

Cultivating the seeds of knowledge: What you should know about pesticides

(Prepared for those who work in tobacco)

Pesticides can be found in a variety of different places: in the soil, on plants, on produce or other harvested products, on pesticide equipment, in water and irrigation canals, in areas where pesticides are stored, and on your work clothes. They exist in various forms, as powders, liquids, sprays, and gases.

All pesticides are toxic chemicals, though some pesticides are more toxic than others. The toxic effect of any given pesticide exposure depends on

- ◆ the quantity of pesticide involved
- ◆ the length of time it remains in or on your body.

Pesticides enter your body in three main ways:

1. through your nose and mouth by breathing pesticide dust or fumes;
2. through your mouth by swallowing the chemical directly;
3. by being absorbed through your skin or eyes.

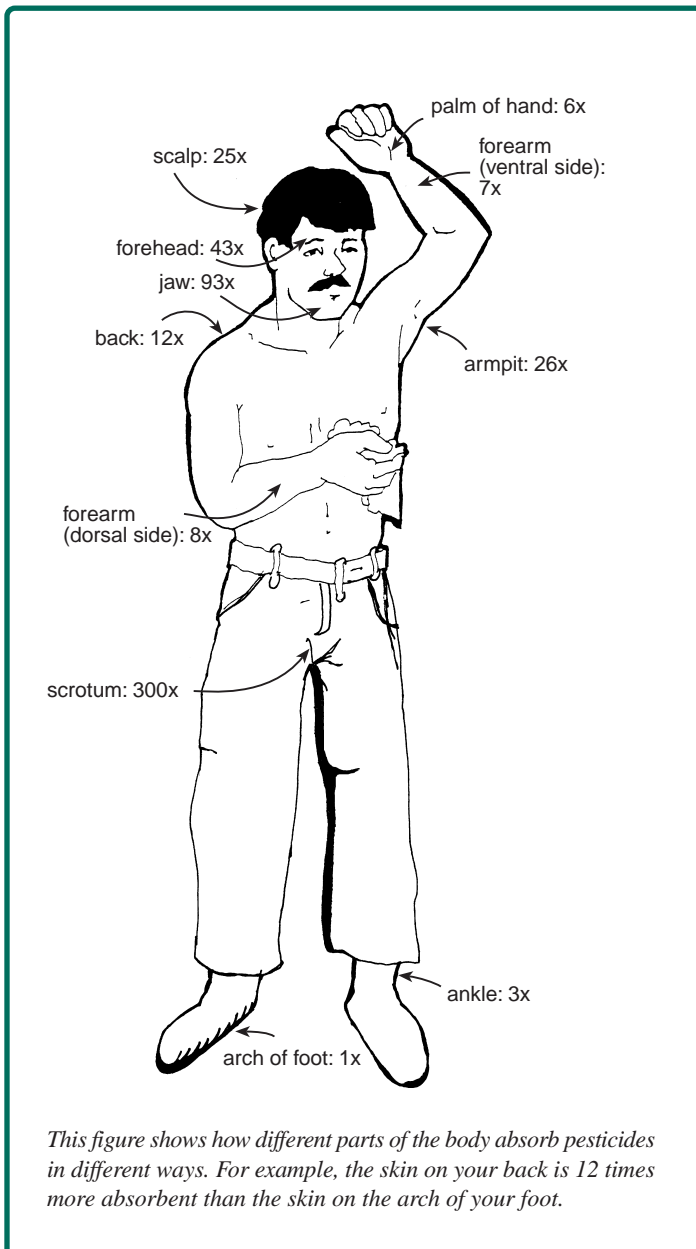
In most cases of pesticide exposure, your skin is the part of your body that is most likely to be exposed.

- ◆ In fact, some estimates indicate that 97% of pesticide exposure occurs through contact with the skin.

However, breathing pesticide dust or fumes is very dangerous, especially when you are working in a poorly ventilated space with a fumigant or other chemical that is highly toxic.

