

Assessing Your Pesticide Storage & Handling Practices

Protecting Your Water Quality Through a Farm & Home Assessment



Why should you be concerned?

Pesticides play a vital role on farms and other rural properties.

These products, however, must be stored and handled safely to protect both people and water quality. Two major areas of concern related to pesticides are (1) storage practices and (2) handling practices which include mixing, loading, application, and disposal.

Pesticides work by interfering with the life processes of plants and insects. Some pesticides are also toxic to humans.

When found in water supplies, pesticides normally are not present in high enough concentrations to cause acute health effects, such as chemical burns, nausea and convulsions. Instead, they typically occur

in very small amounts and can cause chronic health problems (such as cancer, birth defects, etc.) from prolonged exposure.

What can you do?

This chapter has been designed to provide information to questions you have answered **Yes, or do not know** the answer to in the **Assessing Your Pesticide Storage and Handling Practices** section of your "Farm and Home Water Quality Assessment." This chapter will help you develop an Action Plan to establish practices that reduce the risks of contamination to your drinking water supply.

A Partnership Program for Voluntary Pollution Prevention

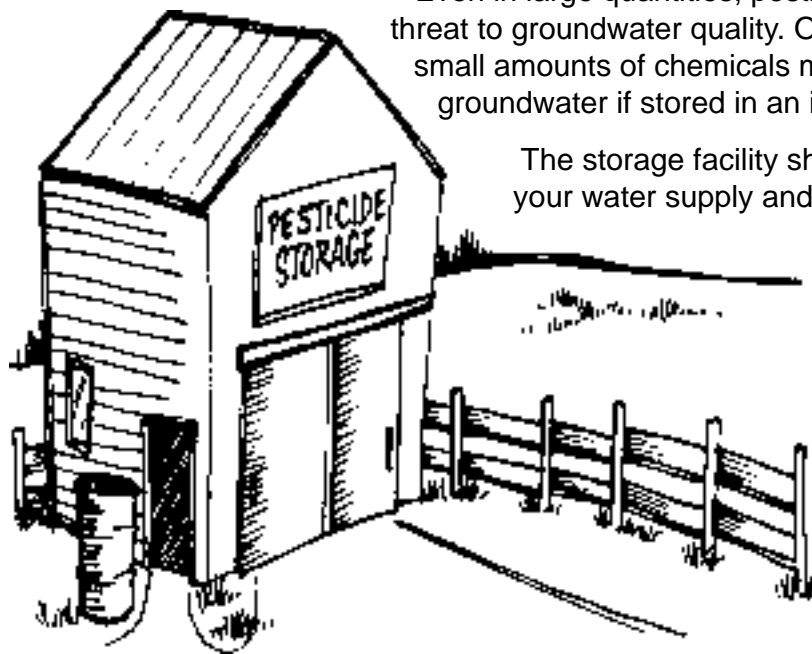
USDA Natural Resources
Conservation Service

USDA Cooperative State Research,
Education and Extension Service

USEnvironmental
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1 Do you use or store pesticides on your property?

Before you make a decision about storing pesticides, you need to balance cost, expected use, and risks associated with storing pesticides. Risks associated with storing pesticides include leaking containers, inadequately protected storage sites, and disposal of unwanted or unusable pesticides.



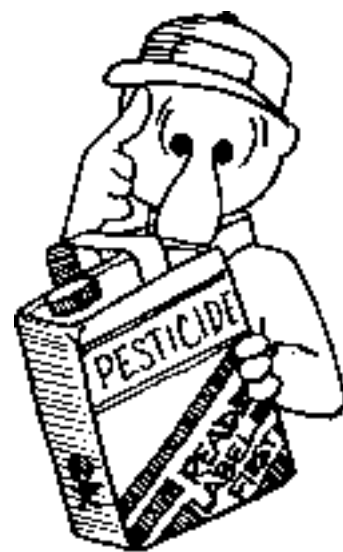
Even in large quantities, pesticides can be stored without threat to groundwater quality. On the other hand, relatively small amounts of chemicals may pose a significant hazard to groundwater if stored in an inadequate facility or location.

The storage facility should be located downhill from your water supply and other sensitive areas. If you store pesticides on a regular basis, you should consider building a properly designed storage system with a concrete floor, secondary containment, and a temperature and humidity-controlled environment. In all cases, make sure your pesticides are protected from vandalism and secured from children and animals.

2 Do you mix, apply, or store pesticides without reading the label first?

Before buying, storing, or applying pesticides, read the label to make sure the product will do what you want it to do. Be sure it can be applied safely and that you have all the necessary safety equipment.

Always follow the instructions on the label for proper use and storage of the product. The label also provides additional information such as the re-entry period (how long you must keep people and animals out of the field), first aid, and other hazards.

