn what to do if exposed to pesticides.

## METHOD

**1** Ask for volunteers to read one section of **Handout 10 - What to Do If Exposed to Pesticides** at a time. After each section, ask the group:

- What do they think about this information?
- What barriers exist to doing what is written on the Handout?

**2** Be sure to discuss the following questions.

### What should farmworkers do as soon as they begin to feel sick from pesticide exposure?

- Leave the contaminated area
- Wash the skin with soap and water immediately
- Change out of contaminated clothing
- Bathe or shower with soap, water and shampoo as soon as possible
- Seek medical care

### What should a farmworker do if she gets pesticides in her eyes?

- Immediately rinse eyes with water for at least 15 minutes
- Leave the contaminated area

### Should the sick farmworker get medical attention?

- Yes. A farmworker should see a health professional whenever she has been exposed to pesticides on the job, whether she has immediate symptoms or not. By going to the doctor and documenting the exposure, she may be able to get workers' compensation benefits if health problems related to pesticides later develop.

## MATERIALS

- Flip chart
- Markers
- Handout 10: What to Do If Exposed to Pesticides



## RECOMMENDED TIME

30 minutes

### **What information should a farmworker provide to the doctor or nurse?**

- You suspect pesticide exposure, and the circumstances in which the exposure occurred (e.g., direct spray, drift, pesticide residue on crop).
- The symptoms that occurred.
- How soon after the exposure the symptoms began and whether they are continuing.
- Whether anyone else on the crew was exposed and is experiencing similar symptoms.
- If possible, the name of the pesticide.

### **When is IMMEDIATE medical assistance necessary?**

- When someone is experiencing one of the serious immediate health effects discussed earlier (e.g., loss of consciousness, foaming at the mouth or nose), she must always get immediate medical assistance.

3

When you're finished reviewing Handout 10, ask the group:

- Why is this information important?
- Do farmworkers already know this information?
- What will you tell them?



## Pesticides and the Law

- Worker Protection Standard



# WORKER PROTECTION STANDARD

## OBJECTIVE

- To understand federal pesticide safety laws.

## METHOD

- 1 Explain that employers must take some precautions to protect workers from the potential hazards of pesticides even after the pesticide has had an opportunity to degrade and the restricted entry interval has expired.

These requirements are written in a set of regulations called the Worker Protection Standard, or WPS for short.

- 2 Distribute **Handout 11 - Worker Protection Standard** and use the handout to guide the discussion.

Explain that there are five main parts of the WPS and show the group that each of the five parts is explained on the handout.

- 3 At the top of a piece of flipchart paper write “La Norma de Protección para el Trabajador”. Ask for a volunteer to read the first part of the WPA. As they read, write “1. Entrenamiento” on the flipchart paper.

While pointing at “1. Entrenamiento,” repeat verbally a summary of what is on the handout, for example: “The growers should provide training and the workers have a right to receive training.”

- 4 Repeat this with the rest of the main points of the WPS. When completed, the flipchart should include a keyword for each of the five parts:

1. Entrenamiento (training)
2. Proteger (to protect)
3. Notificar (to notify)
4. Ayudar (to help)
5. Represalias (retaliation)

## MATERIALS

- Flip chart
- Markers
- 5 slips of paper - each with one keyword representing the five main parts of the WPA (see Step 5)
- Handout 11: Worker Protection Standard



## RECOMMENDED TIME

45 minutes

5 Next, facilitate the following activity:

- Split the group into five smaller groups
- Have each group draw from a bag one of the slips of paper containing the keyword that represents a main part of the WPS:
  - Entrenamiento (training)
  - Proteger (to protect)
  - Notificar (to notify)
  - Ayudar (to help)
  - Represalias (retaliation)
- Give each group a few minutes to choose a story, which can be true or made-up, about the part of the WPS that they drew from the bag.
- Then, start at one side of the room and ask the first group to tell the rest of the participants which part of the WPS they drew and to tell their story.
- After each group finishes, remind the participants of the five main parts of the WPS by repeating them as you point to the group that presented the story. For example, you might say “We have heard about the workers’ right to training. Now the next group will tell us about the right to protection.” And then, “We’ve heard stories about training and protection. Now we’ll hear a story about notification.” And then, “Now that we’ve heard about the rights to training, protection, and notification, we’ll hear a story about...”
- It can be hard to remember each of the five parts so you should encourage the participants to name them each time as well by saying something like “Which rights have we heard stories about?” and then point to each of the groups to give them a visual reminder of the five parts as they say them aloud.

6 For extra review, you may ask each group at the end of their story to tell everyone how their story relates to the workers’ right provided by the WPS. (Were the workers’ rights upheld in the story? If not, what should have happened?)

7 At the end, ask the participants to say aloud the five parts of the WPS.



### Facilitator Guide

Here are more detailed explanations of the key provisions of the WPS:

#### Training

- **Training:** All workers have a right to receive basic pesticide safety training once every five years. Training must occur before the sixth day of work in an area that had been treated with pesticides (or covered by an REI) within the last 30 days. Training must be provided in a language that the worker understands.

#### Protection

- **Prohibition against direct spray or drift:** Pesticides cannot be applied when unprotected people are in the field or would be exposed through drift.

- **Restricted Entry Intervals:** Workers have a right to be kept out of fields until the pesticide is not immediately harmful. This is called the Restricted Entry Interval (REI). Some exceptions apply (e.g., workers who would have minimum or no contact with treated surfaces, or they would work in the treated area for one hour or less). REIs are based on how immediately harmful the product is (also known as acute toxicity). The longer the REI, the more immediately harmful the pesticide is. Generally, for very poisonous pesticides, the REI is two days in the US east of Kansas (and three days West of Kansas). If the pesticide is moderately harmful, the REI is 24 hours, if the pesticide is not very immediately harmful, the REI will be 12 hours. For pesticides that are of low risk, the REI is four hours. Unprotected workers must always be kept out of a treated field for at least the first four hours after the pesticide was applied.
- **Early Entry Worker Protections:** When a worker is asked to work in a treated area before the REI has ended, a worker must be given the personal protective equipment (PPE) required for that pesticide as stated on the pesticide label. The worker must also be allowed to read the pesticide label or be informed of the label information. Generally, early entry work cannot begin during the first four hours after the pesticide application (or until inhalation requirements specified on the pesticide label have been satisfied.)
- **Decontamination:** Soap, water, and single-use towels must be readily available for washing or eye flushing within a quarter mile of where workers are working.

#### Notification

- **Warnings:** Workers must be given oral or written warnings of when it is safe to reenter a field.
- **Posting of Fields:** When certain highly poisonous pesticides are applied, fields must be posted with Keep Out/Danger/Pesticides signs. These signs must be posted no more than 24 hours before the application and taken down within two days after the expiration of the REI. The signs must be in English and Spanish (or another language spoken by the majority of non-English speaking workers).
- **Posting of a Pesticide List:** In a central location accessible to workers, a grower must post a list of the pesticides that were applied (or covered by an REI) during the last 30 days. The location of the treated fields, the time and date of the application, and the REI must also be stated.
- **Posting of a Pesticide Safety Poster:** Growers must post in a central location a pesticide safety poster that states basic safety tips and the name and address of a nearby medical facility where workers could seek treatment, in case of exposure.

#### Help

- **Emergency Assistance:** If a worker reasonably believes that she has become ill due to pesticide exposure on the job, the grower must transport the worker from the worksite or labor camp to a nearby health care facility. Upon request, the grower must provide the worker or a health care professional with the name of the pesticide, the pesticide label information and how the exposure occurred.

#### Retaliation

- **Anti-retaliation Protection:** Workers cannot be fired or punished for exercising their rights under the WPS.



## Review

- Repollo/Cabbage Toss Activity



# REVIEW ACTIVITY: REPOLLO / CABBAGE TOSS

## OBJECTIVE

- To review new pesticide training safety information

## METHOD

- 1 Write eight review questions from the pesticide safety training on separate sheets of paper. Include two sheets of paper with the word “*premio*” (prize) written on it.
- 2 Form a “cabbage” by balling up the sheets of paper around each other to look like a cabbage.
- 3 Have everyone stand and form a circle. Play music on a radio or other music player. Toss the cabbage from person to person in the room until the music stops. The person unwraps the outside piece of paper on the cabbage, reads the question and tries to answer it. Make sure the group hears the correct response.
- 4 Start the music again and begin tossing the cabbage around the circle again. When the paper with “*premio*” written on it is unwrapped, give the winner a small prize (like a tote bag or candy or pen).
- 5 Continue the exercise until all the questions are answered.