How much of the chemical is absorbed into your body through your skin and eyes depends upon several factors, including:



1. **the part of the body exposed to the pesticide.**
The figure that accompanies this text shows how different parts of your body absorb pesticides differently. The skin on your forehead, for example, is 43 times more absorbent than the skin on the arch of your foot. (Or, if the same amount of pesticide were to fall on your forehead and on your foot, the pesticide would enter your body 43 times more rapidly through your forehead than through your foot.)
2. **the condition of the exposed skin.**
Damaged skin (cuts, abrasions, skin rashes) absorbs more readily than skin in good condition. Hot, sweaty skin will also absorb more pesticide than cool, dry skin.



This figure shows how different parts of the body absorb pesticides in different ways. For example, the skin on your back is 12 times more absorbent than the skin on the arch of your foot.

Tobacco pesticides

These are the pesticides used most frequently in tobacco.

	Chemicals Common name in bold (Chemical name in parentheses)	Pests, diseases The chemical is used	REI (Number of hours you must wait before entering a sprayed field)	EPA signal word# (Level of toxicity)
Insecticides	Orthene (Acephate)	to control aphids, worms, beetles, grasshoppers	24 hours	caution
	Dipel (sometimes prepared with cornmeal) (<i>Bacillus thuringiensis</i>)	to control worms (budworms, hornworms)	4–12 hours	caution
	Admire, Provado (Imidocloprid)	to prevent aphids, beetles	12 hours	caution
	Lannate* (methomyl)	to control aphids, worms, beetles	48 hours	danger 
	Thiodan (endosulfan)	to control budworms, stink bugs	24 hours	danger 
Growth regulators	MH-30, Fair +, Fair 30, Sucker Stuff (maleic hydrazide)	to control suckers (sprayed chemical)	12 hours	caution
	Prime + (flumetralin)	to control suckers (sprayed but can be applied by hand)	24 hours	danger
	Butralin (butralin)	to control suckers; sprayed (at times applied by hand)	12 hours	danger
	Offshoot T, Fair 85, Sucker Plucker, Clean-Tac (C8-C10 fatty alcohols)	to control suckers; sprayed (at times applied by hand)	24 hours	warning
	FST-7, Leven-38 (C10 alcohol + maleic hydrazide)	to control suckers (sprayed chemical)	24 hours	danger
Fungicides	Ridomil 2E (metalaxyl)	to control blue mold, black shank	12 hours	warning
	Ridomil Gold EC (metalaxyl)	to control blue mold, black shank	48 hours	warning
Ripening agents	Prep, Superboll (ethephon)	to yellow tobacco in the field	48 hours	danger

* Restricted Use Pesticide (indicated as such because it is a highly toxic chemical)

Caution, Warning, Danger: the three words used by the U.S. Environmental Protection Agency to indicate the level of toxicity of the pesticide. The pesticides classified **Caution** are the least toxic; **Warning** indicates moderate toxicity; **Danger** indicates those pesticides that are highly toxic and most hazardous to your health

Agricultural Safety and Health Section
413 North Salisbury Street
Raleigh, North Carolina 27603-5942



How toxic chemicals enter your body:

1. Through your nose and mouth by breathing pesticide dust or fumes;
2. Through your mouth by swallowing the chemical directly;
3. By being absorbed through your skin or eyes.

Symptoms of short-term pesticide exposure:

Any one or combination of these symptoms may indicate that you have been exposed to pesticides.

1. Irritation of eyes, skin or throat
2. Itching, skin rash
3. Blurry vision
4. Dizziness, nausea, vomiting
5. Difficulty breathing
6. Drooling from the mouth or nose
7. Stomach cramps
8. Headaches
9. Small pupils (eyes)
10. Muscle cramps, muscle weakness
11. Excessive sweating
12. Chest pains, coughing
13. Jumpiness, edginess



Long-term health effects of pesticide exposure:

There is growing concern by health care providers, scientists, and environmentalists that long-term exposure to even very small amounts of pesticides may cause adverse health effects, particularly among farmworkers. You should know that some pesticides may cause birth defects, cancer, genetic damage, spontaneous abortion, sterility in both men and women, chronic skin irritation, allergies, and damage to the liver and other organs.

