


# Minnesota Attorney General: Administrative Rules Proceedings

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Version 3
August 20, 2018

AVK 8-25-92

RULE REVIEW CHECKLIST

File No. 1943
DATE RECEIVED 8-18-92
REVIEW DATE 8-27-92
DUE DATE 9-1-92
~~(DIS)~~APPROVED 9-1-92
WITHDRAWN

Docket No. 05 0007 0786
ADOPTED W/O HEARING ✓
EMERGENCY RULE
TO REVISOR ON 8-25-92
REVISOR (DIS)APPROVED 8/28/92
FILED W/SEC. OF STATE 9-1-92
RETURNED TO AGENCY 9-1-92

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✓ Rule as adopted (4 copies)

✓ Notice to Solicit Outside Information/Opinion (if applicable)
January 27, 1992 Date published in State Register
Comments

Petition for Adoption of a Rule

Board's Authorizing Resolution
Date adopted

✓ Proposed Rule
✓ Revisor's Certificate

✓ Notice of Intent to Adopt Rule
18C.575 Statutory Authority
✓ Small Business Statement
Expenditure of public money statement
5-13-92 Signature

✓ Statement of Need and Reasonableness (if applicable)
✓ Small Business Statement
NA Fees - § 16A.128

✓ Affidavit of Mailing Notice of Intent to Adopt Rule
June 3, 1992 Dated (30)/25 days before adoption
Notice attached indicates it is attached
Copy of rule or summary attached

✓ Publication in State Register
June 8, 1992 Date (30)/25 days before adoption

✓ 180-day deadline from:
✓ Effective date of law requiring rule (14.12) (both rules) amendments don't apply not mandatory N/A
✓ end of comment period (§ 14.26) (rules without hearing)
effective date of statutory authority (§ 14.29) (emergency rules)

Resolution Adopting
Date adopted

Findings of Fact, Conclusions & Order Adopting
Aug 14, 1992 Date

✓ Written Requests, Submissions or Comments

✓ Declaration of Attorney
Paul Strandberg Name of SAAG representing agency

✓ Notice of Submission to Attorney General (if applicable)

✓ Affidavit of Mailing Notice to Attorney General (if applicable)

STATE OF MINNESOTA

# Office of the Attorney General

TO : CAROL MILLIGAN
Minnesota Department of Agriculture
90 West Plata Boulevard
St. Paul

DATE : September 1, 1992

FROM : AMY V. KVALSETH
Special Assistant
Attorney General

PHONE : 296-9422

SUBJECT : In the Matter of the Adopted Rule Relating to Chemigation

The above-referenced rule has been approved as to its legality by the Attorney General on September 1, 1992.

Enclosed is your copy of the approved rule. This office has already filed two copies with the Secretary of State, who will forward one copy to the Revisor of Statutes. The fourth is being retained by this division of the Attorney General's Office for its records.

Also enclosed are any petitions, requests, submissions or comments along with any extra copies of documents which you submitted to the Attorney General.

Your next step is to arrange for publication of the Notice of Adoption in the State Register. In a day or two, you should receive from the Revisor's Office three copies of the notice of adoption of your rule. You should submit two copies of the Notice of Adoption to the State Register for publication. A permanent rule without a hearing does not become effective until five days after a notice of adoption is published in the State Register in accordance with Minn. Stat. § 14.27. An emergency rule becomes effective five working days after approval by the Attorney General; however, the agency must publish a notice in the State Register in accordance with Minn. Stat. § 14.34.

If you have any questions in this regard, please contact me.

Enclosures
cc: Paul Strandberg
William Brown, Chief Judge
MaryAnn Hruby

AVK:jj.rules.ba5

Department of Agriculture

Adopted Permanent Rules Relating to Chemigation

Rules as Adopted

AGRICULTURAL CHEMICAL CHEMIGATION SAFETY

1505.2100 DEFINITIONS.

Subpart 1. **Scope.** The definitions in this part and Minnesota Statutes, sections 18B.01 and 18C.005, apply to parts 1505.2100 to 1505.2800.

Subp. 2. **Agricultural chemical.** "Agricultural chemical" means a pesticide as defined in Minnesota Statutes, chapter 18B, or a fertilizer, plant amendment, or soil amendment as defined in Minnesota Statutes, chapter 18C.

Subp. 3. **Antipollution device.** "Antipollution device" means equipment or a device used to prevent the backflow or backsiphonage of agricultural chemicals or mixtures of agricultural chemicals and water to the groundwater or surface water from the application of agricultural chemicals through irrigation systems and includes, but is not limited to, a reduced pressure zone backflow preventer, single or double irrigation system supply check valve, air gap, vacuum relief valve, automatic low pressure drain, injection line check valve, system interlock, low pressure shutdown device, and supply tank safeguard.

Subp. 4. **Automatic low pressure drain valve.** "Automatic low pressure drain valve" means a self-activating device designed and constructed to effectively and immediately drain that portion of an irrigation pipeline or conduit or check valve body whose contents could potentially enter the water supply when operation of the irrigation system pumping plant fails or is shut down.

Subp. 5. **Calibration.** "Calibration" means the use of devices and procedures utilized and employed with a chemigation system to determine the rate of agricultural chemical



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application.

Subp. 6. **Check valve.** "Check valve" means a device designed and constructed to effectively provide a positive, absolute closure of an irrigation pipeline or conduit or an agricultural chemical injection line that positively prevents the flow of a mixture of agricultural chemicals or agricultural chemicals and water to an irrigation pipeline, water supply, injection device, or supply tank when operation of the irrigation system pumping plant or agricultural chemical injection unit fails or is shut down.

Subp. 7. **Chemigation system.** "Chemigation system" means a device or combination of devices having a hose, pipe, or other conduit directly connected to a water supply through which a mixture of agricultural chemicals, or agricultural chemicals and water, are injected or drawn into and applied to land, crops, or plants.

Subp. 8. **Commissioner.** "Commissioner" means the commissioner of agriculture or an agent authorized by the commissioner.

Subp. 9. **Department.** "Department" means the Department of Agriculture.

Subp. 10. **Fertilizer chemigation.** "Fertilizer chemigation" means a process for applying fertilizers to land or crops including agricultural, nursery, turf, golf course, or greenhouse sites in or with irrigation water during the irrigation process.

Subp. 11. **Incident.** "Incident" means a flood, fire, tornado, transportation accident, storage container rupture, leak, spill, emission discharge, escape, disposal, or other event that releases or immediately threatens to release an agricultural chemical accidentally or otherwise into the environment, and may cause unreasonable adverse effect on the environment. Incident does not include the legal use of an agricultural chemical.

Subp. 12. **Injection unit.** "Injection unit" means an agricultural chemical injection metering pump, venturi (vacuum),



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pressure differential, or other metering device interlocked with the irrigation system that withdraws an agricultural chemical from a supply tank and injects the agricultural chemical into the irrigation system during a chemigation operation.

Subp. 13. **Interlock.** "Interlock" means the interconnection between an irrigation pump and agricultural chemical injection unit that causes injection system shutdown.

Subp. 14. **Irrigation.** "Irrigation" means the act of supplying water for agricultural and horticultural purposes to land, crops, or plants by means of pipes, hoses, sprinklers, drippers, ditches, furrows, or other devices that are connected directly to a source of ground or surface water.

Subp. 15. **Low pressure shutdown device.** "Low pressure shutdown device" means a device interlocked with the irrigation system that will shut down the irrigation system when the water pressure decreases to the point where an incident may occur.

Subp. 16. **Permitted-by-rule.** "Permitted-by-rule" means an applicant is considered to have a permit under part 1505.2200 to construct and operate a chemigation system if the applicant complies with parts 1505.2100 to 1505.2800, including the submission of a permit application and the required fee under part 1505.2200.

Subp. 17. **Pesticide chemigation.** "Pesticide chemigation" means the process of applying pesticides to land or crops including, but not limited to, agricultural, nursery, turf, golf course, or greenhouse sites in or with irrigation water during the irrigation process.

Subp. 18. **Public water supply.** "Public water supply" has the meaning given in part 4720.0100.

Subp. 19. **Reduced pressure zone backflow preventer.** "Reduced pressure zone backflow preventer" means a device designed to prevent backflow consisting of two spring loaded check valves with an intermediate reduced pressure zone that drains to the atmosphere by a relief valve, with a reduced pressure maintained in the intermediate zone by means of a pressure differential valve.



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Subp. 20. **Substantially altering.** "Substantially altering" means modifying a chemigation system by changing or adding injection units, supply tanks, safeguards, or antipollution devices described in the applicants most recently submitted permit application. Routine maintenance does not constitute a substantial alteration.

Subp. 21. **Vacuum relief valve.** "Vacuum relief valve" means a device effectively designed and built to automatically relieve or break vacuum in an irrigation pipeline or conduit caused by system failure or shut down.

Subp. 22. **Water supply.** "Water supply" means a source of water that is connected directly to an irrigation system such as a single well, group of wells, dug pit, lake, river, or stream.

1505.2200 APPLICATION; PERMIT; FEE AND APPLICATION RENEWAL; ALTERATION; INSPECTION.

Subpart 1. **Permit required.** A person shall comply with parts 1505.2100 to 1505.2800 before applying agricultural chemicals through an irrigation system. An applicant is considered to be permitted-by-rule if the applicant is in compliance with parts 1505.2100 to 1505.2800.

Subp. 2. **Initial fee; application renewal.** The application fee for an initial chemigation system permit established by Minnesota Statutes, section 18B.08, subdivision 4, or section 18C.205, subdivision 3, must be submitted with the initial chemigation system permit application. An updated chemigation system permit application must be submitted to the commissioner on forms provided by the commissioner every two years from the date of the applicant's initial submission of their permit application. No additional fee is required.

Subp. 3. **Permits previously granted under repealed parts 1505.2000 to 1505.2080.** An applicant previously granted a permit under repealed parts 1505.2000 to 1505.2080 shall submit an updated permit application every two years from the effective date of parts 1505.2100 to 1505.2800. No additional fee is required.



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Subp. 4. **Application.** An applicant for a chemigation system permit shall apply on forms supplied by the commissioner. The application must include, at a minimum:

A. the name, address, and telephone number of the applicant to whom a permit is to be issued;

B. the number and location, by legal description, of well heads, surface water supply withdrawal points, or the public water supply that will be used in the chemigation process;

C. the estimated amounts and types of agricultural chemicals to be applied through the irrigation system;

D. diagrams or photographs of the irrigation system detailing the required antipollution devices;

E. diagrams, drawings, and calculations detailing the required safeguards of agricultural chemical storage containers at the chemigation site, if applicable;

F. the number of the applicant's department of natural resources water appropriation permit, if applicable;

G. the applicant's or applicant's agent's private applicator certification or noncommercial certification number, if applicable; and

H. a description of the chemigation system inspection procedures and time frames for inspection.

Subp. 5. **Chemigation system alteration.** Before substantially altering a chemigation system, an applicant shall submit a permit application form to the commissioner describing the changes to be made to the chemigation system. No additional fee is required.

An applicant is considered to be permitted-by-rule for the substantial alteration if the applicant complies with parts 1505.2100 to 1505.2800.

Subp. 6. **Inspection.** Chemigation systems are subject to inspection by the commissioner or the commissioner's agent under Minnesota Statutes, section 18D.201.

1505.2300 AGRICULTURAL CHEMICAL APPLICATION; SETBACKS AND



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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.



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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.



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(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;



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(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 by the Department of Health under chapter 4715, and applicants must install and maintain a reduced pressure zone backflow preventer under chapter 4715.

The commissioner shall keep and provide to interested persons a list of Department of Health approved reduced pressure zone backflow preventers and mainline check valves certified by independent testing laboratories. Mainline check valves approved by the commissioner under repealed parts 1505.2000 to 1505.2080 may continue to be used after the effective date of this part 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



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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.



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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



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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.

1505.2400 RECORDS AND REPORTS.

Pesticide chemigation system application records and fertilizer chemigation system mix and application records must be kept by the chemigation system applicant for five years from the date of application. Records detailing dates of chemigation system inspection, names of persons performing the inspection, and condition of the chemigation unit must be kept on forms provided by the commissioner. System inspection and equipment maintenance records must be retained by the chemigation system permit holder for five years.

1505.2500 RESPONSIBILITY; CALIBRATION AND OPERATION; INSPECTION; OFF-TARGET APPLICATION; INCIDENT PREVENTION; INCIDENT REPORTING.

A chemigation system applicant or the applicant's agent shall:

A. calibrate and operate each chemigation system in a



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manner that prevents an agricultural chemical incident or nonlabeled application of a pesticide;

B. inspect each chemigation system as necessary while agricultural chemicals are being applied;

C. prevent operation of a chemigation system in such a manner that agricultural chemicals are applied to an area other than an area targeted to receive an agricultural chemical application;

D. not clean agricultural chemical chemigation application, storage, pumping, or injection equipment in surface waters of the state, or fill or clean agricultural chemical chemigation application, storage, pumping, or injection equipment adjacent to surface waters, ditches, or wells where, because of the slope or other conditions, agricultural chemicals or materials contaminated with agricultural chemicals could enter or contaminate the surface waters, groundwater, or wells, as a result of overflow, leakage, or other causes; and

E. upon discovering that an incident has occurred, immediately report the incident to the commissioner.

1505.2600 COMMISSIONER'S RESPONSIBILITY.

The commissioner shall annually provide chemigation safety information to each chemigation system applicant.

