



# Pesticide Safety:

## A Guide for Gardeners and Homeowners

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## First Aid

Always read the first aid information on the label before applying the pesticide to know what to do in case of accidental contact with the skin or eyes. When seeking medical help, always bring the pesticide label or relay the U.S. EPA registration number to your medical provider or first responder.

■ **Skin exposure:** Follow label instructions, but in general, drench the skin and clothing with water, then remove all contaminated clothing and wash skin thoroughly with soap and water. Also wash hair and fingernails thoroughly.

■ **Eye contact:** Follow label instructions, but in general, rinse eyes immediately with a stream of clean water and continue rinsing for 15 to 20 minutes.

■ **Inhalation:** Get to fresh air immediately. Begin artificial respiration if the victim isn't breathing. Contact the poison control center, then dial 911 and seek medical help.

■ **Ingestion:** Follow label instructions carefully. Do not induce vomiting unless directed by the label or a medical professional. Sometimes vomiting can be extremely dangerous. Contact the poison control center, then dial 911 and seek medical help.

**North Dakota Poison Control Center**  
**Poison help: (800) 222-1222**  
**(24 hours per day and confidential)**

Please note: The North Dakota Department of Health contracts with the Minnesota Poison Control System to manage all poison exposure calls for North Dakota.

<https://ndpoison.org>

**National Pesticide Information Center:**  
<http://npic.orst.edu>

**For more information about safe pesticide use, contact your county extension office.**

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**P**esticides include natural and man-made substances such as insecticides, herbicides, fungicides, disinfectants and rodenticides. They are used to help control, destroy or repel destructive pests such as insects, weeds, plant disease organisms, germs and rodents.

Pesticides can increase the quality and quantity of our food supply, prevent disease and improve the comfort and aesthetics of our environment. The use of pesticides is not without risks. Every pesticide applicator is responsible for preventing harm from occurring to humans, pets, livestock, wildlife or the environment.

## Is a Pesticide Necessary?

■ Identify the problem and the pest. Is controlling it necessary? Will it cause unacceptable damage? Consider all control options, including alternatives to pesticides, such as hoeing; hand weeding; excluding the pest with barriers; sanitizing the area; and/or removing food, water or cover for the pest.

## Choose the Right Pesticide

- Choose the lowest toxicity pesticide that can be used legally on the target area, crop or plant and that will control the pest safely and effectively.
- Plan ahead and buy no more pesticide than you need.
- Keep pesticides separate from other items in a shopping cart and make sure they are wrapped in a separate bag at the checkout stand.
- Transport pesticides in the trunk of the car instead of the backseat to avoid contaminating the car interior in case of breakage.
- Make sure you have the proper safety and application equipment available and know how to use it.

## Read and Follow the Label Directions

- As a pesticide applicator, you are legally responsible for reading, understanding and following the label directions. Pesticide labels usually will contain the following sections:
  - **Product name:** This indicates the type of pesticide or what types of pests it will control.
  - **U.S. EPA registration number:** Make certain the product you purchase has a number. This is your assurance that the product has been reviewed properly and approved for use according to label instructions.
  - **Ingredient statement:** It lists the amount of each active ingredient and the total amount of inert ingredients.
  - **Signal word:** This indicates the toxicity of the product.
    - Products labeled "DANGER POISON" and accompanied by a skull and crossbones symbol are highly toxic.
    - Products labeled "DANGER" without the word "POISON" or the skull and crossbones symbol can cause severe skin injury or irreversible eye damage.

(continued on next page)

