ENY634

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# Safe Handling and Use of Pesticides for the Commercial Citrus Grove Operator [1]

J.L. Knapp, H.N. Nigg and O.N. Nesheim[2]

**Employee Training and Supervision**

With the adoption of the Worker Protection Standard for Agricultural Pesticides (WPS) by the U.S. Environmental Protection Agency (EPA) and the Florida Department of Agriculture and Consumer Services (FDACS), agricultural workers (farm workers) and pesticide handlers must receive pesticide safety training. Agricultural employers should obtain a copy of EPA's publication, "The Worker Protection Standard for Agricultural Pesticides - How to Comply" for a detailed explanation of the Standard and how to comply with its requirements. It may be obtained from IFASPublications at the University of Florida, (352) 392--1764. The WPS requires the agricultural employer to provide several additional protections for agricultural workers and pesticide handlers. These protections include: information about pesticide applications made for the facility, emergency assistance from medical facilities in case of a pesticide-related illness or accident, and an accessible decontamination site that includes clean water, soap and single-use towels. The WPS applies to all pesticides used in the production of agricultural crops.

An Agricultural Worker is defined by the WPS as one who is employed for any type of compensation and is doing tasks such as harvesting, weeding, or watering related to the production of agricultural plants. Agricultural workers must receive training covering the following information if they will be working in fields, groves, nurseries, forests or greenhouses where, within the last 30 days, a pesticide has been applied or a Restricted Entry Interval (REI) has been in effect. The training must include:

Where and in what form pesticides may be encountered during work activities.Hazards of pesticides resulting from toxicity and exposure, including acute effects, chronic effects, delayed effects, and sensitization.Routes through which pesticides can enter the body.Signs and symptoms of common types of pesticide poisoning.Emergency first aid for pesticide injuries.How to obtain emergency medical care.Routine and emergency

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2. J.L. Knapp, professor and entomologist, Department of Entomology and Nematology; H.N. Nigg, professor and toxicologist, Department of Entomology and Nematology, Citrus Research and Education Center, Lake Alfred, Florida; and O.N. Nesheim, professor and Pesticide Information Coordinator, Department of Food Science and Human Nutrition, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611.

documentation procedures, including emergency eye flushing techniques.Hazards from chemigation and drift.Hazards from taking home pesticides or pesticide containers.An explanation of the WPS requirements designed to protect workers.

A Pesticide Handler is defined by the WPS as one who is employed for any type of compensation by an agricultural establishment and is doing tasks such as mixing, loading, or applying pesticides, cleaning or repairing application equipment that contains pesticide residues. Pesticide handlers must receive training covering the following information:

Format and meaning of information on pesticide labels.Hazards of pesticides resulting from toxicity and exposure, including acute effects, chronic effects, delayed effects, and sensitization.Routes through which pesticides enter the body.Signs and symptoms of pesticide poisoning.Emergency first aid for injuries or poisoning.How to obtain emergency medical care.Routine and emergency decontamination procedures, including emergency eye flushing techniques.Need for and appropriate use of personal protective equipment.Prevention, recognition, and first aid treatment of heat-related illness.Safety requirements for handling, transporting, storing and disposing ofpesticides, including general procedures for spill cleanup.Environmental concerns such as drift, runoff, and wildlife hazards.Warnings about taking home pesticides or pesticide containers.An explanation of WPS requirements that handler employees must follow for the protection of handlers and others.

Video programs covering these training requirements for agricultural workers and pesticide handlers have been produced. They are available from IFAS Publications at the University of Florida (352) 392--1764. The video programs are available in English and Spanish.

**Direct Supervision**

FDACS has established rules which apply to the supervision of unlicensed employees.

A Licensed Applicator may provide direct supervision to no more than 15 unlicensed individuals who are mixing, loading or applying pesticides at a given time.Only licensed applicators may apply pesticide products with label directions that require use only by a certified applicator.Licensed applicators are responsible for the pesticide use activities and actions of individuals under their direct supervision and shall be in a location from which they can physically arrive on site before or during pesticide use, if and when their presence is needed. **Personal Protective Equipment (PPE)**

Follow the label directions for use of personal protective equipment (PPE) during mixing, loading and application of pesticides and when repairing contaminated equipment. Check the label directions for the PPE required for early entry workers who enter pesticide-treated areas before the restricted entry interval is over. As a result of the Worker Protection Standard, more explicit and consistent PPE statements are present on pesticide labels. Keep PPE clean and in good repair. Bathe at the end of each day using plenty of soap and water and put on clean clothes.