1505.2700 INSTALLATION; MAINTENANCE; MODIFICATION.

Subpart 1. **Proper installation and maintenance.** Irrigation systems, antipollution devices and valves, and agricultural chemical injection units, pumps, and solution tanks used for chemigation purposes must be installed and maintained to ensure proper functioning during chemigation. Maintenance necessary to assure proper functioning of the device must be performed before introduction of agricultural chemicals.

Subp. 2. **Modification.** If modification or changes in design, technology, irrigation practices, or other similar reasons warrant the use or placement of equipment other than that specified in parts 1505.2100 to 1505.2800, the commissioner may allow the changes if protection to the water supply is at



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least equal to that provided by the equipment or equipment placement required in parts 1505.2100 to 1505.2800.

1505.2800 PROHIBITED ACTS.

It is a violation of Minnesota Statutes, chapters 18B and 18C, for a person to apply an agricultural chemical to land, crops, or plants in or with irrigation water in violation of parts 1505.2100 to 1505.2800. Parts 1505.2100 to 1505.2800 are enforceable under Minnesota Statutes, chapter 18D.

EFFECTIVE DATE. Parts 1505.2100 to 1505.2800 are effective January 1, 1994, except that an owner or operator may submit an application for a chemigation permit according to part 1505.2200 and the commissioner may collect the required fee and grant a chemigation permit before January 1, 1994.

REPEALER. Minnesota Rules, parts 1505.2000; 1505.2010; 1505.2020; 1505.2030; 1505.2040; 1505.2050; 1505.2060; 1505.2070; and 1505.2080, are repealed effective December 31, 1993.



Approved
by Revisor _____

APPROVED AS TO FORM AND LEGALITY

September 1 19 92

HUBERT H. HUMPHREY, III
ATTORNEY GENERAL

BY Amy V. Kvaloeth
SPECIAL ASSISTANT ATTORNEY GENERAL

STATE OF MINNESOTA
DEPARTMENT OF STATE
FILED

SEP 1 1992

Joan Anderson Growe
Secretary of State

10:45 AM PRB

STATE OF MINNESOTA

DEPARTMENT OF AGRICULTURE

In the Matter of the Proposed Adoption of the Rule of the State Department of Agriculture Governing Agricultural Chemigation

SUPPLEMENTAL FINDINGS OF FACT, CONCLUSIONS, AND ORDER ADOPTING RULE WITHOUT PUBLIC HEARING

The above-entitled rule was submitted for review by the attorney general on August 19, 1992.

The rule was modified, and based on the comments and evidence in the record before the department, I find the following:

M.R. 1505..2200, subd. 5

The words "to be" were added to keep the grammatical tense of the rule accurate and to clarify that the application must be submitted before alterations can be made to the chemigation system. This amendment does not constitute substantial change because it adds no new requirements to the rule but clarifies an existing provision.

The above-captioned rule is needed and reasonable.

NOW, THEREFORE, IT IS ORDERED that the rule identified as the rule governing chemigation as modified is adopted this 1st day of September, 1992, pursuant to authority vested in me by Minnesota Statutes, section 18B.08 and 18C.205.

Elton R. Redalen

Elton Redalen
Commissioner

| Post-it™ brand fax transmittal memo 7671 | # of pages ▸ |
|---|---|
| To Amy Kvalseth | From Carol Milligan |
| Co. | Co. Dept of Ag |
| Dept. A. G.; Office | Phone # 6-6906 |
| Fax # 7-2576 | Fax # |

Department of Agriculture

Adopted Permanent Rules Relating to Chemigation

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application.

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Subp. 17. **Pesticide chemigation.** "Pesticide chemigation" means the process of applying pesticides to land or crops including, but not limited to, agricultural, nursery, turf, golf course, or greenhouse sites in or with irrigation water during the irrigation process.

Subp. 18. **Public water supply.** "Public water supply" has the meaning given in part 4720.0100.

Subp. 19. **Reduced pressure zone backflow preventer.** "Reduced pressure zone backflow preventer" means a device designed to prevent backflow consisting of two spring loaded check valves with an intermediate reduced pressure zone that drains to the atmosphere by a relief valve, with a reduced pressure maintained in the intermediate zone by means of a pressure differential valve.



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Subp. 20. **Substantially altering.** "Substantially altering" means modifying a chemigation system by changing or adding injection units, supply tanks, safeguards, or antipollution devices described in the applicants most recently submitted permit application. Routine maintenance does not constitute a substantial alteration.

Subp. 21. **Vacuum relief valve.** "Vacuum relief valve" means a device effectively designed and built to automatically relieve or break vacuum in an irrigation pipeline or conduit caused by system failure or shut down.

Subp. 22. **Water supply.** "Water supply" means a source of water that is connected directly to an irrigation system such as a single well, group of wells, dug pit, lake, river, or stream.

1505.2200 APPLICATION; PERMIT; FEE AND APPLICATION RENEWAL; ALTERATION; INSPECTION.

Subpart 1. **Permit required.** A person shall comply with parts 1505.2100 to 1505.2800 before applying agricultural chemicals through an irrigation system. An applicant is considered to be permitted-by-rule if the applicant is in compliance with parts 1505.2100 to 1505.2800.

Subp. 2. **Initial fee; application renewal.** The application fee for an initial chemigation system permit established by Minnesota Statutes, section 18B.08, subdivision 4, or section 18C.205, subdivision 3, must be submitted with the initial chemigation system permit application. An updated chemigation system permit application must be submitted to the commissioner on forms provided by the commissioner every two years from the date of the applicant's initial submission of their permit application. No additional fee is required.

Subp. 3. **Permits previously granted under repealed parts 1505.2000 to 1505.2080.** An applicant previously granted a permit under repealed parts 1505.2000 to 1505.2080 shall submit an updated permit application every two years from the effective date of parts 1505.2100 to 1505.2800. No additional fee is required.



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Subp. 4. **Application.** An applicant for a chemigation system permit shall apply on forms supplied by the commissioner. The application must include, at a minimum:

A. the name, address, and telephone number of the applicant to whom a permit is to be issued;

B. the number and location, by legal description, of well heads, surface water supply withdrawal points, or the public water supply that will be used in the chemigation process;

C. the estimated amounts and types of agricultural chemicals to be applied through the irrigation system;

D. diagrams or photographs of the irrigation system detailing the required antipollution devices;

E. diagrams, drawings, and calculations detailing the required safeguards of agricultural chemical storage containers at the chemigation site, if applicable;

F. the number of the applicant's department of natural resources water appropriation permit, if applicable;

G. the applicant's or applicant's agent's private applicator certification or noncommercial certification number, if applicable; and

H. a description of the chemigation system inspection procedures and time frames for inspection.

Subp. 5. **Chemigation system alteration.** Before substantially altering a chemigation system, an applicant shall submit a permit application form to the commissioner describing the changes made to the chemigation system. No additional fee is required.

An applicant is considered to be permitted-by-rule for the substantial alteration if the applicant complies with parts 1505.2100 to 1505.2800.

Subp. 6. **Inspection.** Chemigation systems are subject to inspection by the commissioner or the commissioner's agent under Minnesota Statutes, section 18D.201.

1505.2300 AGRICULTURAL CHEMICAL APPLICATION; SETBACKS AND



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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.



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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.



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(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;



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(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 by the Department of Health under chapter 4715, and applicants must install and maintain a reduced pressure zone backflow preventer under chapter 4715.

The commissioner shall keep and provide to interested persons a list of Department of Health approved reduced pressure zone backflow preventers and mainline check valves certified by independent testing laboratories. Mainline check valves approved by the commissioner under repealed parts 1505.2000 to 1505.2080 may continue to be used after the effective date of this part 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



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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.



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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



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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.

1505.2400 RECORDS AND REPORTS.

Pesticide chemigation system application records and fertilizer chemigation system mix and application records must be kept by the chemigation system applicant for five years from the date of application. Records detailing dates of chemigation system inspection, names of persons performing the inspection, and condition of the chemigation unit must be kept on forms provided by the commissioner. System inspection and equipment maintenance records must be retained by the chemigation system permit holder for five years.

1505.2500 RESPONSIBILITY; CALIBRATION AND OPERATION; INSPECTION; OFF-TARGET APPLICATION; INCIDENT PREVENTION; INCIDENT REPORTING.

A chemigation system applicant or the applicant's agent shall:

A. calibrate and operate each chemigation system in a



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manner that prevents an agricultural chemical incident or nonlabeled application of a pesticide;

B. inspect each chemigation system as necessary while agricultural chemicals are being applied;

C. prevent operation of a chemigation system in such a manner that agricultural chemicals are applied to an area other than an area targeted to receive an agricultural chemical application;

D. not clean agricultural chemical chemigation application, storage, pumping, or injection equipment in surface waters of the state, or fill or clean agricultural chemical chemigation application, storage, pumping, or injection equipment adjacent to surface waters, ditches, or wells where, because of the slope or other conditions, agricultural chemicals or materials contaminated with agricultural chemicals could enter or contaminate the surface waters, groundwater, or wells, as a result of overflow, leakage, or other causes; and

E. upon discovering that an incident has occurred, immediately report the incident to the commissioner.

1505.2600 COMMISSIONER'S RESPONSIBILITY.

The commissioner shall annually provide chemigation safety information to each chemigation system applicant.

1505.2700 INSTALLATION; MAINTENANCE; MODIFICATION.

Subpart 1. **Proper installation and maintenance.** Irrigation systems, antipollution devices and valves, and agricultural chemical injection units, pumps, and solution tanks used for chemigation purposes must be installed and maintained to ensure proper functioning during chemigation. Maintenance necessary to assure proper functioning of the device must be performed before introduction of agricultural chemicals.

Subp. 2. **Modification.** If modification or changes in design, technology, irrigation practices, or other similar reasons warrant the use or placement of equipment other than that specified in parts 1505.2100 to 1505.2800, the commissioner may allow the changes if protection to the water supply is at



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least equal to that provided by the equipment or equipment placement required in parts 1505.2100 to 1505.2800.

1505.2800 PROHIBITED ACTS.

It is a violation of Minnesota Statutes, chapters 18B and 18C, for a person to apply an agricultural chemical to land, crops, or plants in or with irrigation water in violation of parts 1505.2100 to 1505.2800. Parts 1505.2100 to 1505.2800 are enforceable under Minnesota Statutes, chapter 18D.

EFFECTIVE DATE. Parts 1505.2100 to 1505.2800 are effective January 1, 1994, except that an owner or operator may submit an application for a chemigation permit according to part 1505.2200 and the commissioner may collect the required fee and grant a chemigation permit before January 1, 1994.

REPEALER. Minnesota Rules, parts 1505.2000; 1505.2010; 1505.2020; 1505.2030; 1505.2040; 1505.2050; 1505.2060; 1505.2070; and 1505.2080, are repealed effective December 31, 1993.



Approved
by Revisor _____

# Office of the Revisor of Statutes

## Administrative Rules

**TITLE:** Adopted Permanent Rules Relating to Chemigation

**AGENCY:** Department of Agriculture

**MINNESOTA RULES:** Chapter 1505

The attached rules are approved for
filing with the Secretary of State

Craig E. Lindeke
Senior Assistant Revisor

STATE OF MINNESOTA
DEPARTMENT OF AGRICULTURE

In the Matter of the Proposed Adoption of the Rule of the State Department of Agriculture Governing Chemigation

FINDINGS OF FACT, CONCLUSIONS, AND ORDER ADOPTING RULE WITHOUT PUBLIC HEARING

(1) Notice of the Commissioner's intent to adopt the above-entitled rule was published in the *State Register* on June 8, 1992, and was sent by United States mail to all persons on the list maintained by the department pursuant to Minnesota Statutes, sections 14.14, subdivision 1a and 14.22 on June 3, 1992. (2) The statement of need and reasonableness was prepared before the notice of intent to adopt a rule without a public hearing was mailed to all persons on the rulemaking mailing list and published in the *State Register* and was available to the public.

(4) All persons were given the opportunity to submit comment on the rule for 30 days after the notice of proposed rulemaking. (3) No requests for a public hearing on the rule were received by the department.

Based on the comments and evidence in the record before the department, I find the following:

1505.2300, subp.2, E (5)

(6) The change was made in response to a comment received by the department. It is not substantial because the original intent of this requirement was to ensure that safeguards would not be constructed to contained drains which could be left open, thus rendering the safeguard inadequate to prevent incident. The addition of the word "base" clarifies the intent.

(8) The above-captioned rule is needed and reasonable.

NOW, THEREFORE, IT IS ORDERED that the rule identified as the rule governing chemigation as modified is adopted this 14th day of August, 1992, pursuant to authority vested in me by Minnesota Statutes, section 18B.08 and 18C.205.

(9)

Elton R. Redalen

Elton Redalen
Commissioner

Stat. Authority 18C.575

The commissioner may adopt rules governing the distribution, labeling, sale, handling, certification, use, application, storage, sampling, and analysis of liming materials.

end of comment period July 8, 1992

weak SONAR - 1505.2200 subd 4.

Findings - no statement about submission to A.G. (7) - but do have an ~~affidavit~~ affidavit that they received it.

- not nec. in f.f. b/c rules say if "no requests" etc.

Department : AGRICULTURE

STATE OF MINNESOTA
**Office Memorandum**

Date : August 18, 1992

To : Patty Nolte
Attorney General's Office

From : Carol Milligan
Agriculture Planning Division

Phone : 296-6906

Subject : **Review of Proposed Rule Governing Chemigation**

The Department of Agriculture adopted the above-mentioned rule pursuant to Minnesota Statutes, sections 14.22-14.28. Enclosed with this memo are the documents which are required to be submitted to the Attorney General for review prior to final approval of the rule. A list of the documents is attached for your convenience.

