

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

AGRICHEMICAL MIXING FACILITY

**(No.)
CODE 702**

DEFINITION

An Agrichemical Mixing Facility (AMF) is a permanent structure designed to provide an area for controlled mixing and containment of on-farm agrichemicals.

Measures will be designed to prevent runoff from adjacent areas resulting from a 25-year 24-hour storm from entering the facility.

Fertilizer storage tank(s) shall be isolated from storage tank(s) used for pesticide storage.

PURPOSES

To protect the environment by containing, collecting and storing on-farm agrichemicals during mixing, loading, unloading, and rinsing operations.

Location: The AMF shall be located outside the 25-year flood plain and wetland areas and a minimum of 150 feet from private wells and surface water bodies and 500 feet from wells used for public water supply. Facilities shall be located at least 2 feet above the seasonally high water table. In areas with fractured bedrock, the bottom of the facility shall be a minimum of 2 feet above the bedrock. Where practicable the AMF should be located outside of Drinking Water Protection Areas.

CONDITION WHERE PRACTICE APPLIES

This standard applies where fertilizers and pesticides are mixed and loaded and where equipment is cleaned.

Components: An AMF system shall include those components necessary to contain rinsate, accidental spills and leaks during use. Components of a complete facility must include, but are not limited, to the following:

CRITERIA

General: All federal, state, and local laws, rules, ordinances and regulations governing agrichemical mixing, pollution abatement, health and safety shall be followed. Consult with Idaho State Department of Agriculture prior to designing an AMF to ensure compliance and consistency with the latest State and Federal laws and rules.

1. A curbed, chemical mixing and loading pad;
2. A collection sump and sump pump;
3. An adequate water supply for mixing chemicals, rinsing tanks and containers and for emergency health and safety needs including water supply pump, pipeline, hoses, back-flow prevention devices, and other hardware as needed;
4. Tanks for storage of rinsate and potentially contaminated runoff.

Producers are responsible for securing the necessary permits to install the required facilities and for properly managing the facilities.

Capacity of AMF System: The combined capacity of the pad and sump shall be sized to contain 125 percent of the volume of the largest chemical or spray tank planned for use on the pad. The combined capacity of the pad, sump and storage tank shall be sized to contain the 25-year, 24-hour storm event runoff that falls on uncovered portions of the AMF plus the 125 percent of the volume of the largest chemical or spray tank.

Pad: The size of the pad used for the chemical mixing operation shall be the length and width of the largest sprayer, with booms folded in, plus a minimum of 2 feet. The pad shall be a reinforced concrete slab-on-grade with a positive slope from all areas toward the sump. The concrete slab will be designed to prevent cracking. Construction joints will be designed to transfer loading, have waterstops and shall be sealed at the surface. Ramps, rounded curbing, or other methods shall be designed to provide a smooth transition for entrances and exits. Reinforced concrete used in the facility shall be designed to equal or exceed the minimum requirements of ACI-318. Concrete shall be placed on a minimum 4-inch thick granular subbase.

Sump: The sump shall be watertight and constructed of corrosion resistant material(s) and covered with a corrosion resistant grating. The sump and grating shall be designed to withstand the anticipated loads. Determine sump capacity based on sump pump discharge rate specified.

Sump Pump: The sump pump shall be selected to provide the discharge rate at the head requirements of the site and the potential corrosive characteristics of the agrichemicals.

Storage Tank(s): All dedicated storage tank(s) shall be permanently installed and shall be above ground on the pad or on an adjacent pad and shall be constructed of corrosion resistant materials for the agrichemicals to be stored. An adequate number of tanks shall be designed to prevent mixing of incompatible agrichemicals.

Roof: Roofs, when specified, shall be designed for applicable snow and wind loads as specified in ASAE EP 288.5, Agricultural Building Snow and Wind Loads.

Water Supply: A reliable water supply (well or reservoir) shall be provided to the pad. A backflow prevention valve that complies with the minimum requirements of the Idaho Department of Agriculture for chemigation valves shall be installed on the clean waterline serving the facility. Provisions shall be included to allow winterizing of all pipelines. Use hoses, pipes, valves, connectors, etc, that are rated for use with the agrichemicals to be handled.

CONSIDERATIONS

Consider installing an emergency washing faucet and emergency eye-wash station. A drop shower is recommended.

Select a site that has not been used previously for chemical storage, mixing, loading or equipment rinsing.

Consider using a pump filled elevated clean water tank to provide gravity feed water to use with spray equipment.

Consider the use of additives such as micro-silica or fiber to increase surface hardness of the concrete pad and to protect the concrete from chemical deterioration.

Locate the AMF downwind and downhill from sensitive areas such as houses, play areas, gardens, livestock housing, recreation areas and hydrologically sensitive areas, such as Drinking Water Protection Areas and areas of shallow soils or rock outcrops.

Locate the AMF as near as practicable to the agrichemical storage facility.

PLANS AND SPECIFICATIONS

Plans and specifications for constructing AMF's shall be prepared in accordance with the criteria contained in this standard and shall describe the requirements for applying this practice.

The following statement shall appear on all construction drawings for AMF's
 "Management of chemicals shall be the responsibility of the owner/operator and shall be in accordance with applicable federal, state and local regulations."

OPERATION AND MAINTENANCE

An operation and maintenance (O&M) plan shall be developed that is consistent with the purposes of this practice and shall address:

A set of general procedures that need to be followed prior, during and after any chemical mixing operation.

Operate and maintain an AMF so rinsate and water solution use can be optimized according to pesticide labels, using proper label applications for cropped lands.

Specific information about the operation including a list of chemicals, location layout, emergency telephone and other site-specific data.

Periodic inspection of all piping, pumps(s) and testing function of backflow prevention devices.

Repair of cracks in concrete.

Safety and handling procedures in case of spills as well as training and inspection plans.

REFERENCES

- NRCS, Reinforced Concrete Strength Design, TR 67
- ACI 318, Building Code Requirements for Reinforced Concrete
- ASAE EP 288, Agricultural Building Snow and Wind Loads