



TRAINING ON AGRICULTURAL WORKER PROTECTION STANDARDS

PRESENTER NAME:

TITLE:

Center for Environmental Research & Children's Health

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University of California, Berkeley

DATE:

What is the Worker Protection Standard?

- The Worker Protection Standard (WPS) is an [EPA Regulation](#) designed to protect farmworkers.
- Reduces the risks of illness or injury resulting from workers and handlers/applicators (“manipulators”) from occupational exposure to pesticides.
- Requires labor practices to reduce or eliminate exposure to pesticides and establishes procedures to respond to emergency situations.



When Does the WPS Apply?

- Use of a WPS-labeled pesticide product on an “agricultural establishment” directly related to the production of an “agricultural plant”
- Employment of workers or handlers
- There are some pesticide uses that are considered “non-agricultural uses” that are not covered under this standard

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material such as polyvinyl chloride, nitrile rubber or butyl rubber
- Shoes plus socks



Who is protected by the Worker Protection Standards?

- Pesticide handlers
- Farmworkers on a farm (ranch)
- Sawmill workers
- Workers in nurseries or greenhouses that produce agricultural plants



Who is an Employer Under WPS?

- An agricultural employer is anyone who is an owner of, or is responsible for the management or condition of, an agricultural establishment, and who employs any worker or handler
- Commercial pesticide handler employer means any person, other than an agricultural employer, who employs any handler to perform handler activities on an agricultural establishment



Who is an Agricultural Worker?

- Any person, including a self-employed person, who is employed (receives wages or salary) and performs activities directly relating to the production of agricultural plants on an agricultural establishment
- They work in fields treated with pesticides
- Agricultural activities
 - Weeding
 - Moving irrigation equipment
 - Trimming
 - Harvesting
- Exposed to pesticide residues
- They do not handle pesticides



The person in this image is an agricultural worker. What kind of tasks does an agricultural worker carry out?

Who is a Pesticide Handler?

Any person (including a self-employed person) who is:

- Employed by an agricultural employer or
- A commercial pesticide handler employer
- Mixes, loads, transfers or applies pesticides
- Discards pesticides and pesticide containers
- Repairs application equipment
- Mechanics can be pesticide **handlers**
- Must be 18 years old



What kind of tasks does a handler/"manipulator" carry out?



Personal Protection Equipment

- Personal protection equipment (PPE)

Employers are required to provide PPE that is appropriate for the job to their employees.



Who is a restricted entry worker?

- A worker who enters an area after a pesticide application is completed, but before the restricted-entry interval (REI) has expired
- Require additional training and specific protections to early entry before entering a treated field
- Must be at least 18 years of age
- They do not handle pesticides



Goals of WPS



1. Inform



2. Protect



3. Mitigate



Law on training:

Section 6764

- A) The employer will ensure that each employee has received training annually before beginning work in a treated area
- B) The training should include the following topics:
 - 1. Routine and emergency decontamination
 - 2. Restricted entry interval – (REI), including California and federal signs.
 - 3. Where pesticides are found, including treated surfaces, residues on clothing, chemigation, and drift.
 - 4. Routes of exposure.
 - 5. The risks, acute, chronic and delay effects.
 - 6. Poisoning symptoms.



Law on training:

Section 6764

7. First aid including:
 - Decontamination
 - Eye rinse
 - Emergency medical care
8. Notifications;
 - Do not bring home pesticides or their containers;
9. The requirements of the risk communication program of section 6761 (PSIS A-9)
10. Employees rights, including:
 - A) Receive information about pesticides to which they can be exposed
 - B) Their doctor or representative to receive information on the pesticides to which they may be exposed
 - C) Be protected against retaliation for using their rights.
11. Application Exclusion Zone (AEZ)



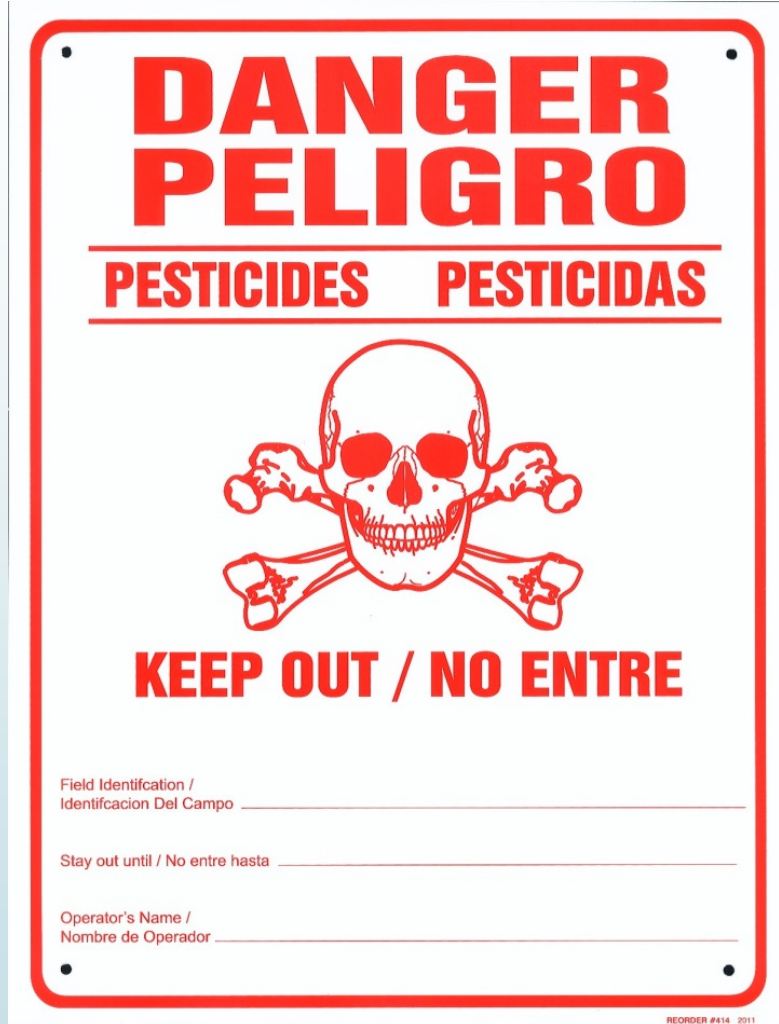
Certificate of Accreditation



Signs



Federal Sign



California State Sign



Places where pesticides can be found



Pesticides and residues can be found in



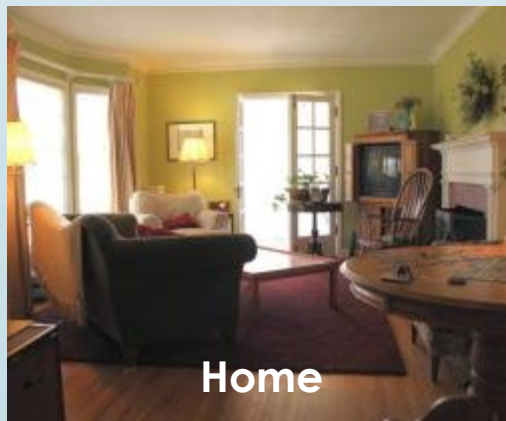
Fields, by drift



Fruits and vegetables



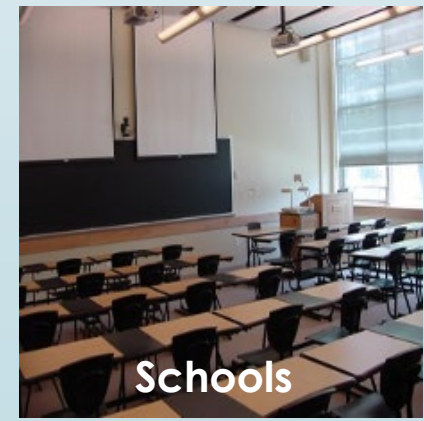
Household products



Home



Water



Schools

Pesticides and residues can be found in



- Plants and soil
- Irrigation water
- Irrigation equipment
- Storage areas
- Where they are mixed and loaded
- In pesticide containers, even empty
- Work clothes and shoes
- Personal protection equipment
- The environment

Even though the sun may break down some pesticides, they can still be dangerous

Pesticide Classification and Formulation



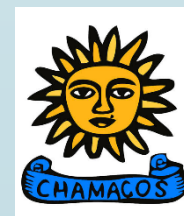
What are pesticides?