Please contact me if you have any questions.

cc: Newell Searle, Deputy Commissioner
Paul Strandberg, Special Assistant Attorney General
Bill Bulger, Agronomy
John Peckham, Agronomy

8-19-92

Department of Agriculture

Agronomy Services Division

Notice of Solicitation of Outside Information or Opinions Regarding Proposed Rules Governing Liquid Commercial Fertilizers

Notice is hereby given that the State Department of Agriculture is seeking information or opinions from sources outside the department in preparing to propose adoption of new rules and repeal of current rules governing liquid commercial fertilizers. The adoption is authorized by Minnesota Statutes, section 18C.121 which allows the commissioner to adopt rules necessary to implement and enforce Minnesota Statutes, chapter 18C.

The State Department of Agriculture requests information and opinions concerning the subject matter of the rule. Interested persons or groups may submit data or views on the subject matter of concern in writing or orally. Written statements should be addressed to: Carol Milligan, Planning Division, Minnesota Department of Agriculture, 90 West Plato Blvd., St. Paul, MN 55107. Oral statements will be received during regular business hours over the telephone at (612) 296-6906 and in person at the above address.

All statements of information and opinions shall be accepted until February 10, 1992. Any written material received by the department shall become part of the rulemaking record to be submitted to the attorney general or administrative law judge in the event that the rule is adopted.

1-4-92

Date

Elton Redalen

Elton Redalen
Commissioner

7870.0290; 7870.0300; 7870.0310; 7870.0320; 7870.0330; 7870.0340; 7870.0350; 7870.0360; 7870.0370; 7870.0380; 7870.0390; 7870.0400; 7870.0410; 7870.0420; 7870.0430; 7870.0450; 7870.0470; 7870.0500; 7870.0510; 7871.0005; 7871.0010; 7871.0020; 7871.0030; 7871.0080; 7871.0100; 7871.0110; 7871.0115; 7871.0120; 7871.0130; 7871.0140; 7871.0160; 7873.0400; 7874.0100, subpart 3; 7875.0100; 7875.0200; 7877.0100; 7877.0110; 7878.0100, subparts 2 and 11; 7878.0160; 7897.0100; 7897.0130 and the proposed repeal of parts 7869.0100, subparts 19, 33a, and 65a; 7870.0500, subparts 6, 7, 8, 9, and 10; 7871.0010, subpart 2; 7871.0020, subpart 1; 7871.0070; 7871.0090; 7871.0150; 7873.0120, subpart 2; and 7873.0300.]

## Veterans Homes Board

### Adopted Permanent Rules Relating to Resident Care

The rules proposed and published at *State Register,* Volume 16, Number 10, pages 478-484, September 3, 1991 (16 SR 478); and Volume 16, Number 19, pages 1126-1127, November 4, 1991 (16 SR 1126), are adopted as proposed.

# Official Notices

**Pursuant to the provisions of Minnesota Statutes § 14.10, an agency, in preparing proposed rules, may seek information or opinion from sources outside the agency. Notices of intent to solicit outside opinion must be published in the *State Register* and all interested persons afforded the opportunity to submit data or views on the subject, either orally or in writing.**

**The *State Register* also publishes other official notices of state agencies, notices of meetings, and matters of public interest.**

## Department of Agriculture

### Agronomy Services Division

### Notice of Solicitation of Outside Information or Opinions Regarding Proposed Rules Governing Liquid Commercial Fertilizers

**NOTICE IS HEREBY GIVEN** that the State Department of Agriculture is seeking information or opinions from sources outside the department in preparing to propose adoption of new rules and repeal of current rules governing liquid commercial fertilizers. The adoption is authorized by *Minnesota Statutes,* section 18C.121 which allows the commissioner to adopt rules necessary to implement and enforce *Minnesota Statutes,* chapter 18C.

The State Department of Agriculture requests information and opinions concerning the subject matter of the rule. Interested persons or groups may submit data or views on the subject matter of concern in writing or orally. Written statements should be addressed to: Carol Milligan, Planning Division, Minnesota Department of Agriculture, 90 West Plato Blvd., St. Paul, MN 55107. Oral statements will be received during regular business hours over the telephone at (612) 296-6906 and in person at the above address.

All statements of information and opinions shall be accepted until February 10, 1992. Any written material received by the department shall become part of the rulemaking record to be submitted to the attorney general or administrative law judge in the event that the rule is adopted.

Dated: 4 January 1992

Elton Redalen
Commissioner

## Minnesota Comprehensive Health Association

### Notice of Meeting of the Research Committee

**NOTICE IS HEREBY GIVEN** that a meeting of the Minnesota Comprehensive Health Association (MCHA), Research Committee will be held at 9:00 a.m. on Thursday, January 30, 1992 at Medica, 5601 Semtana Drive, Minneapolis, Minnesota, in the small conference room on the ninth floor.

For additional information please call Lynn Gruber at (612) 593-9609.

**KEY: PROPOSED RULES SECTION** — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material." **ADOPTED RULES SECTION** — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language.

Department of Agriculture

Agronomy Services Division

| | |
|---|---|
| In the Matter of the Proposed Rule of the | NOTICE OF INTENT TO ADOPT |
| State Department of Agriculture Governing | A RULE WITHOUT A PUBLIC |
| Chemigation | HEARING |

(1) Notice is hereby given that the Minnesota Department of Agriculture intends to adopt the above-entitled rule without a public hearing following the procedures set forth in the Administrative Procedures Act for adopting rules without a public hearing in Minnesota Statutes, sections 14.22-14.28. The statutory authority to adopt this rule is Minnesota Statutes, section 18C.575.

(2) All persons have 30 days in which to submit comment in support of or in opposition to the proposed rule or any part or subpart of the rule. Comment is encouraged. (3) Each comment should identify the portion of the proposed rule addressed, the reason for the comment, and any change proposed.

(4) Any person may make a written request for a public hearing on the rule within the 30-day comment period. If 25 or more persons submit a written request for a public hearing within the 30-day comment period, a public hearing will be held unless a sufficient number withdraw their request in writing. (6) Any person requesting a public hearing should state their name and address, and is encouraged to identify the portion of the proposed rule addressed, the reason for the request, and any proposed change. (7) If a public hearing is required, the department will proceed according to Minnesota Statutes, sections 14.131-14.20.

(5) Comments or written requests for a public hearing must be submitted to: Carol Milligan, Minnesota Department of Agriculture, 90 West Plato Boulevard, St. Paul, MN 55107, (612) 296-6906. The comment period ends on July 8, 1992. All comments must be received by the department by 4:30pm on that day.

(8) The proposed rule may be modified if the modifications are supported by the data and views submitted to the department and do not result in a substantial change in the proposed rule as noticed.

A copy of the proposed rule is attached to this notice. (n)

(9) A Statement of Need and Reasonableness that describes the need for and reasonableness of each provision of the proposed rule and identifies the data and information relied upon to support the proposed rule has been prepared and is available upon request from Ms. Milligan.

(14) Most of the businesses governed by this rule are small business as defined by Minnesota Statutes, section 14.115. The rules have been drafted to keep administrative and reporting requirements to a minimum while assuring environmental protection required by statute. Therefore, no special provisions for small business have been incorporated into the rule.

(9) If no hearing is required, upon adoption of the final rule, the rule and the required supporting documents will be submitted to Attorney General for review as to legality and form to the extent the form relates to legality. Any person may request notification of the date of submission to the Attorney General. Persons who wish to be advised of the submission of this material to the Attorney General, or who wish to receive a copy of the adopted rule must submit a written request to Ms. Milligan.

STATE OF MINNESOTA

5-13-92
Date

Elton Redalen
Elton Redalen, Commissioner
Department of Agriculture

Department : Agriculture

STATE OF MINNESOTA
**Office Memorandum**

Date : May 20, 1992

To : Maryanne Hruby, Director
LCRAR

From : Carol Milligan CM
Agriculture Planning Division

Phone : 296-6906

Subject : **Rule Governing Chemigation**

As required by Minnesota Statutes, sections 14.131 and 14.23, attached is the Statement of Need and Reasonableness for the above-captioned rule. The Notice of Intent to Adopt and the rule will be published in the *State Register* on 6/8/92.

Attachment

Department of Agriculture
Agronomy Services Division

Correction in Notice of Intent to Adopt Rules Without a Public Hearing For Rules Governing Chemigation

The above-mentioned notice, published in the *State Register,* Volume 16, Number 50, page 2654, on June 8, 1992, incorrectly states the statutory authority to adopt the rule as Minnesota Statutes, section 18C.575. The correct statutory authority to adopt the rule is Minnesota Statutes, sections 18B.08 and 18C.205.

# Errata

## Agriculture Department

### Agronomy Services Division

### Correction in Notice of Intent to Adopt Rules Without a Public Hearing for Rules Governing Chemigation

The above-mentioned notice, published in the *State Register*, Volume 16, Number 50, page 2654, on June 8, 1992, incorrectly states the statutory authority to adopt the rule as *Minnesota Statutes*, section 18C.575. The correct statutory authority to adopt the rule is *Minnesota Statutes*, sections 18B.08 and 18C.205.

## Gambling Control Board

### Notice of Error in Gambling Control Board Rules Published March 23, 1992 Volume 16, pages 2116-2124

Part 7861.0120, subpart 5, was incorrectly published on page 2121 as:

Subp. 5. **Expenditures.** The following items apply to expenditures of gambling funds:

B. Allowable expenses:

(2) An organization may not spend gambling gross profits for:

~~(a)~~ advertising.

~~(b) Legal fees or damages that relate to the conduct of lawful gambling incurred in defending the organization against the board, the attorney general, the United States attorney, the commissioner of revenue, or a county or city attorney.~~

Part 7861.0120, subpart 5, should read:

Subp. 5. **Expenditures**. The following items apply to expenditures of gambling funds:

B. Allowable expenses:

~~2. An organization may not spend gambling gross profits for:~~

~~(a) advertising.~~

~~(b) Legal fees or damages that relate to the conduct of lawful gambling incurred in defending the organization against the board, the attorney general, the United States attorney, the commissioner of revenue, or a county or city attorney.~~

~~(3)~~ (2) Percentage of profit to be used for allowable expenses:

(a) Not more than 60 percent of the gross profit, less the tax imposed by *Minnesota Statutes*, section 349.212, subdivision 1, from bingo, and not more than 50 percent of the gross profit may be expended for allowable expenses related to lawful gambling.

(b) Compliance with the maximum percentage of profits expended for allowable expenses must be determined on an annual basis for the organization as a whole. Compliance is not determined by each premises.

## Higher Education Coordinating Board

### Corrected Proposed Permanent Rules Relating to Education; Postsecondary Grants to Prenursing Students

#### Notice of Correction to Proposed Rule Published June 8, 1992; Change is Underlined

#### Notice of Intent to Adopt Rules Without a Public Hearing

**NOTICE IS HEREBY GIVEN** that the Minnesota Higher Education Coordinating Board intends to adopt the above-entitled rule without a public hearing following the procedures set forth in the Administrative Procedure Act for adopting rules without a public hearing in *Minnesota Statutes* 14.22 to 14.28 (1990). The Board's authority to adopt the rule is set forth in *Minnesota Statutes*, 136A.04, Subd. 1(9) and 136A.16 (1990).

All persons have 30 days in which to submit comments in support of or in opposition to the proposed rules or any part or subpart of the rules. That date would end on July 8, 1992 at 4:30 p.m. Comment is encouraged. Each comment should identify the portion of the proposed rules addressed, the reason for the comment, and any change proposed.

In the Matter of the Proposed Adoption
of the Rule of the State Department of
Agriculture Governing Chemigation

AFFIDAVIT OF MAILING
THE NOTICE OF INTENT
TO ADOPT A RULE WITHOUT
A PUBLIC HEARING

STATE OF MINNESOTA )
) ss.
COUNTY OF RAMSEY )

Marie Skerbitz, being sworn, says:

That on the 3rd day of June, 1992, at the City of St. Paul, County of Ramsey, State of Minnesota, I mailed the attached Notice of Intent to Adopt a Rule Without a Public Hearing by depositing in the State of Minnesota Central Mail System for United States mailing a copy thereof, with postage prepaid, to all persons and associations who have requested, pursuant to Minnesota Statutes, sections 14.14, subdivision 1a and 14.22 or 14.30, that their names be placed on the Minnesota Department of Agriculture rulemaking mailing list.

DIANE M. WINDHAM
NOTARY PUBLIC - MINNESOTA
RAMSEY COUNTY
My commission expires 11-1-96

Marie Skerbitz
Mail Room Manager

Subscribed and sworn to before me
this 3rd day of June, 1992.

Diane M. Windham

In the Matter of the Proposed Rule
of the State Department of Agriculture
Governing Chemigation

CERTIFICATE OF MAILING LIST

STATE OF MINNESOTA )
) ss.
COUNTY OF RAMSEY )

Carol Milligan, being sworn, says:

I hereby certify that the list of persons and associations who have requested, pursuant to Minnesota Statutes, sections 14.14, subdivision 1a, and 14.22 or 14.30, that their names be placed on the Minnesota Department of Agriculture rulemaking mailing list is accurate, complete and current as of this 3rd day of June, 1992.

Carol Milligan
Management Analyst

DIANE M. WINDHAM
NOTARY PUBLIC - MINNESOTA
RAMSEY COUNTY
My commission expires 11-1-96

Subscribed and sworn to before me
this 3rd day of June, 1992.

