



# AEM Tier 2 Worksheet

## Pesticide Storage, Mixing & Loading

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### Glossary

**Air Gap:** Maintaining a distance (separation) between a water source and the overflow of a receptacle (i.e. -- spray tank, mixing tank, etc.) containing pesticides to prevent contaminated water from siphoning back into a water supply.

**Anti-back-flow Device:** A device that prevents the flow of pesticide from the mixing tank back into the water source (i.e. -- reduced pressure zone device).

**Aquifer:** A water-bearing soil or rock formation that is capable of yielding usable amounts of water.

**Aquifer Recharge Area:** Land area where water readily seeps into the aquifer.

**Back-flow Protection:** Use of a device, such as a reduced pressure zone device or an air gap separation between a water source and the overflow of a receptacle (i.e. -- spray tank, mixing tank, etc.) containing pesticides, to prevent contaminated water from siphoning back into a water supply.

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### Background

If pesticides are not handled carefully around the farmstead, they can seep through the ground after a leak or spill, or they can enter a well directly during mixing and loading. The federal government and the state of New York regulate all agricultural pesticides to protect farmers and their employees, the environment and the health of consumers. The drinking water on and around your farm is better protected if you follow appropriate management procedures. Also, proper off-site disposal practices are essential to avoid risking contamination that could affect the water supplies and health of others.

Integrated Pest Management (IPM) strategies should be considered to identify alternative crop production and crop protection practices which help minimize or avoid pest problems, reduce or eliminate pesticide use and costs, and maximize potential net profitability of crop production. These practices include, but are not limited to, crop rotation, use of disease-resistant varieties, cultivation, date of planting or harvest, appropriate pH and fertility.

### Agricultural Water Quality Principle:

Methods and procedures for the storage, mixing and loading of pesticides in farming operations should ensure that their potential discharge to surface and groundwater is prevented to the greatest practical extent. In addition, farm operations must be in compliance with state and federal laws and regulations, and with the applicable label requirements.

## Glossary Continued...

**Integrated Pest Management (IPM):** A comprehensive approach to pest control that uses combined means to reduce the status of pests to tolerable levels while maintaining a quality environment. Each employed pest control technique must be economically sound, and compatible with production and user objectives. IPM incorporates all reasonable measures to prevent pest problems by properly identifying pests, monitoring population dynamics and utilizing cultural, physical, biological or chemical pest control methods to reduce pests to acceptable levels.

**Pesticide:** Any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any insects, rodents, fungi, weeds or other forms of plant life, animal life or viruses which the NYS Department of Environmental Conservation has declared to be a pest; and any substance or mixture of substances intended as a plant regulator, defoliant or desiccant.

**Reduced Pressure Zone Device:** A minimum of two independently-active check valves, together with an automatically-operated pressure differential relief valve located between the two check valves. During normal flow and at the cessation of normal flow, the pressure between these two check valves must be less than the upstream (supply) pressure. In case of leakage of either check valve, the differential relief valve must operate to maintain the pressure between the check valves at less than the upstream (supply) pressure by discharging to the atmosphere. The unit must include tightly-closing shut-off valves located at each end of the device, and each device must be fitted with properly-located test cocks.

**Rinsate:** Water or the pesticide carrier that is used to rinse out the application equipment and pesticide containers after a particular pesticide or mixture of pesticides has been applied.

**Triple-Rinsed Container:** After normal emptying, the pesticide container is allowed to drain in a vertical position for 30 seconds. The container is rinsed three times with water or the pesticide carrier being used, allowing 30 seconds for draining after each rinse. Rinsate should be easily measurable. Use one quart for each rinse of a one-gallon can or jug, one gallon for each five-gallon can and five gallons for either 30 or 55-gallon drums.

**Tub-stored:** Pesticide containers are stored inside an impermeable tub.

**Waterbody:** A lake, reservoir, pond, river, continuously-flowing stream, continuously-flowing spring, wetland, estuary or bay.

