

## ***Pesticide Storage***

### **Recommended Practices**

**Provide secure, safe storage for pesticide containers.**

Pesticides should be stored in a secure storage building or area. The floor of the storage area should be made of treated concrete or other chemically impervious material. Protective coatings are available that help prevent the corrosive actions of pesticides and fertilizers on concrete.

Consider the risk of environmental contamination when locating and securing pesticide storage areas.

Post signs that clearly indicate that you store pesticides in the building. See references at the end of this BMP.

Do not store pesticides with food, feed, seed, fertilizers or personal protection equipment (PPE).

Designate a specific area within the storage facility for each group of pesticides (e.g., herbicides, fungicides, insecticides, and fumigants). Flammable products should be separated from nonflammable products. Access to the containers should be unimpeded. Keep bags and containers off the ground.

Containers should not be filled beyond 95% of their capacity to allow for thermal expansion.



Example of an agrichemical storage building

**Two building options exist: Build a permanent structure or a portable hazardous material storage building.**

Portable structures are commercially available and may be appropriate for the storage of small quantities (range from four to fifty 55 gallon drums). They should have self-closing doors that can be locked. These facilities can be moved and relocated with a fork lift.

Preparation for construction of a new building should include consultation with a licensed contractor familiar with state code building requirements. The facility should provide adequate within-building spill containment. The building should be accessible from all sides for emergency and fire fighting equipment. The distance the building should be 'set back' from other buildings depends on the thickness of the fire wall.

**Choose an appropriate location and design.**

Consider locating the building downwind and downhill from sensitive areas such as houses, play areas and livestock facilities (DFA recommends 2000 ft from sensitive areas). Preferably, the area should be located at least 400 feet down-gradient from any drinking water supplies and 200 feet down-gradient from surface water (DFA recommendations).

Choose a site that will not flood nor be likely to allow surface water to become contaminated if there is a fire or spill. The site should not lie within a Zone II delineation. If you have a multi-story building, locate the storage facility on the ground level. Pesticides should not be stored underground or in basements due to increase difficulty in monitoring leaks and other potential dangers to ground water.

Keep the area well-ventilated so that fumes do not accumulate. Fans that provide 3 to 6 air exchanges per hour are recommended. The lights and fans should operate off the same switch. The air inlet should be located within 12 inches of the floor to facilitate the escape of heavier vapors.

Install lights such that the building is well-lit, both inside and outside. A sealed cement floor and a drainage system that collects run-off will help protect the environment in case of a spill. Make all efforts to protect containers and labels from damage. Keep a shovel and absorbent material in the area to use in case of spills.

Containers may be placed on pallets or shelves to help prevent water damage or corrosion. Plastic or metal shelves are easier to clean than wooden shelves. It is recommended not to store dry products on shelves below liquids.

**Do not store personal protective equipment within the pesticide storage facility.**

For example, respirators can absorb pesticides during storage and may lose some of their effectiveness.

**Mark each container with its date of purchase and date opened.**

Use oldest products first. Whenever possible, do not buy more pesticide than you can use in any one season. This minimizes storage problems as well as expenses related to storage and disposal.

**Store opened products in their original container.**

Keep the labels intact and visible. Placing pesticides in soda bottles, jars, or other food containers is not recommended. Dry materials tend to cake when humid, so put opened or damaged bags in resealable plastic bags or containers.

**Utilize safe methods for pesticide container disposal.**

Pesticide residues leaking from used containers can cause significant pollution. Liquid containers should be triple rinsed or, preferably, pressure rinsed. The rinsate should be added to the spray tank. The pesticide label and MSDS contain instructions for safe container disposal.

Keep empty containers in a secured area until you are ready to dispose of them. Inquire to determine if a local distributor or company will recycle the containers. If needed, dispose of unusable materials through community programs.

**Develop a plan to follow in case of pesticide emergencies.**

Pesticide applicators should develop an emergency plan that lists actions to take and persons

to contact in case of a pesticide poisoning, spill, fire, or other accident.

**Significant portions of this BMP were excerpted from:**

Kennedy, G. 1999. **Storage, mixing and loading of pesticide guidelines.** MA Dept. of Food and Agriculture Pesticide Bureau.

**Training manual for the private pesticide applicator, 4th ed.,** January 1998. Published by the University of Wisconsin-Extension, Pesticide Applicator Training Program, Madison, WI. (contact: Roger Flashinski).

**For more information:**

Conference Proceedings. 1992. **National symposium on pesticide and fertilizer containment-design and management.** MWPS-C1. MidWest Plan Service, Iowa State University, Ames, IA.

Dean, T.W. and R.A. Bucklin. 1996. **Permanently sited pesticide storage facilities in Florida.** Florida Cooperative Extension Service.

Kammel, D.W., R.T. Noyes, G.L. Riskowski, and V.L. Hoffman. 1995. **Designing facilities for pesticide and fertilizer containment.** Bulletin. MidWest Plan Service, Agricultural and Biosystems Engineering Department, Iowa State University. MWPS-37, 120 p. 515-294-4337.

Ross, D.S. and J.W. Bartok. 1995. **On-farm agrichemical handling facilities.** Bulletin. Northeast Regional Agricultural Engineering Service, Cooperative Extension, Ithaca, NY. NRAES-78. 607-255-7654.

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## ***Pesticide Storage Checklist***

### **IMPORTANT PHONE NUMBERS**

Massachusetts Poison Control System. 1-800-222-2221. Chemtrec. 1-800-424-9300

### **Prior to the Application**

#### ✓ **Worker Protection:**

Have all appropriate Personal Protection Equipment (PPE) ready to use. Have labels and MSDS on-hand Have decontamination kit stocked and ready for use.

#### ✓ **Appropriate notification:**

Neighbor relations. Sign-posting. WPS and REI notification.

#### ✓ **Environmental concerns:**

Address any public drinking water recharge area restrictions. Check to see that the planks are in place. Check the weather forecast.

✓ **Transport the pesticide in a legal manner. Applicator must have the appropriate license for application. Verify that all equipment is working properly. Observe pre-harvest intervals. Have your Emergency Action Plan on-site.**

✓ **After the Application Record keeping done? Containers rinsed and disposed of appropriately? Excess pesticides properly stored? Clothes properly washed after application?**

#### ✓ **Equipment that may be helpful to have on hand:**

- 5-gallon bucket
- Knife
- Measuring cup
- Duct tape
- Injection port rinse device
- Stopwatch
- Mixing stick
- Portable communication devices (e.g., cellular phones)
- Bungee cords (to hold hose, etc.)
- Assorted tools (pliers, screwdriver, wrench, etc.)
- Clean water in jugs
- Pesticide clean-up kit (5 gallon is good)
- WPS decontamination kit