Diane M. Windham

# Proposed Rules

Pursuant to Minn. Stat. §§ 14.22, an agency may propose to adopt, amend, suspend or repeal rules without first holding a public hearing, as long as the agency determines that the rules will be noncontroversial in nature. The agency must first publish a notice of intent to adopt rules without a public hearing, together with the proposed rules, in the *State Register*. The notice must advise the public:

1. that they have 30 days in which to submit comment on the proposed rules;
2. that no public hearing will be held unless 25 or more persons make a written request for a hearing within the 30-day comment period;
3. of the manner in which persons shall request a hearing on the proposed rules; and
4. that the rule may be modified if the modifications are supported by the data and views submitted.

If, during the 30-day comment period, 25 or more persons submit to the agency a written request for a hearing of the proposed rules, the agency must proceed under the provisions of §§ 14.14-14.20, which state that if an agency decides to hold a public hearing, it must publish a notice of intent in the *State Register*.

Pursuant to Minn. Stat. §§ 14.29 and 14.30, agencies may propose emergency rules under certain circumstances. Proposed emergency rules are published in the *State Register* and, for at least 25 days thereafter, interested persons may submit data and views in writing to the proposing agency.

# Department of Agriculture

## Proposed Permanent Rules Relating to Chemigation

### Notice of Intent to Adopt a Rule Without a Public Hearing

**NOTICE IS HEREBY GIVEN** that the Minnesota Department of Agriculture intends to adopt the above-entitled rule without a public hearing following the procedures set forth in the Administrative Procedures Act for adopting rules without a public hearing in *Minnesota Statutes*, sections 14.22-14.28. The statutory authority to adopt this rule is *Minnesota Statutes*, section 18C.575.

All persons have 30 days in which to submit comment in support of or in opposition to the proposed rule or any part or subpart of the rule. Comment is encouraged. Each comment should identify the portion of the proposed rule addressed, the reason for the comment, and any change proposed.

Any person may make a written request for a public hearing on the rule within the 30-day comment period. If 25 or more persons submit a written request for a public hearing within the 30-day comment period, a public hearing will be held unless a sufficient number withdraw their request in writing. Any person requesting a public hearing should state their name and address, and is encouraged to identify the portion of the proposed rule addressed, the reason for the request, and any proposed change. If a public hearing is required, the department will proceed according to *Minnesota Statutes*, sections 14.131-14.20.

Comments or written requests for a public hearing must be submitted to: Carol Milligan, Minnesota Department of Agriculture, 90 West Plato Boulevard, St. Paul, MN 55107, (612) 296-6906. The comment period ends on July 8, 1992. All comments must be received by the department by 4:30 p.m. on that day.

The proposed rule may be modified if the modifications are supported by the data and views submitted to the department and do not result in a substantial change in the proposed rule as noticed.

A copy of the proposed rule is attached to this notice.

**A STATEMENT OF NEED AND REASONABLENESS** that describes the need for and reasonableness of each provision of the proposed rule and identifies the data and information relied upon to support the proposed rule has been prepared and is available upon request from Ms. Milligan.

Most of the businesses governed by this rule are small business as defined by *Minnesota Statutes*, section 14.115. The rules have been drafted to keep administrative and reporting requirements to a minimum while assuring environmental protection required by statute. Therefore, no special provisions for small business have been incorporated into the rule.

If no hearing is required, upon adoption of the final rule, the rule and the required supporting documents will be submitted to the Attorney General for review as to legality and form to the extent the form relates to legality. Any person may request notification of the date of submission to the Attorney General. Persons who wish to be advised of the submission of this material to the Attorney General, or who wish to receive a copy of the adopted rule must submit a written request to Ms. Milligan.

Dated: 13 May 1992

STATE OF MINNESOTA
Elton Redalen, Commissioner
Department of Agriculture

**Rules as Proposed (all new material)**

## AGRICULTURAL CHEMICAL CHEMIGATION SAFETY

**1505.2100 DEFINITIONS.**

Subpart 1. **Scope.** The definitions in this part and *Minnesota Statutes*, sections 18B.01 and 18C.005, apply to parts 1505.2100 to 1505.2800.

Subp. 2. **Agricultural chemical.** "Agricultural chemical" means a pesticide as defined in *Minnesota Statutes*, chapter 18B, or a fertilizer, plant amendment, or soil amendment as defined in *Minnesota Statutes*, chapter 18C.

Subp. 3. **Antipollution device.** "Antipollution device" means equipment or a device used to prevent the backflow or backsiphonage of agricultural chemicals or mixtures of agricultural chemicals and water to the groundwater or surface water from the application of agricultural chemicals through irrigation systems and includes, but is not limited to, a reduced pressure zone backflow preventer, single or double irrigation system supply check valve, air gap, vacuum relief valve, automatic low pressure drain, injection line check valve, system interlock, low pressure shutdown device, and supply tank safeguard.

Subp. 4. **Automatic low pressure drain valve.** "Automatic low pressure drain valve" means a self-activating device designed and constructed to effectively and immediately drain that portion of an irrigation pipeline or conduit or check valve body whose contents could potentially enter the water supply when operation of the irrigation system pumping plant fails or is shut down.

Subp. 5. **Calibration.** "Calibration" means the use of devices and procedures utilized and employed with a chemigation system to determine the rate of agricultural chemical application.

Subp. 6. **Check valve.** "Check valve" means a device designed and constructed to effectively provide a positive, absolute closure of an irrigation pipeline or conduit or an agricultural chemical injection line that positively prevents the flow of a mixture of agricultural chemicals or agricultural chemicals and water to an irrigation pipeline, water supply, injection device, or supply tank when operation of the irrigation system pumping plant or agricultural chemical injection unit fails or is shut down.

Subp. 7. **Chemigation system.** "Chemigation system" means a device or combination of devices having a hose, pipe, or other conduit directly connected to a water supply through which a mixture of agricultural chemicals, or agricultural chemicals and water, are injected or drawn into and applied to land, crops, or plants.

Subp. 8. **Commissioner.** "Commissioner" means the commissioner of agriculture or an agent authorized by the commissioner.

Subp. 9. **Department.** "Department" means the Department of Agriculture.

Subp. 10. **Fertilizer chemigation.** "Fertilizer chemigation" means a process for applying fertilizers to land or crops including agricultural, nursery, turf, golf course, or greenhouse sites in or with irrigation water during the irrigation process.

Subp. 11. **Incident.** "Incident" means a flood, fire, tornado, transportation accident, storage container rupture, leak, spill, emission discharge, escape, disposal, or other event that releases or immediately threatens to release an agricultural chemical accidentally or otherwise into the environment, and may cause unreasonable adverse effect on the environment. Incident does not include the legal use of an agricultural chemical.

Subp. 12. **Injection unit.** "Injection unit" means an agricultural chemical injection metering pump, venturi (vacuum), pressure differential, or other metering device interlocked with the irrigation system that withdraws an agricultural chemical from a supply tank and injects the agricultural chemical into the irrigation system during a chemigation operation.

Subp. 13. **Interlock.** "Interlock" means the interconnection between an irrigation pump and agricultural chemical injection unit that causes injection system shutdown.

Subp. 14. **Irrigation.** "Irrigation" means the act of supplying water for agricultural and horticultural purposes to land, crops, or plants by means of pipes, hoses, sprinklers, drippers, ditches, furrows, or other devices that are connected directly to a source of ground or surface water.

Subp. 15. **Low pressure shutdown device.** "Low pressure shutdown device" means a device interlocked with the irrigation system that will shut down the irrigation system when the water pressure decreases to the point where an incident may occur.

Subp. 16. **Permitted-by-rule.** "Permitted-by-rule" means an applicant is considered to have a permit under part 1505.2200 to construct and operate a chemigation system if the applicant complies with parts 1505.2100 to 1505.2800, including the submission of a permit application and the required fee under part 1505.2200.

**KEY: PROPOSED RULES SECTION** — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material." **ADOPTED RULES SECTION** — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language.

Subp. 17. **Pesticide chemigation.** "Pesticide chemigation" means the process of applying pesticides to land or crops including, but not limited to, agricultural, nursery, turf, golf course, or greenhouse sites in or with irrigation water during the irrigation process.

Subp. 18. **Public water supply.** "Public water supply" has the meaning given in part 4720.0100.

Subp. 19. **Reduced pressure zone backflow preventer.** "Reduced pressure zone backflow preventer" means a device designed to prevent backflow consisting of two spring loaded check valves with an intermediate reduced pressure zone that drains to the atmosphere by a relief valve, with a reduced pressure maintained in the intermediate zone by means of a pressure differential valve.

Subp. 20. **Substantially altering.** "Substantially altering" means modifying a chemigation system by changing or adding injection units, supply tanks, safeguards, or antipollution devices described in the applicants most recently submitted permit application. Routine maintenance does not constitute a substantial alteration.

Subp. 21. **Vacuum relief valve.** "Vacuum relief valve" means a device effectively designed and built to automatically relieve or break vacuum in an irrigation pipeline or conduit caused by system failure or shut down.

Subp. 22. **Water supply.** "Water supply" means a source of water that is connected directly to an irrigation system such as a single well, group of wells, dug pit, lake, river, or stream.

**1505.2200 APPLICATION; PERMIT; FEE AND APPLICATION RENEWAL; ALTERATION; INSPECTION.**

Subpart 1. **Permit required.** A person shall comply with parts 1505.2100 to 1505.2800 before applying agricultural chemicals through an irrigation system. An applicant is considered to be permitted-by-rule if the applicant is in compliance with parts 1505.2100 to 1505.2800.

Subp. 2. **Initial fee; application renewal.** The application fee for an initial chemigation system permit established by *Minnesota Statutes*, section 18B.08, subdivision 4, or section 18C.205, subdivision 3, must be submitted with the initial chemigation system permit application. An updated chemigation system permit application must be submitted to the commissioner on forms provided by the commissioner every two years from the date of the applicant's initial submission of their permit application. No additional fee is required.

Subp. 3. **Permits previously granted under repealed parts 1505.2000 to 1505.2080.** An applicant previously granted a permit under repealed parts 1505.2000 to 1505.2080 shall submit an updated permit application every two years from the effective date of parts 1505.2100 to 1505.2800. No additional fee is required.

Subp. 4. **Application.** An applicant for a chemigation system permit shall apply on forms supplied by the commissioner. The application must include, at a minimum:

A. the name, address, and telephone number of the applicant to whom a permit is to be issued;

B. the number and location, by legal description, of well heads, surface water supply withdrawal points, or the public water supply that will be used in the chemigation process;

C. the estimated amounts and types of agricultural chemicals to be applied through the irrigation system;

D. diagrams or photographs of the irrigation system detailing the required antipollution devices;

E. diagrams, drawings, and calculations detailing the required safeguards of agricultural chemical storage containers at the chemigation site, if applicable;

F. the number of the applicant's department of natural resources water appropriation permit, if applicable;

G. the applicant's or applicant's agent's private applicator certification or noncommercial certification number, if applicable; and

H. a description of the chemigation system inspection procedures and time frames for inspection.

Subp. 5. **Chemigation system alteration.** Before substantially altering a chemigation system, an applicant shall submit a permit application form to the commissioner describing the changes made to the chemigation system. No additional fee is required.

An applicant is considered to be permitted-by-rule for the substantial alteration if the applicant complies with parts 1505.2100 to 1505.2800.

Subp. 6. **Inspection.** Chemigation systems are subject to inspection by the commissioner or the commissioner's agent under *Minnesota Statutes*, section 18D.201.

**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 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.

**KEY: PROPOSED RULES SECTION** — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material." **ADOPTED RULES SECTION** — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language.

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 by the Department of Health under chapter 4715, and applicants must install and maintain a reduced pressure zone backflow preventer under chapter 4715.

The commissioner shall keep and provide to interested persons a list of Department of Health approved reduced pressure zone backflow preventers and mainline check valves certified by independent testing laboratories. Mainline check valves approved by the commissioner under repealed parts 1505.2000 to 1505.2080 may continue to be used after the effective date of this part 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.

**1505.2400 RECORDS AND REPORTS.**

Pesticide chemigation system application records and fertilizer chemigation system mix and application records must be kept by the chemigation system applicant for five years from the date of application. Records detailing dates of chemigation system inspection, names of persons performing the inspection, and condition of the chemigation unit must be kept on forms provided by the commissioner. System inspection and equipment maintenance records must be retained by the chemigation system permit holder for five years.

**1505.2500 RESPONSIBILITY; CALIBRATION AND OPERATION; INSPECTION; OFF-TARGET APPLICATION; INCIDENT PREVENTION; INCIDENT REPORTING.**

A chemigation system applicant or the applicant's agent shall:

A. calibrate and operate each chemigation system in a manner that prevents an agricultural chemical incident or nonlabeled application of a pesticide;

B. inspect each chemigation system as necessary while agricultural chemicals are being applied;

C. prevent operation of a chemigation system in such a manner that agricultural chemicals are applied to an area other than an area targeted to receive an agricultural chemical application;

D. not clean agricultural chemical chemigation application, storage, pumping, or injection equipment in surface waters of the state, or fill or clean agricultural chemical chemigation application, storage, pumping, or injection equipment adjacent to surface waters, ditches, or wells where, because of the slope or other conditions, agricultural chemicals or materials contaminated with agricultural chemicals could enter or contaminate the surface waters, groundwater, or wells, as a result of overflow, leakage, or other causes; and

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E. upon discovering that an incident has occurred, immediately report the incident to the commissioner.