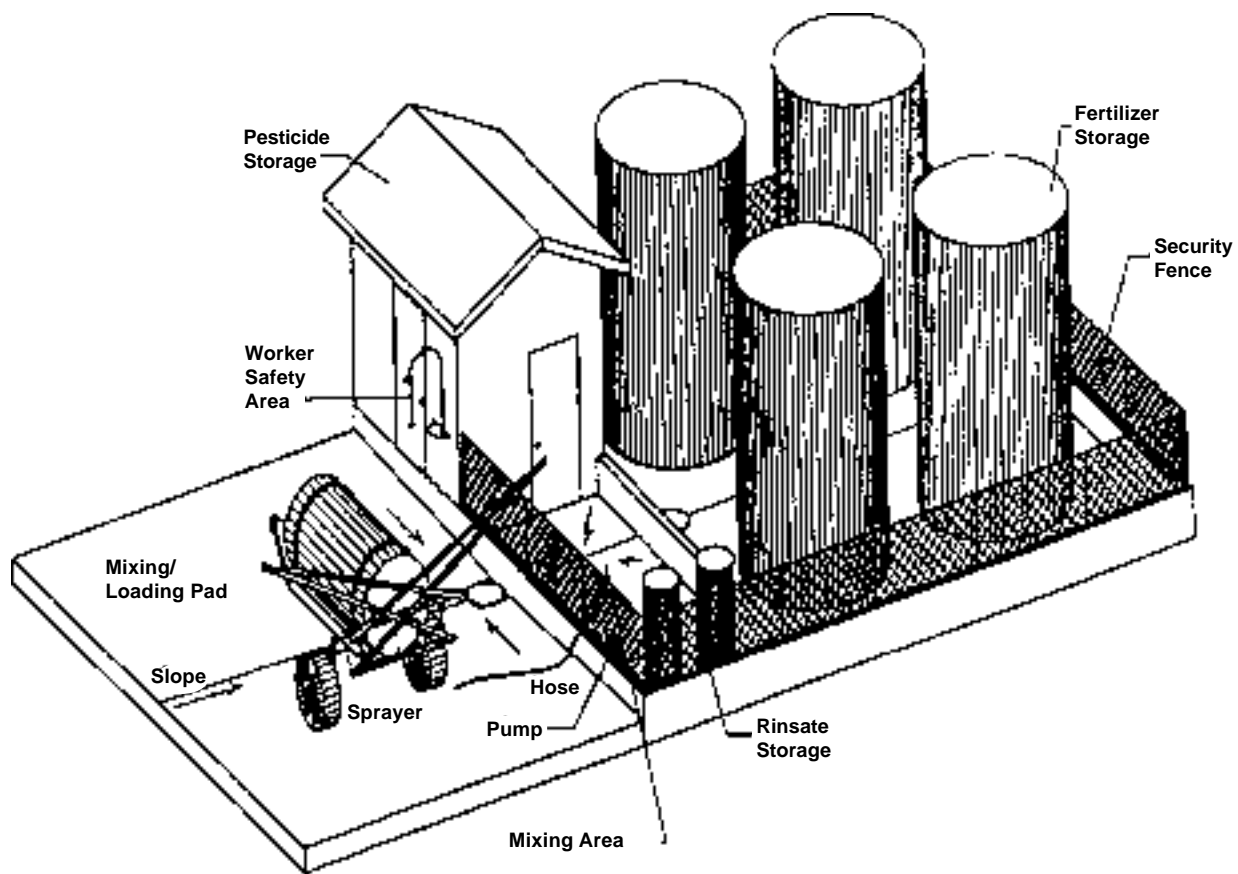


3 Are your pesticides stored on wood, gravel, soil, or on a concrete pad without a curb?

Containment is very important in the event of an accidental spill.

The floor of the storage site should be made of sealed concrete or some other easily cleaned, nonpermeable material and should hold a minimum of 125% of total stored volume. Carpeting, wood, soil, and other absorbent floors should not be used because they are difficult or impossible to decontaminate in the case of a leak or spill.

