

**OPERATION AND MAINTENANCE PLAN**

_____	_____	_____	_____
Land Owner/Operator	Field Office	Delivered By	Date
_____	_____	_____	_____
Land Owner Signature		Date	

A properly operated and maintained **Agrichemical Handling Facility (AHF)** is an asset and with proper management will protect the natural resources. The estimated life span of the system is at least **20** years. The life of the practice can be normally be increased by carrying out a good Operation and Maintenance (O&M) program.

A COPY OF THIS OPERATION AND MAINTENANCE PLAN SHALL BE LOCATED AT THE AGRICHEMICAL HANDLING FACILITY.

**RESPONSIBILITY**

A properly operated and maintained agrichemical handling facility is an asset to your farm. This AHF was designed and installed to provide a place for safe handling of agricultural chemicals. The life of this structure can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic maintenance and may also require operational items to maintain satisfactory performance.

The operator shall take the necessary measures to stay alert to changes in laws and regulations and to make the changes in the operation and maintenance of this facility so that it continues to function as an effective means of handling agrichemicals safely and legally.

It is the responsibility of the operator to insure that all persons who are involved in the handling of chemicals at this facility are adequately trained in the normal operating procedures of the facility and all emergency procedures.

All local, state, and federal laws and regulations concerning worker safety at the Agrichemical Handling Facility shall be observed. Questions concerning state worker protection standards can be directed to: WV Department of Agriculture, Pesticide Reg. Program Unit and Pesticide Regulatory Unit or Agricultural Health & Safety Program [www.wvagriculture.org](http://www.wvagriculture.org)

**GENERAL AGRICHEMICAL HANDLING FACILITY**

The Agrichemical Handling Facility (AHF) is roofed or not roofed. It is designed to provide an area where chemicals can be handled in an environmentally safe manner. Spills and rinsate can be captured and disposed of safely, and equipment maintenance can be performed safely without fear of spills contaminating the ground and water. Rainfall

on the pad that may become contaminated with chemicals can also be captured and the liquids disposed of at safe chemical concentrations.

The pump, storage tank, and drop box were designed to handle the anticipated maximum normal rainfall on the pad (\_\_\_\_\_” or \_\_\_\_\_ gallons) for a two week period (or 1yr – 24 hour storm event), plus approximately 50 gallons of rinsate water. Under normal operations the tank should be emptied during each spraying operation except for approximately 50 gallons of water from final clean up and rinsing of the last sprayer. Rainfall during the next two weeks will be automatically pumped to the tank.

For unroofed facilities, during very rainy weather the tank may fill prior to the next spraying operation (spraying operations assumed to be approximately on two week intervals). The float control in the tank will shut the pump off and any additional rainfall will accumulate on the pad. Hauling and disposal of this water should be done as soon as weather and field conditions permit so it will not encroach on the storage on the pad.

The storage tank stand is designed so any leakage from the tank will flow back into the drop box and concrete pad area. Should any significant flow occur, inspect the tank and plumbing and repair any leaks.

The drop box drain (if provided) is for rainwater from the system during the winter when the facility is not in use. This drain should be closed beginning with the first spraying operation in the spring and should remain closed until the pad and drop box have been thoroughly scrubbed and rinsed in the fall. During the harvest season remove all rainfall that accumulates in the drop box on a daily bases into a storage tank. Do not allow the sump to overflow at any time.

The pad is designed to contain the rainfall from a 25 yr – 24 hr storm event (\_\_\_\_\_” or \_\_\_\_\_ gallons). This storage volume is not intended for normal rainfall amount, but as additional a factor of safety to insure that there is no discharge of contaminated water from the system during a large storm event.

The concrete mix, reinforcing steel requirements, and sealant for the concrete has been designed to provide for a durable structure and to prevent movement of contaminated water into the concrete or the ground below. However, the system will not operate as intended or continue to be as durable if proper installation and maintenance of the facility are not followed.

With the best of design, installation and maintenance some cracks may develop in the concrete. Small hairline cracks may be sealed by reapplication of the epoxy coating on the surface. Should wider cracks develop or should smaller cracks continue to open and move additional repairs may be needed.