**1505.2600 COMMISSIONER'S RESPONSIBILITY.**

The commissioner shall annually provide chemigation safety information to each chemigation system applicant.

**1505.2700 INSTALLATION; MAINTENANCE; MODIFICATION.**

Subpart 1. **Proper installation and maintenance.** Irrigation systems, antipollution devices and valves, and agricultural chemical injection units, pumps, and solution tanks used for chemigation purposes must be installed and maintained to ensure proper functioning during chemigation. Maintenance necessary to assure proper functioning of the device must be performed before introduction of agricultural chemicals.

Subp. 2. **Modification.** If modification or changes in design, technology, irrigation practices, or other similar reasons warrant the use or placement of equipment other than that specified in parts 1505.2100 to 1505.2800, the commissioner may allow the changes if protection to the water supply is at least equal to that provided by the equipment or equipment placement required in parts 1505.2100 to 1505.2800.

**1505.2800 PROHIBITED ACTS.**

It is a violation of *Minnesota Statutes*, chapters 18B and 18C, for a person to apply an agricultural chemical to land, crops, or plants in or with irrigation water in violation of parts 1505.2100 to 1505.2800. Parts 1505.2100 to 1505.2800 are enforceable under *Minnesota Statutes*, chapter 18D.

**EFFECTIVE DATE.** Parts 1505.2100 to 1505.2800 are effective January 1, 1994, except that an owner or operator may submit an application for a chemigation permit according to part 1505.2200 and the commissioner may collect the required fee and grant a chemigation permit before January 1, 1994.

**REPEALER.** *Minnesota Rules*, parts 1505.2000; 1505.2010; 1505.2020; 1505.2030; 1505.2040; 1505.2050; 1505.2060; 1505.2070; and 1505.2080, are repealed effective December 31, 1993.

# Department of Agriculture

## Proposed Permanent Rules Relating to Certified Seed Potatoes

### Notice of Intent to Adopt a Rule Without a Public Hearing

**NOTICE IS HEREBY GIVEN** that the Minnesota Department of Agriculture intends to adopt the above-entitled amendments without a public hearing following the procedures set forth in the Administrative Procedures Act for adopting rules without a public hearing in *Minnesota Statutes*, sections 14.22-14.28. The statutory authority to adopt these amendments is *Minnesota Statutes*, section 21.118.

All persons have 30 days in which to submit comment in support of or in opposition to the proposed amendments or any part or subpart of the amendments. Comment is encouraged. Each comment should identify the portion of the proposed amendments addressed, the reason for the comment, and any change proposed.

Any person may make a written request for a public hearing on the amendments within the 30-day comment period. If 25 or more persons submit a written request for a public hearing within the 30-day comment period, a public hearing will be held unless a sufficient number withdraw their request in writing. Any person requesting a public hearing should state their name and address, and is encouraged to identify the portion of the proposed amendments addressed, the reason for the request, and any proposed change. If a public hearing is required, the department will proceed according to *Minnesota Statutes*, sections 14.131-14.20.

Comments or written requests for a public hearing must be submitted to: Carol Milligan, Minnesota Department of Agriculture, 90 West Plato Boulevard, St. Paul, MN 55107, (612) 296-6906. The comment period ends on July 8, 1992. All comments must be received by the department by 4:30 p.m. on that day.

The proposed amendments may be modified if the modifications are supported by the data and views submitted to the department and do not result in a substantial change in the proposed amendments as noticed.

A copy of the proposed amendments are attached to this notice.

**A STATEMENT OF NEED AND REASONABLENESS** that describes the need for and reasonableness of each provision of the proposed amendments and identifies the data and information relied upon to support the proposed amendments has been prepared and is available upon request from Ms. Milligan.

The department has determined that the proposed amendments will approve the workability of the present rule governing certified seed potatoes and place no additional administrative or economic restraints on producers. Therefore, no special provisions for small business have been incorporated into the amendments.

In the Matter of the Adoption of
the Rule of the State Department
Agriculture Governing Chemigation

DECLARATION
OF COUNSEL

I, Paul Strandberg, Special Assistant Attorney General, do hereby declare that I have examined the above-captioned rule and the supporting rulemaking record, and that, based on my examination, the Administrative Procedure Act and Minnesota Rules, chapter 2010 have been followed. Any exceptions are listed below. For Attorney General billing purposes, the four-digit docket client code is 0986.

Paul Strandberg
Special Assistant Attorney General

Dated: 5/17/92

STATE OF MINNESOTA
DEPARTMENT OF AGRICULTURE

In the Matter of the Proposed )
Rule of the Department of Agriculture )
Pertaining to Chemigation )

STATEMENT OF NEED
AND REASONABLENESS

## INTRODUCTION

The subject of this rulemaking is the proposed adoption by the Minnesota Department of Agriculture (MDA) of a rule governing the permitting and use of chemigation systems. Minnesota Statutes 18B.08 and 18C.205 require the department to adopt a rule to implement a program to regulate the application of agricultural chemicals by irrigation. This rule includes the development of a permit program, the installation of anti-siphon devices as part of the irrigation system, and the assessment of a non-refundable application fee for each water supply that is to be used in applying agricultural chemicals by irrigation.

Minnesota Rule, parts 1505.2000 through 1505.2080, the Minnesota Pesticide Chemigation Safety Rule is repealed and the MDA's new proposed rule which governs both fertilizer and pesticide usage through irrigation systems has been substituted.

As a result of extensive contact and negotiation for consensus with interested persons, regulated clientele, groups that represent regulated clientele, state of Minnesota government bodies, and other government bodies, it is the department's position that the adoption of this proposed rule will be noncontroversial.

### Background

Fertilizers, fungicides, insecticides, and other agricultural chemicals have been applied through irrigation systems in Minnesota for many years as part of the routine production of agricultural commodities, including but not limited to, potatoes and greenhouse crops. In many cases, the application of agricultural chemicals through irrigation systems has been used as a "best management practice" to reduce and/or better manage the use of fertilizers and pesticides.

Water supplies for chemigation systems include both private and municipal wells, and in rare cases may include surface water. In many cases, both storage tanks and injection systems are sited within 150 feet of the water supply.

Because of the nature of the use of storage tanks and injection systems, there is a potential for the water supply, including ground or surface water, to become contaminated from agricultural chemical spillage in and around the water supply, storage tank rupture, backsiphonage of agricultural chemicals, and introduction of agricultural chemicals from backpressure, and misapplication from improperly operating systems.

Current law administered by the Minnesota Department of Health (MDH) governs the siting of agricultural chemical from contamination sources, as well as requires the use of backflow prevention devices to prevent contamination and cross contamination of water supplies.

The United States Environmental Protection Agency, through the chemigation Label Improvement Program (LIP) has directed pesticide manufacturer registrants to include specific language on pesticide labels mandating the use of anti-pollution equipment, as well as limiting the type of irrigation system that can be used, and the type of crop that may receive a chemigation application.

The proposed rule attempts to bring together in one rule a comprehensive regulatory and education based approach to the regulation of the application of both fertilizers and pesticides through irrigation systems. Specifically, it attempts to regulate the activities of those persons that apply fertilizers or pesticides through irrigation systems, provides clear direction on the types of anti-pollution equipment that must be used and their placement, and provides an oversight mechanism to insure that chemigation systems are safely operated.

Agricultural chemical incidents and water supply contamination from agricultural chemicals should be minimal at chemigation sites that comply with this proposed rule.

Impact on Small Business

The overwhelming majority of regulated persons (including but not limited to individual farmers and greenhouse owners/operators) who are required to comply with the proposed rule are small businesses.

The proposed rule complies with the directive in Minnesota Statutes 18B.08 and 18C.205 requiring any person who applies agricultural chemicals through any irrigation system connected directly to a water supply to obtain a permit from the MDA and install the required anti-pollution devices.

The proposed rule is also consistent with the state's goal of nondegradation of ground water, which was established by the 1989 Comprehensive Ground Water Protection Act.

The costs of preventing agricultural chemical contamination from occurring, as required by this rule, are considerably less expensive than the costs to investigate and clean-up soil and ground water contamination. The costs of investigations and clean-ups vary, depending upon the extent of contamination; however, investigations and clean-ups are complicated, time consuming, and may cost several hundreds of thousands of dollars to complete.

In addition to costs associated with contamination remediation, another important factor to consider is the impact to human health that may be caused by the contamination of drinking water supplies.

It is the MDA's position that the cost of the required antipollution equipment that will be borne by small businesses is significantly less costly than remediating contamination, and is therefore reasonable.

It is possible for regulated persons to utilize technology and pollution prevention practices that are less costly and do not trigger compliance with the proposed rule. It is the MDA's experience that one to two person and family operated small businesses will be able to apply agricultural chemicals at their site

through irrigation systems that are not directly connected to a water supply and thus do not need to comply with the rule.

The average cost for compliance with the proposed rule, including anti-pollution devices and injection systems, ranges from hundreds of dollars for greenhouses, to several thousand dollars for center pivot irrigators. These costs are reasonable given that the devices required in the rule are the minimum necessary to prevent contamination of ground water and surface water, and that certain anti-pollution devices are already required by Minnesota law. In addition, the devices required are reasonable because they are accepted engineering standards and are similar to the standards in the chemigation LIP and the regulations of surrounding states.

The permit application requires that the minimum amount of information be submitted for the MDA to check for compliance with the proposed rule and make inspections. The permit application has been simplified from the version used in the repealed rule. Average time to fill out the application should be no more than a few hours.

To reduce the burden on regulated clientele, the permit renewal process is every 2 years. Regulatory compliance education information will be mailed at least one time per year to permit applicants.

A chemigation area posting requirement is being proposed that is consistent with the format, language and siting of signs already in use for application of all agricultural chemicals requiring posting. In addition, the siting requirement for the signs is consistent with MDA posting policies previously established.

Application and inspection recordkeeping requirements have been implemented which are very easy to understand and comply with.

Alternative antipollution equipment for chemigation systems which will prevent contamination of water supplies will be allowed by the MDA under parts 1505.2700, Subdivision 2, provided they provide protection equal to that of the devices required by the proposed rule.

Finally, the compliance date of January 1, 1994 allows adequate time for regulated clientele to evaluate the compliance options available and become educated regarding the procedure for obtaining a chemigation permit. In addition, the compliance date of January 1, 1994 allows the MDA adequate time to develop and effectively administer the program.

Need and Reasonableness of the Proposed Rule

**Section 1505.2100**: The definitions are necessary to insure that the rule is clearly understood. The inclusion of definitions is reasonable so that MDA may consistently apply the rule, and so that regulated persons do not become confused as to how to interpret the various language contained in the rule.

**Section 1505.2200**:

Subpart 1. It is necessary for the MDA to administer the required permit portion of the rule by implementing the permit-by-rule process because the MDA has limited staff resources to administer the rule. This approach is reasonable because the process that will be used by the MDA depends heavily on oversight by the MDA, and one-on-one consultation with regulated clientele as a part of the submission of a permit application by the regulated clientele. The MDA anticipates that any noncompliance encountered during the permit process can be effectively

corrected through direct communication with regulated clientele, and with a system inspection as necessary. In addition, the permit-by-rule process is reasonable because the MDA will direct its field staff to assist regulated clientele requiring help with the permit application.

Subpart 2. The two year renewal process is necessary so that MDA is apprised of any changes in anti-pollution devices and/or the permittee's chemigation system. It is reasonable for MDA to be apprised of changes in anti-pollution devices/chemigation systems at least every two years so the rule may be effectively enforced, and so the MDA may inform regulated clientele of any changes in technology or rule interpretation. The MDA considered other renewal time frames, and came to the conclusion that a two year renewal time frame could be best management by the MDA and was the least burdensome to regulated persons.

Subpart 3. Because Minnesota Rule, parts 1505.2000 through 1505.2080 are being repealed, it is necessary to clarify that existing chemigation permit holders are not required to duplicate their original efforts and obtain a new chemigation permit, but rather to renew their existing permit every two years. It is reasonable to do this to eliminate bureaucratic red tape for regulated clientele. The MDA also believes the two year renewal is reasonable because the MDA will be apprised of system changes in a timely and reasonable fashion. The MDA considered other renewal time frames and came to the conclusion that a two year renewal time frame could be best managed by MDA and was the least burdensome to regulated persons.

Subpart 4. The permit application is necessary to gather information pertinent to the location, ownership, operation of the chemigation system, and installation of anti-pollution devices. The information requested is reasonable because it is the minimum information necessary for MDA to effectively determine regulated persons' compliance with the proposed regulations. In addition, the permit application requirements are reasonable because they depend on information which is already available, and can be easily obtained by regulated clientele.

Subpart 5. It is necessary to require persons that change their permitted chemigation system to obtain a permit from the MDA prior to changing the system. It is reasonable to require regulated persons to obtain an additional permit outlining changes to assist them in compliance with the rule, to protect against contamination of water supplies from ineffective anti-pollution devices, and to inform them about any changes in technology or rule.

Subpart 6. It is necessary for the MDA to inspect chemigation systems for compliance. It is reasonable to inspect systems to protect against incidents. In addition, inspections are reasonable because they will be conducted during normal business hours and should not present any undue hardship to regulated persons.

