Clothing Layers for Added Protection
Clothing and devices that protect the body from contact with pesticides are called **personal protective equipment** (PPE). Pesticide labels list the **minimum** PPE required for handling the pesticide. Different requirements may be listed for different activities. For example, more PPE may be required for mixing and loading than for application.

*The law requires pesticide users to follow all PPE instructions on the label.*

Pesticide label instructions cannot cover all use situations, so consider adding even more protection than the label requires.

How can you decide what additional PPE you and the people you supervise will need for each handling job? Read the human hazard warnings on the pesticide label, consider the task to be performed, and use common sense.

**Mixing and Loading**

Before opening a pesticide container, put on the appropriate PPE. Use all PPE and other clothing the pesticide label requires for mixers and loaders.

*Consider using additional PPE in some mixing and loading situations.*

**Front protection**

To protect against splashes from concentrates and contact with contaminated equipment, consider adding a chemical-resistant bib-top apron. Aprons with built-in sleeves are especially protective. An apron keeps pesticides off the front of clothing and is easy to remove.

**Face protection**

When handling liquid pesticide or mixing dry pesticide with a liquid, consider adding a face shield to keep splashes or dusts off the face and out of the nose and mouth.
**Protection from dusts**
When pouring dusts or working where dusts or mists may be near the face, consider adding a respirator and protective eyewear to keep dusts or mists out of the eyes and lungs.

**Application**
Use all PPE and other clothing the pesticide label requires for applicators.

**Consider using additional PPE for some application tasks.**

**Hand-carried application equipment**
When equipment is hand-carried, such as hand-held sprayers or shake cans, there is risk of direct exposure to the pesticide. Any mishap — a dripping or partially clogged nozzle, an unfastened cap, a leaky hose, or a loose connection — is likely to cause exposure. Consider wearing extra PPE to protect body areas that may be in contact with the equipment.

If the application equipment is carried in front, consider adding a sleeved apron, an apron plus sleeve protectors over elbow-length gloves, or an apron plus arm-covering gloves.

If the application equipment is carried on the back, consider adding a hooded chemical-resistant poncho or jacket to protect the back and shoulders from leaking equipment.
When hand-carrying a nozzle, consider using arm-covering gloves or taping or otherwise sealing cuffs of elbow-length gloves to the sleeves.

**Entering the path of released pesticide**

When performing applications on foot, it may be necessary to walk into the path of the pesticide that is being applied. If it can be done safely, apply pesticides while walking backward into the untreated area, away from where the pesticide is being directed.

If it is necessary to walk into the path of the released pesticide, consider adding shin-high or knee-high chemical-resistant boots, or protective footwear with chemical-resistant pants.

When applying pesticides from a vehicle, try to use equipment that releases the pesticide to the rear of the vehicle and away from the direction of travel.

Whether walking or riding, if the pesticide is not directed downward or if it remains suspended in the air long enough to cause exposure to the front of the body, consider adding an apron or chemical-resistant suit. If the pesticide mist or dust reaches as high as the face, consider a respirator and eye protection.

**Walking into a just-treated area**

After applying a pesticide from a vehicle, it may be necessary to walk into an area that has just been treated. Repairing or adjusting equipment or checking pesticide coverage, for example, may require climbing over a contaminated rig and walking through an area that was treated only moments before. Consider putting on additional PPE before getting out of the vehicle.

If plants in the treated area are short, consider adding shin-high or knee-high
chemical-resistant boots, or chemical-resistant footwear with chemical-resistant pants.

If plants in the treated area are tall, consider using a chemical-resistant suit in addition to the footwear. If it is too hot to wear a chemical-resistant suit, consider adding a hooded chemical-resistant poncho or a chemical-resistant apron over the label-required coveralls or clothing.

If spray is dripping or dust is falling from overhead, consider wearing a hood or wide-brimmed hat in addition to the body protection and footwear. A respirator and protective eyewear may be advisable, too.

**High-exposure applications**

Certain types of applications pose a special exposure risk. They include:

- mist blower or airblast applications,
- aerosol and fog applications, especially indoors,
- applications using high-pressure sprayers or power dusters,
- applications directed upward and overhead,
- aerial applications that use human flaggers to mark the swath.

These applications can cause large amounts of pesticide to be deposited on skin, clothing, and equipment. Even if the application is done under nearly ideal conditions, this exposure cannot be avoided except by using an enclosed cab.

In high-exposure situations, consider wearing more PPE than the label requires for other applications. Consider wearing a chemical-resistant hooded coverall, poncho, or jacket; gloves and footwear with sealed cuffs;
and a full-face respirator (or half-face respirator with correctly fitted goggles).

**Immersing hands and forearms**

Some pesticide applications, such as dipping animals, plants, or seeds or using spray-dip machines, require placing hands and forearms into the pesticide. In addition to the required gloves, consider a sleeved apron or an apron plus sleeve protectors for arm and body protection. Also consider adding protective footwear and protective eyewear.

**Pesticides applied in enclosed spaces**

In enclosed spaces, the pesticide is more likely to be inhaled. Consider using a respira-
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tor even if one would not be needed for a similar application outdoors.

*Adjusting pesticide-contaminated equipment*

Consider adding a chemical-resistant apron while making equipment adjustments and repairs.

*Applying in air currents*

When applying pesticides into or across an air current, consider wearing extra PPE. More body protection, protective eyewear, and a respirator may be appropriate.

*Applying concentrates*

Ultra-low-volume concentrate formulations may be nearly 100 percent active ingredient and may be highly toxic. When applying such concentrates, consider using extra PPE, such as that required for mixing and loading those formulations.

**Pesticide Spills**

Put on appropriate PPE before contacting a pesticide spill or breathing its vapors. If there is no way to determine how toxic the pesticide is or what type of PPE to wear, don’t take a chance! Wear a barrier-laminate apron, footwear, and gloves; eye protection; and an organic-vapor-absorbing respirator with a pesticide prefilter.