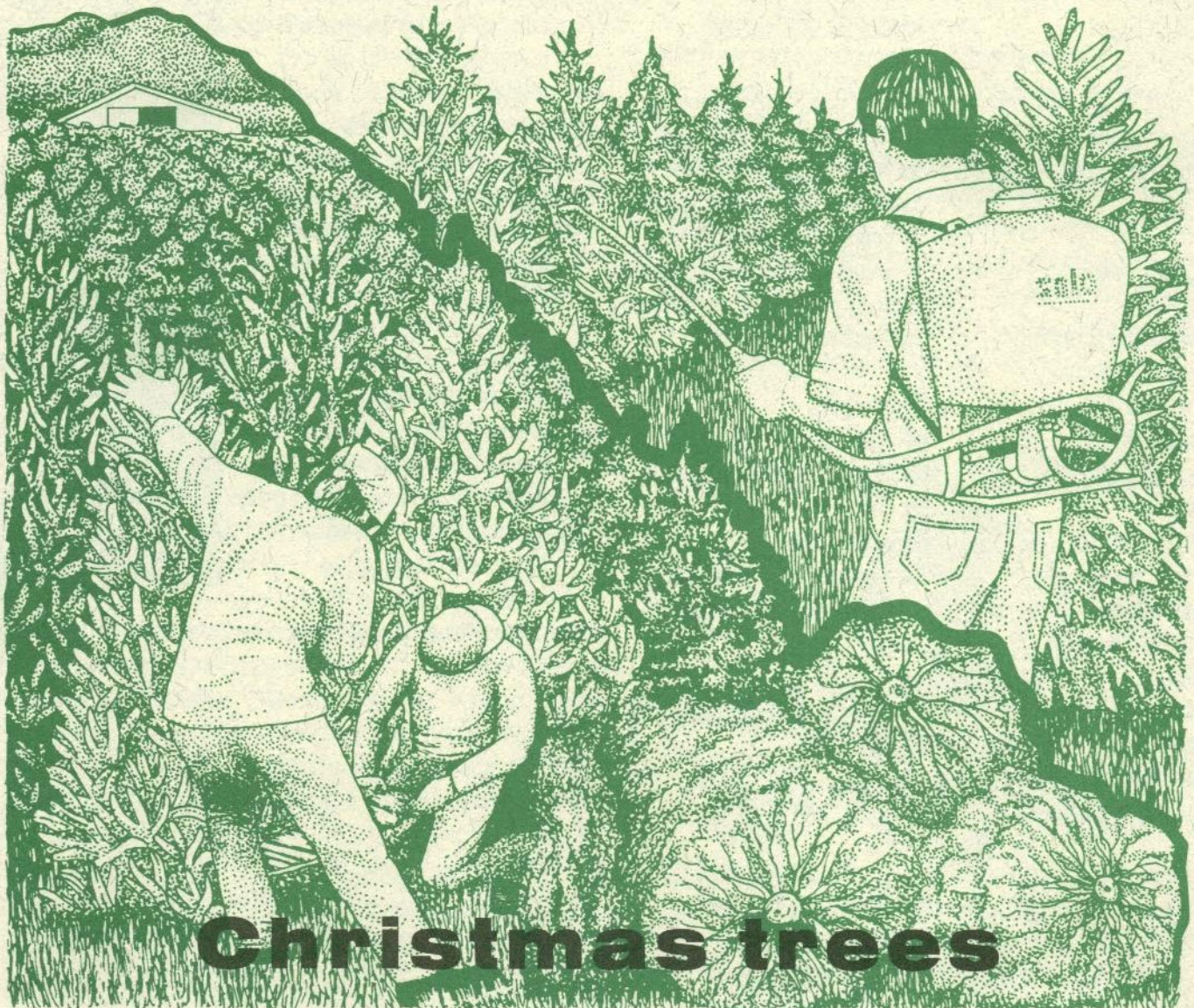


PESTICIDES & Human Health

As an agricultural worker, your health and safety are important. This fact sheet is intended for Christmas tree workers. It is part of a series focusing on crops that require intensive hand labor.

Throughout the world, pesticides are used to produce food, fiber, and forest products. They are designed to kill specific pests, cure diseases, and to regulate plant growth. However, as an agricultural worker, you may be exposed to pesticide residues through daily crop maintenance and harvest procedures—or to the pesticides themselves during their application or by accident. Such exposure may be harmful to your health.



How Can Pesticides Enter Your Body?