**Section 1505.2300**:

Subpart 1. It is necessary to make a distinction between regulations for pesticides and fertilizers because the use, storage, handling, distribution, and disposal of pesticide products are regulated at both the federal and state level, while fertilizer use, storage, handling, distribution and disposal is regulated predominantly by the state. It is reasonable to do this because regulated persons need to know that there are legal differences to avoid: a) noncompliance with both federal law and Minnesota law, and b) contamination of water supplies.

Subpart 2. A. Making setback distances consistent with the well code is

necessary to insure that regulated persons comply with MDH regulations. It is reasonable to adopt the same standard as the well standard for water supplies not regulated by the well code to insure consistency and to make compliance easier.

B. Protection of water supplies from rupture of storage containers, from end hose discharges, and from mix/load activities is necessary because incidents associated with these areas have a greater potential to cause environmental contamination. The installation of a safeguard under certain conditions where/when an incident is more likely (as in two of 1, 2, or 3), or may have a more negative environmental effect, is reasonable because safeguards are already required for agricultural chemical businesses with similar handling practices. In addition, the type of safeguard that will be/can be used in most situations is easily and cost efficiently installed in most cases.

The 1500 gallon tank trigger is reasonable because the tank size most common in fertilizer chemigation is 1500 gallons or less. The 100 foot setback distance is reasonable because that is the setback being proposed by the MDH in their amended well code regulation (setbacks) for non-safeguarded contamination sources.

The 30 day storage trigger is reasonable because it is expected that most farmers/growers will not have a use for fertilizer storage at the average chemigation site beyond 30 days.

C. The general requirement that safeguards be leakproof is reasonable to insure that safeguards are not built in a manner that renders the safeguard ineffective to prevent environmental contamination. The leakproof requirement is reasonable because it is consistent with generally accepted performance standards accepted by industry and government regulatory bodies.

D. The capacity difference requirement is necessary to insure that safeguards are adequately sized to account for precipitation. The sizes are reasonable because they are consistent with accepted industry standards and existing MDA regulations.

E. The material/construction specification requirements are necessary to insure that safeguards are only constructed of materials known by the MDA and industry to be appropriate for the kinds and amounts of products being stored. The specifications given are reasonable because they are consistent with standard engineering practices and MDA regulations. In addition, the specifications are reasonable because they allow flexibility in construction.

Subpart 3. It is necessary to indicate that the required anti-pollution devices/valves may only be designed and constructed of materials suitable for chemigation so that the chemigation system functions properly. It is reasonable to indicate this information so that operators will better be able to comply with specifications, thereby insuring the protection of water supplies. It is reasonable to allow portable anti-pollution devices for non-public water supplies because portable systems common to field crop use offer adequate protection.

Portable backflow prevention devices are not allowed for public water supply systems (as defined by the MDH) to insure that an inadvertent cross connection to potable water supplies does not occur. It is reasonable to take this approach to be consistent with Minnesota Department of Health regulations.

A. It is necessary to require a mainline backflow prevention device, because these devices are the primary protection against ground and/or surface water

contamination in the event of a failure of the other anti-pollution devices of a chemigation system. The requirement is reasonable because it protects ground and surface water supplies from contamination from agricultural chemicals. In addition, the requirement is reasonable because it gives regulated persons an option to use two different styles of mainline backflow prevention devices which offer substantially similar protection, but which differ in price. Also, the requirement is reasonable because the devices being required are commonly available and are already in use with chemigation systems.

The placement of the mainline backflow prevention device in the irrigation line immediately prior to the point of injection is necessary because this is the only location in the irrigation line where a mainline backflow prevention device can be placed to prevent against contamination of ground and/or surface water. This requirement is reasonable because the placement required in the rule is also an accepted engineering standard.

Mainline check valves:

It is necessary to allow only one mainline check valve for the application of fertilizer to prevent regulated persons from purchasing and using a greater number of check valves than are needed to comply with the regulation. It is reasonable to allow only one mainline check valve for the application of fertilizer because only one mainline check valve is an accepted engineering standard.

It is necessary to require mainline check valves to comply with part B to insure that all mainline check valves being used for chemigation will meet basic design and equipment standards. This requirement is reasonable because ground and/or surface water will not be protected unless all mainline check valves meet certain basic design and equipment basis standards. The standards are discussed in more detail in part B.

It is necessary to require that mainline check valves to be tested and certified by an independent testing laboratory to insure that integrity of testing and certification is maintained. This requirement is reasonable because states that have adopted chemigation regulations have adopted similar standards. In addition, independent test laboratories are already familiar with the required test procedures.

It is necessary to require that mainline check valves be marked with the information required to insure that both regulated persons and the MDA can tell at a glance if the mainline check valve being used is properly placed and meets the requirements set forth in the rule. This requirement is reasonable because it aids in regulated persons' compliance with the rule.

Reduced pressure zone backflow preventers:

It is necessary to specify that only reduced pressure zone backflow preventers may be used for public water supplies because they are required by the department of health. It is reasonable to make this known to persons who must comply with the rule so that they comply with department of health regulations.

Lists:

It is necessary for the department to maintain a list of mainline backflow prevention devices that are approved by the department of health or that meet the standards in part B, so that regulated persons are assured of using mainline backflow prevention devices that meet certain minimum standards. The requirement is reasonable because it makes it easier for regulated persons to

comply with the rule.

It is necessary to allow persons to use mainline backflow prevention devices that were approved by the department under the repealed rule provided they comply with the requirements of part B because many of these devices have already been installed by regulated persons. This requirement is reasonable because the previously approved devices already comply with the requirements of part B.

B. It is necessary to set standards for certain anti-pollution devices required to be installed on single and double check valves to insure that they will allow the check valves to operate in a manner to prevent contamination of water supplies during system shutdown. It is reasonable to do this to protect water supplies and to give guidance to regulated persons when selecting check valves.

An inspection port is necessary to allow for inspection of a check valve during system shutdown. This is reasonable because most check valves are manufactured with inspection ports already installed, and an inspection port is the only way to insure that vacuum breakers, check valves and automatic low pressure drains contain the required equipment and operate properly. A vacuum relief valve is a device that is necessary to release line pressure on system shutdown. The requirement is reasonable to insure that the automatic low pressure drain will operate, thus releasing all liquids in the check valve body.

It is necessary to indicate the exact location and acceptable valve orifice sizes of the vacuum relief valve because the location and valve orifice sizes will dictate if there will be adequate protection against the backsiphonage of agricultural chemicals. The specific location and valve orifices sizes are reasonable because they are acceptable engineering standards.

It is necessary to require an automatic low-pressure drain with a 3/4 inch orifice so that backsiphon protection is assured if there is a pressure drop in the system. The use of the low-pressure drain and its location in the system are accepted engineering standards. It is reasonable to direct any drainage away from the well so that contamination of the well does not occur. Additional drain standards have been chosen because of observed poor field performance of certain types of automatic low pressure drains. The additional standard is reasonable because it assures consistency in check valve draining during system shutdown and sets a minimum drain standard.

The inspection port, vacuum breaker, automatic low pressure drain that have been required are also reasonable because they are recommended engineering standards and they are currently required in states with chemigation regulations.

It is necessary to specify performance standards for check valves to insure that all valves approved by the commissioner will provide the same minimum level of protection for water supplies. The standards are reasonable because they are consistent with standards proposed by the MDH, are similar to the standards already in law in states with chemigation regulations, and are recommended engineering standards. In addition, valve manufacturers have already designed and constructed their valves to comply with the standards in the rule and test their valves according to the standards specified in the rule.

C. A check valve at the point of agricultural chemical injection into the irrigation system is necessary to prevent flow of irrigation water into the agricultural chemical supply tank during system shutdown. It is reasonable to require this because flow of irrigation water into the supply tank could result in

an agricultural chemical incident.

It is conversely necessary to prevent unwanted flow/siphonage of agricultural chemicals to the irrigation system from the supply tank to prevent damage to crops and to prevent an incident. This is reasonable because most systems are already designed with an injection line check valve. In addition, the chemigation LIP requires an injection line check valve to prevent environmental damage.

D. An interlock system is necessary to prevent continuing agricultural chemical injection into a non-operational irrigation system. It is reasonable to prevent agricultural chemical flow so that an agricultural chemical incident does not occur, and so that crops are not damaged.

E. A low pressure switch is necessary to prevent agricultural chemical misapplication. It is reasonable to prevent agricultural chemical misapplication because misapplication may result in pesticide label violations, lack of target pest control, possible plant damage, and possible ground water or surface water contamination.

The standards set forth in C, D, and E are also reasonable because they are accepted engineering standards, and are similar to the standards already in law in states with chemigation regulations.

Subpart 4. It is necessary to purge irrigation lines after agricultural chemical injection to remove agricultural chemicals from the system. It is reasonable to remove agricultural chemicals from the system to eliminate plant damage or environmental damage. It is also reasonable because this practice is in common use by owners/operators.

Subpart 5. It is necessary to post lands that are chemigated to protect against entry into treated areas by unauthorized persons. This is reasonable because posting is required by Minnesota law and federal law, and is already widely done by regulated persons to warn persons who may enter chemigation sites about the hazards presented.

**Section 1505.2400**:

A record of agricultural chemical application is required so that MDA, under regulations set forth in Minnesota's Comprehensive Ground Water Protection Act, may monitor agricultural chemical use through irrigation systems. Records of inspections are required so that owners/operators will document that all anti-pollution equipment is operational. The recordkeeping requirement is reasonable because it is similar to the recordkeeping already being done by regulated clientele.

The five year record retention schedule is necessary to allow the MDA and adequate history of application of agricultural chemicals for different crops and system inspection at a particular chemigation site.

The five year record retention required is reasonable because it is consistent with similar record retention required in Minnesota law, and the recordkeeping already being done by regulated clientele as part of the production of agricultural commodities.

**Section 1505.2500**:

A. It is necessary to require owners/operators to calibrate and operate their

chemigation system to prevent the unintentional or excess release of agricultural chemicals into the environment, to insure that the owners/operators comply with state and federal law governing the application of agricultural chemicals through irrigation systems. The requirement is reasonable because owners/operators already calibrate and operate injection equipment prior to each injection.

B. It is necessary to require owners/operators to inspect chemigation systems during operation to insure that the unintentional or excess release of agricultural chemicals into the environment does not occur as a result of inoperative equipment and to insure that owners/operators comply with state and federal law governing the application of agricultural chemicals. The requirement is reasonable because owners/operators already routinely inspect their chemigation systems during operation to insure that agricultural chemicals are being properly applied.

C. It is necessary to require owner/operators to operate chemigation systems properly to insure that the unintentional or excess release of agricultural chemicals into the environment does not occur as a result of faulty equipment and to insure that owners/operators comply with state and federal law governing the application of agricultural chemicals. The requirement is reasonable because their is no economic or system management benefit to owners/operators to misapply agricultural chemicals and damage human health or the environment.

D. It is necessary to prohibit owners/operators from engaging in certain environmentally detrimental chemigation and management practices to insure that water supplies, including ground water and surface water, are protected against contamination from agricultural chemicals.

The requirement is reasonable because the water supplies being used by owners/operators for chemigation are sources of ground water or surface water that are protected under Minnesota law against degradation.

E. It is necessary to require owners/operators to report incidents to insure that they comply with state and federal law. The requirement is also necessary to insure that negative environmental and human health impacts are minimized as a result of an incident. The requirement is reasonable because most owners/operators are already knowledgeable that they must report incidents and are generally cooperative by expeditiously cleaning up incidents.

**Section 1505.2600**:

It is necessary for the commissioner to periodically update the system user on safety practices so that human health and the environment is protected. Improper operation of the system may jeopardize human health or the environment through personal injury or ground water or surface water contamination. It is reasonable for the MDA to provide this information because the MDA has access to the latest technical information available, and therefore is the best source of that information for regulated clientele.

**Section 1505.2700**:

Subpart 1. It is necessary to specify that equipment must be installed and maintained so that proper functions are maintained. It is further necessary to maintain proper functions so that unreasonable, adverse effects on the environment and damage to human health do not occur. The requirement is reasonable because owners/operators have a vested interest in installing and operating their chemigation system according to manufacturers' recommendations or pertinent Minnesota law to insure that the application of agricultural chemicals

is done with maximum efficiency.

Subpart 2. It is necessary to allow for modifications in the system so that changes in technology and equipment availability may be addressed. Changes in the system that do not jeopardize ground water or surface water and assist regulated persons are reasonable to insure that the environment is protected and regulated persons have additional options to utilize as needed for crop production.

**Section 1505.2800**:

It is necessary to restate statutory requirements so that compliance is assured. It is reasonable to state required compliance so that regulated persons understand what laws are applicable.

**Effective Date**:

A time-frame for compliance is necessary to that the rule may be effectively implemented. It is reasonable to include a January 1, 1994 timeframe for compliance so that potential operators have adequate time to procure and install anti-pollution devices and file a chemigation permit application with the MDA, and to allow the MDA time to hire staff to develop a system for administering the proposed rule.

Repealer:

It is necessary to repeal parts 1505.2000 through 1505.2080 because the rule only regulated the application of pesticides through irrigation systems and not fertilizers, and therefore a substantial number of amendments would have been necessary to incorporate beneficial changes and include regulations for the application of fertilizers. It is reasonable to repeal parts 1505.2000 through 1505.2080 because it is more efficient administratively, and because it will lessen confusion by regulated persons.