Sample questions might include:

- What information is NOT found in pesticide labels? | ¿Qué información NO se encuentra en la etiqueta del pesticida?
- True or false: You can tell how dangerous a pesticide is by its smell. | Verdadero o Falso: Usted puede diferenciar que tan peligroso es el pesticida por el olor.
- If it's very hot outside, is it fine for farmworkers to use shorts in the fields? | ¿Si hace mucho calor afuera, sería bueno para los trabajadores a usar pantalones cortos en el campo?
- *Premio*
- How can a farmworker protect his/her family from being exposed to pesticides? | ¿De qué manera puede un trabajador proteger a su familia al ser expuesto por un pesticida?

## MATERIALS

- 10 sheets of green paper with review questions written on them (see suggested questions)
- Two token “prizes”
- A radio or other music player



## RECOMMENDED TIME

15 minutes

- What is the most common way in which pesticides can enter the body? | ¿Cuál es la manera más común en que los pesticidas pueden entrar al cuerpo de una persona?
- Name one right that a farmworker has under the Worker Protection Standard. | Nombre un derecho que un trabajador tiene bajo la Norma de Protección del Trabajador.
- *Premio*
- What should a farmworker tell his/her doctor if he/she develops symptoms of pesticide exposure? | ¿Qué debe decir un trabajador a su doctor si desarrolla síntomas de ser sobre-expuesto a un pesticida?
- What are the two ways in which you can prevent heat stroke? | ¿Cuáles son las cuatro maneras en que uno puede evitar la insolación?





## Farmworkers and Field Sanitation

- What is Field Sanitation and Why Does it Matter?
- Field Sanitation and the Law



# WHAT IS FIELD SANITATION AND WHY DOES IT MATTER?

## OBJECTIVE

- To understand what field sanitation is and why it is important to farmworker health.

## METHOD

- 1 Ask the group to give you words or ideas that illustrate what “field sanitation” means to them.
- 2 Using the words and ideas they generated, ask them to create a definition of “field sanitation.” (make sure they include elements such as availability of bathrooms in close proximity to their work, clean washing water, soap, and disposable towels)
- 3 Generate a group discussion about field sanitation using the following questions:
  - Were toilets available to you when you worked in the fields, nursery or fernery?
  - How far away were the toilets from where you worked?
  - Were the toilets clean?
  - Were hand-washing facilities, soap and towels available next to the toilets?
  - Were cool drinking water and individual cups available?
  - Did workers regularly use these facilities? If not, why not?
- 4 Ask participants if they have previously received training or information on field sanitation. If so, where? When?
- 5 Explain the three needs that workers have as they pertain to “field sanitation” and ask the participants to explain why workers should have access to these things (for their own health and the health of consumers).
  - **Bathrooms and toilet paper:** When bathrooms are not available, farmworkers can experience discomfort. Especially with women, there is also a risk of urinary tract infections. Furthermore, the spread of diseases can occur.

## MATERIALS

- Flip chart paper
- Markers



## RECOMMENDED TIME

20 minutes

- **Handwashing (water, soap, towels):** Unwashed hands can contaminate food and water and lead to gastro-intestinal problems and facilitate the spread of disease. Pesticide residues will remain on hands when soap and wash water is not available.
- **Drinking water and disposable cups:** Lack of availability of water, which includes using shared drinking cups and unclean water, can put farmworkers at risk for the spread of diseases. Furthermore, workers are at greater risk of heat stress if they do not drink sufficient amounts of cool, clean water.



# FIELD SANITATION AND THE LAW

## OBJECTIVE

- To understand the federal and state laws that require water and hygiene facilities in the fields.

## METHOD

**1** Explain that there are both federal (national) and state laws about field sanitation. The federal law, the **Field Sanitation Standard**, establishes the minimum water and hygiene facilities that an employer must provide her workers.

**2** Ask participants if they know what the minimum requirements are for water and sanitation in the field.

### Federal Standard (applies in Florida)

At farms/ferneries/nurseries that employ **11 or more** workers, employers must provide:

- a toilet and toilet paper within ¼ mile of their work area; one toilet for every 20 employees
- handwashing facilities and disposable paper towels within ¼ mile of their work area
- plenty of cool, clean drinking water and single use cups

### Arizona

Any employer with **five or more** workers must provide:

- a toilet and toilet paper within ¼ mile of their work area; one toilet for every 20 employees
- handwashing facilities and disposable paper towels within ¼ mile of their work area
- cool, clean drinking water and single use cups -- at least two gallons per employee, must be cooler than 80 degrees Fahrenheit

### California

Employers of any agricultural workplace where workers are engaged in hand-labor operations, **regardless of the number of employees** must provide:

- a toilet and toilet paper within ¼ mile of their work area; one toilet for every 20 employees of each sex
- handwashing facilities and disposable paper towels within ¼ mile of their work area
- cool, clean drinking water and single use cups

## MATERIALS

- Flip chart
- Markers
- Handout 12: Field Sanitation



## RECOMMENDED TIME

15 minutes

- 3 Review **Handout 12: Field Sanitation**.
- 4 Ask participants if they have ever experienced or reported any field sanitation violations.



## Heat Related Illnesses

- Heat Illness and Heat Stroke
- Heat Case Study
- Preventing Heat Illness
- Heat Illness and the Law
- Understanding Your Rights At Work



# HEAT ILLNESS & HEAT STROKE

## OBJECTIVE

- To recognize the symptoms of heat illness.

## METHOD

- 1 Ask the participants what words they use to describe heat illness or heat stroke. (insolación, golpe de calor, enfermedad del calor)

There are several kinds of heat illness, including heat exhaustion and heat rash. The most serious heat illness is heat stroke. Almost every year, farmworkers die of heat stroke. Even young and healthy farmworkers suffer from heat illness when doing hard work in conditions of high heat and humidity.

- 2 Review the symptoms of heat illness. Ask the participants if they have ever felt these symptoms while working in the fields.

### Symptoms of heat illness include:

- Headache, dizziness, or fainting
- Irritability or confusion
- Extreme thirst
- Nausea or vomiting
- Heavy sweating
- General fatigue

- 3 Explain that heat stroke is more serious and review the symptoms.

### Symptoms of heat stroke include:

- Confusion, inability to think clearly
- Fainting, collapsing, or seizures
- May stop sweating

## MATERIALS

- Flip chart
- Markers



## RECOMMENDED TIME

15 minutes

4 Discuss ways to prevent heat stroke:

- Drink plenty of water
- Take frequent rest breaks in the shade.
- Wear cotton clothing.
- Avoid sun exposure (when possible) at peak hours
- Wear a hat

5 Explain to the group that although many symptoms of pesticide poisoning are similar to those of heat-related illness, there are some differences:

- With pesticide poisoning, a worker will not have intense thirst.
- With heat illness, a worker will not have pinpoint pupils.

Because of the similarity between the symptoms of heat stroke and pesticide poisoning, workers should assume both conditions are present and drink plenty of liquids when these symptoms arise, quickly leave the fields and shower and change clothes.

If symptoms do not subside quickly after drinking liquids and resting in a cool place a worker should seek medical attention.

6 Ask participants what kinds of people they think are most vulnerable to heat-related illness and why. The most vulnerable are those workers who are:

- Elderly
- Pregnant
- Overweight
- Have high-blood pressure
- Not acclimatized to the environment or are working during the hottest part of the day



# HEAT CASE STUDY

## OBJECTIVE

- To discuss how to recognize and how to react to heat-related illnesses.

## METHOD

- 1 Choose one of the case studies about heat-related illnesses and ask for a volunteer to read it aloud. Have them read it one time and then ask the participants if they heard any symptoms of heat illness mentioned.
- 2 Then, ask the volunteer to read it again. While the volunteer is reading the case study the second time, write out the symptoms on the flip chart paper as they are read aloud.
- 3 Now ask the volunteer to read the discussion questions aloud and help the group answer the questions using the information you wrote on the flip chart paper.