**Watercourse:** Water flowing over a non-vegetated channel to a waterbody.

AEM Tier 2 Worksheet: Pesticide Storage, Mixing & Loading		Potential Concern		
Factors Needing Assessment:	Lower 1	2	3	Higher 4
What is the condition of pesticide storage containers?	Pesticides kept in original containers with original readable labels.		Pesticides are not stored in original containers, but are stored in appropriate containers with proper, legible labels.	Pesticides are kept in original containers with unreadable or missing labels. <b>OR</b> Pesticides are not stored in original containers, and labels are unreadable or missing.
What security measures are taken at the storage area?	Area is locked and fenced, <b>AND</b> used only for pesticides.	Area is locked, but not fenced, <b>AND</b> used for pesticide storage only.	Area is unlocked, unfenced, <b>AND</b> used only for pesticide storage.	Area is unlocked, unfenced, <b>AND</b> regularly used for other activities.
What is the condition of the floor in the pesticide storage area?	Pesticides are stored on impermeable floor (e.g.-sealed concrete) with curbs or dikes to contain leaks.		Pesticides are stored on impermeable floor, with no curbs or dikes to contain leaks. However, pesticides are tub-stored in containers.	Pesticides are stored on permeable floor, e.g. – gravel, dirt or wood.
Is there a floor drain in the storage area?	No floor drain, and pesticide is contained on the floor. <b>OR</b> Floor drains to acceptable holding tank.			The floor drain does not lead to an acceptable holding tank. <b>OR</b> No floor drain, and pesticide flushed to the outside.
What is done with unwanted or banned pesticides?	Participate in an EPA/DEC “return” program. <b>OR</b> Unused pesticide returned to dealer. <b>OR</b> Disposed of through a hazardous waste collection service.			Unwanted pesticides are disposed of on the farm, <b>OR</b> Are stored on the farm.

AEM Tier 2 Worksheet: Pesticide Storage, Mixing & Loading Continued		Potential Concern		
Factors Needing Assessment:	Lower 1	2	3	Higher 4
What type of back-flow prevention is used?	Reduced pressure zone device in place <b>OR</b> air-gap equal to twice the diameter of the filler source pipe above the sprayer tank <b>AND</b> water is taken from a source other than a drinking water supply.		Reduced pressure zone device in place, <b>OR</b> air-gap is equal to twice the diameter of the filler source pipe above the sprayer tank <b>AND</b> Water is taken from a drinking water well; <b>OR</b> water is taken from the well, then moved away from well to be mixed with pesticide.	No anti-back-flow device. No air-gap maintained above sprayer tank. <b>AND</b> water is taken directly from a well, pond or stream.
What is the extent of spill/leak containment in the mixing/loading area?	Mixing and loading is done at a specified area designed to NRCS Standard NY 702 – Agrichemical Mixing Facility.	Concrete pad with curbs <b>AND</b> sump in place to collect and transfer spills/leaks to storage.	Tank loaded on level, paved driveway or concrete pad.	No containment. Spills soak into the ground.
What is the proximity of the mixing/loading area to wells, springs and watercourses?	Mixing/loading area is not sited in an aquifer recharge area of a well or spring. <b>AND</b> mixing and loading is done at least 200 ft. from any watercourse, in a specified area designed to NRCS Standard NY 702 – Agrichemical Mixing Facility.	Mixing/loading area is not sited in an aquifer recharge area of a well or spring <b>AND</b> is done further than 100 ft. from any watercourse.		Mixing/loading area is sited in an aquifer recharge area <b>OR</b> is within 100 ft. of a watercourse.
How is sprayer rinse water disposed of?	Sprayer rinsate is properly stored for use in later applications to crops that the pesticide is labeled for.	Rinsate is sprayed back on a crop that the pesticide is labeled for.	Rinsate is sprayed along fence liners or other weeds areas.	Sprayer rinsate is dumped on the farmstead.
How and where are pesticide containers disposed of?	Triple-rinsed containers are returned to dealers. Bags are returned to supplier, or appropriate waste collection service is used.	Triple-rinsed containers are disposed of through an appropriate waste collection service.	Triple-rinsed containers or empty bags are disposed of on the farm.	Unrinsed or partially-filled plastic or paper containers are disposed of on the farm. This includes burning containers on the farm.

## Other

1. If stored pesticides are no longer used, are the pesticide containers or drums in stable condition?
2. Is there an emergency spill containment plan should a pesticide spill or major leak occur?
3. What is the structural integrity of the pesticide storage structure (i.e.-roof condition)?
4. Have you considered purchasing pesticides in mini-bulk or returnable containers to reduce the number of containers requiring disposal?
5. What is the quantity and formulation of pesticides stored?  
(Dry formulations are preferable to liquids for storage. Try not to store any quantity of pesticide after use.)
6. If pesticide is stored, where is it stored in relation to living quarters and wells?  
Are pesticides stored in your cellar, attached garage, or with your livestock?