**Handling and Applying Pesticides**

When using pesticides, read the label carefully and follow all directions exactly; pay special attention to warnings and precautions. Applying a pesticide in a manner not consistent with its labeling is a violation of the law.

Avoid inhaling pesticide sprays, fogs, mists, or dusts. Never eat, smoke, or drink while handling pesticides. Avoid working alone when applying pesticides. Avoid entering pesticide drift or runoff areas. Do not apply pesticides when drift will be a problem to humans, pets, livestock, bees and other beneficial insects, wildlife, water, and other crops. Make sure all workers and other people are out of the area where pesticides are being applied. Only trained and equipped handlers should be in the area during the application.

Keep application equipment clean and in good repair.

Keep grove workers out of groves during restricted entry intervals.

**Storage of Pesticides Structures**

Proper siting of pesticide storage structures is very important. Avoid places where flooding is possible. Make sure water sources will not be contaminated and that drainage is adequate. Wind directions should also be considered.

Sometimes existing buildings or areas within existing buildings are used for pesticide storage. However, if large amounts of pesticides will be stored, it is best to build or dedicate a building exclusively to pesticide storage. Choose a storage site where water damage is unlikely to occur. Make sure water sources will not be contami-nated by runoff from the storage site. The building or room should be dry, well-ventilated and well-lighted. The storage facility should be securely locked to keep out unauthorized people. Post signs on doors and windows to alert people that pesticides are stored there. Post "No Smoking" signs. Storage areas should have an immediate supply of clean water for decontami-nation of people. If running water is not practical, provide a sealable container with clean water.

**Storage Procedures**

Store pesticides in the original container with the label in sight and legible. If the label is destroyed or damaged, request replacement labels from the pesticide dealer immediately. Keep containers tightly closed. Inspect containers regularly for tears, splits, breaks, leaks, rust, or corrosion. If container is damaged, put on protective clothing and immediately take one of the following actions: Use contents completely on label-approved site, transfer to another container that held the same pesticide, or put into another container that can be tightly closed and put the label on the new container.

Do not store pesticides with food, animal feed, seeds, or farm animals. Do not storepersonal protective equipment (PPE) with pesticides. Store volatile pesticides separately from other types of pesticides. Keep containers away from windows, sunlight or any source of heat. Control the temperature to prevent freezing or overheating. Some pesticides are affected by temperature extremes. Check the label for storage temperatures.

Keep an up-to-date inventory of the pesticides you have in the storage area. Mark each container with the date of purchase and use older materials first. Organophosphate pesticides should be used within one year of purchase. All other classes should be used within two years. Do not store large quantities of pesticides for long periods of time. Purchase only as much as you will need for a season or year at most. If you store large quantities of pesticides, inform your local fire department, hospital, public health officials and police of the location of your pesticide storage building before a fire emergency occurs. Inform the fire department of the types of pesticides regularly stored there and give them a floor plan of the facility and work with them to develop an emergency response plan.

**Temporary Storage**

When storing pesticides at a temporary location, apply the same practices as for long-term storage. Remove from storage only the amount needed for a single day's application, and only for the period immediately preceding use. Return any unused product to the storage facility at the end of each work day.

Safe storage of pesticides saves lives and safeguards against pollution of the environment. Let common sense be your guide to safe storage of pesticides and containers.

**Transportation of Pesticides**

Pesticides should always be transported in a vehicle or trailer designed for this purpose. Side walls and the rear gate should be at least as high as material transported. The loaded pesticide should be well secured with a tarpaulin or ropes.

Never transport pesticides on the catwalk of a sprayer or water tank, the floor of an open "goat," or a flatbed truck with no sidewalls, or in the passenger compartment of a vehicle.

**Disposal of Pesticides**

Pesticides should never be purchased in excess of need. Any excess material that has been tank mixed should be applied to the crop per label instructions. Triple rinse or pressure rinse empty

pesticide containers and add the rinsate to the spray tank. Excess product is unused pesticide that you no longer need or that you can no longer legally use. The best way to "dispose" of EXCESS PRODUCT is to find someone who can use it, if the product is still legal to use. Check with the supplier or manufacturer to determine if they will take it back. You may be able to dispose of small quantities of excess product during hazardous waste collection programs sponsored by local solid waste management agencies. Check with your local solid waste management agency to determine if they sponsor a collection program and, if so, when the next one will be. If you can't use it, give it away, or dispose of it through a local hazardous waste collection program; you must arrange for a hazardous waste contractor to dispose of it. Call the Florida Department of Environmental Protection, (904) 488--2974, for a list of contractors. To avoid the problem of excess product, buy only what you can use in one season.