- Pesticides are chemicals used to kill different types of pests
- Each pesticide is intended to be effective against specific pests
- Different types and classes of pesticides are used
- They have different symptoms and health effects

Pesticides Classification

Pesticide	Function
Insecticides	Control insects
Herbicides	Control weeds
Fungicides	Control fungi and other pathogenic organisms
Desiccants	Used to dry the plants living tissues
Defoliants	Make plants lose their leaves
Disinfectants	Control germs and microbes such as bacteria and viruses
Acaricides	Control mites that feed on plants and animals
Pheromones	Attract insects or interrupt their mating behavior.
Repellents	Repel unwanted pests, often by taste or smell
Molluscicides	Control slugs, snails and other mollusks
Preservatives	Wood preservatives are used to make the wood resistant to insects, fungi and other pests.



Pesticides have different formulations

- Liquids
- Powders
- Concentrated powders to dilute
- Granules
- Pellets
- Gases
- Gels
- Aerosols



Type of Pesticide

HERBICIDES



WEEDS/PLANTS

INSECTICIDES



INSECTS

RODENTICIDES



RODENTS

FUNGICIDES



FUNGI/PLANT PATHOGENS

ACARICIDES ○ MITICIDES



MITES

MOLLUSCICIDES



SLUGS and SNAILS

Image credits: UC Statewide IPM Program and UC Division of Agriculture and Natural Resources