## Special Precautions When Using Pesticides

- Examine the area to be treated and the surrounding area. Does the area have any plants or animals that could be harmed by the pesticide? Don't spray if you cannot guarantee they will not be injured. You are responsible for any damage that could occur.
- Wear all protective clothing and equipment listed on the label. The minimum protection most products require is long-sleeved shirts, long pants, socks and shoes to avoid direct skin exposure. More toxic materials may require waterproof coveralls, chemical-resistant gloves, safety glasses, goggles, etc.
- Use pesticides only on plants or sites designated on the label.
- Calibrate the sprayer or applicator to apply the correct amount. Applying more pesticide than the label states is illegal and unsafe.
- Use all chemicals in well-ventilated areas to avoid inhaling fumes. Work outdoors if possible. Use protective gloves and/or masks when required by the label instructions.
- Don't spray on a windy day (above 10 miles per hour or above label limits) because the spray could drift on you or into a neighbor's yard.
- Do not eat, drink or smoke when using pesticides because traces of the chemicals may be transferred from hand to mouth.
- Wash hands thoroughly with soap and water after handling pesticides and before eating or using the bathroom.
- Avoid wearing soft contact lenses when dealing with pesticides. Soft contact lenses may absorb vapors from the air and hold them against your eyes.
- Always avoid unnecessary exposure to pesticides. Be especially careful to keep children, pregnant women, sensitive individuals and pets away from areas where pesticides are being or have just been applied.
- An alternative is to hire a professional pesticide applicator. Be sure the applicator is certified and has good references.

(Read and follow the label directions, continued from previous page)

- Products labeled “WARNING” are moderately toxic or may cause moderate eye or skin irritation.
- Products labeled “CAUTION” are slightly toxic or may cause slight eye or skin irritation.

■ **Precautionary statements:** These warn about potential hazards to humans, domestic animals and the environment. They also indicate special fire, explosion or chemical hazards and methods to avoid or minimize risks.

■ **First aid or statement of practical treatment:** This indicates antidote or first aid treatment to administer.

■ **KEEP OUT OF REACH OF CHILDREN:** Pesticides always must be stored and kept out of reach of children.

■ **Directions for use:** They warn that federal law requires the pesticide to be used according to label directions. They indicate location, amount, frequency, and method and timing of the application. The label also indicates when people can re-enter the treated area safely to harvest the fruits or vegetables. **Do not exceed the limits found on the label.**

■ Other information on the label includes the name and address of the manufacturer and storage and disposal information.

## Disposal of Pesticides

- Never put potentially hazardous waste, such as pesticides, directly in the garbage.
- Check if your community has a household hazardous waste collection program. If you have questions about disposal, call your local NDSU Extension office or the North Dakota Department of Agriculture at (701) 328-2231.
- Share remaining pesticides with someone who can use them as intended.
- Don't pour remaining chemicals down the drain.
- Triple rinse empty glass, plastic and metal pesticide containers by filling the containers one-quarter full of water, covering tightly and shaking. Apply the rinse water on the original targeted area. Wrap the container in newspaper and send to the landfill or dispose of it as directed on the label.
- Do not reuse empty pesticide containers.
- Wrap aerosol containers in several layers of paper and place in a covered trash container.
- Use up, share or wrap the following in newspaper and save for a hazardous waste collection: pest strips, pet flea and tick collars, pet shampoos and pet dusting powders.

## Dealing with Spills

- Don't leave the spill unattended. Send someone else for help.
- Keep people, especially children, and pets upwind and away from the spill.
- Protect yourself by wearing AT LEAST the protective clothing and equipment listed on the pesticide label.
- If indoors, ventilate the area with fans, and open windows and doors.
- Try to confine the area of the spill. Use a nonflammable absorbent material, such as cat litter, to soak up the spill.
- Place the material in a noncorroding container, such as a plastic bucket with a tight-fitting lid.
- Seal the container and label it with the product name, amount and absorbent material used. In some communities, the product will need to be stored safely until the community holds a household hazardous waste collection.
- Rinse the area several times with water and rags. Wash the area to remove traces of the product. Don't use household equipment to clean the spills because this equipment will need to be discarded to avoid contamination of your household.

## Safety Clothing and Equipment

Check the label under “Hazards to Humans and Domestic Animals” to see what special protection is needed when applying a pesticide. Protective clothing or personal protective equipment (PPE) may include a hat, goggles, mask, rubber gloves, rubber boots and/or a long-sleeved shirt and long pants. A respirator that is approved for pesticides may be needed for some pesticides that pose a risk from inhalation.