## **STANDARD OPERATION AND MAINTENANCE GUIDELINES**

### **BEFORE THE FIRST USE OF THE SEASON**

1. Prior to the first use of the season, rinse or sweep the pad to remove dirt accumulated on the pad. This debris is not contaminated and can be disposed of at any convenient location.
2. Inspect the concrete pad for cracks and deterioration of the epoxy coating and joint sealant; inspect the storage tank stand, storage tank, pump and plumbing; and make repairs or perform maintenance as needed.
3. The entire system should be tested with clean water before the first operation of each year.
4. Any emergency washing facilities should be tested at the beginning of each season, when the pad is clean.
5. Secure the plastic stand pipe in the bottom of the drop box (as shown on the drop box detail drawings) so that rinsate will not exit the bottom of the drop box.

#### STORAGE ROOM (if one is included)

1. All chemicals should be stored in the chemical storage room that provides secondary containment for the chemicals
2. Store dry chemicals above liquid chemicals to prevent liquid spills from soaking into dry chemical bags. Where bulky bagged products are to be stored at floor level, they should be stored off the floor on suitable pallets.
3. The temperature of the building should be maintained at approximately 50 degrees in the cold months if chemicals are to be stored.
4. All empty pesticide containers will be triple rinsed and placed in a disposal container provided in the facility. All empty containers should be punctured to ensure they are not re-used.
5. All empty containers shall be recycled.
6. Keep records of chemicals purchased and used in a location away from the AHF so that
  - a. purchases can be tailored to actual usage over time.
  - b. firefighters can be informed of the actual building contents should a fire occur.
7. Minimal amounts of chemicals should be carried over the winter

#### LOADING PAD OPERATION

1. All empty chemical containers will be properly rinsed. Rinsed containers shall be placed into the storage receptacle for disposal according to applicable regulations and punctured.
2. Keep the facility clean at all times. The pad should be kept free of items not necessary for storing, mixing, loading, and clean-up operations. The facility shall not be used for purposes other than storing and mixing of materials, and maintenance of equipment used for chemical applications. Remove small stones and other hard debris from the pad and the wheels of the equipment. Agricultural equipment passing over small stones can damage the protective coating on the concrete surface.

3. Thoroughly inspect the facility on a regular basis. The inspection should include, but is not limited to: the pad, the seals on the interior surfaces of the pad and sidewalls, access roads, ramps, hoses, pipes, safety equipment, electrical systems, access controls, and runoff controls. The surface sealant on the pad and drop box must be reapplied as per the manufacturer's recommendations as a minimum. If the sealant appears to be worn off, reapply sealant before using the pad again. Complete any needed repairs and replacement prior to using the facility. If surface cracks in the concrete appear, the length(s) of the cracks should be monitored over time. If the length(s) of the cracks increase over time, then appropriate measures should be taken to repair the damaged concrete.
4. The facility should be inspected periodically to ensure back flow prevention devices are operating satisfactory. Check rinsate tank(s) to insure proper labeling and methods for applying rinsate back to the land are being followed.
5. Any spills, leaks, accidents, or normal operational procedures which result in pesticides or pesticide contaminated water coming in contact with the pad shall receive immediate attention.
6. To reduce the potential for exposure to pesticides and damage to the facility, restrict access by children, pets, livestock, and unauthorized people. Refer to chemical labels and state regulations for controlled access requirements to temporary storage at AHF.
7. All materials which come in contact with chemicals and chemical contaminated material shall be handled as required by state regulations and chemical labels.
8. Operation and maintenance shall be in conformance with all local, state, and federal laws and regulations.

#### PUMP AND STORAGE TANK (OPERATION)

1. The drop box is used to collect rainfall/runoff, rinsate or spillage water from the pad. The pump transfers the liquids from the drop box to the storage tank(s).
2. The storage tank(s) should be emptied as soon as possible after it has filled, and at minimum, during each spraying operation. The liquid in the storage tank(s) should be land applied to the target crop at a rate below the label requirements. **Caution: Stored rinsate in storage tanks that have been used for herbicide rinsate storage should be sprayed as a herbicide. The tank may contain residual amounts of herbicides that could be detrimental to crops.**
3. Do not drain rinse water or rinsate from the sprayer onto the pad as a standard practice due to the probability of contamination by dirt, trash, and other pesticides.
4. Cross mixing of various chemicals or chemically contaminated water must be avoided except where allowed by the chemical label. If various chemicals are mixed in the storage tank, as allowed by the chemical labels, then special consideration must be given to the location of application of the stored water. In many cases the stored water can be used as mix water for herbicide spraying under the target crop or simply sprayed as irrigation water under the target crop. When in doubt, the mixture should be used as a herbicide in locations away from the crop, or the mixture should be tested for chemical concentrations before application. Additional storage tanks may be needed if incompatible chemicals will be used.