Signal Words

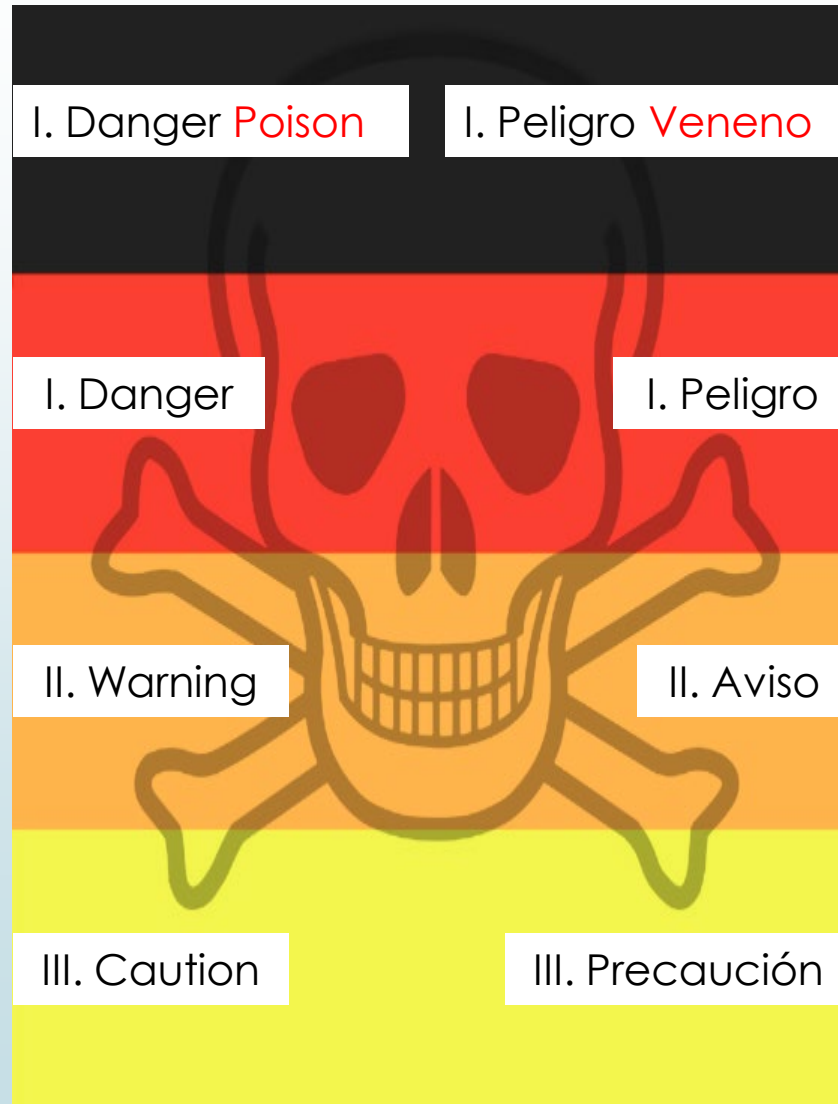


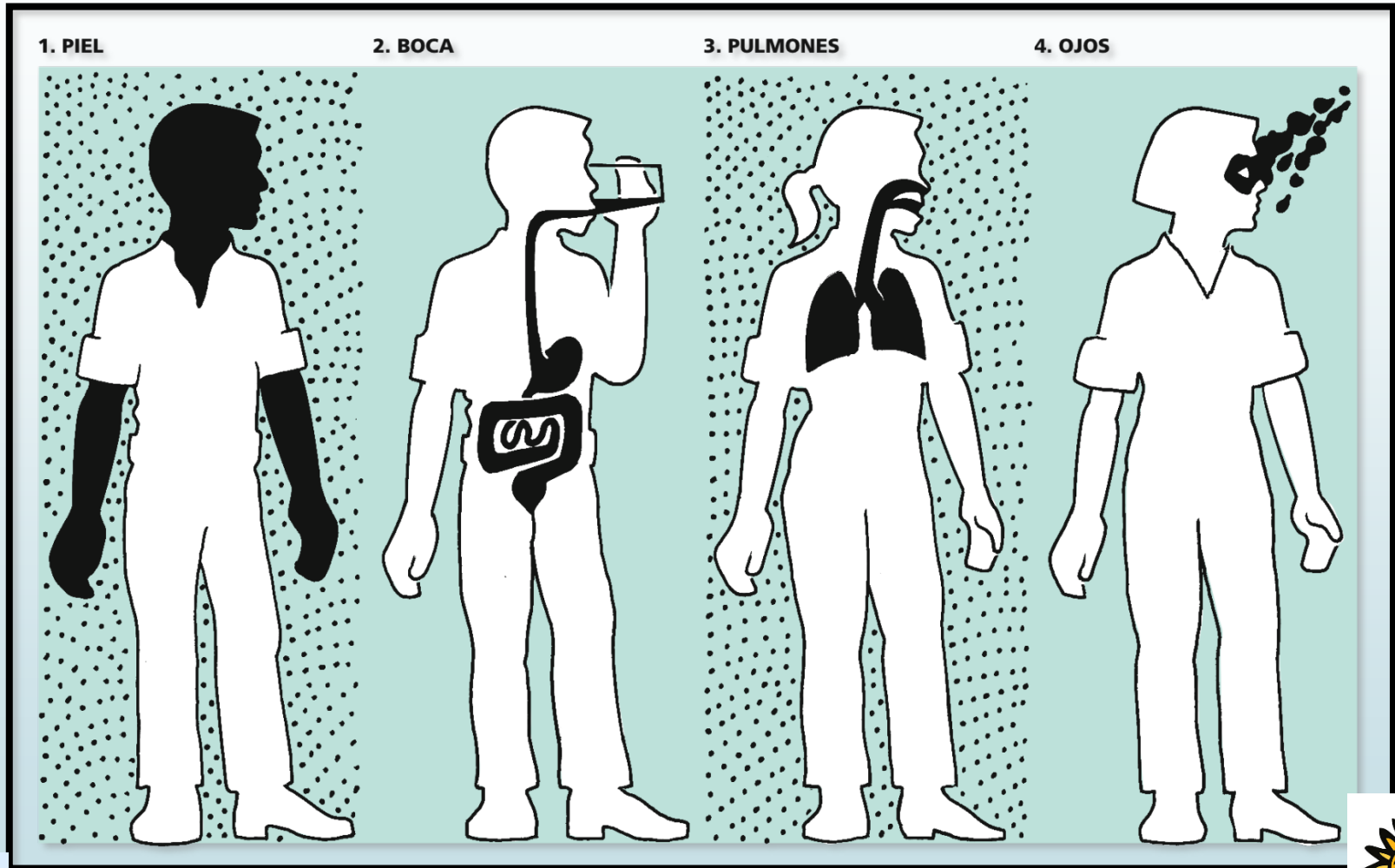
Image credit: UC Statewide IPM Program



Pesticides Exposure Routes



Entry routes



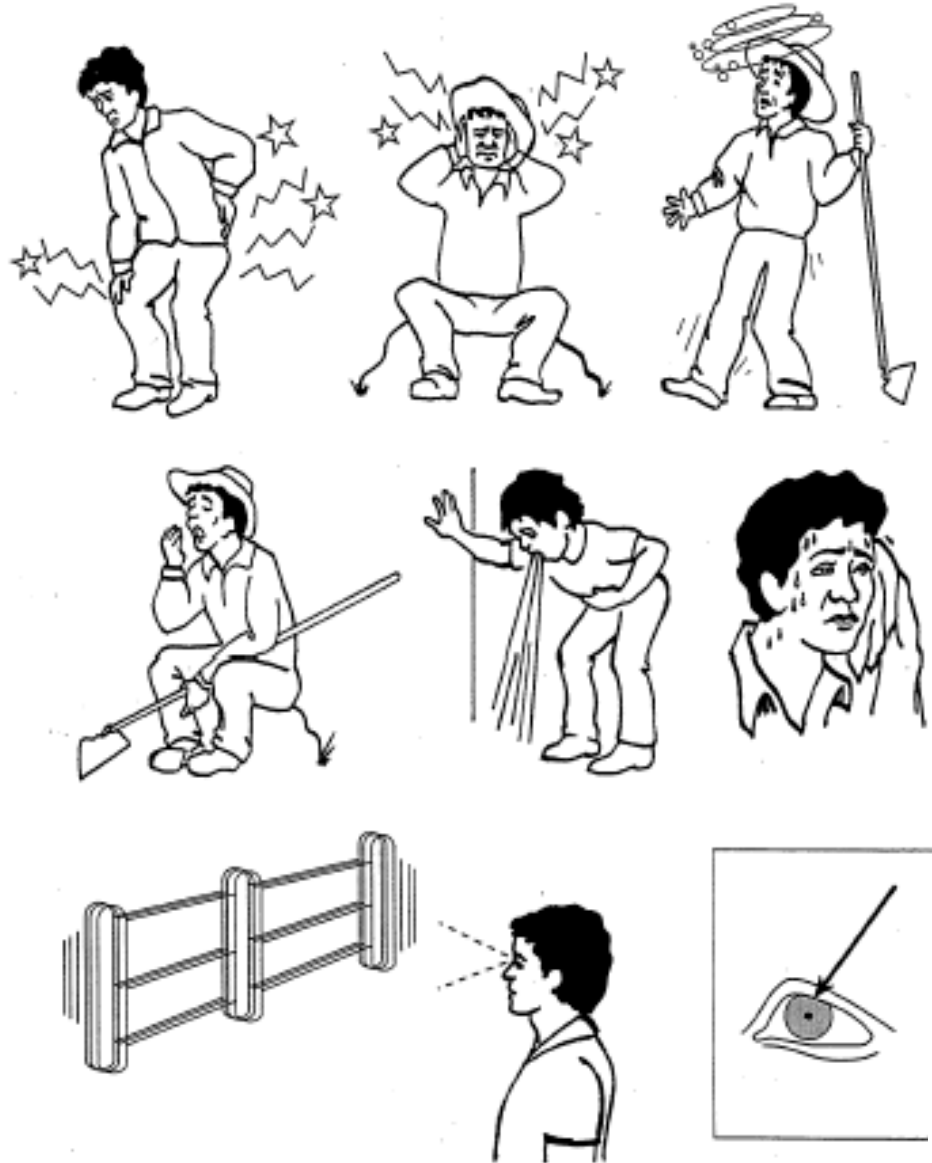
Pesticides exposure effects



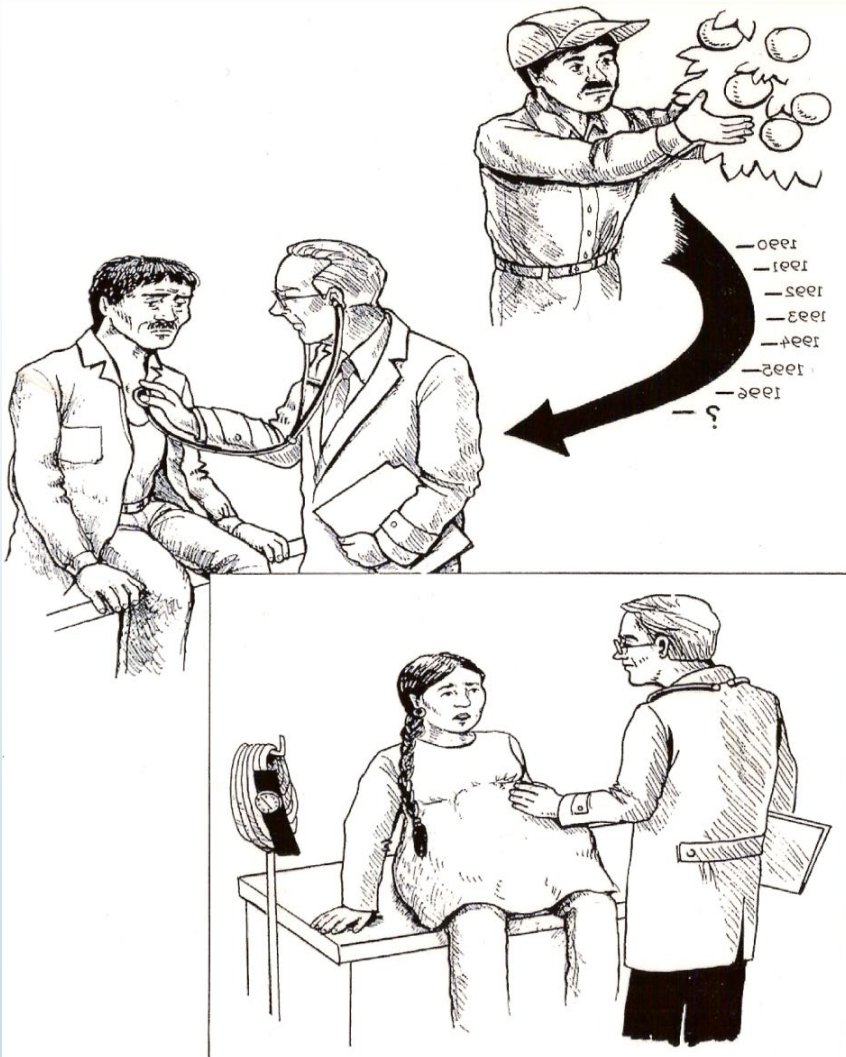
ACUTE EFFECTS

Symptoms:

- Excessive sweating
- Skin itch
- Headache
- Vomiting
- Dizziness
- Muscle aches or cramps
- Palpitations (accelerated heart beat)
- Blurry vision
- Excess salivation or drooling
- Diarrhea
- Chest pain



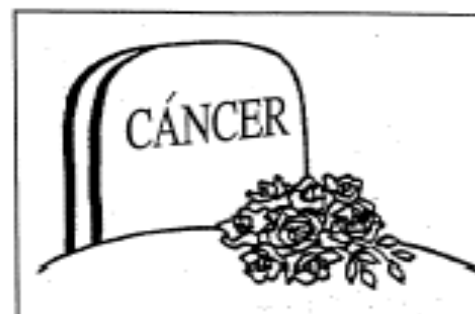
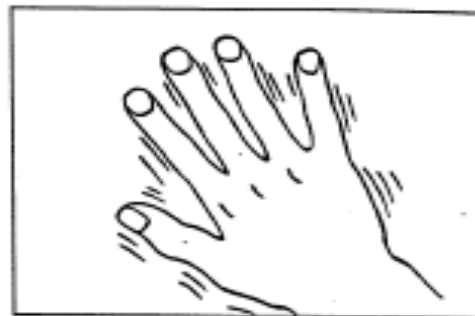
CHRONIC EFFECTS



Harmful effects can include:

- Damage to lungs
- Damage to liver
- Nervous system damage
- Premature or still births/ infant mortality
- Birth defects
- Babies' nervous system damage pre-birth

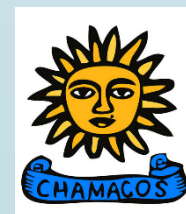
CHRONIC EFFECTS



Fumigant exposure symptoms



- Irrational behavior
- High body temperature



Intensity of Symptoms

- They depend on:
 - Pesticide
 - Exposure route
 - Exposure duration
 - Exposure frequency
 - Person's age
 - Person's health



Routes of Exposure to Agricultural Pesticides



Exposure to agricultural pesticides

Harvest



Plant



Sow



Entering a treated field



Exposure to agricultural pesticides



When they spray



When they mix

Exposure to agricultural pesticides



SPRAYERS



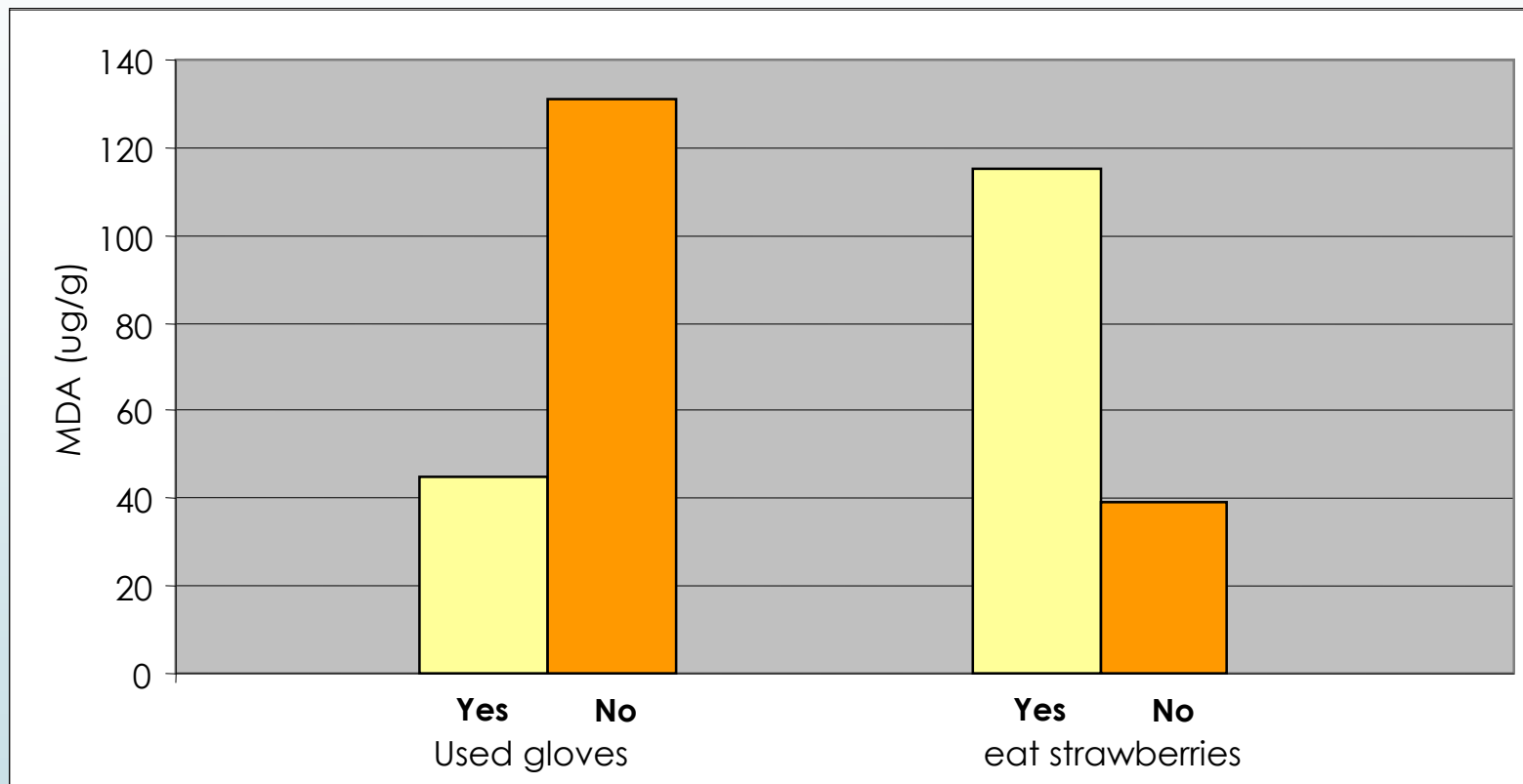
CHEMIGATION

Exposure to agricultural pesticides



Eating fruit or
vegetables while
harvesting

Pesticides Levels in Strawberry Workers CHAMACOS Field Intervention Study



Agricultural pesticides residues taken home



Workers can bring home pesticide residues on:

- Clothes
- Shoes/ boots
- Skin
- Hair
- Backpacks
- Thermos



Agricultural and household pesticide exposures



Empty pesticide containers



Household pesticides



Toys



Using the same vehicle to go to work and transport the family



Ways children may be exposed to pesticides



➡ Hugging your child wearing dirty work clothes

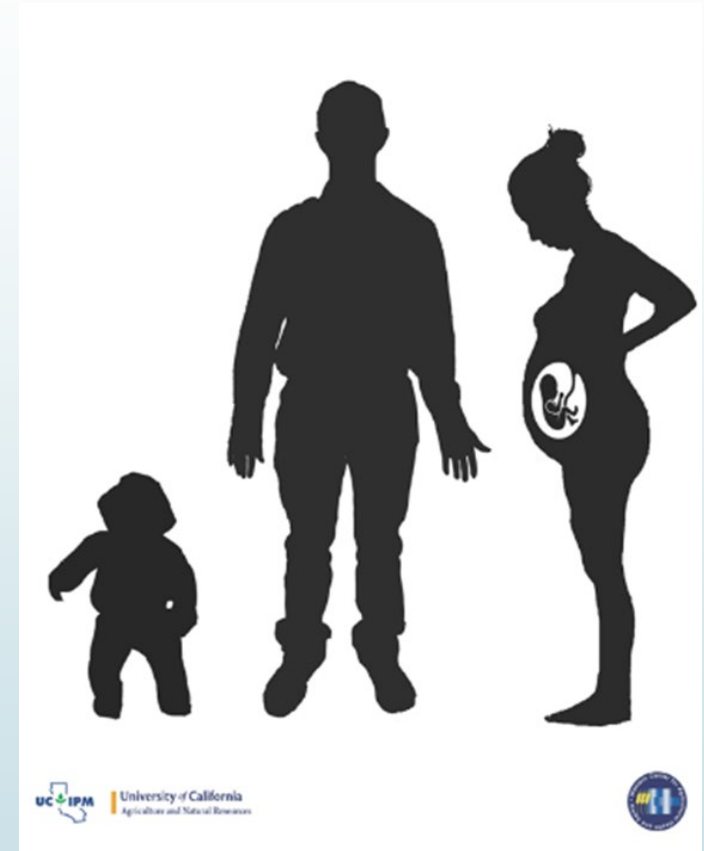


- Pesticide containers brought home



Risks for pregnant women and children

- Pregnant women
 - Miscarriage
 - Birth defects
- Children
 - They are still small and more vulnerable
 - Developmental effects
 - Organs
 - Inability to discard toxins



Ways to reduce pesticide exposures



Ways to reduce pesticide exposures in the home



- Change your work clothes and shower before playing with your children



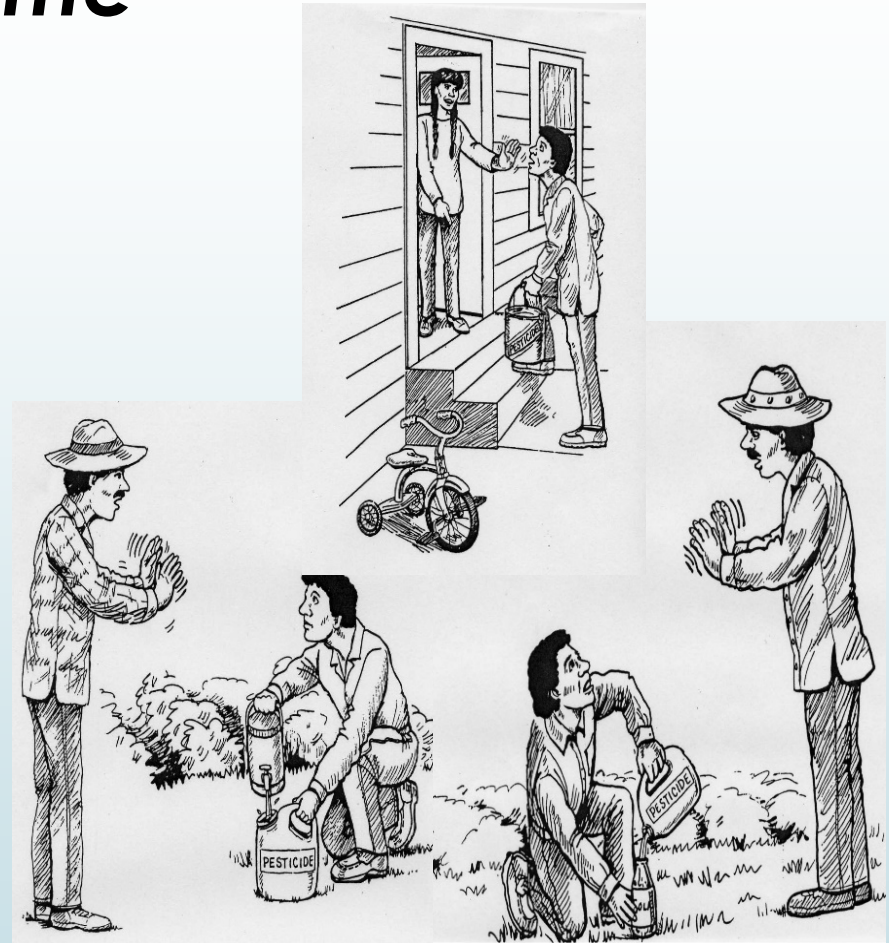
- Wash hands with strong soap and hot water



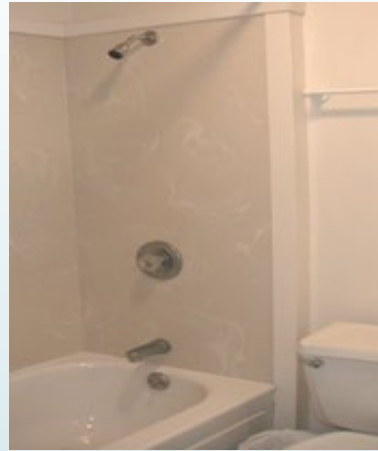
- Wash fruits and vegetables before eating them

Ways to reduce pesticides exposure in home

- Do not bring pesticides or pesticide containers home from work.

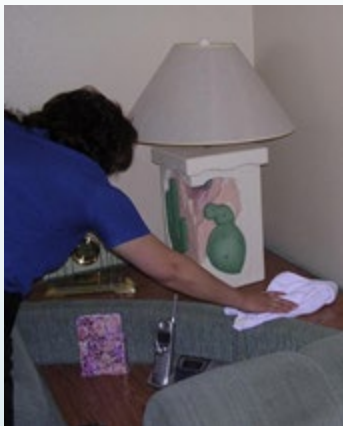


Ways to reduce pesticide exposures in your home



- Take shoes off before entering the home
- Use doormats at your home's entryways
- Keep work clothes separate from your children's clothes
- Shower as soon as you get home from the fields
- If you need to relax right after work, do it outside

Ways to reduce pesticide exposures in home



- Put work shoes in the trunk of your car or in a plastic bag or box
- Keep your vehicle clean
- Clean home surfaces frequently with a microfiber cloth
- Vacuum and mop floors frequently
- Keep cleaning materials out of children's reach



Ways to reduce pesticide exposures in home



- Store and wash work clothes separate from children's clothing, use hot water and strong detergents
- Wash your children's toys frequently



Pesticide Safety Training

- Annual training is required
- Training must be provided to:
 - Workers before starting work in a treated area
 - Handlers before performing any handling task
- A worker or handler can ask for a record of the training