Pesticides are used in various forms: powders, liquids, pellets, granules, sprays, and gases (fumigants). Once pesticides are applied, residues may be found in soils, on plants, on harvested products, on application equipment, in water and irrigation canals, in pesticide storage areas, and on your clothes. Pesticides can enter your body in three ways:

By **swallowing** the chemical. You can ingest pesticide residues if you do not wash your hands before you eat, smoke, chew gum, or chew tobacco.

By **breathing** pesticide dust or fumes through your nose or mouth.

By **absorbing** the chemical through your skin or eyes. Spills, splashes, and clothing contaminated by pesticide residues are sources of exposure. Failing to wash your hands before you use the restroom increases your risk of exposure; so do open cuts or inadequate protective clothing and equipment.

Short-Term Poisoning Symptoms

One or more of these symptoms may indicate that you are experiencing pesticide poisoning.

- 1 nausea, vomiting, diarrhea
- 2 chest pain, coughing
- 3 difficulty breathing
- 4 excessive sweating
- 5 headache
- 6 eye, skin, throat irritation
- 7 itching, skin rash
- 8 blurred vision
- 9 small pupils
- 10 stomach/muscle cramps
- 11 drooling (mouth or nose)
- 12 weakness, dizziness
- 13 jumpiness, edginess

Potential Long-Term Health Effects

*Even if you have not experienced symptoms of short-term pesticide poisoning, long-term exposure (months or years) to even small amounts of **some** pesticides **may** cause any of the following health conditions:*

- 1 allergies
- 2 skin damage and irritation
- 3 nervous system damage
- 4 cancer
- 5 birth defects
- 6 reproductive problems (sterility or miscarriage)

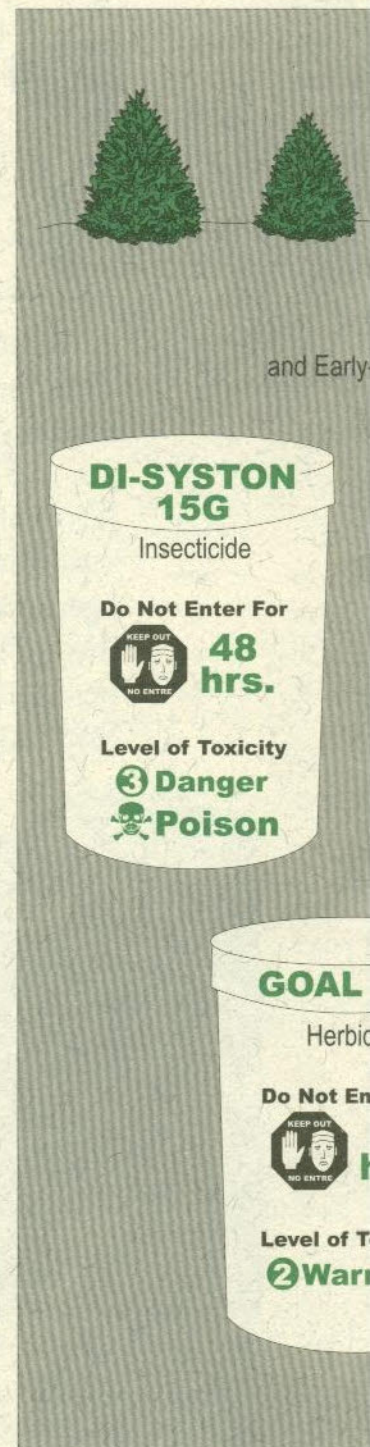


First Aid Tips

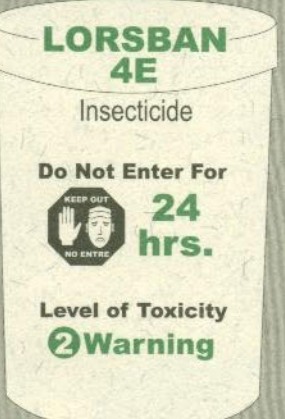


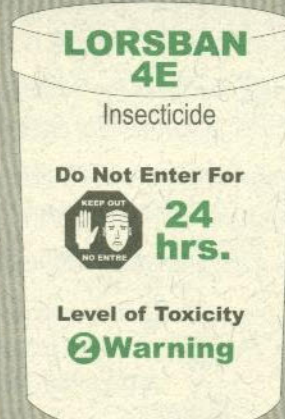
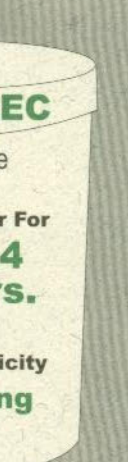