5. The drop box should be thoroughly cleaned between discharge of different chemicals mixed at the facility. The resulting rinsate can be applied as a dilute pesticide to a labeled site or used as make-up water for subsequent batches of pesticides that are labeled for the same crop. Care shall be taken not to mix chemicals which are not labeled as compatible for tank mix.
6. Sediment from the drop box shall be removed with proper precautions taken to reduce exposure of the worker to any potential contaminations in the sediment. The sediment should be land applied to the target crop at a rate below the label recommendation. The sediment shall be removed prior to a switch from one crop to another crop or when changing to a different chemical which is not labeled as a tank mix compatible with previously used chemicals. The drop box shall be pumped dry at the end of each day of operation.
7. The pump should be flushed with clean water in cases where concentrated spills are pumped to the storage tank. The pumped liquid should be diluted to application levels and immediately hauled and sprayed on the target crop. The storage tank should be thoroughly rinsed and the rinsate disposed of by spraying on the target crop.

#### ROUTINE CLEANUP PROCEDURES

The following procedure shall be followed at the end of each application day and between applications of chemicals to different crops:

1. After the last batch of chemicals has been mixed, properly rinse all empty chemical containers and prepare the containers for recycling. Store the containers in the appropriate storage location.
2. After the last application, rinse the equipment and the entire floor area of the facility. Wash all mud, sediment and chemical residues from the floor area into the drop box.
3. Remove all sediment from the drop box and place it in a suitable container. Suitable protective clothing should be worn to protect against skin contact. Sediment may have an unusually high concentration of toxic chemicals.
4. Move the sediment collection container to the location of the in-line filter between the pump and the rinsate tank(s).
5. With the sediment collection container below the filter, unscrew the filter cap and remove the filter screen. Remove all accumulated sediment from the filter screen and rinse it into the sediment collection container.
6. Replace the in-line filter screen and screw the filter cap securely back in place.
7. Load the sediment collection container on the tractor or sprayer vehicle to transport to the field.
8. Wash down the inside of the storage tank(s) and drain the contaminated liquid in the storage tank(s) into the spray tank.
9. Transport the contaminated sediment and liquid to a field. If the storage tank has been used to store rinsate from herbicide application, do not spread/spray the liquid/solids on the crops; because, herbicide residues may linger in the rinsate tank.
10. Rinse the sprayer, tractor and pad and store rinsate in the storage tank (50 gallons or less).

## AFTER THE LAST USE OF THE SEASON

1. Triple rinse the pad, drop box, and all tank(s) and hoses. Final rinse water should be sprayed on an appropriate field.
2. Winterize the facilities. Drain the system and components that would be subject to freezing. Remove the stand pipe from the bottom of the drop box.
3. Disconnect the pump and move to winter storage.

## SAFETY

1. Warning signs and NO SMOKING signs should be prominently posted around the facility.
2. A fire extinguisher should be located near the facility and should be suitable for use on chemical fires. The fire extinguisher should be checked regularly.
3. A list of emergency phone numbers shall be posted near the AHF. Reference <http://www.ext.vt.edu/pubs/treefruit/456-419/GI.pdf> for poison and emergency facilities information.
4. Eyewash stations, showers, first aid kits, spill response kit, emergency response guidebook, and Material Safety Data Sheet (MSDS) for each pesticide should be located near the AHF. Showers should provide 30 gpm and eyewash equipment should provide 2.5 gpm.
5. The Midwest Plan Service (MWPS-37) recommends that 2 sets of personal protection equipment (PPE) be provided for each worker.
6. Contact the Poison Control Centers and Emergency Facilities. To contact your local center call 1-800-222-1222 (<http://ace.orst.edu/info/nptn/poison.htm>) and for spills the **National Response Center 1-800-424-8802.**