Pesticide Safety Information

- Pesticide safety information must be displayed at:
 - Central location
 - Permanent decontamination supply sites
 - Other decontamination locations where supplies are provided for 11 or more workers or handlers

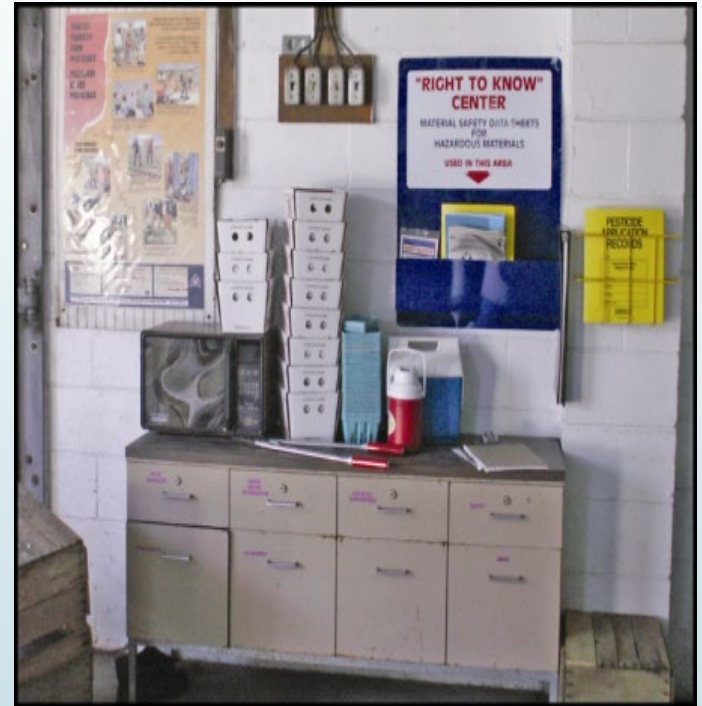
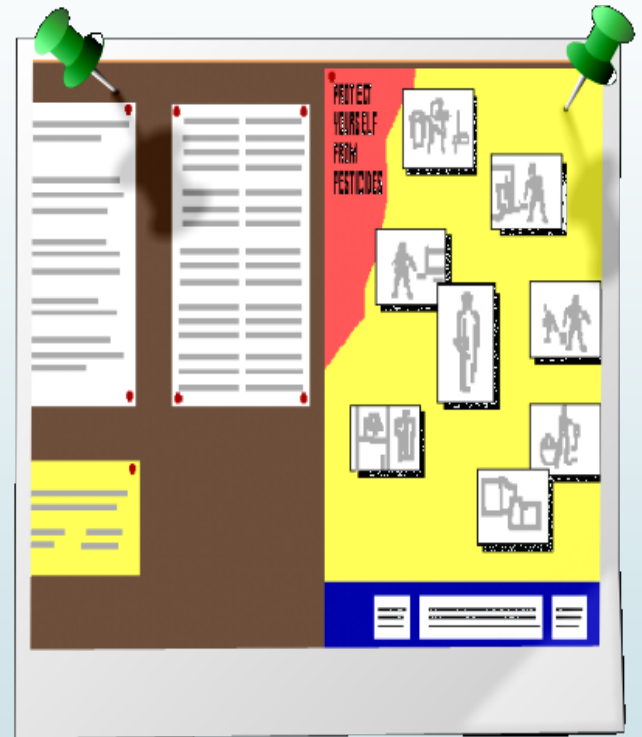


Image credit: Ed Crow, Penn State Pesticide Education Program

Pesticide Safety Information

- Exhibit where workers / handlers can easily see, read and access
- Display where workers / handlers are likely to meet or pass
- Inform workers / handlers of the location of materials



Pesticide Application Information and Safety Data Sheets



- Name, EPA registration number and active ingredient
- Crop or site treated, location and description of treated area
- Date(s) and times pesticide application started and ended
- Duration of the restricted-entry interval (REI) for that application
- A copy of the Safety Data Sheets (SDS)
- Emergency Information
 - the nearest emergency medical center, name, address, telephone number

Image credit: Ed Crow, Penn State Pesticide Education Program



Central Location Example



Central Location Example

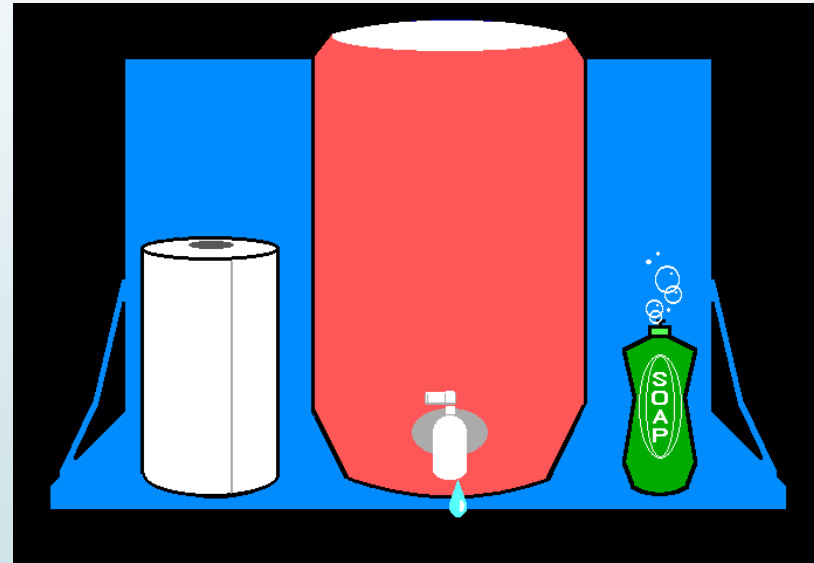


Decontamination



Decontamination Site

- Located within ¼ mile of workers and handlers
 - Clean and cold water for hand washing, eye washing, and drinking
 - Soap
 - One-time use towels
 - Clean change of clothes*
 - * For handlers



MO Dept. of Ag.

Routine decontamination



Emergency Decontamination

To remove pesticides from eyes, skin or clothing during emergency situations



- Take off contaminated clothing
- Immediately rinse pesticide with clean water
- Wash your body with soap and water

- Wash your hair with shampoo
- Change into clean clothes
- Inform supervisor
- Get medical care



First Aid and Medical Care

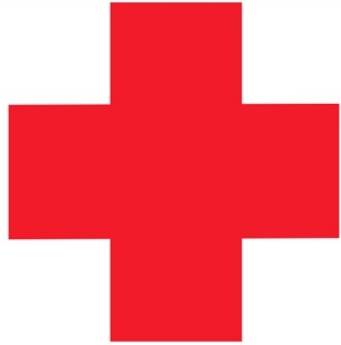


First aid

- 9-1-1
- Safety data Sheet SDS
- Poison Control Center
 - 1-800-222-1222
- Medical treatment



First aid



PRIMEROS AUXILIOS
BÁSICOS

Skin contact:

- Wash the skin with enough water
- Remove victim from danger
- Remove contaminated clothing and equipment
- Wash skin and hair thoroughly with water and mild detergent.
- A shower is the best way to cleanse the body
- Dry victim and wrap them in blanket or clean clothes

Ingestion poisoning:

- Rinse mouth with enough water
- Give victim enough water or milk
- Only if the instructions on the label indicate it; try to make the victim vomit



Emergency medical care



- Seek emergency medical attention
- Your employer should provide transportation



The following tips and scripts represent basic steps that farmworkers must take to reduce pesticide exposures in agricultural fields

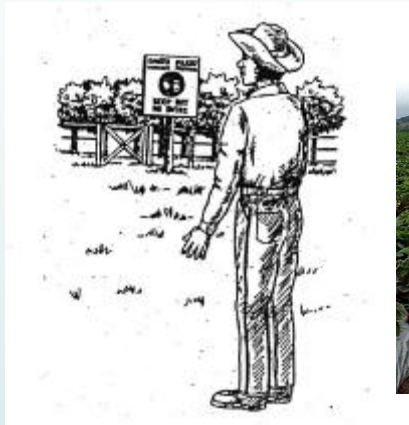


Ways to prevent pesticide exposures in the fields

- Wear clothes that cover all your skin:
 - Long-sleeve shirt
 - Long pants
 - Closed shoes or boots
 - Gloves
 - Handkerchief to cover the face
 - Overalls, if you have them
- If you have been poisoned, immediately tell your employer!