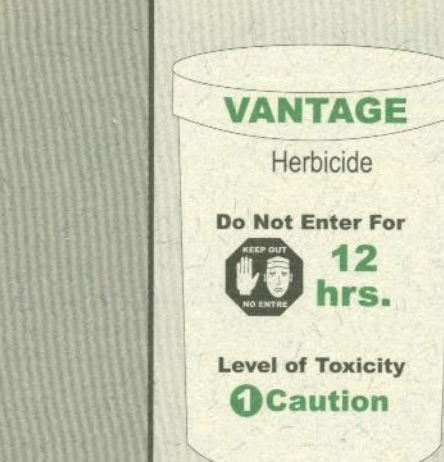

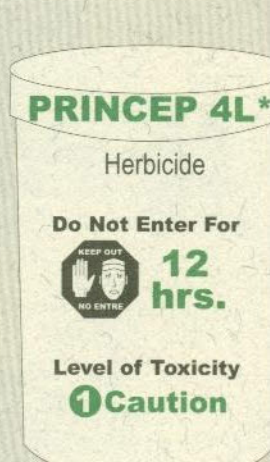
*If you have pesticide poisoning symptoms, **immediately**:*

- 1 Leave the site of exposure. Wash all exposed areas with soap and plenty of water; change your clothes.
- 2 Tell your employer; if you cannot do so, ask someone to do it for you.
- 3 Call 911 or other emergency medical personnel. Go to the nearest doctor, hospital, or migrant health clinic. Get help; do not drive yourself.
- 4 Follow the first-aid instructions on the pesticide label. If you do not have the label or do not understand it, ask someone to get it or explain it to you.
- 5 If you get pesticides in your eyes, rinse them with clean water for 15 minutes.
- 6 If you inhale fumes, get to fresh air or an uncontaminated area; sit down, remain calm, and breathe as normally as possible.
- 7 If you swallow pesticides, follow the first-aid instructions on the pesticide label.
- 8 Tell the doctor that you have been exposed to pesticides; provide the pesticide name and label.

Names and




Application Times of the Most Common Christmas Tree Pesticides

Planting Season Maintenance (January-June)	Shearing and Mid-Season Maintenance (July-October)	Harvest (November-December)	The Follow-up Care of At A
 <p>LORSBAN 4E Insecticide</p> <p>Do Not Enter For 24 hrs.</p> <p>Level of Toxicity 2 Warning</p>	 <p>JOUST Insecticide</p> <p>Do Not Enter For 24 hrs.</p> <p>Level of Toxicity 1 Caution</p>	 <p>JOUST Insecticide</p> <p>Do Not Enter For 24 hrs.</p> <p>Level of Toxicity 1 Caution</p>	 <p>LORSBAN 4E Insecticide</p> <p>Do Not Enter For 24 hrs.</p> <p>Level of Toxicity 2 Warning</p>
 <p>LINDANE 20EC Insecticide</p> <p>Do Not Enter For 24 hrs.</p> <p>Level of Toxicity 1 Caution</p>	 <p>STINGER Herbicide</p> <p>Do Not Enter For 12 hrs.</p> <p>Level of Toxicity 1 Caution</p>	 <p>VANTAGE Herbicide</p> <p>Do Not Enter For 12 hrs.</p> <p>Level of Toxicity 1 Caution</p>	 <p>LINDANE 20EC Insecticide</p> <p>Do Not Enter For 24 hrs.</p> <p>Level of Toxicity 1 Caution</p>
 <p>PRINCEP 4L* Herbicide</p> <p>Do Not Enter For 12 hrs.</p> <p>Level of Toxicity 1 Caution</p>	<p>*Other product names Simazine 4L</p>		

Always refer to the pesticide label for current toxicity and re-entry interval (REI) information.

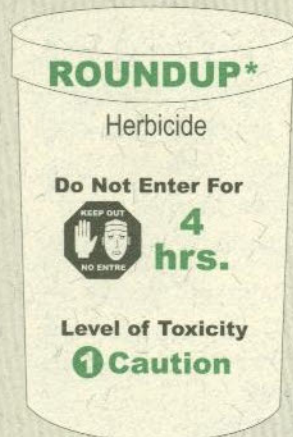
LEVEL OF TOXICITY

1 Caution	2 Warning	3 Danger
 <p>One Pint</p> <p>Slightly toxic; less than one pint can kill an adult.</p>	 <p>Two Tablespoon</p> <p>Moderately toxic; less than two tablespoons can kill an adult.</p>	 <p>One Teaspoon</p> <p>Highly toxic; less than one teaspoon can kill an adult.</p>

e Pesticides



Season Maintenance Through
Maintenance, and Harvest
(-December)



