1505.2300 AGRICULTURAL CHEMICAL APPLICATION; SETBACKS AND SAFEGUARDING; ANTIPOLLUTION DEVICES; PURGING; POSTING.

Subpart 1. **Application of agricultural chemicals through irrigation systems.**

A. A pesticide may be applied through an irrigation system only if the pesticide is labeled for the method and device specified for application, the crop, and application site.

B. Fertilizers may be applied through irrigation systems.

Subp. 2. **Setbacks and safeguarding.**

A. Agricultural chemical storage areas and supply tanks, the end of the discharge hose for check valve drain lines, and agricultural chemical mixing and loading areas must not be located closer to a water supply well than the distance specified in chapter 4725. If not specified in chapter 4725, the minimum setback distance for agricultural chemical storage areas and supply tanks, the end of the discharge hose for check valve drain lines, and mixing and loading areas from the water supply must be the same as the minimum setback distance specified in chapter 4725 for agricultural chemical supply tanks and agricultural chemical mixing and loading areas used for chemigation.

B. An agricultural chemical supply tank must be safeguarded if the tank storage meets at least two of the following conditions:

(1) the supply tank has a rated capacity of more than 1,500 United States gallons;

(2) the supply tank is located within 100 feet of a water supply; or

(3) the supply tank is located at a chemigation site for more than 30 consecutive days.

C. If required, agricultural chemical supply tanks must be confined to a safeguard that is adequate in the event of a release to prevent movement of the agricultural chemical to the water supply.

The safeguard must consist of a wall and liner or prefabricated basin as specified in item E.

D. The capacity of the safeguard for an agricultural chemical supply tank must be at least equal to the sum of all of the following:

(1) the volume of the largest agricultural chemical supply tank or other container within the safeguard;

(2) 25 percent of the capacity of the largest agricultural chemical supply tank or other container within the safeguard for an unroofed safeguard, or ten percent of the capacity of the largest agricultural chemical supply tank or other container within the safeguard covered by a roof; and

(3) the total volume of released liquid that would be displaced by the portions of all other containers with the safeguard to the height of the safeguard wall and all other fixtures and materials located within the safeguard.

E. The walls and base of a safeguard may be made of ferrous metal, reinforced concrete, solid reinforced masonry, synthetic lined earth, or prefabricated ferrous metal or synthetic materials. The safeguard must be designed according to standard engineering practices to be leakproof and to withstand a full hydrostatic head of released liquid to the height of the safeguard.

(1) Masonry walls must be reinforced, capped with concrete, and parged on the interior. The joint between any masonry wall and any floor or liner must use internal waterstops or similar materials to make the joint leakproof. Control joints protected with waterstops or similar materials must be used for the base. The interior base and walls must be coated with a material resistant to agricultural chemicals. Cracks and seams must be sealed.

(2) The joints between a reinforced concrete wall and any floor or liner must use internal waterstops or similar materials to make the joint leakproof. Control joints protected with waterstops or similar materials must be used for the base. The interior base and walls must be coated with a material resistant to agricultural chemicals. Cracks and seams must be sealed.

(3) Synthetic liners must have a minimum thickness of 30 mils (0.8 millimeters), be chemically compatible with the materials being stored within the safeguard, photo resistant, and puncture resistant. The earthen base of a synthetic liner must be free of large rocks, angular stones, sticks, or other materials that may puncture the liner.

(4) A prefabricated safeguard must be composed of rigid walls and a base of ferrous metal or synthetic materials that are resistant to corrosion, puncture, or cracking. Materials used for the safeguard must be chemically compatible with the materials being stored within the safeguard. Synthetic materials must be photo- and puncture-resistant.

(5) The base and walls of a safeguard may not contain a drain or similar opening.

Subp. 3. **Antipollution devices.** Chemigation systems must be filled with antipollution devices as detailed in this subpart. The devices must be designed and built of materials suitable for those purposes, including agricultural chemical compatibility, and must be kept functional during chemigation. Antipollution devices may be installed

as portable devices for use on other permitted chemigation systems, except that portable devices are not allowed for use on systems connected to the public water supply.

A. A mainline irrigation system supply reduced pressure zone backflow preventer or two check valves in a series must be provided for systems directly connected to a water supply, and must be located in the irrigation system supply pipeline between the irrigation system water supply pump or source of irrigation water and the point of injection of the agricultural chemical.

The following additional conditions apply:

(1) Mainline check valves:

(a) a single mainline check valve may be used for the application of fertilizer;

(b) mainline check valve backflow prevention devices must meet the design and equipment standards in item B;

(c) mainline check valve backflow prevention devices must be tested and certified by an independent testing laboratory to meet the performance standards in item B; and

(d) mainline check valves must be stamped, tagged, or otherwise marked to indicate working pressure, flow rate, and direction, and date, month, and year of manufacture.