Ways to prevent pesticide exposure in the fields



- Do not enter a field that has recently been treated with pesticides
- Do not enter a field with posted "Do Not Enter" signs
- Wash hands with soap and water:
 - BEFORE eat or drink
 - BEFORE using the bathroom
 - BEFORE smoking or chewing gum
 - AFTER taking gloves off
- Drink 6-8 glasses of water per day

HERE COME THE PESTICIDES!

What should I do?



WHAT DOES THIS POSTER MEAN?



No!

WHAT SHIRT DO I WEAR TODAY?



DADDY CAME HOME FROM WORK!

**No! Always
wash your
hands, change
out of your
work clothes
and shower
BEFORE picking
up or playing
with your
children**



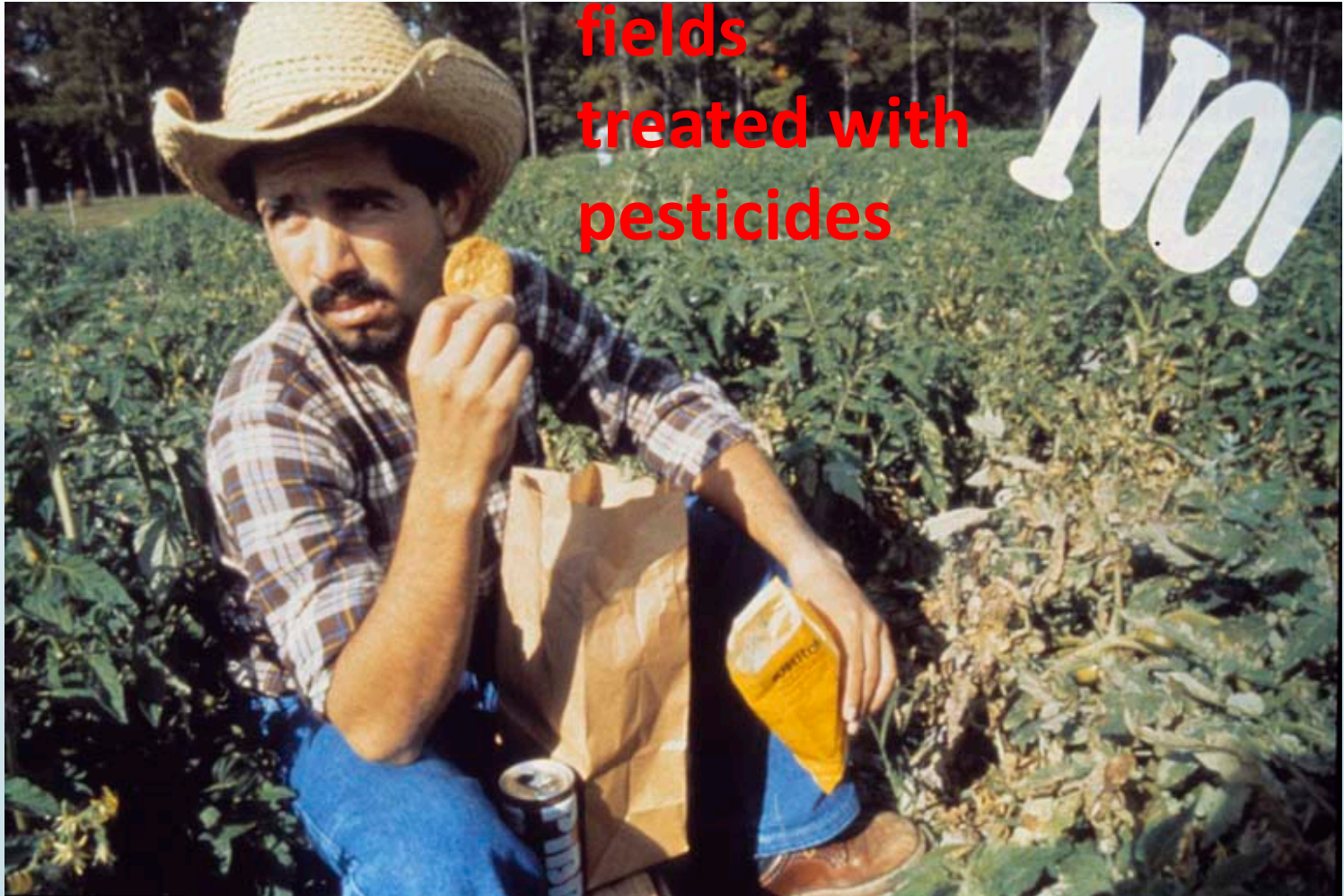
IT DOES NOT LOOK TOO DIRTY!

