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## Section 18

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# How to Dispose of Pesticides and Pesticide Containers Safely

Every time you use a pesticide, you face the problem of how to dispose of empty containers and left-over pesticide solution. Anyone who stores pesticides may have to get rid of old stock or the contents from a damaged container. Never be careless when disposing of empty containers, left-over solutions, or surplus pesticide concentrates. You can prevent environmental damage if you take the time to follow proper disposal procedures.

### Empty Pesticide Containers

There are more than 200 Pesticide Container Depots in Ontario that now accept triple rinsed plastic pesticide containers for recycling.

### Avoid Disposal Problems

Some municipalities' waste disposal site operators are restricting or refusing pesticide containers. To avoid problems with container disposal, you can:

- < **Buy in bulk.** A number of pesticides (i.e., herbicides) are available in mini-bulk, or shuttle containers. These containers hold from 50 to 400 litres of product and can be returned as a sealed unit.
- < **Look for products that come in soluble packaging.** The package is made of polyvinyl alcohol that dissolves when it comes into contact with water. There is no container left for disposal.
- < **Buy the required product in a dry formulation.** Paper packaging can be burned on your farm (see specific guidelines later in this Section).

## Triple Rinse Containers

What do you do with the empty pesticide containers after you have finished your pesticide application? **All empty pesticide containers must be triple or jet rinsed.**

Unrinsed pesticide containers are not really “empty”. They may still hold about 1% of the original amount of pesticide. Although this figure sounds low, it is still a hazard to humans, animals, and the environment. To reduce the hazard, rinse each container 3 times as the spray tank is filling. Use either the manual triple rinse technique, or a specially designed device for rinsing containers. Paper or cardboard containers are often strong enough to be rinsed. If it is possible, rinse these containers as well as plastic ones.

### Triple Rinse

#### To Triple Rinse

1. Fill the empty container at least 10% full of the diluting material (usually water).
2. Cap, then shake or roll the container so that the inside surfaces of the container are well rinsed.
3. Pour rinsings into the spray tank.
4. Repeat steps 1 - 3 twice more.

Remember to check the container after you have finished rinsing. Make sure that no pesticide has been left behind as a cake or paste on the bottom of the container.

#### Rinsing Devices

Rinsing devices use pressurized water to clean out the container. They are just as effective as triple rinsing but take less time. Follow the manufacturer’s instructions.

## How to Safely Dispose of Containers

**Empty containers should never be re-used on the farm.** They may be handy, but there is still some risk even if the containers are triple rinsed. Never give empty, rinsed containers to anyone, especially not children. Dispose of them promptly.

Regulation 914 of the Pesticides Act regulates how pesticide containers are to be disposed of in Ontario.

### For Metal, Plastic, or Glass Containers



An empty metal, plastic, or glass container that has been used to hold a Schedule 1, 2, 3\*, 5 or 6\* (\*non-domestic) pesticide shall be disposed of by,

Triple rinsing or jet rinsing using clean water, or another appropriate solvent;

**AND either**

**S** Taking it for recycling to a Pesticide Container Depot;

**OR**

**S** Taking it to a licensed waste disposal site. (Reg. 914, s.27)

Once containers are properly rinsed, they should be punctured to make it impossible to use them again and to make sure the rinse water is out of the container.

It is often more convenient to store empty, rinsed containers until you have collected enough to make a trip to the recycling Pesticide Container Depot or the waste disposal site. If you store containers, keep them in a dry safe place, such as the storage area, until you can dispose of them properly.

### Recycling

The Ontario Pesticide Container Recycling Program is available to growers and commercial applicators. Through this program, **clean, triple rinsed, plastic/metal pesticide containers** (up to 23 litres in size for plastic and 20 litres in size for metal) can be returned to Pesticide Container Depots located throughout the province. To locate the Pesticide Container Recycling Depot closest to you, call the Ontario Pesticide Education Program at 1-800-652-8573.

A recycling Pesticide Container Depot has been established by Future Farm Supply in Aylmer, to collect empty metal drums that contained sucker oil and fumigants used in tobacco and fruit production.

### **For Paper and Cardboard Containers**

A paper or cardboard container that has been used to hold a Schedule 1, 2, 3\*, 5 or 6\* (\*non-domestic) pesticide shall be disposed of by,

Triple rinsing or jet rinsing (if possible) using clean water;

**AND either**

**S** Burning, (if allowed by municipal by-laws) in circumstances that persons and animals are kept out of any smoke produced and any smoke is directed away from buildings, highways, roads, or outdoor areas frequented by the public;

**OR**

**S** Taking it to a licensed waste disposal site. (Reg. 914, s.27)

Paper or cardboard containers are often rigid enough to withstand rinsing. If it is possible, triple rinse these containers as you fill the tank. Then burn the containers in an isolated area on your farmland.

Be very careful around the smoke. It may contain toxic fumes from the burning pesticide. Be certain that there is no chance that a person or animal may breathe in this smoke. Make sure that the smoke does not drift toward buildings, roads, or any public outdoor areas.

These containers can also be taken to a local waste disposal site in the same way as metal, plastic, or glass containers. If you can't dispose of them immediately, make sure containers are kept in a secure place such as the pesticide storage area.

