

# Heat Stress

*Farmworker Health and Safety*



## **Project SOL Train -the-Trainer Course Materials**

The following are materials that were developed for use in AFOP's Project SOL Train-the-Trainer course. The materials are evidence-based, focusing on the key components of heat stress: symptoms; first aid; prevention; and risk factors for heat-related illness.

All materials were created for activities that draw highly from non-formal and popular education models, with the belief that participants who interact with material learn that material more effectively. Materials are used over the course of a two-day training, providing trainers ample opportunity to fully engage with and comprehend the information. It is our belief that trainers leave the two-day training event with a firm grasp of both heat stress and interactive approaches to training.

For ease of understanding, each activity in this packet is preceded by a short title and description of the activity and the way in which the materials are used. While all materials usually contain the OSHA Disclaimer on the reverse side, it has been excluded here on individual materials to facilitate flow of presentation, but has been included below as reference:

"This material was produced under grant SH-19485-SH9 from the Occupational Safety and Health Administration, U.S. Department of Labor. It does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government."

These materials were created for activities which complement the training course as a whole. While they are a component of the training event, it is important to note that they do not represent AFOP's entire heat stress training program but rather, should be viewed as a sample of the types of training techniques that AFOP employs.

## **TRAINING MATERIALS**

**Association of Farmworker Opportunity Programs**

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## **Activity: Farmworkers—Who are they?**

As trainers begin to think about training migrant and seasonal farmworkers, it is important for them to consider the unique characteristics of this migrant population. One of the initial activities of the Project SOL Train-the-Trainer course, this particular activity urges trainers to consider the characteristics of their population and how these characteristics may affect the way in which they approach training sessions in the field.

### **Approximate Length of Activity:**

30 minutes

### **Activity Overview:**

Trainers are split into two teams. Each team is each given a flipchart with markers. Activity cards are distributed to individual team participants, with each team receiving an equal number of cards. It is important that participants not share the content of their cards with their teammates.

Individual participants are asked to pass in front of the group and, without using words or gestures, make their team guess the phrase on their card, drawing whatever they wish on the flipchart. Participants are given 30 seconds in which their team must guess the answer, and then the turn passes to the next participant. The team with the highest number of correct answers at the end of the turns “wins” and participants return to their seats. A discussion is then initiated around each word or phrase, its relation to the migrant and seasonal farmworker population, and what training considerations must be considered given this characteristic.

1

Foreign

3

Migrant

2

Mexico

4

Young

5

Male

6

Married

7

Parents

8

Seventh Grade

9

Spanish

11

Health Insurance

13

Low Income

15

Car

10

Growers

12

Seven Dollars and  
Twenty-Five Cents

14

Rent

16

Health Problems

## Activity: Heat-Related Illness, Arrange the Symptoms

Before Trainers can successfully teach farmworkers about the signs of heat-related illness, they must understand the signs and symptoms themselves, as well as the severity of each symptom. This activity aims to engage trainers with the material, having them collectively think through and categorize a series of symptoms.

### **Approximate Length of Activity:**

45 minutes

### **Activity Overview:**

Trainers are to work as a group to arrange the provided symptom cards in order from least severe to most severe, keeping in mind that they are symptoms of heat-related illness. Trainers are provided with a large, color-coded arrow to guide their efforts (resembling the one shown below) with yellow being the least severe and red the most severe. In situations where the training population is bilingual, an equal set of symptom cards is provided in Spanish, and the larger training group is split into two smaller groups to arrange the symptoms.

After groups have arranged the symptoms, they are allowed to look at a list of actual symptoms of heat-related illness and asked to examine their original order. They are then asked to rearrange the symptoms as signs of distinct illnesses, such as heat exhaustion or heat stroke.

Trainers return to their seats and the group processes the activity and reviews the symptoms.



**Tiny, blister-like red  
spots on skin**

**Prickly sensation on skin**

**Muscle spasms in leg, arm  
or  
abdominal muscles**

**Sweating a lot**

**A dry mouth**

**Extreme thirst**

**Headaches or feeling dizzy**

**Lightheadedness**



**Mood changes  
or irritability**

**Rapid breathing**

**Chills**

**Fainting or weakness**

**Heat cramps**

**Decreased or  
dark colored urine**

**Extremely high body  
temperature**

**Lack of sweating**

**Confusion or  
aggressive behavior**

**Seizure or convulsions**

**Coma**

**Unresponsiveness**

**Fast pulse**

**Dizziness**

**Hot, red skin**

**Pale, moist skin**



## Activity: What would you do?

Trainers will also be educating farmworkers about the importance of a timely response to heat-related illnesses. To encourage trainers to think about the need for an urgent and appropriate response, this scenario activity is used.

### **Approximate Length of Activity:**

45 minutes

### **Activity Overview:**

Trainers are split into groups. Each group is given a scenario card, which outlines a situation in which a farmworker is experiencing signs and symptoms of heat-related illness. Groups are also given a series of response cards with potential actions to take. The groups are each given two and a half minutes to assess the situation and decide on an appropriate response, ordering the response cards in the manner that they consider appropriate. Occasionally, a group is also given a response card with an inappropriate action, prompting serious discussion about the appropriate steps for responding to heat-related illness.

Following the two minute activity, each group presents their scenario and their responses. Other groups are encouraged to share their ideas about the order of the response steps. The facilitator then walks the entire group through the appropriate response to the particular scenario being discussed.