### Clothing Clean-up

- Consult the label for special cleaning instructions. (Note: With some pesticides, you may need to dispose of heavily contaminated clothes.)
- Keep clothing used during pesticide application separate from family laundry.
- Launder after each use. Prerinse or presoak contaminated clothing, then wash using hot water and a heavy-duty detergent. Rinse and use a high-speed spin cycle.
- Clean the washing machine after use by running it without clothing through a normal wash cycle with detergent.
- For more detailed instructions on handling and washing pesticide-contaminated clothing, see the Extension publication “[Laundering Pesticide-contaminated Work Clothes](http://tinyurl.com/pesticide-contaminatedclothing)” at <http://tinyurl.com/pesticide-contaminatedclothing>.

### Application Equipment and Cleanup

- The pesticide sprayer or granular applicator needs to be in good operating condition and properly calibrated to apply the correct amount of pesticide.
- Clean all equipment, including mixing tools, after each use according to label instructions.
- For information on calibration of pesticide sprayers or granular applicators, contact your county office of the NDSU Extension Service or your pesticide supplier.

## Pesticide Alternatives

- Select plants resistant to insects and diseases.
- Remove dead plant material that could harbor insects or diseases.
- Pull weeds before they bloom.
- To keep insects away without pesticides, try physical barriers such as cheesecloth, netting and row covers. Surround developing plants with tin can collars to protect against insects that feed or lay their eggs at a plant's base.
- Spray plants with insecticidal soaps to kill soft-bodied insects such as aphids and grubs.
- Try a natural insecticide such as *Bacillus thuringiensis* (Bt) or spinosad based products, which have been shown to be effective against caterpillars and beetles without harming humans or wildlife.
- Plant a variety of crops that flower throughout the season (such as some marigolds) to deter some pests.
- Remove sources of food, water and cover that nourish and protect pests.

## Storage

- Store pesticides out of reach of children in locked cabinets or in cabinets with childproof latches.
- Store pesticides only in their original containers with labels visible and intact. (Storing pesticides in something other than the original container is a violation of state and federal law.)
- Mark the date on containers that are put into storage with a permanent marker and keep an up-to-date list of products and purchase dates near the storage area. Use oldest products first.
- Keep pesticide containers dry to prevent deterioration and possible leakage..
- Keep all pesticides away from a heat source or flame and store within temperature ranges described on the label.
- Seal containers tightly after using.
- Store all pesticides away from food, feed, seed, fertilizer or water.

## Pesticides and Food

In recent years, consumers have expressed concern about pesticides and their health and environmental effects. Foodborne illnesses due to bacteria, molds and yeasts pose a greater risk than exposure to pesticide residues.

Careful use of pesticides helps ensure that a variety of high-quality produce is available all year. The Environmental Protection Agency (EPA) sets the legal levels of pesticide residues that may remain on food sold to supermarkets or food processors.

The Food and Drug Administration (FDA) tests food samples for pesticide residues and inspects them to make sure that only legally registered pesticides are used. The U.S. Department of Agriculture (USDA) tests meat, poultry and egg products for pesticide residues. If illegal pesticides or improper amounts are detected, the food is to be removed from the marketplace.

Consumers who grow food for themselves or others also need to exercise caution. Although pesticides vary in their toxicity, all pesticides should be treated as potentially harmful. **The label directions must be followed, and the pesticide must not be applied above the maximum rate or more often than allowed.** The pesticide should not be applied closer to harvest than directed on the label to allow for the pesticide residue to be degraded.

Products labeled “organically grown” are choices for those who wish to consume less pesticides. Organic produce may be more costly and less available. To be truly organic, a food may not be raised using synthetic pesticides, and the soil must have been pesticide-free for three years. Organic growers, however, may use naturally occurring pesticides such as diatomaceous earth.

Fresh produce from your garden or from the grocery store may contain traces of pesticides. The following guidelines will minimize your exposure to pesticide residues.

- Choose foods carefully. Examine food for dirt, cuts, decay and mold.
- Eat a variety of foods every day to minimize your exposure to any one pesticide.
- Wash fruits and vegetables thoroughly under running water. Do not use household detergents on fruits and vegetables because the FDA does not recommend detergents for use with food.
- Peel fruits and vegetables to remove residues from the surface. If you want to eat the fiber-rich peelings, scrub the produce well. Peel away and discard outer leaves from cabbage and lettuce.
- To avoid pesticide residues in animal products, trim fat and skin from fish, poultry and meat, and discard pan drippings and broths.