Green tobacco sickness:

Many people working in tobacco become sick when the nicotine from wet tobacco leaves is absorbed directly into the skin. Many of the symptoms of green tobacco sickness are similar to those symptoms caused by heat exhaustion or exposure to pesticides (stomach cramps, difficulty breathing, nausea, vomiting, dizziness, etc.) The symptoms can start 1 to 2 hours after beginning work and can last 12 to 24 hours. *If you believe you have been exposed to pesticides, you should tell the doctor when you seek medical attention so that the symptoms will not be confused with those of green tobacco sickness.*

Safety tips for agricultural workers:

Always wear clothing that covers your skin. You should wear a long-sleeved shirt, long pants, socks, shoes, and a hat or handkerchief around your nose and mouth. Gloves and any type of mask that covers your nose and mouth are also recommended.

When working in the fields, you should always wash your hands before eating, drinking, smoking, chewing gum or tobacco, or using the restroom because there could be pesticide residues on your hands from working in sprayed fields. Avoid scratching or wiping your face with your hand or shirt sleeve. Use a clean handkerchief to wipe sweat from your brow.

Pesticides can remain on your work clothes. Wash your work clothes before wearing them again, and when washing your work clothes, separate them from your family's laundry so that you do not contaminate the rest of the laundry.

Do not smoke or eat in recently sprayed fields or near pesticide containers.

Do not use pesticide containers at home. (For example, do not use them to collect water, nor as trash cans or laundry basins.)

Do not drink, bathe, or wash food in irrigation ditches because irrigation ditches often contain pesticide residues that have run off sprayed fields.

If you are going to mix or apply pesticides or enter a sprayed field before the reentry period has expired, first read the pesticide label. Note that each pesticide has different instructions and precautions. If you do not understand the label instructions, ask someone to explain them to you. Furthermore, you should always wear the required protective clothing and equipment as specified on the pesticide label.

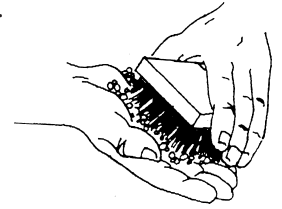
First aid tips:

If you believe that you have symptoms of pesticide poisoning, immediately wash all exposed areas with soap and water and change your clothes. **Go to the doctor, hospital, or migrant health clinic nearest you (do not drive yourself). If it is an emergency and you do not have a car, call 911.** Be sure to tell the doctor that you believe you have been exposed to pesticides. You should also try to take the name of the pesticide or the label information with you to the doctor when you go.

Some pesticides can damage your eye within just a few minutes. If you get pesticides in your eyes, immediately rinse your eyes with clean water for 15 minutes. **Seek medical attention.**

If you inhale pesticide fumes, get to fresh air or an uncontaminated area immediately. **Seek medical attention.**

Swallowing a hazardous chemical can cause severe poisoning or even death. If swallowed, **seek medical attention immediately** and call the North Carolina Poison Control Center (1-800-848-6946/toll free) to get emergency information about the pesticide.



Pesticide law: Your right to know

The law prohibits that you be sprayed with pesticides, either directly or indirectly by wind drift.

You should never have contact with the crops before the Restricted Entry Interval (REI) has expired. (The REI is the period of time that you must wait before reentering a sprayed field.) The only exception is when you have had special training and wear special protective clothing and equipment.

For each pesticide applied, the grower must post, in a central location, the name of the pesticide, when and where it was applied, the REI, and when it is safe to reenter the field.

The grower must ensure that you receive a basic training about pesticides.

If you mix and apply pesticides, you must receive a more complete training, which includes how to use the label and how to choose adequate protective clothing and equipment.

The grower must provide water, soap, and paper towels in the field, or within 1/4 mile of the field, so that you can wash your hands.

The grower must take you to the doctor if you become sick while working with pesticides.

The grower cannot fire you for exercising your legal rights. Furthermore, if you file a complaint to the N.C. Department of Labor, the inspector cannot give your name to the foreman or to the grower.

Call the North Carolina Department of Labor if you have any complaint about basic health and safety conditions in the camps or on the job at 1-800-LABOR-NC (1-800-522-6762) (toll free) or 1-919-733-8731* (Raleigh).

* Spanish is spoken

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