The process of sharing and group analysis is then repeated until every group has shared their scenario. The facilitator then guides a discussion of the appropriate response to heat-related illness, and fields any questions, comments or concerns.

1

Even though Fernando was out drinking last night, he still manages to wake up at 5 a.m. to get out to the fields at an early hour. He packs two bottles of water and is sure to wear a long-sleeved shirt to prevent pesticide exposure. He arrives at the fields at 7 a.m. and starts to pick onions. The temperature quickly rises to a stifling 100° F by 11 a.m. To harvest as much as possible, Fernando doesn't take any breaks. While Fernando has prepared and brought water, he is thirstier than he realized he would be and finishes his water by 10 a.m. Around 11:30 a.m., Fernando begins to feel tired and dizzy. Thinking nothing of it, he keeps working. Soon after, Fernando faints in the field, where you, his coworkers find him. What should you do and in what order?

2

Reyna has been harvesting chile all morning. The temperature has soared well into the 90°s F . Despite the heat, Reyna continues to harvest as quickly as possible, knowing that once her baby is born, she won't be able to work for a few months. While she is thirsty, Reyna's husband has her water and he is a few rows away. Since it is late morning anyway, she decides to wait until lunch break to rehydrate. At lunch, Reyna has a hard time finding a spot in the shade to rest, so she sits at the end of her row since she is feeling weak from the hard morning's work. Reyna's husband, Mario, approaches and sits to eat lunch with her. Suddenly, Reyna feels dizzy and confused. She lashes out at him, yelling at him for having her water all morning. Mario is confused because Reyna is not usually an aggressive person. Suddenly, she begins convulsing and throws up. Mario calls to you, the nearby workers, for help. What should you do and in what order?

3

Maria and Mateo are hanging tobacco leaves in a tobacco shed at the edge of the fields. They are short staffed today so they have been hurrying between the wagon and the shed, hauling heavier armloads than normal. It's a blistering hot day of 90° F. Inside the tobacco shed, temperatures have reached 110° F, and the air feels hot and heavy. Maria suddenly feels weak and sits down to take a break. She's in the hottest part of the shed, but she can't work up the energy to move to someplace cooler. Mateo, noticing that she has taken a break, picks up the pace to keep up with the workload. Soon, he too has a headache and suddenly passes out. As the tobacco starts to pile up outside, your crew decides to check in on Mateo and Maria to see what's happening. You find Mateo passed out and Maria looking very sick. The shed is the only shade available in a fifteen minute radius. What should you do and in what order?

4

Victor has been working in the fields for the last 45 years. At 65, he considers himself well-adjusted to all conditions that can happen while working outside. Today, he is picking strawberries. Victor knows that pesticides are used heavily on this crop, therefore he decided to wear an especially thick long-sleeved shirt to prevent pesticide exposure. Today is not much different from the many other days that he has spent in the fields. It is hot, almost 100° F, and there isn't a cloud in the sky. But today, for some reason Victor is feeling more tired than usual. He begins sweating profusely and starts to breathe heavily. He turns to his coworker to ask for some water and his coworker comments on his slurred speech. Victor says that he needs to sit down, and his coworker calls to you for help. What should you do and in what order?

1

Move Fernando to a shady spot.

1

Check to see if Fernando is conscious. If he is, give him water.

1

Loosen his clothing,  
especially around his neck, chest and waist.

1

Take off Fernando's boots and socks.

1

Splash cool water on Fernando's body.

1

Get medical attention.

1

Tell the crew leader what's happening.

2

Move Reyna to a shaded area.

2

Clean her mouth of the vomit.

2

Pour cool water over her body.

2

Fan her body.

2

Drape a wet shirt over her chest.

2

Loosen her clothing.

2

Remove her shoes and socks.

2

Wait for the crew leader to arrive,  
so that he can bring her to the clinic.

2

Make sure health professionals know that Reyna is pregnant.

3

Move them to fresh air outside the shed,  
even though it's in direct sunlight.

3

Keep them in the shed, where there is shade from the sun.

3

Loosen their clothing,  
especially around the neck, chest and waist.

3

Give Maria an energy drink to revive her.



3

Check to see if Mateo is breathing. (He is).

3

Send someone to look for the crew leader.

3

Cover Mateo with a wet shirt.

3

Fan both of them.

3

Transport them to a medical facility.

3

Elevate Mateo's legs.

4

Help Victor to a shady spot.

4

Give him as much water as he can drink.

4

Encourage Victor to remove his long sleeve shirt.

4

Help Victor remove his boots and loosen his clothing around his waist.

4

Ask him to rest lying down.

4

Tell Victor to rest and return to the fields when he feels better.

4

Tell the crew leader.

4

Ask Victor if he thinks he should go to the clinic.

4

Place a cold compress on Victor's neck.

3

Give Maria water.

## Activity: Prevention is Best

Throughout AFOP's Train-the-Trainer session, prevention is stressed as the most vital piece of information for farmworkers. In this activity, trainers are encouraged to think about basic prevention techniques and express their importance in a creative way.

### **Approximate Length of Activity:**

45 minutes

### **Activity Overview:**

Trainers are split into groups. Each group is given a prevention card and a series of props. Training groups must work together to come up with a skit that illustrates a message relating to the theme which they have been assigned. Groups are given 10 minutes to create their skit and then each group passes in front of their peers to act out their prevention theme. The facilitator encourages conversation about each skit and about the importance of communicating prevention techniques clearly and creatively to the farmworker population.

Water

Shade

Breaks/Rest

Clothing