## MATERIALS

- Flip chart paper
- Markers
- Heat Case Studies: Victor, Catalina



## RECOMMENDED TIME

25 minutes



# PREVENTING HEAT ILLNESS

## OBJECTIVE

- To identify practical steps to reduce the possibility of experiencing a heat-related illness.

## METHOD

- 1 Divide into small groups.
- 2 Give each group a “prevention theme” card - an index card with one of the four prevention themes written on it (water, shade, rest, clothing). Have each group create a three-minute skit to demonstrate their prevention theme.
- 3 At the end of each skit ask the other participants if they would have done anything differently and why.
- 4 Have participants rejoin their groups and ask them to list reasons why it might be difficult for a farmworker to prevent heat illness. Some examples are:
  - Lack of information
  - Lack of potable water
  - Unavailability of shade in fields
  - Extreme temperatures
  - Long work days that include the hottest part of the day
  - Fear of losing their jobs
- 5 Review **Handout 13: Controlling Heat Illness**

## MATERIALS

- Prop box with clothes (long, light-colored pants, long sleeved cotton shirt, baseball hat, bandana, sombrero, sunglasses, shorts, sandals, work boots, t-shirt)
- Flip chart paper
- Markers
- “Prevention Theme” Cards - see Step #2
- Handout 13: Controlling Heat Illness



## RECOMMENDED TIME

30 minutes



# HEAT ILLNESS AND THE LAW

## OBJECTIVE

- To understand laws that provide safeguards from heat illnesses.

## METHOD

- 1 Ask participants if they know about any laws that provide some protection from heat-related illnesses in the field.

Write the basic parts of the laws on flip chart paper. Be sure they reflect the laws of the state where promotores work.

### California

California has a state heat stress standard – the **Heat Illness Prevention Standard**. Under this law, employers must take the following steps to prevent heat illness:

1. **Training.** All supervisors and employees must be trained on heat illness prevention before working outdoors. Workers must be paid for the time when they participate in the training.
2. **Water.** Provide enough cool, clean drinking water for each employee so that she can drink at least 1 quart per hour throughout the workday. Water must always be “readily accessible” and as easy as possible for workers to reach while working.
3. **Shade.** Employers must provide shaded areas up and ready when the temperature reaches 85 degrees. They must provide enough shade for 25% of the workers. Employers must provide access to shade for at least 5 minutes of rest when a worker asks to rest in the shade.
4. **Planning.** Develop and implement written procedures for complying with the law.

### Washington

Washington State’s Outdoor Heat Exposure Rule applies from May 1 through September 30, when outside temperatures are highest. Agricultural employers in this state must provide:

1. **Training.** All supervisors and employees must be trained on heat illness prevention before working outdoors in high temperatures. Workers must be paid for the time when they participate in the training.
2. **Water.** Provide the opportunity for each worker to drink at least one quart of drinking water per hour throughout the workday. Water must be readily accessible at all times.
3. **Planning.** Develop and implement written procedures for complying with the law.

## MATERIALS

- Flip chart paper
- Markers



## RECOMMENDED TIME

20 minutes

### Other States

- There is not a federal law that applies directly to occupational heat stress or heat-related illnesses.
- However, under the federal **Occupational Safety and Health Act**, an employer must provide a safe workplace that is free from recognized hazards that may cause death or serious physical harm to a worker.
- If temperatures are extremely high, an employer must take precautions to ensure that workers are not at risk of serious physical harm.

2

Have participants share any personal experiences related to heat-related illnesses.



# UNDERSTANDING YOUR RIGHTS AT WORK

## OBJECTIVE

- To identify resources to report violations of workplace safety laws and discuss ways in which workers can assert their right to a safe workplace.

## METHOD

- 1 Introduce the section by saying that now that we've reviewed various workplace safety laws, we're going to talk about what to do when the law is not followed.
- 2 Bring up some of the violations that the participants expressed from personal experience in the last section.
- 3 Ask the participants to describe some workplace safety law violations that they've seen or experienced. Did anyone complain about these violations? Has anyone ever done anything when there was no water available, etc.?
- 4 Ask participants: What can a worker do if his or her rights are violated?

Workers (or their representative) have the right to file a complaint and request an inspection of their workplace if conditions there are unsafe or unhealthful. Workers also have the right to refuse to perform work that would violate the law or would harm them or their co-workers.

Where can he or she file a complaint for a violation of workplace safety laws?

- **California:** Cal-OSHA enforces the field sanitation and heat illness standards. County Agricultural Commissioners enforce the WPS.
- **Arizona:** The Arizona Division of Occupational Safety and Health (ADOSH) enforces the Field Sanitation standard. The AZ Department of Agriculture enforces the WPS.
- **Florida:** The Florida Department of Agriculture enforces the WPS, while the US Dept. of Labor enforces the Field Sanitation Standard.
- In states not listed here, if you do not know which state agency is responsible for enforcing the laws, contact the nearest office of the U.S. Environmental Protection Agency (EPA) for questions about the WPS, or the Occupational Safety and Health Administration (OSHA) for questions about other work safety laws. Call 1-800-321-OSHA to find an area OSHA office.

## MATERIALS

- Flip chart
- Markers



## RECOMMENDED TIME

30 minutes

- 5** Ask participants which agencies are available to help a worker if she believes that she was denied one or more of the protections available under the WPS of Field Sanitation Standard.
- Workers can consult the nearest legal services agency, a union, a health care facility, a private attorney, or other farmworker service providers.
- 6** Explain to the group that, generally, workers who fear retaliation should seek assistance in filing a complaint.
- If a complaint is filed, the state agency will conduct an investigation.
  - Typically, the investigator will speak to the employer, the worker who made the complaint and other workers, the health care provider (if any), and other available witnesses.
  - The worker and his witnesses can request an opportunity to speak to the investigator off the farm. Workers can also request that their names be kept confidential and that the complaint be filed anonymously. (If a case goes to a hearing, the worker will have to decide whether or not to allow the agency to release his name. If the worker demands confidentiality at that point, the complaint may be dismissed.)
  - If a violation is found, the grower or pesticide applicator may be penalized. This could be a warning, a monetary fine, or in rare instances, a criminal penalty.
- 7** Under section 11(c) of the Occupational Safety and Health (OSH) Act, workers may not be fired or punished in any way for filing a complaint about unsafe or unhealthful working conditions, or by exercising their rights under the law. Workers who are victims of such retaliation may file a complaint by contacting the nearest office of the U.S. Department of Labor, Occupational Safety and Health Administration (US OSHA). Workers have 30 days to report retaliation and can do so in any of the following ways:
- By phone. Call 1-800-321-OSHA (6742) to find the OSHA office that is closest to you:  
<https://www.osha.gov/html/RAmap.html>
  - Online. Visit the OSHA website to make a complaint using the Online Whistleblower Complaint Form:  
<https://www.osha.gov/whistleblower/WBComplaint.html>
  - Mail or fax the complaint form. Visit the OSHA website to print out the Notice of Whistleblower Complaint Form (OSHA 8-60.1): [http://www.whistleblowers.gov/whistleblower\\_complaint.pdf](http://www.whistleblowers.gov/whistleblower_complaint.pdf)
- Fill out the form with a pen or pencil, and then fax or mail it to your local OSHA Area Office.
- Mail or fax a letter. You may also send a letter describing your complaint to your local OSHA Area Office. Remember to include your name, address, and telephone number so OSHA can contact you to follow up.
  - Visit your local OSHA Area Office to file a complaint in person.

### Taking Action

- 8** Ask the group why some workers are reluctant to complain to outside agencies when workers do not receive the protections to which they are entitled under the law. Responses might include:
- They don't know their rights
  - They may be undocumented

- They are afraid of losing their jobs
- They don't know how to file complaints
- They don't trust the government agencies to keep their identities confidential
- They don't trust the government agency to fairly investigate their complaints

Ask the group what steps can be taken to address these concerns. Responses might include:

- Educate workers about their right to file a confidential complaint.
- Educate workers about how and where to file complaints.
- Refer workers to unions, legal aid offices and farmworker groups that can help them file complaints and assist them if they suffer retaliation.