**Disposal of Containers** Empty paper or plastic pesticide containers must either be shaken clean, if they held drypesticide formulations, or triple or pressure rinsed, if they held liquid pesticide formulation. Use one of the following disposal options for the empty, clean containers:

**Sanitary landfill** -- Empty bags and rinsed containers may be taken to sanitary landfills for burial if the landfill operator accepts pesticide containers and local regulations allow.

**Open burning** -- Open burning of rinsed containers and empty bags is allowed in open fields if:

You are the property owner, the owner's authorized employee or caretaker, or a commercial pesticide applicator hired by the owner or caretaker.The product label allows burning of the empty container.Local (county) regulations permit.

When burning containers you must observe the following:

Burn only one day's accumulation of containers (500 lbs maximum).The open burning must not produce smoke, soot, odors, visible emissions, heat, or flame to such a degree as to create a nuisance.The open burning must be two hundred feet or more away from any farm workers or occupied buildings and one hundred feet or more away from any public road.Containers may be burned between 9 AM and one hour before sunset.The person responsible for burning must be in attendance at an upwind location until all flame and smoke have dissipated.The open burning is enclosed in a noncombustible container or ground excavation covered by a metal grill.
**Recycling** Properly rinsed plastic containers may be recycled. Offering plastic containers for recycling removes the containers from the user's property, preventing them from becoming a potential liability. Plastic pesticide containers offered for recycling must be taken to facilities that have been established to collect pesticide containers. Contact your local county solid waste management agency or the county extension office for information on pesticide container recycling in your area. Opportunities for recycling containers are becoming more widely available in Florida. Contact your local County Extension Office or the IFAS Office of Pesticide Information at (352) 392--4721.

**Overexposure**

If a worker becomes ill due to overexposure to pesticides, take the individual to the emergency room of the nearest hospital. Do not let the individual go to the hospital alone. Take a label of the pesticide(s) with the individual. The emergency room will call the local poison control center.

**Spills**

If a spill occurs on a public road, call the police for traffic control, call CHEMTREC for information on "how to handle it," and call the Florida Department of Agriculture and Consumer Services Pesticide Compliance Program (904) 488--3314.

If liquids spill in the storage room, cover the entire spill with absorbent materials such as vermiculite, fine sand, clay, kitty litter, sawdust, or absorbent pillows or pads. When cleaning up spills wear a protective apron, footwear, gloves, eye protection and a respirator. Keep adding absorbent material until the spilled liquid is soaked up and removed. Sweep up the absorbent material containing the pesticide and place it into a heavy-duty plastic

drum or bag. Apply this material as a pesticide to a site for which thepesticide is approved as directed by the label. If this method is impractical, see disposal section for hazardous waste disposal.

Sometimes the pesticide label, the pesticide manufacturer, or CHEMTREC will instruct you to neutralize the spill site. Neutralizing a spill often consists of mixing full-strength bleach with hydrated lime and working this mixture into the spill site with a coarse broom. Fresh absorbent material is then spread over the spill site to soak up the neutralizing liquid. This material is swept up and placed in a plastic drum or bag for disposal.

**Environmental Safety**

Follow all use restrictions and precautions on the label.

Do not throw empty cans or bags into a lake, stream, pond, or ditch.Do not spray laundry on a clothes line or a yard where people, pets, or livestock are present.To avoid spraying passing vehicles and to conserve spray material, turn off the outside bank of nozzles when turning.Do not drain the sprayer tank into a lake, stream, pond, ditch, or roadway as you drive.Prevent contamination of mix/load sites. Do not allow tanks to drain at mix/load sites. Clean up pesticide spills immediately.Protect the water source (well, canal or pond) when mixing and loading pesticides. If the water source is not protected by a concrete pad, berm or other method to prevent runoff into the source, fill the spray tank as far as possible from the water source. Use a longer hose or fill the tank in the field using an alternate water source, such as a nurse tank.Maintain a minimum air gap of 1-2 inches between the end of the hose and the highest water level in the spray tank to prevent backsiphoning from the tank to the water supply. Use a backflow prevention device (check-valve) on the fill hose.Be careful to avoid overfilling spray tank. Never leave spray tank unattended when filling. Close tank opening to prevent spills when transporting the sprayer to the field.