## LIST OF ATTACHED DOCUMENTS

A. Notice of Solicitation of Outside Opinion

B. State Register Photocopy of Notice of Solicitation of Outside Opinion

C. Rule as Proposed

D. Notice of Intent

E. Memo to LCRAR that accompanied the Statement of Need

F. Statement of Need

G. Affidavit of Mailing

H. Mailing List Certificate

I. *State Register* Photocopy of Notice of Intent

J. Rule as Adopted (four copies)

K. Findings of Fact

L. Submissions and Comments

M. Declaration of Counsel

N. Notice of Submission of Rule to the Attorney General

O. Affidavit of Mailing Notice of Submission of Rule

iron range resources and rehabilitation board
mineland reclamation division

June 29, 1992

RECEIVED
JUN 30 1992
PLANNING DIVISION

Carol Milligan
Minnesota Department of Agriculture
90 West Plato Boulevard
St. Paul, MN 55107

Dear Carol:

I am writing to you regarding the Proposed Permanent Rules Relating to Chemigation that appeared in the State Register on June 8, 1992.

1. Please notify me as to the date this document is submitted to the Attorney General.

2. 1502.2200 Subp. 4 G.
Which category of pesticide applicator certification will be required for chemigation permits?

3. 1502.2300 Subp. 3 A. 2.
It is stated that reduced pressure zone backflow preventers must be approved, installed, and maintained as per Department of Health under chapter 4517. Does this mean Department of Health inspections will also be required or will the Department of Agriculture be allowed to make the compliance determinations? My comment is that the Department of Agriculture chemigation inspections (1505.2200 Subp. 6) should include this compliance determination.

4. 1505.2300 Subp. 3 A.
Please send me a copy of the Commissioner's list of Department of Health approved reduced pressure zone backflow preventers that are certified by independent testing laboratories.

5. 1505.2300 Subp. 3 C.
Requiring the installation of an injection line check valve between the chemical injection unit and the point of injection is not physically possible in all cases without compromising the integrity of the chemical injection unit. An example of this would be for a non-electric, proportional fertilizer injector. I have

AN EQUAL OPPORTUNITY EMPLOYER

p.o. box 392 chisholm, minnesota 55719 ([redacted]
FAX # 218-254-5539

NOTE: NEW PHONE (218) 254-336

included photocopies for the Dosmaticplus which is a non-electric proportional chemical injector. As you will see upon examination of this information, this unit is powered by a water engine. The irrigation water drives the proportional injector to inject the proper amount of chemical solution into the irrigation water. If there is no irrigation water flowing through the injector unit the chemical solution pump will not operate. As an additional safeguard, we have placed a ball valve on the irrigation line between the supply and injector as well as a ball valve on the irrigation line between the injector and the application site. These two ball valves remain closed at all times except for when the injector is being used. As an additional safeguard in the event of a water supply pressure drop, we have placed a reduced pressure zone backflow preventer on the water supply line between the first gate valve and the injector.

My comment on this paragraph in the proposed rules is that it needs to be amended to include chemical injection devices and installations where an injection line check valve is not necessary and/or feasible.

6. 1505.2300 Subp. 3 D.
The first sentence states, "An interlock, such as electrical, pressure, mechanical, or water motor, must be provided **between** (emphasis added) the irrigation system or water pump and the agricultural chemical injection unit." In the case of the non-electric, proportional chemical injector that I previously described, the water motor is an integral part of the chemical injector and an interlock device physically cannot be placed between the chemical injection unit and the pump or system as this subp. requires.

7. 1505.2400
Reference to chemigation system inspection forms provided by the Commissioner is made. Who, other than the chemigation system operator (1505.2500 B.), will perform these inspections and how often will they be required? What fees will be required for these inspections?

8. Please send a chemigation system permit application to:

Daniel R. Jordan
IRRRB Mineland Reclamation
P.O. Box 392.
Chisholm, MN 55719

Also, you can contact me at (218) 254-3369 if you need clarification of my comments or to respond to my questions. I also wish to thank John Peckham for providing me the opportunity to review and comment on these proposed rules. Personally, I do not feel a public hearing is necessary, but if 25 people request one and you schedule a public hearing, please notify me as to its date, time, and location.

Sincerely,

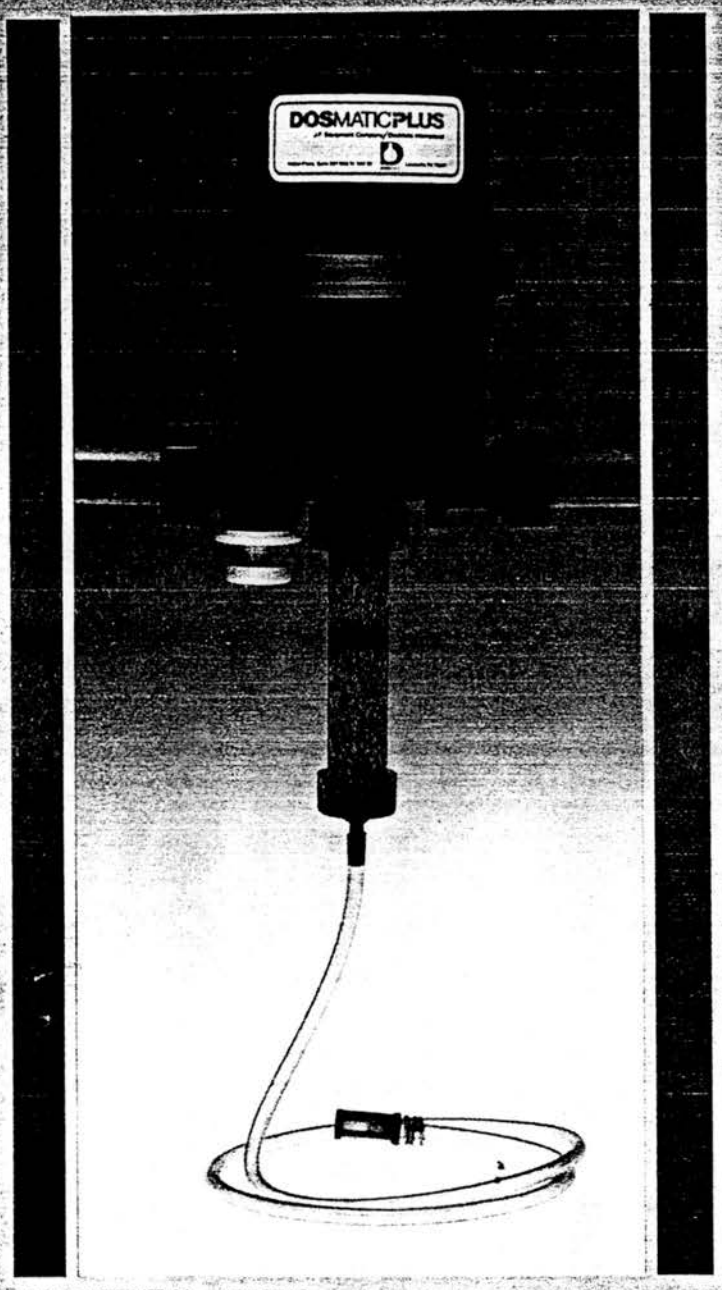
Dan R Jordan

Daniel R. Jordan
Natural Resources Forestry Specialist Senior

DRJ:mab
Enclosures

pc: John Peckham

# DOSMATIC® PLUS




U.S. PATENT No. 4558715

## NON-ELECTRIC
## PROPORTIONAL

WEAR RESISTANT

## 2 YEAR WARRANTY

AMERICAN QUALITY

## It's a:

## Medicator

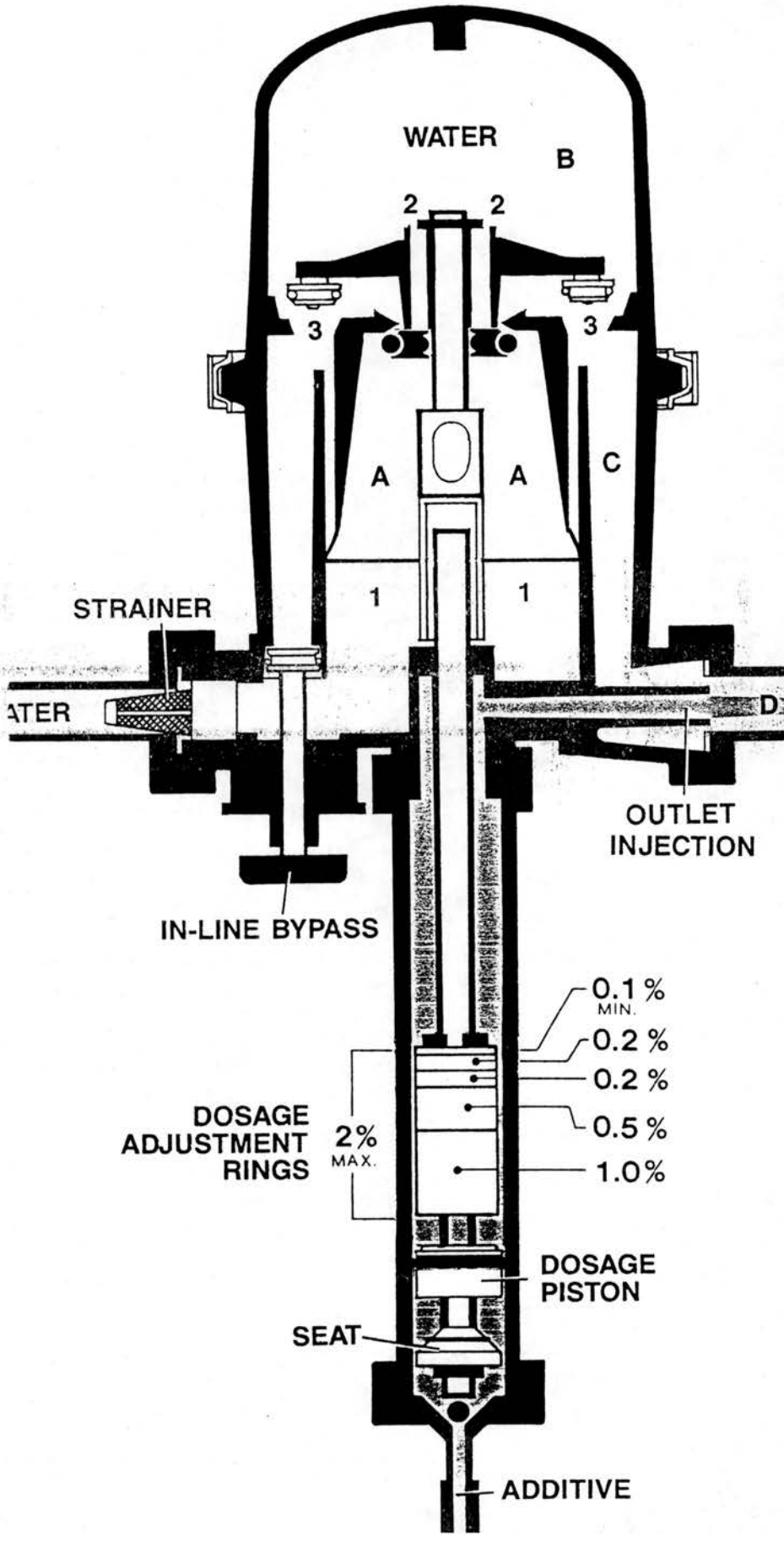
## Metering Pump

## Fertilizer Injector

DOSMATIC™

## SIMPLE
## ACCURATE
## RELIABLE
## at all flow rates.

# How the DOSMATICPLUS works:




THE WATER ENGINE

**STEP 1** The up stroke: Water enters the *DosmaticPlus* with valve 2 closed, forcing Piston A up and squeezing the water out of Chamber B to Outlet D. The Piston hits the top of the cylinder changing the valve positions.

**STEP 2** The down stroke: Valve 2 opens and valve 3 closes and water enters chamber B, forcing Piston A down and squeezing water out of chamber C to Outlet D. The Piston hits the bottom of the cylinder changing the valve positions and the cycle starts anew.

THE SOLUTION PUMP

**STEP 1** The Seat engages the Dosage Piston sucking solution up under the Dosage Piston at the same time as solution on top of Dosage Piston is injected into Outlet D.

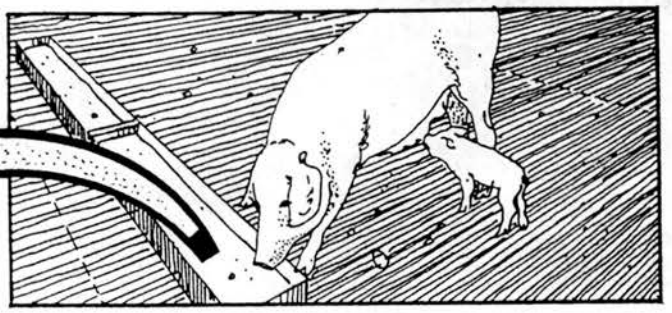
**STEP 2** Dosage Adjustment Rings push Dosage Piston down transferring the solution from the under side of the Dosage Piston to the top side. The more Dosage Rings the more solution transferred and ready to pump.

Dosage Ratio Adjustment

By adding or subtracting dosage adjustment rings in various combinations, ratios can be easily changed.