**No! Always
wash work
clothes
separately, in
hot water with
strong
detergents**



LUNCH TIME

Never eat in
fields
treated with
pesticides

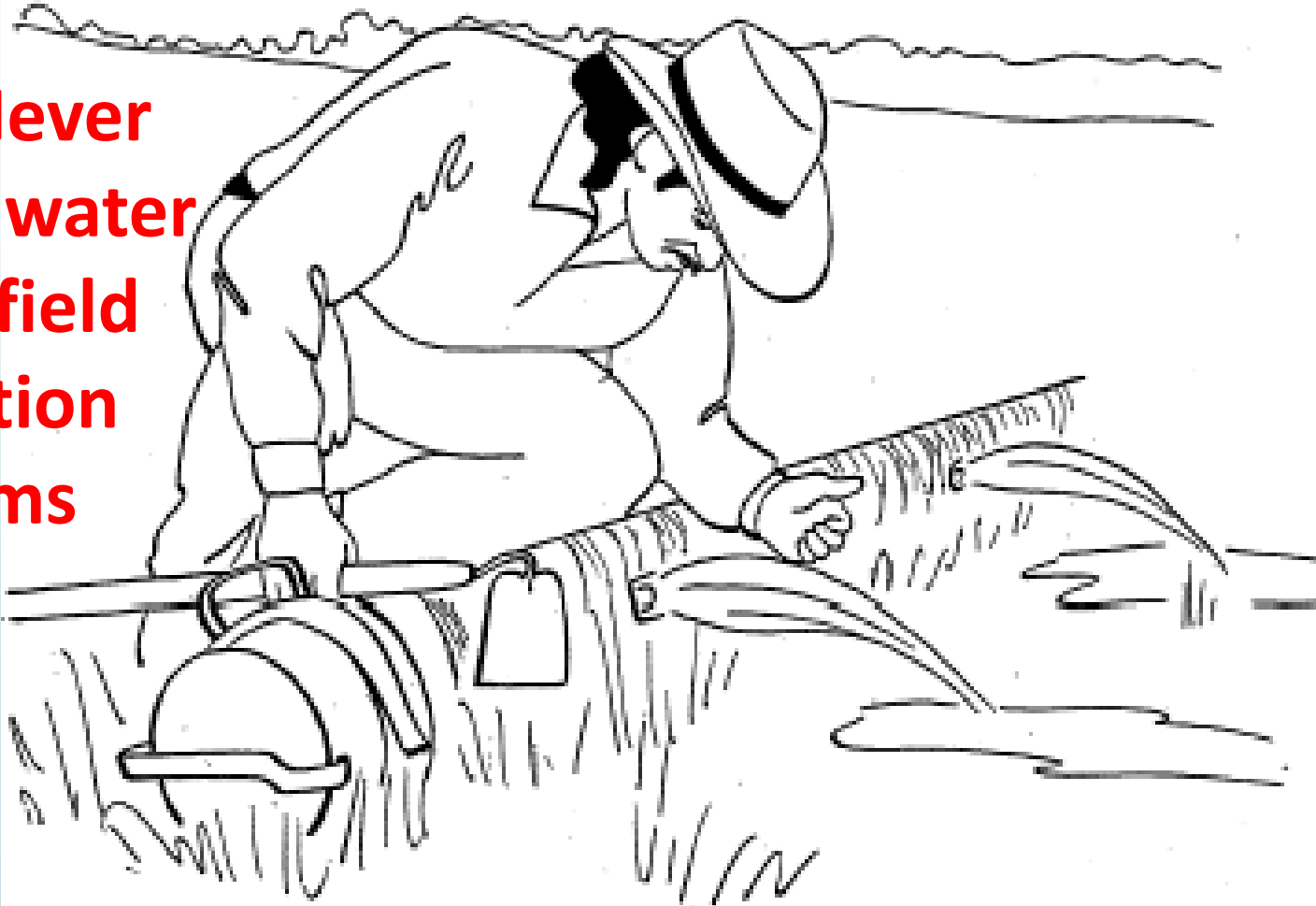


**LOOK AT THIS CONTAINER!
I BET I CAN REUSE IT FOR SOMETHING!**



I'M SO THIRSTY

**No! Never
drink water
from field
irrigation
systems**



Application Exclusion Zone in Outdoor Production

When the application is concluded, the AEZ no longer exists.



Campo



AEZ



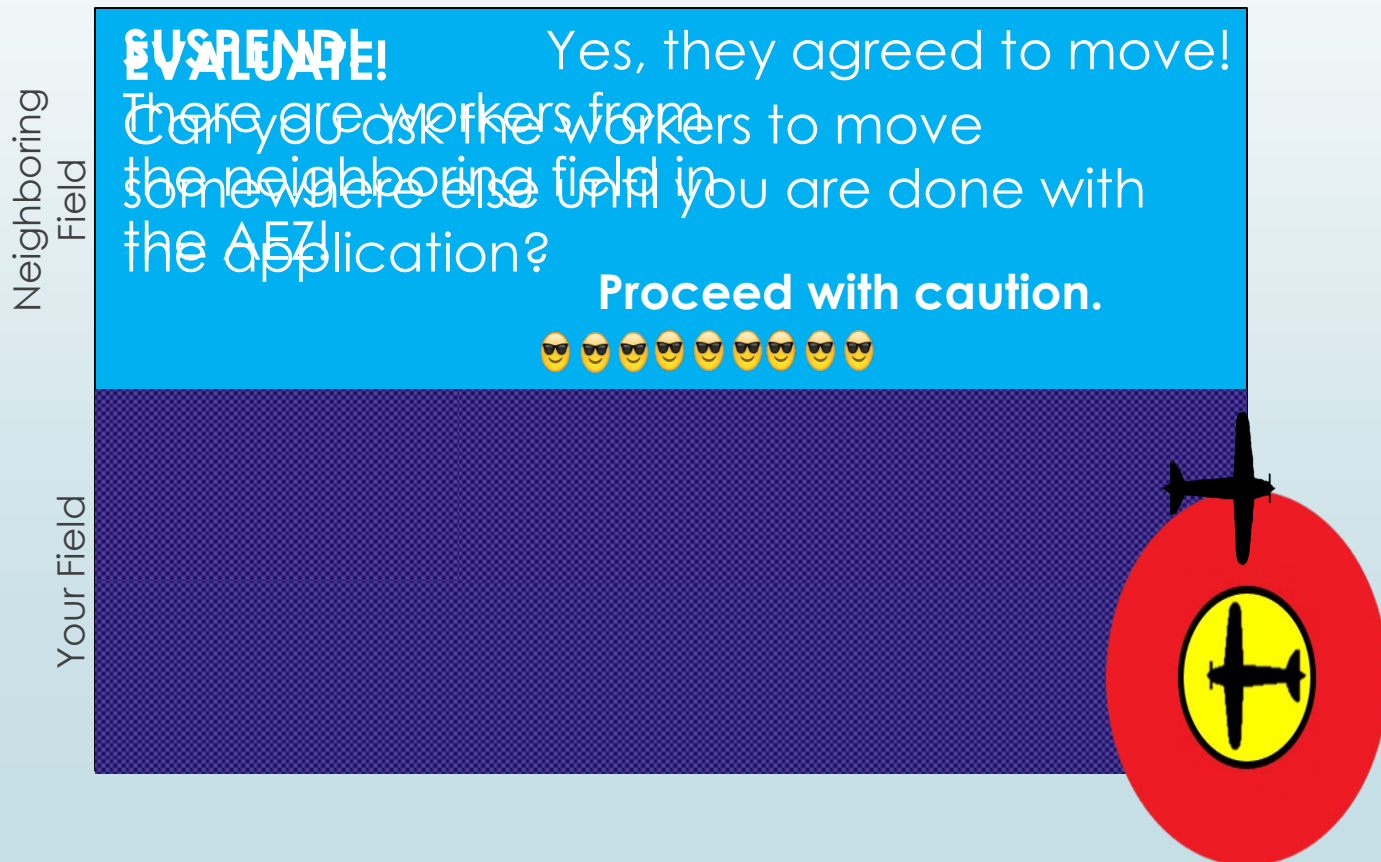
Area de
rocío



Area
tratada

AEZs on Field Borders

When the application is finished the AEZ no longer exists.



Right to file a complaint and be represented



Training and behavior change

Remember!

Training does not
change behaviors.

Only:

Supervision and
motivation can
change these
behaviors.



RESOURCES

- www.cdpr.ca.gov/docs/legbills/calcode/030303.htm#a6764 – pesticides and farmworker rules
- www.cdpr.ca.gov/docs/whs/pisp.htm - diseases studies related to pesticides
- www.cdpr.ca.gov/docs/whs/psisenglish.htm - pesticide information sheets
- www.epa.gov/region1/eco/pest/pdfs/ProtectYourselfFromPesticidesSpanish.pdf - Folleto "Protect yourself from Pesticides"
- <http://www.gemplers.com/search/wps> - sale of educational materials on pesticides
- www.cdpr.ca.gov/exec/county/county_contacts.html County agricultural commissioner directory
- www.calpoison.org Poisoning information





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