*Other product names:
Roundup Pro, Accord

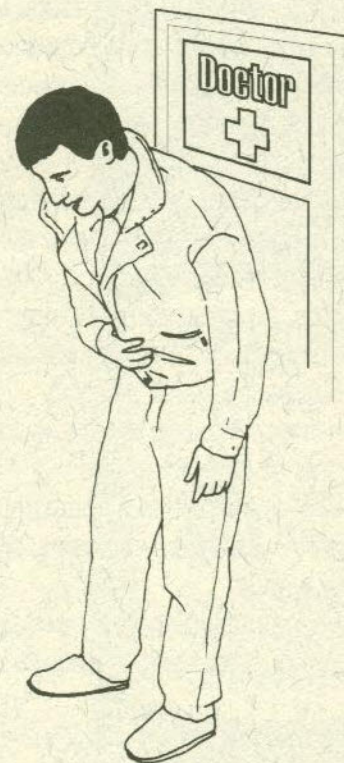
Health and Safety Tips

Pesticide residues remain in fields after the pesticides have been applied. Therefore, you should **always**:

- 1 Wear clothing that covers the skin: a long-sleeved shirt, long pants, socks, and shoes. A hat, handkerchief, and gloves are also recommended.
- 2 Wash your hands before eating, drinking, or smoking; before chewing gum or tobacco; and before using the restroom because there could be pesticide residues on your hands. Do not eat or smoke in treated fields.
- 3 Use a clean cloth to wipe sweat from your brow. Avoid scratching or wiping your face with your hand or shirt sleeve.
- 4 Wash your work clothes before wearing them again. When washing your work clothes, separate them from your family's laundry so that you do not contaminate it.

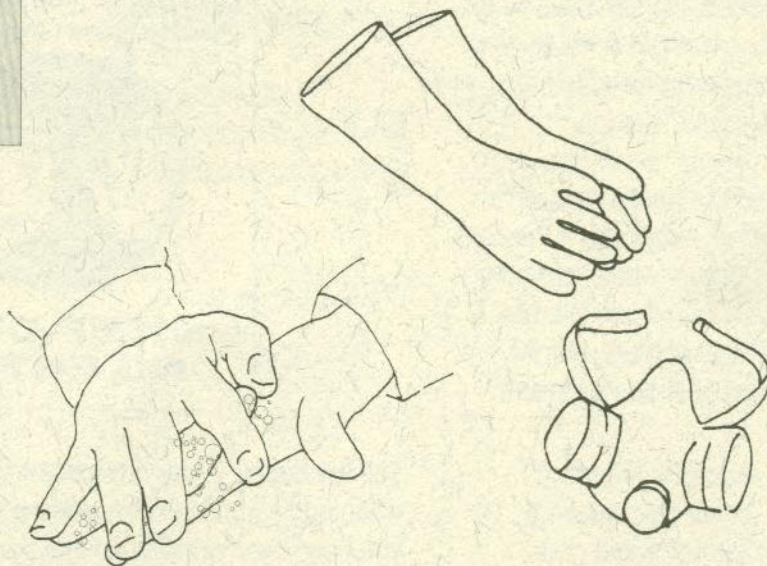
If you are going to mix or apply pesticides or enter a treated field before the re-entry period has ended, you should **always**:

- 1 Know that entry into treated areas before the Restricted Entry Interval (the period of time you must wait before re-entering a treated field) has ended is **only** allowed for some tasks, as described in the Worker Protection Standard.
- 2 Know the chemical and its associated hazards. Each pesticide has different instructions, toxicity, and precautions (see figure).
- 3 Read and follow the instructions on the pesticide label. If you do not understand the label instructions, ask someone to explain them to you.
- 4 Wear the Personal Protective Equipment listed on the pesticide label. This may include clothing that covers your skin, chemical-resistant gloves, and a respirator.



When working with pesticides or in fields in which pesticides have been applied, you should remember:

- 1 **Never** eat, drink, or smoke in recently treated fields or if you have handled pesticide containers.
- 2 **Never** re-use empty pesticide containers for any purpose. For example, do not use pesticide containers as water jugs, laundry basins, or trash cans.
- 3 **Never** drink from, bathe in, or wash food or clothing in irrigation ditches, which may contain pesticide residues from treated fields.