Ask the group to identify some groups or agencies in their area that farmworkers could turn to for assistance in filing complaints or seeking to improve workplace safety conditions.



## Effective Training Techniques

- What is Interactive Training?
- Teaching Back to Your Community
- Presentation Practice



# WHAT IS INTERACTIVE TRAINING?

## OBJECTIVE

- To recognize a variety of interactive training techniques and learn tips for providing fun and effective presentations.

## METHOD

- 1** Ask the participants to name some characteristics of a good training. An effective training might include:
  - Asking the participants questions
  - Doing demonstrations
  - Role playing and skits
  - Asking volunteers to help
  - Humor and laughter
  - Music, singing, and dancing
  - Changing seats and working in groups
  - Handouts with important information
  - Prizes
- 2** Ask the participants to provide characteristics of a good presenter. Write their answers on flipchart paper. Ensure that the following are covered:
  - Is enthusiastic about the topic
  - Makes eye contact
  - Is organized and well prepared
  - Has a good sense of humor – is not embarrassed if it doesn't go perfectly
- 3** Ask the participants why it is important to be a good presenter. Instead of writing their answers on flipchart paper, make this part more like a discussion. Ensure that the following are covered:
  - To effectively share your ideas
  - To demonstrate your knowledge on the topic
  - Remember that it's important to practice and prepare a lot in order to be a good presenter!

## MATERIALS

- Flip chart
- Markers



## RECOMMENDED TIME

25 minutes

- 4 Ask the participants to give characteristics of a good listener. Write their answers on flipchart paper. Ensure that the following are covered:
- Make eye contact
  - Don't distract the presenter
  - Know when to ask questions without interrupting
  - Take notes, if necessary
- 5 Ask the participants: What is the difference between hearing (*oir*) and listening (*escuchar*)? Instead of writing their answers on flipchart paper, make this part more like a discussion.
- **Hear:** Means to hear the words without actually paying attention to the message.
  - **Listen:** Means to try to understand the message, and to think about what it means.
- 6 Ask the participants to think about what they can do to make their own presentations fun and effective.



# “TEACHING BACK” TO YOUR COMMUNITY

## OBJECTIVE

- To learn outreach and presentation skills.

## METHOD

- 1 Divide the participants into three groups. If possible, make sure that each group has a mix of experienced and new promotores.
- 2 Distribute one flipchart to each participant. Assign each group to a section. The sections are:
  1. Pesticides (pages 1-34)
  2. Workers’ Rights and Field Sanitation (pages 35-68)
  3. Heat Illness (pages 69-110)
- 3 Explain that each group will take 20 minutes to plan a 5 to 10 minute presentation (depending on what time allows). The experienced promotores will help the new promotores plan the presentation and the new promotores should give most of the presentation (to help the new promotores gain experience with public speaking).
- 4 Explain that the flipchart is a guide. They may follow the format or they can create their own activities around each of the topics.
- 5 While they are planning their presentations, walk around the room and ask participants if they have questions.

## MATERIALS

- Flip chart
- Markers
- “How Can We Protect our Families from Dangers in the Fields?": A Guide on Pesticide Safety, Heat Illness, Workplace Sanitation, and Workers’ Rights Flip Chart”

This flipchart is available under Health & Safety Training Materials on the Resources page of the Farmworker Justice website: <http://www.farmworkerjustice.org/resources/health-and-safety-resources>



## RECOMMENDED TIME

20 minutes



# PRESENTATIONS

## OBJECTIVE

- To practice presentation skills and to discuss tips for giving good presentations.

## METHOD

- 1 Ask for the Pesticide group to present first. Be encouraging!
- 2 Remind the audience members to participate, if the presenters solicit their involvement.
- 3 After the group finishes, allow 5 to 10 minutes for feedback. Be sure to ask presenters for their own thoughts on the presentation. What was most challenging? What was most enjoyable?
- 4 Ask the Workers' Rights and Field Sanitation group to go next. Follow the same procedures.
- 5 Finish with the Heat Illness group.
- 6 After all the groups have gone be sure to reiterate that the first presentation is always the hardest and that they always get better with practice.

Let them know that there are many different ways to give presentations and that everyone has his or her own style. Different styles work for different people!

## MATERIALS

- Flip chart paper
- Markers
- Any other materials participants need



## RECOMMENDED TIME

120 minutes





## Conclusion

- Post -Test
- Training Evaluation



# POST-TEST ACTIVITY

## OBJECTIVE

- Assess learning from the training.

## METHOD

- 1 Tell the participants they will be taking the same test that they took at the beginning of the workshop.
- 2 Remind them that this test is meant to help the facilitators make sure that information is presented effectively and doing her job well. It will also help us improve the workshop.
- 3 Ask participants to answer the questions without consulting with anyone else.
- 4 Distribute the post-test and have them complete it.
- 5 Walk around the room to make sure that no one has any questions.
- 6 After everyone is finished, review the correct answers.

## MATERIALS

- Post-Test (Trainer Materials)



## RECOMMENDED TIME

15 minutes



# TRAINING EVALUATION

## OBJECTIVE

- To determine what people learned from the training, what they liked, what they would change, and what they thought was missing.

## METHOD

Choose one of the evaluation methods described below.

### Evaluation Option #1: Petals, Smileys & Bugs

- 1 Explain that you will be asking a few questions about what they thought of the training and that their answers will help you improve the training in the future.
- 2 On flip chart paper, draw an outdoor scene with a flower stem and center, grass on the ground, and clouds in the sky.
- 3 Hand out the petals, smiley faces, and insects to participants.
- 4 Explain that the:
  - petals represent things that they learned
  - smiley faces represent what they liked about the training
  - insects represent what they would change about the training or something they think was missing from the training
- 5 Give the participants enough time to think about what they would like to write on their petals, insects, and smiley faces, about 10 or 15 minutes. (The facilitator should walk around the room to answer questions and help participants who have trouble writing.)
- 6 Then have each participant come up to the front and use tape to place their petals, insects and smiley faces on the drawing.
- 7 At the end, ask if the participants if they would like to share their thoughts on what they learned, liked, disliked, or thought was missing.

## MATERIALS

- Cut-outs of flower petals, smiley faces, and bugs
- Ball of yarn
- Flip chart
- Markers
- Tape



## RECOMMENDED TIME

20 minutes

8 Ask participants if they have any additional thoughts to add.

9 Thank everyone for their participation and contribution to the trainings.

Be sure to save the activity so that answers can be documented and reported on later.

### Evaluation Option #2: Wrap Up Web

1 Ask the group to stand in a circle and give the ball of yarn to one participant.

2 Explain that you will ask each person a few questions and will take notes on their answers so you can remember what they say. Explain that their answers will help you improve the training in the future.

The questions are as follows:

- What are two things you learned during this training?
- What did you like the most?
- What would you change?
- What was missing from this training?

3 Ask the first participant to answer the questions and quickly take notes on their answers. After the first person finishes answering the questions, he or she should hold on to the end of the ball of yarn and then throw it to another participant across the circle.

4 Ask the person who caught the ball of yarn the same questions. After they finish answering, have them hold on to a piece of the yarn as they throw the rest of the ball to yet another participant (the idea is that you are creating a web).