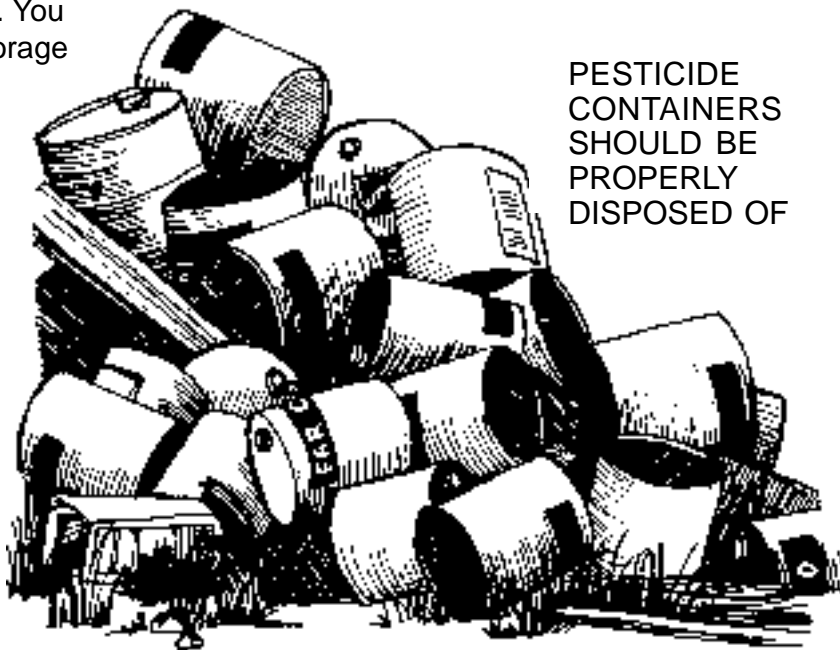
For easier clean-up, shelving and pallets should be made of nonabsorbent material such as plastic or metal. If wood or fiberboard materials are used, they should be coated or covered with plastic, polyurethane or epoxy paint.



4 Do you have pesticide containers that are damaged, leaking and/or rusting?

A major concern about the condition of pesticide containers is the potential for leaks and spills. If you have containers that are rusting or have holes or tears, the pesticide should be used or disposed of immediately. You should monitor your pesticide storage for leaks.

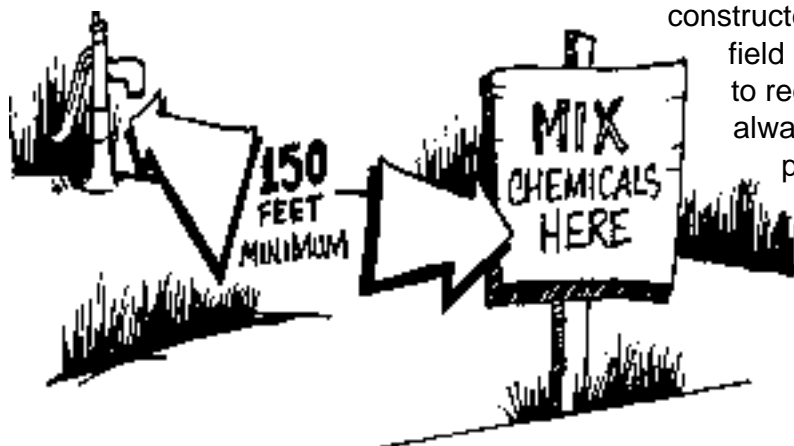
Be careful to keep all pesticides in their original containers with their proper labels. Information on the pesticide label is invaluable for proper cleanup, disposal, and emergency action if the pesticide is spilled or leaked. Information about pesticide disposal programs for old and unused pesticides can be obtained from your local Extension Service Office or state Department of Agriculture.



PESTICIDE
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5 Do you mix, apply or store pesticides within 150 feet of any drinking water supply (well, cistern, etc.)?

Mixing, loading, storing, or applying pesticides near or directly uphill from your drinking water supply system is not recommended. Use a secondary water source on a properly constructed mixing and loading pad or field mix and load with a nurse tank to reduce risks. Pesticides should always be stored in a secured, spill-proof facility downhill from your water supply.



