



# PESTICIDE STORAGE

## *Introduction*

The pesticide storage guidelines given in this fact sheet are for blueberry producers who purchase and apply pesticides for their own use only. Regulations for producers who do custom spraying or who sell pesticides are given in the Pesticide Control Act and Regulations.<sup>1,2</sup> Additional standards for pesticide vendors are given in the Agrichemical Warehousing Standard Association Warehousing Standards<sup>3</sup>

Producers who store pesticides which are purchased for their own use are required to meet only three regulations. The pesticide storage must be secured, posted with a warning sign and not be in the same area as people, animals, food, or feed. It is strongly recommended however, that producers exceed these minimum standards as this is the best way to prevent accidents and because a producer could be found liable should environmental damage occur as a result of improper storage. One way to minimize the liability associated with long-term pesticide storage is to purchase only the quantity of pesticide that is required for use within the current season. However, even with the best planning some pesticide will be left over at the end of the season for storage. In selecting or designing a storage area, there are several goals which must be met.

## *Preventing Access*

Thirty percent of the people poisoned each year by pesticides are children under the age of ten. Clearly, the single greatest precaution in the storage of pesticides is ensuring that the area can be locked and access restricted to authorized personnel. The storage must be posted with a sign warning that it contains hazardous chemicals and that entrance is restricted to authorized personnel only.

## *Preventing Exposure*

All pesticide containers leak small amounts of chemicals into the air during storage. For this reason, pesticides should not be stored in buildings where people live or work, where animals are sheltered or where food or feed are stored. If pesticides have to be stored in the same building with people or animals, the storage area should be sealed from the rest of the building and actively or passively vented to the outside. Pesticide safety equipment such as respirators, gloves and boots should be stored in an area separate from the pesticide storage. Should a leak or spill occur, wear full protective clothing and a respirator when cleaning up the chemical. Persons handling concentrated pesticides should have access to soap and water for washing and an eye wash.

## ***Minimizing Risk of Damage to the Environment***

Should leakage or a major spill occur, significant damage to the environment can result if the pesticide contaminates a nearby well, ditch, stream or pond. Other risks include contamination of soil and the building in which the pesticides are stored. If a fire should occur, the smoke will be toxic and contaminate any areas which are extensively exposed. Water applied to control the fire will be contaminated with pesticides and could cause environmental damage if the run-off water reaches a water source. Buildings which are specifically designed to store pesticides have concrete floors which are sealed to contain spills. For small amounts of pesticides, insure that the cabinet in which they are stored is capable of containing liquid pesticides should a leak occur. In choosing the storage area consider the consequences of fire, flood, or a major spill or leak and choose a location that minimizes these risks. Locate the storage downhill and downwind from sensitive areas such as houses. Run off or drainage from the site should not be able to reach any water sources.

Equip the storage area with a large bag of absorbent material for the rapid clean up of liquid pesticide spills. Cat litter is an inexpensive and effective material for this use. Quick access to a fire extinguisher for this area is also recommended. For a spill of sufficient size that there is reason to believe there may be a risk of environmental damage, you are required to immediately notify Regional Reporting at (1-800-565-1633). Post this telephone number and that of the local fire department, ambulance service and closest hospital, near the storage area.

## ***Maintaining Shelf Life***

Pesticides must be stored in a dry area which has year round temperatures between 5 and 37C. Many pesticides lose their effectiveness more quickly if stored at high temperatures. Low temperatures can cause liquid pesticide formulations to break down or can cause the container to break if the liquid freezes.

Herbicides should not be stored in the same area of the storage as other pesticides such as fungicides and insecticides. Crop damage can result from the accidental use of a herbicide on a growing crop. Herbicides such as 2,4-D and Banvel are active at such low levels that even the small amount of chemical that escapes from the container can contaminate other pesticides in the same storage. If it is necessary that these two herbicides be stored with your other pesticides, triple bag them in heavy plastic bags which are tightly sealed.