5 When everyone has answered, ask if anyone has any additional thoughts to add.

6 Thank everyone for their participation and contribution to the trainings.

7 As soon as possible after the training, use your notes to create a document describing their answers.

# Trainer Materials



# MATERIALS & HANDOUTS LIST

## Unit 1: Introductions and Overview

- Markers
- Flip chart and pad
- Workshop Objectives (Participant Handouts)
- Pre-Test (Trainer Materials)

## Unit 2: Overview of Pesticides and Health

- Flip chart and pad
- Markers
- 3 bottles: one filled with water, one filled with water and 1/3 cup bleach, one filled with water and a clear unscented liquid or powder (e.g., unscented bug spray or packet of sweetener)
- Post-Its or sticky notes in different colors
- Pesticide Symptom Cards (Trainer Materials)
- Timeline of Daniel's Life as a Farmworker (see example pp. 26-27)
- Roots of exposure images (pictures of eyes, nose, mouth, skin)
- Photos of farmworkers and families coming into contact with pesticide residues
- Handout 1: Exposure to Pesticides
- Handout 2: Short-Term Symptoms
- Handout 3: Serious Symptoms
- Handout 4: Chronic Health Effects

## Unit 3: Pesticides and Children

- Flip chart and pad
- Markers
- Doll
- Handout 5: Pesticides and Children

## Unit 4: Protecting Ourselves and Our Families

- Flip chart and pad
- Markers
- 2-4 sample pesticide labels
- 4 Pesticide Exposure Scenario Drawings (Trainer Materials)
- Handout 6: Reading a Pesticide Label
- Handout 7: How to Diminish Contact with Pesticides in the Fields
- Handout 8: Work Clothing
- Handout 9: How to Protect Families from Pesticide Exposure
- Handout 10: What to Do If Exposed to Pesticides

## Unit 5: Pesticides and the Law

- Flip chart and pad
- Markers
- 5 slips of paper
- Handout 11: Worker Protection Standard

## Unit 6: Review

- 10 sheets of green paper
- Two "prizes"
- Radio or music player

## Unit 7: Farmworkers and Field Sanitation

- Flip chart and pad
- Markers
- Handout 12: Field Sanitation

# MATERIALS & HANDOUTS LIST

## Unit 8: Heat Related Illnesses

- Flip chart and pad
- Heat Case Studies: Victor and Catalina (Trainer Materials)
- Prop box with clothes: long light-colored pants, long-sleeve cotton shirt, baseball hat, bandana, sombrero, sunglasses, shorts, sandals, work boots, t-shirt
- "Prevention Theme" Cards: index cards with each prevention theme written on them (water, shade, rest, clothing)
- Handout 13: Controlling Heat Illness

## Unit 9: Effective Training Techniques

- Flip chart and pad
- Markers
- Props participants need for presentations
- *"How Can We Protect our Families from Dangers in the Fields?: A Guide on Pesticide Safety, Heat Illness, Workplace Sanitation, and Workers' Rights"* Flip Chart

You can find this under Health & Safety Training Materials on the Resources page of the Farmworker Justice website:

<http://www.farmworkerjustice.org/resources/health-and-safety-resources>

## Unit 10: Conclusion

- Flip chart and pad
- Markers
- Cut-outs of flower petals, smiley faces, and bugs
- Ball of yarn

# WORKSHOP OBJECTIVES

- \* Learn about pesticides; health risks, symptoms and ways to reduce or minimize exposure at home or at an agricultural work place
- \* Learn about field sanitation; components and practical measures farmworkers can take to reduce exposure to hazardous situations
- \* Learn about heat stress; causes, symptoms, dangers, and preventive measures
- \* Learn about workers' rights; protections available under local, state, and federal law
- \* Learn about local resources available to provide assistance and more information about health and safety at work
- \* Have Fun!!!

# PRE-TEST FOR PROMOTORES

Your Name: \_\_\_\_\_ Date: \_\_\_\_\_ Location: \_\_\_\_\_

Instructor Name: \_\_\_\_\_ Instructor Signature: \_\_\_\_\_

## Answer the following questions by choosing only one answer.

- 1) What is the most common way in which pesticides get into a farmworker's body?
  - a) Through the skin
  - b) In the mouth
  - c) By breathing
  - d) In the eyes
- 2) What clothing should you wear to protect yourself from pesticides while working in the fields?
  - a) Pants
  - b) Boots
  - c) Long-sleeved shirts
  - d) All of the responses
- 3) If you are working in a field treated with pesticides and begin to feel nauseated, what should you do?
  - a) Rest at the side of the field for 15 minutes
  - b) Continue working until you finish your day
  - c) Leave the field and ask the crew leader to take you to a doctor
  - d) Work more slowly
- 4) How kind of clothing helps to prevent heat illness?
  - a) Shorts and t-shirt
  - b) Dark-colored, water-proof clothes
  - c) Light-colored, loose-fitting clothes
  - d) None of the above
- 5) What are some symptoms of heat illness?
  - a) Thirst
  - b) Headache
  - c) Dizziness
  - d) All of the above
- 6) What should you do if you think you might have heat illness?
  - a) Try to finish your job as quickly as possible so you can go home and rest
  - b) Tell your boss, seek shade, and rest
  - c) Go to your car or bus to take a break from the sun
  - d) Drink an energy drink to help you revive
- 7) Which of the following is your employer required to provide to workers in the fields?
  - a) Access to nutritious food
  - b) Sodas or juice
  - c) Cool, clean drinking water
  - d) None of the above
- 8) What is a health-related consequence of not having a clean bathroom available?
  - a) Skin rashes
  - b) Spread of diseases
  - c) Infertility
  - d) Tuberculosis
- 9) Which of these is an employer required to provide to farmworkers to protect their health?
  - a) Paid time off to recover from a cold
  - b) Health insurance for the farmworkers and their families
  - c) Transportation to a medical facility if he or she becomes ill on the job while working around pesticides
  - d) None of the above