6 Do you fill your sprayer tank directly from a drinking water supply system?

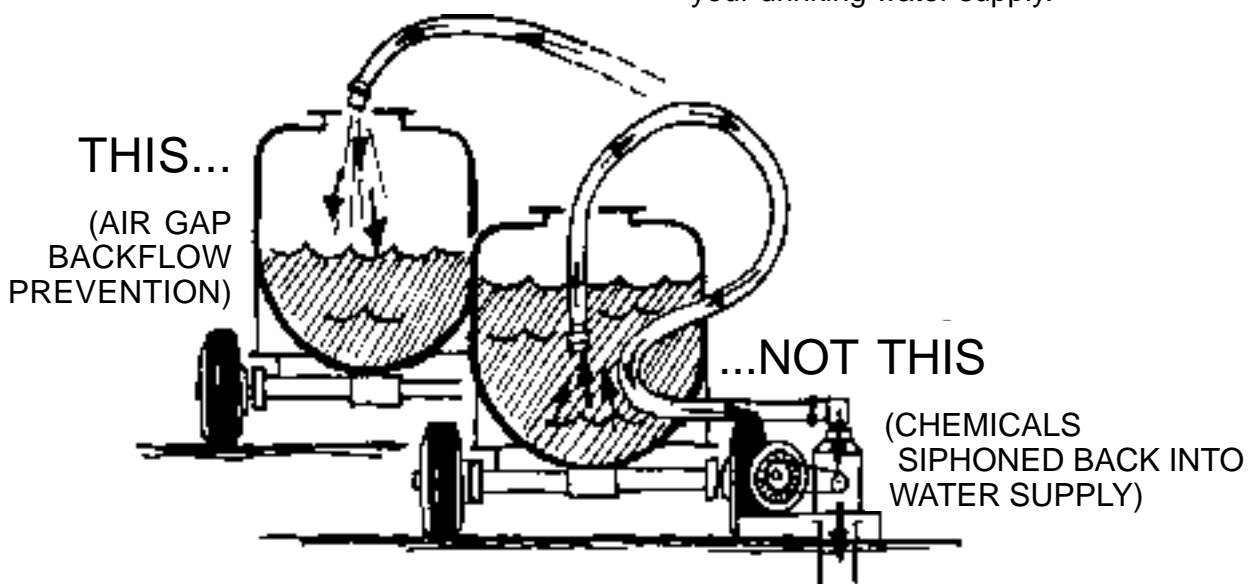
Filling your sprayer directly from your drinking water supply system is not recommended. Your drinking water supply has an increased chance of being contaminated if you fill your sprayer directly from it. Using a secondary water source such as a holding or nurse tank will eliminate this risk.

When filling directly from your water supply, the mixing and loading area should be at least 150 feet downslope from your drinking water supply.

Although this will reduce risks from spills, it will not prevent back-siphoning. Back-siphoning is when the flow of water is reversed, possibly taking some of the pesticide back into the well.

7 Do you fill your sprayer tank with a hose that does not have a check valve or put the hose in the tank so that it is in contact with solution being mixed?

Always keep your water hose or pipe above the level of the pesticide mixture. This will prevent water and pesticides from being drawn back into your water supply if the pump fails or is shut off. A back-siphoning device or check valve should always be used when filling a pesticide tank. These can be found at a farm supply store, hardware store, or irrigation supply outlet. They are relatively inexpensive and reduce the risk of contamination to your drinking water supply.



8 Do you leave your sprayer tank unattended while filling?

You are responsible for the proper mixing and loading of all the pesticides you use. When a sprayer tank is left unattended, it increases the risk of contamination from spills or over filling. Repeated spilling of pesticides due to tank overflow allows pesticides to concentrate in the soil and increases their potential to move downward into the groundwater. There is a risk of back-siphoning pesticides directly into the water source if the pump should stop while filling the tank. Careful loading and mixing of pesticides will reduce the risk to groundwater.

9 Do you rinse out your sprayer tank near your water supply (well, cistern, etc.) or a water body?

After pesticide applications, clean all equipment. Cleaning should be done away from your drinking water supply system and surface water bodies. The rinse water should be used in the next spray mix or it should be applied to the field you just finished spraying. A clean water tank or nurse tank on the sprayer is a convenient way to have clean water in the field to wash out your sprayer.



10 Do you apply pesticides without recalibrating your sprayer?

The use of calibrated equipment can be as important as the selection of the pesticide you are applying. Calibrating your equipment will reduce problems such as drift, non-uniform coverage, failure of the pesticide to reach a targeted organism, and exposure to nontarget organisms.

Before calibrating your sprayer, make sure your equipment can apply the product according to the label rate. Each spray nozzle should be within 5 percent of volumes required. Proper calibration of appropriate equipment ensures that pesticides are applied uniformly according to label rates.

11 Has it been longer than five years since you attended a pesticide applicator training ?

Most states have regulations requiring an applicator to be licensed in order to apply restricted use pesticides. However, if you are applying any pesticides, you should consider taking private applicator training and obtaining license certification. Contact your local Extension Office to learn how to become a certified private applicator.



Assessing Your Pesticide Storage and Handling Practices

If you answered "Yes" to the following questions.

What to do	Who to call	Other References	What you did
Question 1 Assess type and quantity to be stored.	Local Extension Service office, State Dept. of Agriculture, or NRCS or Conservation District office.		
Question 2 Always read the label.	Crop consultant.		
Question 3,4 Develop a storage and handling plan. Dispose of unused products according to their labels.	Contact your local Extension Service office or NRCS or Conservation District office.		
Question 5,6,7,8,9,10 Try not to fill directly from your well. Use a hydrant (located at least 150 feet from your well), or a water holding tank. Make sure your fill hose is not below the water tank level and is equipped with a backflow device. Get training and become certified. Always read label. Spread rinse water out in a crop field. Check your equipment on a regular basis. Always calibrate sprayer prior to applying pesticides. Never leave sprayer tank unattended.	Your local farm or hardware store. Contact your local Extension Service office or private crop consultant for training on calibration. Contact your local Extension Service office prior to application.		