## Rinsing and disposal of containers

Pesticide Container	Formulation	Rinsing Technique	Method of Disposal
Plastic	SN,EC,Fl,Li,Su	Jet or triple rinse	Recycle
Metal	SN,EC,Fl,Li,Su	Jet or triple rinse	Recycle where possible or puncture and take to a licensed waste disposal site
Paper bag	GR,SP,WP	Shake empty and rinse	Burn or take to a licensed waste disposal site
Plastic bag	GR,SP,WP	Single rinse	Take to a licensed waste disposal site
Glass bottle	SN,EC	Triple rinse	Break and take to a licensed waste disposal site
Drum (200 L)	SN,EC,Fl,Li,Su	Triple Rinse	Recycle where possible or crush and take to a licensed waste disposal site

EC-emulsifiable concentrate, Fl-flowable, GR-granular, Li-liquid, SN-solution, SP-soluble powder, Su-suspension, WP-wettable powder

## Surplus Spray Mix

Try to avoid having any pesticide left over after you have finished spraying. Make sure that you calculate carefully how much spray mix you need before you begin. Excess spray mix is a waste of money as well as a disposal problem.

## Avoid Surplus Spray Mix

- < Check all the information on the label before the spray operation.
- < Make sure you have identified the pest problem properly and selected the right pesticide. This will prevent having to get rid of a tank-load of the wrong pesticide.
- < Check the pesticide rate, the size of the area that needs the pesticide application, and the output of your sprayer.
- < Calculate the amount of spray mix carefully. See Applying the Right Amount of Pesticide section in this manual, for a review of the steps involved.
- < Make sure that the pesticide you mix can be applied. Some pesticides require a set amount of time before a rainfall to work well. Read the product label and watch the weather.

## Disposal of Surplus Spray Mix

The best way to dispose of any excess spray mix is to find other fields that require an application of this pesticide. Before spraying, check the label to make sure the pesticide is registered for use on that crop.

**If you can't find another field to spray, then dilute the remaining spray mix by adding 10 parts of water for each 1 part of spray mix.** This diluted solution can be safely applied to the treated area as long as you do not exceed the pesticide rate recommended on the label. Be sure to check the label for any restrictions about crop rotation, days to harvest, or surplus spray mix disposal.

**NEVER re-spray the treated field with undiluted spray mix.** Spraying an area twice will double the recommended pesticide rate. This may cause illegal pesticide residues in the harvested crop or harmful residues in the soil that can cause crop damage.

## Surplus Pesticides in Storage

Check the storage area for surplus pesticides. Try to store as few pesticides as possible. This will reduce the chance of an accident occurring.

## Avoid Surplus Pesticides

- < Reduce surplus pesticides by buying wisely. Buy only what you need for each season. Make sure you buy the right pesticide to control the pest problem.
- < Keep an accurate inventory of all pesticides in storage. Remember to use old inventory before purchasing more pesticides.
- < Mark the purchase date on each pesticide container. Most pesticides retain their effectiveness for two or more years if stored properly - meaning cool temperatures (not freezing), and dry storage conditions. If you are not certain whether old pesticide supplies will be effective, use the following guidelines.

### Guidelines for disposing of old pesticides

Formulation	Discard material if:
Dust	material has lots of lumps
Emulsifiable and spray concentrate	<ul style="list-style-type: none"><li>• the solution does not turn milky when mixed with water</li><li>• the mixture separates</li><li>• a sludge forms</li></ul>
Flowables	there is a layer of caked material on container bottom (may or may not go back into suspension with agitation)
Granulars	<ul style="list-style-type: none"><li>• material is lumpy or caked</li><li>• does not run freely</li></ul>
Solutions	active ingredient crystallized out and settled on bottom (may go back into solution with agitation - refer to product's label)
Wettable powders	material is lumpy and powder will not mix with water

## **Disposal of Surplus Pesticide**

If you have pesticides that you don't need or can't use, be sure to dispose of them safely.

- < Contact the supplier. It is sometimes possible to return unused pesticide if it is still in its original container.
- < If you cannot find any way to use the product as shown on the label, then the Ministry of the Environment requires that waste be disposed of by licensed waste haulers to a licensed waste disposal site. Look in the Yellow Pages of your telephone directory under "Liquid Waste Removal".
- < Watch your local paper for "Municipal Waste Collection Days" or contact your municipality. If your municipality has no waste collection days, encourage them to sponsor such an event. On these days, you can turn over surplus pesticide concentrates (maximum 25 L) for disposal.

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## Review Questions

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1. An empty pesticide container still holds approximately 1% of the original amount of pesticide.

TRUE

FALSE

2. List the steps involved in triple rinsing.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

3. Rinsing devices that use pressurized water are not as effective as triple rinsing.

TRUE

FALSE

4. Which Act regulates how to dispose of pesticide containers?

5. It is safe to re-use empty pesticide containers once they have been triple rinsed.

TRUE

FALSE

6. When burning paper or cardboard pesticide containers, avoid the fire's smoke. It may contain toxic fumes from the burning pesticide.

TRUE

FALSE

7. List two (2) ways that you can avoid having surplus tank mix.

1. \_\_\_\_\_

2. \_\_\_\_\_

8. To dispose of excess tank mix, re-spray the treated field. A double dose will only help to control the pest problem.

TRUE

FALSE

9. A wettable powder that is lumpy and will not mix with water should be discarded.

TRUE

FALSE

10. List three (3) ways that you can properly dispose of surplus pesticides in storage.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_