(2) Reduced pressure zone backflow preventers:

(a) a reduced pressure zone backflow preventer must be used when the source of irrigation water is potable water; and

(b) a reduced pressure zone backflow preventer must be approved under chapter 4714, and applicants must install and maintain a reduced pressure zone backflow preventer under chapter 4714.

Mainline check valves approved by the commissioner under repealed parts 1505.2000 to 1505.2080 may continue to be used after October 12, 1992, if the mainline check valves comply with item B and the department has been notified of any changes in design or materials.

B. If a single irrigation system supply check valve or two irrigation system supply check valves in a series are used, each check valve must be equipped with an inspection port or similar device and be immediately preceded in the irrigation system by a vacuum relief valve and automatic low pressure drain valve.

The inspection port must be installed on the horizontal irrigation pipeline on the supply side of each check valve in a manner that the inlet to the automatic low pressure drain can be easily observed during irrigation system shutdown.

The vacuum relief valve must be installed on the top of the horizontal irrigation pipeline on the supply side of the check valve. The valve must have an orifice size of at least a three-quarter inch diameter for a four-inch pipe; a one inch diameter for a five-inch to eight-inch pipe; and a two inch diameter for a ten-inch or 12-inch pipe.

The automatic low pressure drain must be provided on the bottom of the horizontal irrigation pipeline on the supply side of the check valve. The device must have an internal and external orifice size of at least a three-quarter inch diameter. If two check valves in a series are required to be used, the check valve located in line nearest to the pivot or irrigation system must meet one of the following specifications:

(1) the check valve must use a spring-loaded, automatic, low pressure drain or an automatic low pressure drain with similar operating characteristics; or

(2) the check valve must use an automatic low pressure drain that will drain the supply side of the body of the check valve within three minutes of system shutdown.

The drain may not extend beyond the inside surface of the bottom of the irrigation pipeline or conduit and must be at least two inches above grade. The device must be positioned, or the location of the grade adjusted, so that liquid will discharge away from a water supply when draining occurs.

An irrigation system supply check valve must be of heavy duty construction with all materials, including internal parts, resistant to corrosion or protected to resist corrosion. It must be rated a minimum of 150 pounds per square inch working pressure and be quick closing by spring action and tight sealing so that no leakage occurs at joints or the valve seat when subjected to an internal hydrostatic pressure test of at least 300 pounds per square inch for one minute. There must be no leakage at joints or the valve seat when the check valve is subjected to an internal hydrostatic pressure equivalent to the head of a column of water five feet high, retained within the downstream portion of the valve body for 16 hours.

Irrigation system supply check valves, when installed, must be level except that a deviation of not more than ten degrees from the horizontal is permitted.

C. An injection line check valve that is resistant to agricultural chemicals must be provided on the agricultural chemical injection line between the point of agricultural chemical injection into the irrigation system and the agricultural chemical injection unit, pump, or solution tank, and be functional to prevent the flow of liquid from the irrigation line to the agricultural chemical injection device and the flow of liquid or material from the agricultural chemical supply tank to the irrigation line.

D. An interlock, such as electrical, pressure, mechanical, or water motor, must be provided between the irrigation system or water pump and the agricultural chemical injection unit. If interruption of the irrigation water flow occurs, the interlock must, at a minimum, cause the shutdown of the agricultural chemical injection unit.

E. A low pressure shutdown device must be used with the irrigation system that will shut down the irrigation system if the water pressure decreases to the point when an incident may occur.

Subp. 4. **Purging system.** The irrigation system must be operated as necessary on each and every occasion after an agricultural chemical injection is terminated to allow for a complete purging of the agricultural chemical from the system.

Subp. 5. **Posting of sites.** Sites being treated with pesticides through chemigation systems must be posted with signs during pesticide treatment. The posting of signs is governed by items A to D.

A. Signs must be in compliance with subitems (1) to (3).

(1) Signs must be at least eight and one-half inches by 11 inches, highly visible, with contrasting colors for letters and background.

(2) Letters must be at least three-eighths of an inch tall.

(3) Signs must contain at least:

(a) the signal word from the pesticide label;

(b) the name of the pesticide;

(c) the date of treatment; and

(d) the reentry date as described on the pesticide label.

B. Signs must be conspicuously placed at usual points of entry for all sites and at property corners for nongreenhouse sites that are immediately adjacent to public transportation routes or other public or private nonagricultural property, except that signs must be placed no greater than 100 feet apart for a field chemigation site that is located immediately adjacent to a public area such as a park, school, or residential area.

C. Signs must be removed after the reentry date expires unless signs are of a more permanent nature, such as laminated signs, in which case information must be updated as necessary.

D. If more restrictive instructions for posting exist on the label of the pesticide being used in chemigation, the label instructions must be totally followed.

Statutory Authority: *MS s 14.388; 18C.121; 18C.575*

History: *17 SR 711; 40 SR 71; 41 SR 1018*

Published Electronically: *March 2, 2017*