# PESTICIDE SYMPTOM CARDS



nausea

vomiting

diarrhea

cramps

rashes

discomfort in throat

dizziness

shivers

muscle aches

headaches

shortness of breath

# PESTICIDE SYMPTOM CARDS

blurred vision

irritated eyes

dilated or very small pupils

irritated throat

weakness

confusion

difficulty concentrating

excessive sweating

convulsions

coma

death

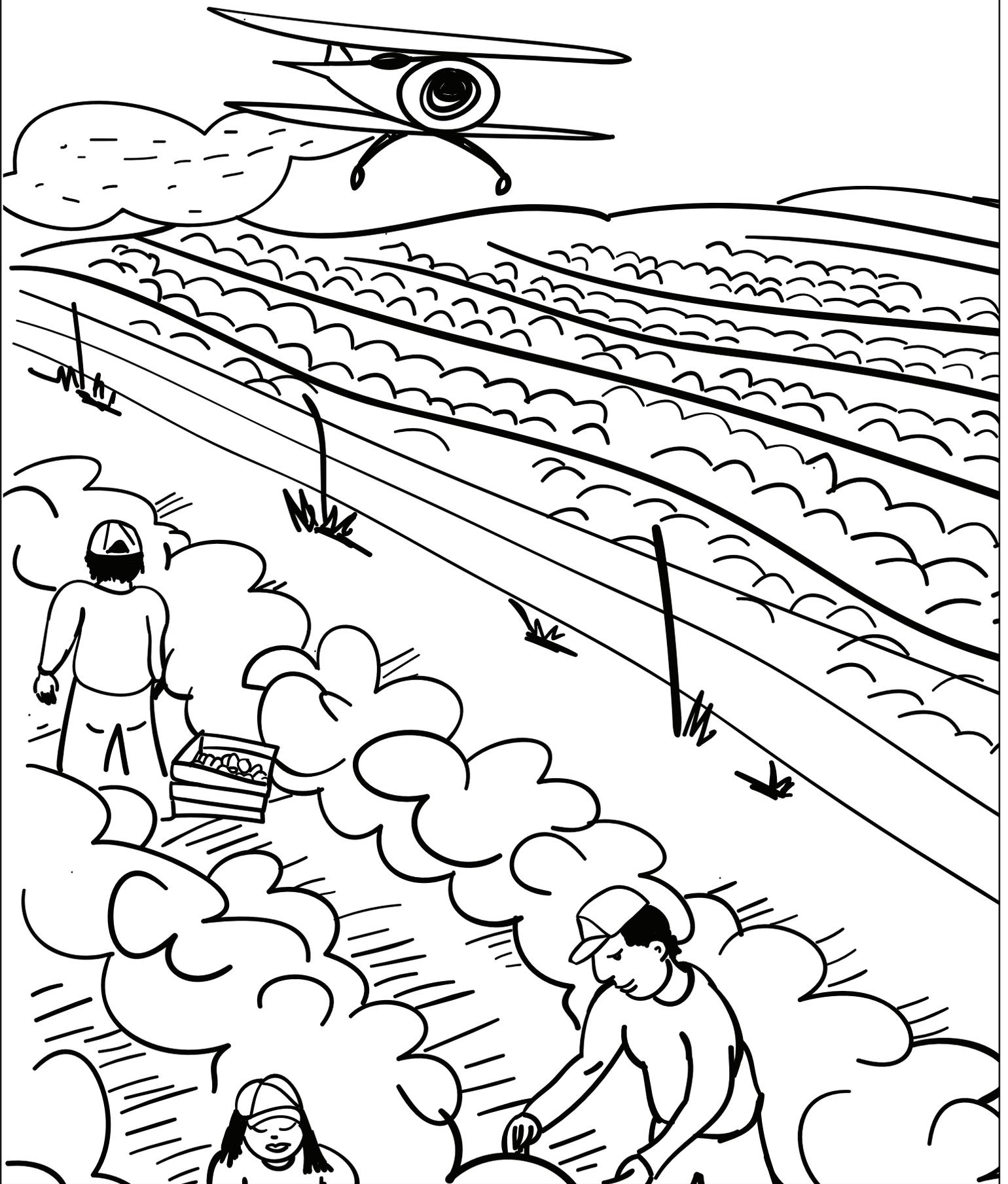
# DRAWING 1 - PESTICIDE EXPOSURE SCENARIO



# DRAWING 2 - PESTICIDE EXPOSURE SCENARIO



# DRAWING 3 - PESTICIDE EXPOSURE SCENARIO



# DRAWING 4 - PESTICIDE EXPOSURE SCENARIO



# HEAT CASE STUDY



## Victor

Victor works in the fields of California's San Joaquin Valley. Today is just like any other day at work, except for one thing: it is much warmer. The weather today has shocked even him, a Stockton native. Victor wants to take a break from work but it would cost him because he is paid by a piece-rate. He starts getting very thirsty and his mouth becomes dry.

Victor drinks some water from the closest water station. He begins to feel better, yet he still develops a headache. He feels irritated by the weather and wishes to go home, yet he must continue working on this very hot day if he wants to make a little more money. However, he continues sweating and begins feeling very weak.

### Questions:

- What are the symptoms of heat-related illness that Victor is experiencing?
- What are the most serious symptoms? Which are less serious?
- Should Victor remain in the fields or should he seek medical help?
- What are some things that workers can do in such situations to relieve some of the symptoms of heat illness? (seek emergency medical care, seek shade, help others to seek shade, drink water, rest, loosen or remove parts of clothing, remove shoes, clean skin, drink lightly salted beverages, splash cold water on body, massage legs and arms, shower in cold water, fan the person).
- Ask participants if they have any personal stories of heat-related illness that have happened to them, family, or community members. What did they do?

# HEAT CASE STUDY



## Catalina

Catalina is an apple picker in Washington's Yakima Valley. One day at work, Catalina begins feeling a bit strange. She is picking apples in the heat, like she always has, yet she begins feeling weak and exhausted. Her body sweats profusely and she gets extremely thirsty. Furthermore, she needs to go to the restroom immediately. She leaves to the closest restroom and continues feeling very weak.

Once she returns to the fields, her symptoms don't go away. Catalina wants to go to the restroom again, yet she just came back. She tells herself to continue working, though her heart begins beating faster and she becomes disoriented. Her co-workers ask her what's wrong, but Catalina's speech becomes slurred. They can't understand her. Suddenly, Catalina collapses on the ground.

### Questions:

- What are the symptoms of heat-related illness that Catalina is experiencing?
- What are the most serious symptoms? Which are less serious?
- What should Catalina's co-workers do in this situation?
- What are some things that workers can do in such situations to relieve some of the symptoms of heat illness? (seek emergency medical care, seek shade, help others to seek shade, drink water, rest, loosen or remove parts of clothing, remove shoes, clean skin, drink lightly salted beverages, splash cold water on body, massage legs and arms, shower in cold water, fan the person)
- Ask participants if they have any personal stories of heat-related illness that have happened to them, family, or community members. What did they do?

# POST-TEST FOR PROMOTORES

Your Name: \_\_\_\_\_ Date: \_\_\_\_\_ Location: \_\_\_\_\_

Instructor Name: \_\_\_\_\_ Instructor Signature: \_\_\_\_\_

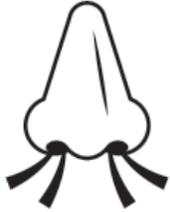
**Answer the following questions by choosing only one answer.**

- 1) What is the most common way in which pesticides get into a farmworker's body?
  - a) Through the skin
  - b) In the mouth
  - c) By breathing
  - d) In the eyes
- 2) What clothing should you wear to protect yourself from pesticides while working in the fields?
  - a) Pants
  - b) Boots
  - c) Long-sleeved shirts
  - d) All of the responses
- 3) If you are working in a field treated with pesticides and begin to feel nauseated, what should you do?
  - a) Rest at the side of the field for 15 minutes
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  - c) Leave the field and ask the crew leader to take you to a doctor
  - d) Work more slowly
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  - c) Infertility
  - d) Tuberculosis
- 9) Which of these is an employer required to provide to farmworkers to protect their health?
  - a) Paid time off to recover from a cold
  - b) Health insurance for the farmworkers and their families
  - c) Transportation to a medical facility if he or she becomes ill on the job while working around pesticides
  - d) None of the above

# Participant Packet Handouts

# EXPOSURE TO PESTICIDES

## What is pesticide exposure?



### Breathing

Exposure means that you have come into contact with a pesticide and it has entered your body.

### How can a pesticide enter my body?

Pesticides can enter your body in three ways:

- 1) **Breathing** in the air that contains the pesticide.
- 2) **Eating or drinking** something that contains the pesticide.
- 3) **Touching** something that has the pesticide on the surface or within it.
- 4) Being **splashed or sprayed** with pesticides.



### Eating or drinking

### If I'm exposed to a pesticide, will I get sick?

This depends on many factors about the exposure:

- The way in which the pesticide enters the body.
- The quantity of the pesticide that there is in the body.



### Touching

The factors that determine if you will get sick as a result of exposure to pesticides include:

- The type of pesticide (if it is very dangerous);
- The quantity (to how much was the person exposed);
- The duration (for how long the exposure occurred); and
- The frequency (how many times the person was exposed).



### Being splashed or sprayed

People also react in different ways to pesticides.

- Some people can be exposed to a pesticide, but they don't become sick.
- Other people can be more sensitive to pesticides and get sick as a result of the exposure.
- Children can be more sensitive to pesticides and can get sick more easily than adults.

Source: Agency for Toxic Substances and Disease Registry (ATSDR)

# SHORT-TERM SYMPTOMS



**Tired**  
**cansado**



**Irritated nose  
and throat**  
**irritación de la nariz  
y garganta**



**Headache**  
**dolor de cabeza**



**Dizzy**  
**mareado**



**Rashes**  
**rocios**



**Cramps**  
**dolor estomacal**



**Throwing up**  
**vomitando**



**Muscle pains**  
**calambre de los  
músculos**



**Sweaty**  
**sudoroso**



**Blurred vision**  
**tiene la vista  
nublada**



**Sleeplessness**  
**insomnio**

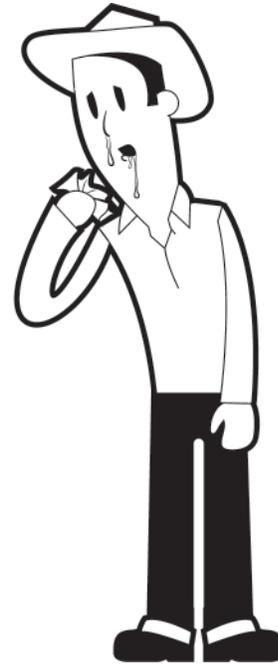


**Confusion**  
**confusión**

# SERIOUS SYMPTOMS



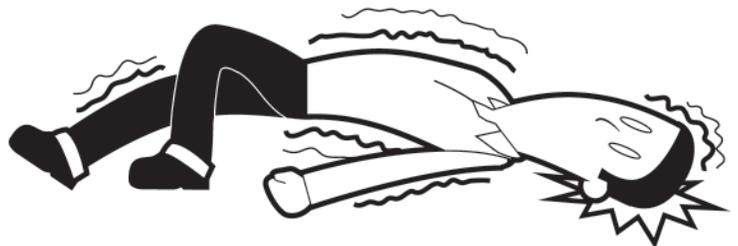
**Trouble breathing**  
**dificultad en respirar**