Other Health and Safety Concerns

Injury or illness due to environmental exposures—

Christmas tree work is often performed in environmental conditions that may result in physical injury or illness. Some injuries may be serious enough to result in loss of life, limbs, or work time. Always wear proper clothing and use protective equipment to help protect yourself from injuries and illness resulting from the following:

- 1 excessive sunlight
- 2 extremely hot or cold weather
- 3 residues from farm chemicals such as fertilizers, pesticides, cleaners, and fuels
- 4 cuts, scrapes, and punctures from needles and branches
- 5 irritations or allergies from contact with natural plant substances such as resin
- 6 biting or stinging insects such as bees, wasps, hornets, and ants or other animals
- 7 uneven terrain and stumps or holes left in the ground from previously harvested trees, which may be covered by grass or weeds
- 8 hazardous equipment such as tractors, balers, trailers, conveyors, chain saws, shearing knives, shearing machines, or pruners.

Seek medical help if a serious injury occurs. Immediately call 911 or other emergency medical personnel and your supervisor. Serious injuries caused by machinery should always be treated by a doctor. In accidents involving machinery, turn the equipment off if it is still running. Do not move the victim. Determine whether the victim is breathing and resuscitate, if necessary. Apply a bandage with pressure to stop any bleeding.

Training and prevention—Leave all equipment guards in place and keep them in working order. Workers should:

- 1 **never** operate any equipment until you receive proper training
- 2 **never** work on the same row or adjacent rows of trees when using shearing knives, shearing machines, or long-handled pruners
- 3 **never** wear loose-fitting clothing that can be caught in moving parts of machinery

Heat stress—People may become sick with heat stress when they work in extremely hot, humid weather, especially if they are not drinking enough water. Heat stress occurs when your body is overworked and exposed to more heat than it can tolerate. Heat stress is not caused by exposure to pesticides, but the symptoms are similar to those caused by pesticide exposure. The symptoms of heat stress include:

- 1 nausea and vomiting
- 2 weakness and dizziness
- 3 severe thirst and dry mouth
- 4 confusion or slurred speech
- 5 excessive sweating (or lack of sweating)
- 6 headache and chills

Pesticide Law Protects Workers

The Worker Protection Standard (WPS) is designed to protect agricultural workers who may be exposed to pesticides. Whenever a pesticide is applied, a grower must:

- 1 Provide basic training about pesticides and pesticide safety before field work begins. If you mix and apply pesticides, you must receive additional training, which includes information on how to follow the pesticide label and what personal protective clothing and equipment are required.
- 2 Post in a central location the name of the pesticide (active ingredient(s) and EPA registration number), the location and description of the treated area, the time and date of the application, the Restricted Entry Interval (REI—the period of time you must wait before re-entering a treated field), and emergency medical information. The following are the **only** conditions under which you can enter a treated field before the REI has ended: when performing certain WPS-approved tasks and when you have had special training and wear special protective clothing and equipment.
- 3 Provide water, soap, and paper towels in the field, or within ¼ mile of the field, so that you can wash your hands or body if necessary.
- 4 Take you to the doctor, hospital, or migrant health clinic if you become sick because of working with pesticides.
- 5 Not retaliate, fire, or harass you for asking for your legal right to know or for reporting a violation to the N.C. Department of Agriculture and Consumer Services or the N.C. Department of Labor. If you report a violation, you do not have to give your name.



Tell the doctor if you have been exposed to pesticides, what crop you have been working in, and how much water you have been drinking so that the doctor can determine the cause of your symptoms and treat you properly.

Health Emergencies:

For any type of emergency, call 911*

For information about any poison, including pesticides, call the
North Carolina Poison Control Center at 1-800-848-6946* (toll free)

<i>The nearest emergency medical facility (hospital) is:</i>	
Name	_____
Street	_____
City	_____
Telephone Number	_____

Questions and Violations:

- 1 The agency responsible for enforcing the Pesticide Law and providing information on pesticides:
North Carolina Department of Agriculture and Consumer Services, Pesticide Section . . . 919-733-3556*
- 2 The agency responsible for enforcing the laws concerning health and safety conditions in labor camps and in fields:
North Carolina Department of Labor . . . 1-800-522-6762* (toll free)
Agricultural Safety and Health Section . . . 919-733-8731*
- 3 If you have any questions on how pesticides may affect your health, call:
North Carolina Department of Health and Human Services, Occupational
and Environmental Epidemiology Section . . . 919-733-3410*

*Spanish is spoken

FOR FURTHER INFORMATION

Other crop-specific publications in the *Pesticides & Human Health* series include:
Tobacco, Cucumbers, Sweet Potatoes, Green Peppers, and Apples.
Contact the N.C. Cooperative Extension Service center in your county
for copies or for information on pesticide training.



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