## ***Choosing the Right Storage***

A design for a pesticide storage building is available from Agriculture and Agri-Food Canada<sup>4</sup> This heated, ventilated storage which ranges in size from 9 to 2 square meters is designed to contain spills and provide excellent conditions for pesticide storage. This storage minimizes the risks of an accident and it is recommended that producers construct this type of building. Alternative storages are unlikely to meet all recommended guidelines for storage and the producer must take every effort to make them as safe as possible and recognize that they are responsible for any damages that occur due to improper storage.

## ***Modification of an Existing Building for the Storage of Pesticides***

Where a small outbuilding already exists it may be possible to modify this building for storage. The building must be dry and have adequate active or passive ventilation to minimize the buildup of chemicals in the air within the storage. Where a ventilation fan is utilized, it is preferable to have the switch on the exterior of the building so that it can be activated prior to entry. Construct shelving so that the pesticide containers can be organized and stored off the floor. If possible, both interior and exterior walls should be covered with a non-combustible material such as metal cladding. If metal shelving or flooring is used, make sure it is grounded to minimize the risks of fire from a lightning strike. To contain leaks from liquid pesticide containers, set them on the shelves within plastic tubs. If the building has a concrete floor it should be sealed with a penetrating epoxy sealer. Any floor drains in the storage area should be sealed off.

The storage of pesticides within a large work building is possible but less desirable since chemicals released into the air from the pesticide containers will result in exposure of people working in the building. If there is a fire, the entire building will be contaminated with pesticides from the smoke and water. If this type of storage is used, the area where the pesticides are stored must be walled off from the rest of the building and ventilated to the outside. Use plastic sheeting and caulking to minimize air leakage into the main part of the building. Entrance into the storage area through an exterior door is preferable. Regardless of the type of storage, it must be kept locked and posted with the following warning: "WARNING, CHEMICAL STORAGE, AUTHORIZED PERSONS ONLY".

If pesticides which cannot be frozen are to be stored through the winter, additional storage modifications are required. Insulating and heating the entire building is possible but wasteful if there is only a small amount of liquid pesticides. Open-flame type heaters are not suitable for pesticide storages. A dysfunctional deep freeze can be modified into a heated storage cabinet using light bulbs as a heat source and a thermostat to regulate the temperature.<sup>5</sup> Chemical storage cabinets can be purchased, but are expensive and offer little in advantages over cabinets constructed on site.

## ***Proper Storage Procedures***

Store pesticides only in their original labeled containers. Whenever a new pesticide is purchased write the date on the container since many pesticides lose much of their effectiveness after storage for several seasons. Conduct routine checks of the storage to detect leaks and spills. Do not smoke in the storage area as some liquid formulations of pesticides may give off flammable gases. Only personnel who have a New Brunswick Pesticide Certificate (minimum Class I1)<sup>6</sup> should be involved in the handling and application of pesticides.

### **Additional Information:**

<sup>1</sup> [Managing Pesticides and their Applications in New Brunswick](#). New Brunswick Department of Environment, Pesticide Unit, PO Box 6000 Fredericton, New Brunswick E3B 5H1.

## Wild Blueberry Fact Sheet C.1.4.0

- 2 [Pesticide Control Act and Regulations](#). New Brunswick Department of Environment, Pesticide Unit, PO Box 6000 Fredericton, New Brunswick E3B 5H1.
- 3 [The Agrichemical Warehousing Standards Association](#). AWSA's Executive Director, CropLife Canada, 21 Four Seasons Place, Suite 627 Toronto, ON M9B 6J8
- 4 [Pesticide Storage](#). Agriculture and Agri-Food Canada, 1341 Baseline Road Ottawa, Ontario K1A 0C5
- 5 Liquid Pesticides - Economical Winter Storage. New Brunswick Department of Agriculture Aquaculture and Fisheries, PO Box 6000 Fredericton, E3B 5H1
- 6 [Atlantic Canada Pesticide Applicator Training Manual](#). Pesticide Unit, PO Box 6000, Fredericton, New Brunswick E3B 5H1.