**Drooling from mouth  
and nose**  
**babeando**

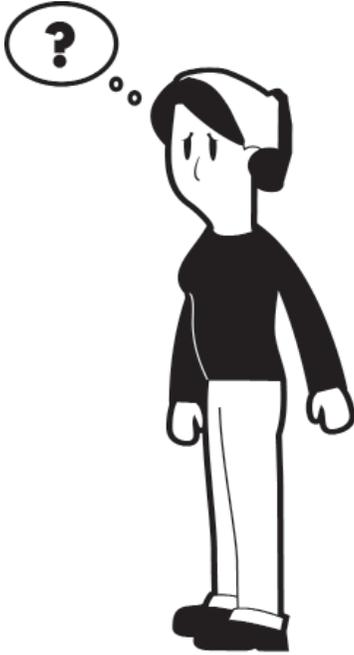


**Passed out**  
**inconciente**



**Convulsions**  
**convulsiones**

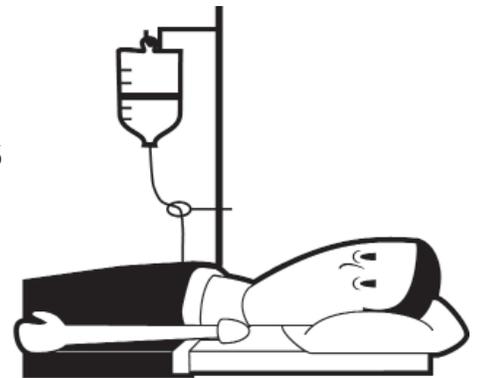
# CHRONIC HEALTH EFFECTS



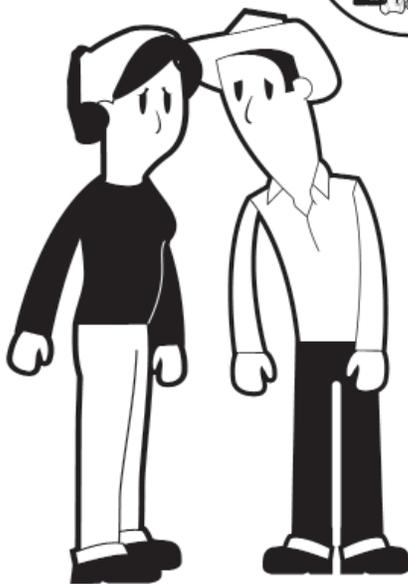
**Memory loss**  
**pérdida de memoria**



**Weakness in the arms  
and legs**  
**debilidad en los  
brazos o piernas**



**Cancer**  
**cáncer**



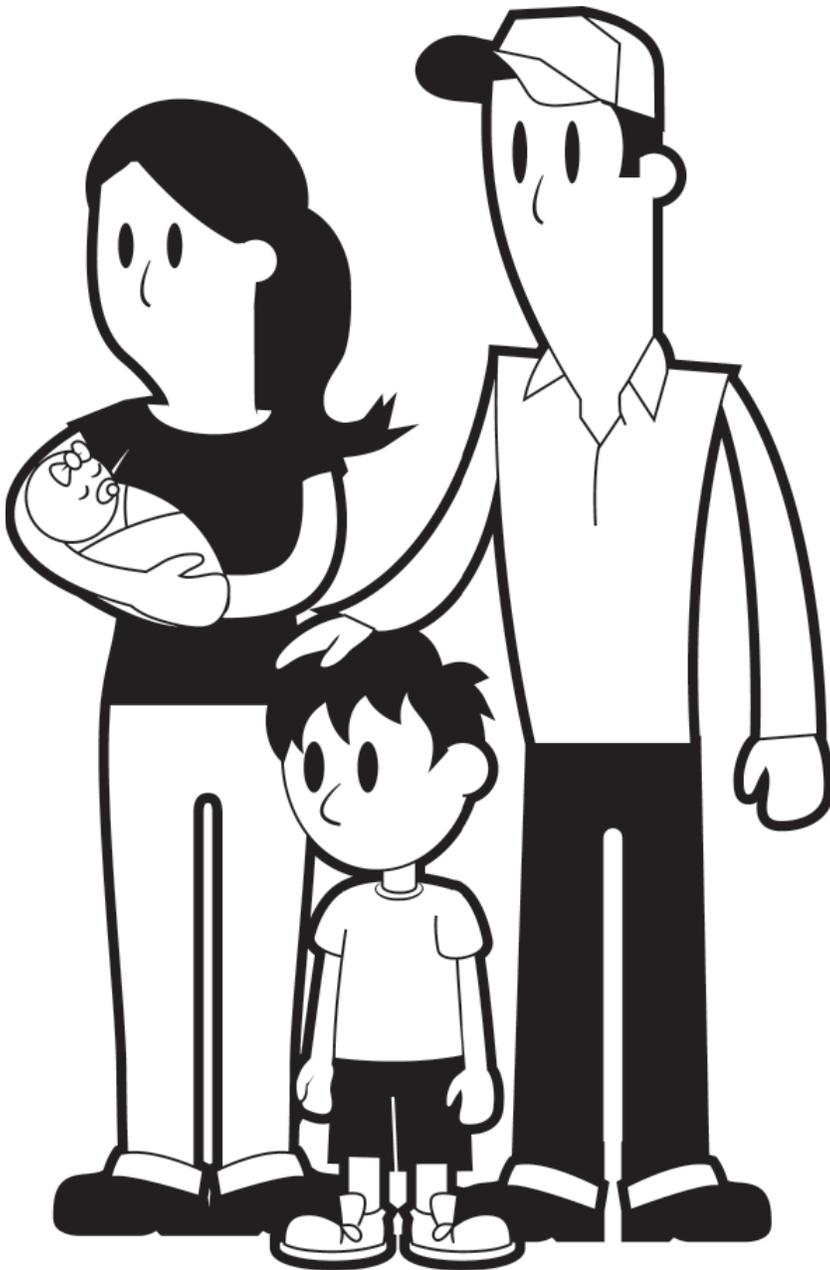
**Infertility**  
**infertilidad**



**Birth defects**  
**Defectos de nacimiento**

# PESTICIDES AND CHILDREN

**Pesticides affect children more because:**



Children are  
**smaller.**

Their brain and  
liver are  
**still developing.**

Their  
immune system  
**isn't mature.**

Proportionately to  
their size, children  
**eat and drink more**  
than adults.

# READING A PESTICIDE LABEL

There is important information on pesticide labels. You can ask your employer to see them.

Here are some terms you should know.

Name of the chemical (Nombre): \_\_\_\_\_

Brand of the pesticide (Marca): \_\_\_\_\_

Type of pesticide (Tipo de pesticida): \_\_\_\_\_

Restricted entry interval (REI) (El Tiempo de Espera): \_\_\_\_\_

## Keywords

- Danger (Peligro)
- Warning (Aviso / Advertencia)
- Caution (Precaución)



# HOW TO DIMINISH CONTACT WITH PESTICIDES IN THE FIELDS

Farmworkers can do various things to reduce their contact with pesticides in the workplace.



Use long-sleeved shirts, pants, hats, socks and shoes or boots, and gloves (if possible) every day.



Shower and put on clean clothes immediately after getting home.



During work, wash hands well before eating, drinking, smoking, or going to the bathroom. Also, wash hands after going to the bathroom.



Do not eat in the fields or in areas where pesticides are kept.

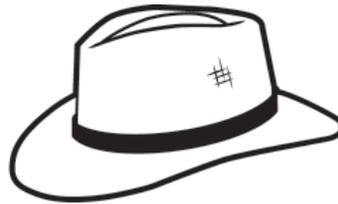
Do not enter a field that has just been sprayed by pesticides or that has a warning sign about pesticides. If there is a sign, ask when it is safe to enter the field again.



If pesticides fall on your skin, take off the contaminated clothing and immediately wash the affected region with plenty of water and soap. Try to figure out the name of the pesticide and seek medical help.

# WORK CLOTHING

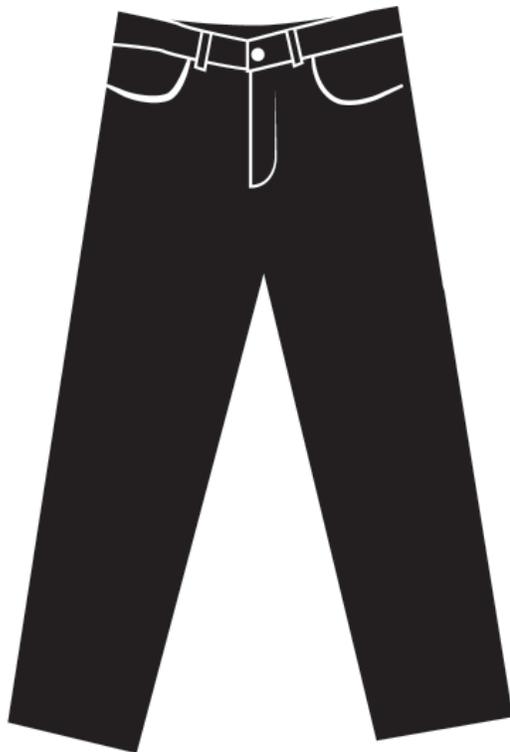
**Long sleeved shirt**  
**Camisa de manga larga**



**Hat**  
**sombrero**



**Gloves**  
**guantes**



**Long pants**  
**pantalones**



**socks**  
**medias**



**Boots or shoes**  
**botas o zapatos**

# HOW TO PROTECT YOUR FAMILY FROM THE DANGERS OF PESTICIDES

Farmworkers can take these steps to protect their families from pesticide exposure.



Take off your shoes before entering your home.



Never take pesticides home with you. Never switch or combine pesticides with containers of other products that children may confuse with food or drinks (like soda bottles).



Wash your work clothes with detergent and warm water before using it again. Wash your work clothes separately from the clothes of the rest of the family.



Cover your car seat with a cloth when you travel with clothes on that have been contaminated by pesticides.



Wash your hands (or shower) and change your work clothes before you touch your children.

Shower and put on clean clothes as soon as you can once you arrive home.

# WHAT TO DO IF EXPOSED TO PESTICIDES

When you start to feel bad after a pesticide exposure:

- Leave the contaminated area as soon as possible
- Wash the skin with soap and water while you are still in the field
- Change your clothing as quickly as possible
- Take a bath or shower with soap and shampoo
- Find medical attention

When pesticides get in the eyes:

- Leave the contaminated area
- Wash the eyes with water for at least 15 minutes

Should I receive medical attention? **Yes!**

- Whether you have immediate symptoms or not, you should consult a health professional each time you are exposed to pesticides at work.
- You need to report the exposure because you can obtain workers compensation benefits for health problems related to pesticides that can develop in the future (for example, infertility, nervous disorders, loss of memory).



You ALWAYS need medical attention when you suffer serious health effects such as:

- Difficulty breathing
- Loss of consciousness
- Drooling or foaming from the mouth or nose
- Convulsions or seizures



## What information does the doctor or nurse need?

- That you suspect pesticide exposure and the circumstances in which it occurred (for example, direct exposure, drift, pesticide residues on plants)
- The symptoms you have
- How long after the exposure the symptoms began and if they continue
- If anyone else was exposed and if they have similar symptoms
- If it is possible, the name of the pesticide

# WORKER PROTECTION STANDARD

**The Worker Protection Standard (WPS) is a federal law meant to protect the health of farmworkers and pesticide handlers.**

**Under this law, employers are required to:**

## **Provide training and safety information**

**Employers are required to provide training to all workers and pesticide handlers at least once every five years.**

**Employers must also display a poster with basic safety information and the name and address of a nearby health facility.**

## **Protect workers**

**Protect people while pesticides are being applied.**

- Workers and other people cannot be in areas where pesticides are being applied or where they would be exposed through drifting pesticides.
- In a nursery, workers need to be at least 25-100 feet away from treated areas, depending on the method of treatment.
- In a greenhouse, only handlers can enter during an application, until the requirements of ventilation listed on the pesticide label are met.

**Keep workers away from areas that have been treated with pesticides.**

- Workers can't be directed to enter a pesticide treated area for a certain period of time immediately after spraying. This is known as the "restricted entry interval" or "REI".

**Provide protective equipment to pesticide workers who mix, load, or apply pesticides and workers who must enter a field during the REI.**

## **Notify workers**

**Provide verbal or written notice to workers about when it is safe to reenter a field after it has been treated with pesticides.**

**Inform workers about recent pesticide applications.**

- The name of the pesticide, time of application and REI must be posted in a central location where all can easily see the information.

**Place "keep out" signs on fields treated with high hazard pesticides.**

## **Help in case of an emergency**

**Provide decontamination facilities.**

- Water, soap, and towels for washing in case of accidental exposure must be close to the work area.

**Provide transportation to a medical care facility in case of poisoning by pesticides.**

- Employers must also provide the doctor with information about the pesticides the worker was exposed to.

## **Retaliation is prohibited**

**Employers may not fire or discipline workers who complain or exercise their rights under this law.**

**Workers can report unsafe conditions to a local enforcement agency.**

**Workers should contact a local office that provides free legal services if they have questions about their rights or if they need help filing a complaint.**

# FIELD SANITATION

## Requirements of the Federal Law

Employers with 11 or more employees in the field are obligated to provide:



### Water to drink

- Must be accessible to workers and within  $\frac{1}{4}$  of a mile of where they work.
- Must be cold and in enough quantities.
- There must be disposable water cups.
- Containers must be well-covered, clean, and filled whenever necessary.

### Bathrooms

- Accessible to workers and within a  $\frac{1}{4}$  mile from where they work.
- One bathroom per 20 employees.
- Clean and in good condition.
- Wastewater must be eliminated in a safe and healthy manner.
- Must be ventilated and private.
- Doors may be locked from inside.



### Facilities for handwashing

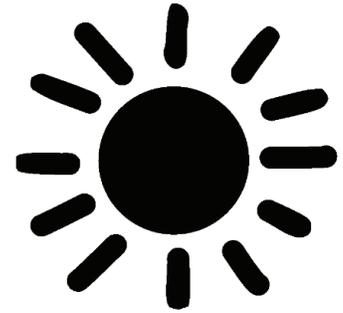
- Accessible and closet to the bathrooms.
- Must have enough potable water.
- Soap, and disposable towels

**Some states have laws with more protections.**

# CONTROLLING HEAT ILLNESS

Farmworkers can become exhausted while working hard under high temperatures and humidity. In order to prevent this condition:

- Drink a lot of cold water (at least one cup per twenty minutes)
- Take short breaks and go into the shade
- Use loose cotton clothing
- Do the heaviest tasks during the coolest hours of the day
- Avoid alcohol or caffeinated beverages



The first symptoms of exhaustion include:

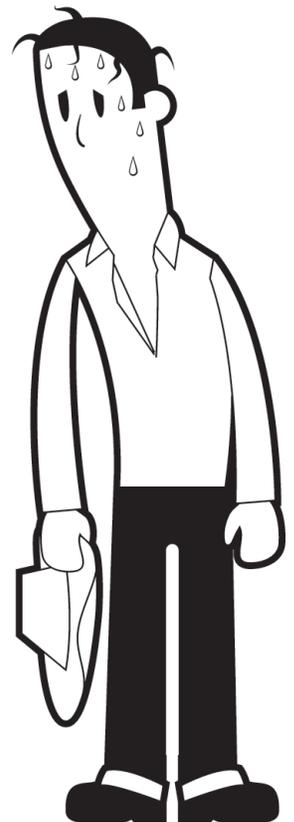
- Headaches
- Dizziness
- Much thirst
- Nausea
- Much sweating
- Weakness
- Pale and sticky skin

If you have these symptoms, rest, move to the shade, drink a lot of water, and refresh yourself.

If you don't treat exhaustion immediately, heat stroke can occur, which is much more serious. The symptoms of heat stroke are:

- Dry pale skin, without sweat
- Red and hot skin
- Confusion
- Convulsions
- Loss of consciousness

In the case of heat stroke, the worker must seek medical care immediately. Move the victim to a fresh place, shady place and try to cool the body – loosen and remove heavy clothing, make sure that the person drinks cold water, and put a cold towel over his/her body.



**Pesticides, Field Sanitation, & Heat Illness for Farmworkers: Training Curriculum for Lay Health Educators**

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