A wide range of fittings are available to hook-up your DosMaticPlus

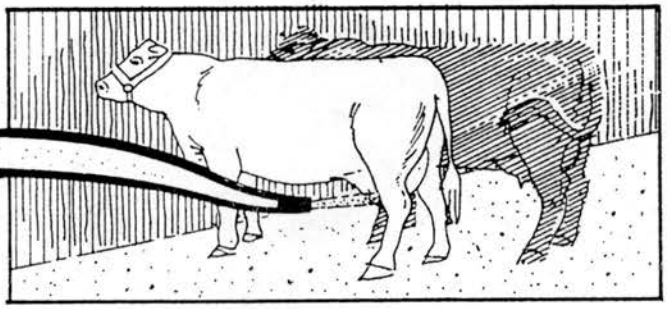
| | |
|---|---|
| 32mm PVC | 3/4" Copper Tubing |
| 22mm Copper Tubing | 1" Copper Tubing |
| 28mm Copper Tubing | 1" NPT |
| 3/4" PVC Slip | 3/4" BSPT |
| 1" PVC Slip | 1" BSPT |



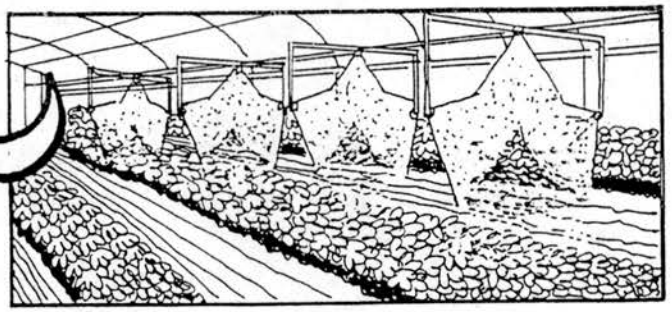
LIVESTOCK —
A simple, accurate and reliable liquid dispenser for injecting metered additives in water without electricity. Add vitamins, medications, tranquilizers, mineral and other additives to your livestock water supply in precise amounts.



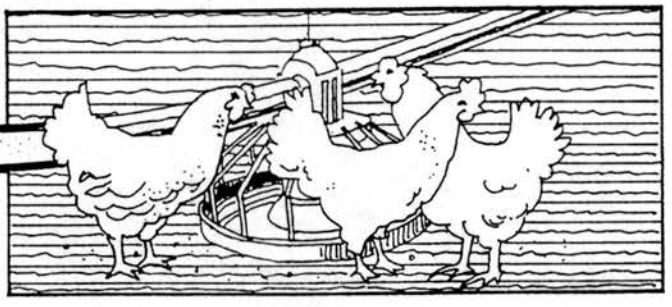
IRRIGATION SYSTEMS/TURF —
Your turf and irrigation systems can benefit from the precise metering of additives such as fertilizers, pesticides, weed killers, wetting agents, and soil conditioners to the irrigation water.



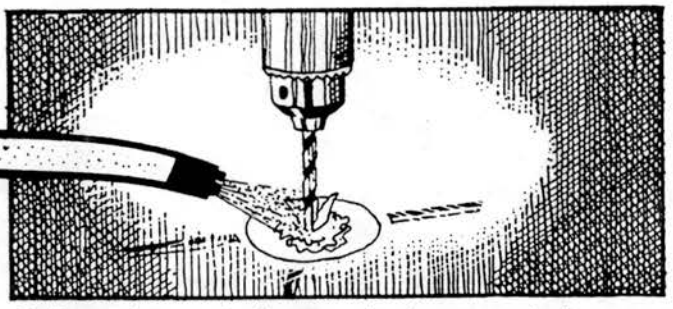
DAIRY FARMS —
In addition to use as a medicator as listed above, *DosmaticPlus* can provide a simple, accurate method for metering additives for cleaning and sterilizing needs as well.



GREENHOUSES —
A fertilizer injection system for simple and reliable metering of pesticides, wetting agents, soil conditioners fertilizers etc. in the watering system.



POULTRY —
For use as a medicator you can provide precise metered amounts of medications, vitamins, tranquilizers and other additives in the drinking water for your poultry.



IN INDUSTRY —
*DosmaticPlus* provides a metering pump for use in many different industrial applications for adding to water cleansers, dyes, soluble oils and other chemical additives as you need them, instead of premixing.

Call us. Let us help you design a metering pump system to meet your unique needs.

# DOSMATIC PLUS

## OPERATING SPECIFICATIONS

| Standard Specifications | English | Metric |
|---|---|---|
| Max. Operating Pressure (2%) | 85 PSI | 5.70 BAR |
| Max. Operating Pressure (4%) | 35 PSI | 2.40 BAR |
| Hydrostatic Test Pressure | 300 PSI | 20.0 BAR |
| Minimum Operating Pressure | 5 PSI | 0.30 BAR |
| Maximum Flow Rate | 1200 GPH | 4.5 M3/H |
| Minimum Flow Rate | 5 GPH | 0.2 L/MN |
| Max. Flow Rate @ Min. Pressure | 300 GPH | 0.9 M3/H |
| Pressure Loss @ Maximum Flow | 18 PSI | 1.2 BAR |
| Max. Suction Lift | 60 IN. | 150 CM |
| PVC Connections (union type) | 1″ SLIP | 32 MM |

| Dimensions | | |
|---|---|---|
| Depth | 7.0 IN | 17.8 CM |
| Width | 8.5 IN | 21.6 CM |
| Height | 18.5 IN | 47.0 CM |
| Weight | 7.5 LB | 3.4 KG |

| | Additive Ratios | | |
|---|---|---|---|
| **DP20 - 2%** | Feed Ratio Minimum | 0.1% | 0.1% |
| | Feed Ratio Maximum | 2.0% | 2.0% |
| | Accuracy +/– | 0.05% | 0.05% |
| | Adjustment Settings (every 0.1%) | 20 | 20 |
| | Max. Additive Pick Up Rate | 24 GPH | 90L/H |
| **DP20 - 4%** | Feed Ratio Minimum | 0.2% | 0.2% |
| | Feed Ratio Maximum | 4.0% | 4.0% |
| | Accuracy +/– | 0.05% | 0.05% |
| | Adjustment Settings (every 0.1%) | 20 | 20 |
| | Max. Additive Pick Up Rate | 48 GPH | 181L/H |

**For more information, please contact:**


**J-F Equipment Co.**

Walton Plaza, Suite 201
896 N. Mill Street
Lewisville, TX 75067
(214) 436-9765
1-800-344-6767 (outside Texas)
Telex: TRT 163122
Fax: (214) 420-0791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SF-00008-05 (4/88)

DEPARTMENT : POLLUTION CONTROL AGENCY

STATE OF MINNESOTA

# Office Memorandum

DATE : July 8, 1992

TO : Carol Milligan
Minnesota Department of Agriculture
Fax: 297-7678

FROM : Rita O'Connell RMO
Ground Water Unit, Program Development Section
Ground Water and Solid Waste Division

PHONE : 296-8568

SUBJECT : COMMENTS ON - CHEMIGATION REGULATIONS

Thank you for the opportunity to comment on the rules published in the State Register on June 8, 1992.

The only comment I have is that while Section 1505.2300, Subp. 2.E.(5) (near the bottom of page 2657) specifically prohibits a drain in the walls of a safeguard, I do not find similar language prohibiting a drain in the floor. Is this an oversight? If not, and if a drain in the floor is allowed, I suggest that this negates the usefulness of a safeguard structure.

RO:sjk

Department of Agriculture

Proposed Permanent Rules Relating to Chemigation

Rules as Proposed (all new material)

AGRICULTURAL CHEMICAL CHEMIGATION SAFETY

1505.2100 DEFINITIONS.

Subpart 1. **Scope.** The definitions in this part and Minnesota Statutes, sections 18B.01 and 18C.005, apply to parts 1505.2100 to 1505.2800.

Subp. 2. **Agricultural chemical.** "Agricultural chemical" means a pesticide as defined in Minnesota Statutes, chapter 18B, or a fertilizer, plant amendment, or soil amendment as defined in Minnesota Statutes, chapter 18C.

Subp. 3. **Antipollution device.** "Antipollution device" means equipment or a device used to prevent the backflow or backsiphonage of agricultural chemicals or mixtures of agricultural chemicals and water to the groundwater or surface water from the application of agricultural chemicals through irrigation systems and includes, but is not limited to, a reduced pressure zone backflow preventer, single or double irrigation system supply check valve, air gap, vacuum relief valve, automatic low pressure drain, injection line check valve, system interlock, low pressure shutdown device, and supply tank safeguard.

Subp. 4. **Automatic low pressure drain valve.** "Automatic low pressure drain valve" means a self-activating device designed and constructed to effectively and immediately drain that portion of an irrigation pipeline or conduit or check valve body whose contents could potentially enter the water supply when operation of the irrigation system pumping plant fails or is shut down.

Subp. 5. **Calibration.** "Calibration" means the use of devices and procedures utilized and employed with a chemigation system to determine the rate of agricultural chemical



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application.

Subp. 6. **Check valve.** "Check valve" means a device designed and constructed to effectively provide a positive, absolute closure of an irrigation pipeline or conduit or an agricultural chemical injection line that positively prevents the flow of a mixture of agricultural chemicals or agricultural chemicals and water to an irrigation pipeline, water supply, injection device, or supply tank when operation of the irrigation system pumping plant or agricultural chemical injection unit fails or is shut down.

Subp. 7. **Chemigation system.** "Chemigation system" means a device or combination of devices having a hose, pipe, or other conduit directly connected to a water supply through which a mixture of agricultural chemicals, or agricultural chemicals and water, are injected or drawn into and applied to land, crops, or plants.

Subp. 8. **Commissioner.** "Commissioner" means the commissioner of agriculture or an agent authorized by the commissioner.

Subp. 9. **Department.** "Department" means the Department of Agriculture.

Subp. 10. **Fertilizer chemigation.** "Fertilizer chemigation" means a process for applying fertilizers to land or crops including agricultural, nursery, turf, golf course, or greenhouse sites in or with irrigation water during the irrigation process.

Subp. 11. **Incident.** "Incident" means a flood, fire, tornado, transportation accident, storage container rupture, leak, spill, emission discharge, escape, disposal, or other event that releases or immediately threatens to release an agricultural chemical accidentally or otherwise into the environment, and may cause unreasonable adverse effect on the environment. Incident does not include the legal use of an agricultural chemical.

Subp. 12. **Injection unit.** "Injection unit" means an agricultural chemical injection metering pump, venturi (vacuum),



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pressure differential, or other metering device interlocked with the irrigation system that withdraws an agricultural chemical from a supply tank and injects the agricultural chemical into the irrigation system during a chemigation operation.

Subp. 13. **Interlock.** "Interlock" means the interconnection between an irrigation pump and agricultural chemical injection unit that causes injection system shutdown.

Subp. 14. **Irrigation.** "Irrigation" means the act of supplying water for agricultural and horticultural purposes to land, crops, or plants by means of pipes, hoses, sprinklers, drippers, ditches, furrows, or other devices that are connected directly to a source of ground or surface water.

Subp. 15. **Low pressure shutdown device.** "Low pressure shutdown device" means a device interlocked with the irrigation system that will shut down the irrigation system when the water pressure decreases to the point where an incident may occur.

Subp. 16. **Permitted-by-rule.** "Permitted-by-rule" means an applicant is considered to have a permit under part 1505.2200 to construct and operate a chemigation system if the applicant complies with parts 1505.2100 to 1505.2800, including the submission of a permit application and the required fee under part 1505.2200.

Subp. 17. **Pesticide chemigation.** "Pesticide chemigation" means the process of applying pesticides to land or crops including, but not limited to, agricultural, nursery, turf, golf course, or greenhouse sites in or with irrigation water during the irrigation process.

Subp. 18. **Public water supply.** "Public water supply" has the meaning given in part 4720.0100.

Subp. 19. **Reduced pressure zone backflow preventer.** "Reduced pressure zone backflow preventer" means a device designed to prevent backflow consisting of two spring loaded check valves with an intermediate reduced pressure zone that drains to the atmosphere by a relief valve, with a reduced pressure maintained in the intermediate zone by means of a pressure differential valve.



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Subp. 20. **Substantially altering.** "Substantially altering" means modifying a chemigation system by changing or adding injection units, supply tanks, safeguards, or antipollution devices described in the applicants most recently submitted permit application. Routine maintenance does not constitute a substantial alteration.

Subp. 21. **Vacuum relief valve.** "Vacuum relief valve" means a device effectively designed and built to automatically relieve or break vacuum in an irrigation pipeline or conduit caused by system failure or shut down.

Subp. 22. **Water supply.** "Water supply" means a source of water that is connected directly to an irrigation system such as a single well, group of wells, dug pit, lake, river, or stream.

1505.2200 APPLICATION; PERMIT; FEE AND APPLICATION RENEWAL; ALTERATION; INSPECTION.

Subpart 1. **Permit required.** A person shall comply with parts 1505.2100 to 1505.2800 before applying agricultural chemicals through an irrigation system. An applicant is considered to be permitted-by-rule if the applicant is in compliance with parts 1505.2100 to 1505.2800.

Subp. 2. **Initial fee; application renewal.** The application fee for an initial chemigation system permit established by Minnesota Statutes, section 18B.08, subdivision 4, or section 18C.205, subdivision 3, must be submitted with the initial chemigation system permit application. An updated chemigation system permit application must be submitted to the commissioner on forms provided by the commissioner every two years from the date of the applicant's initial submission of their permit application. No additional fee is required.

Subp. 3. **Permits previously granted under repealed parts 1505.2000 to 1505.2080.** An applicant previously granted a permit under repealed parts 1505.2000 to 1505.2080 shall submit an updated permit application every two years from the effective date of parts 1505.2100 to 1505.2800. No additional fee is required.



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Subp. 4. **Application.** An applicant for a chemigation system permit shall apply on forms supplied by the commissioner. The application must include, at a minimum:

A. the name, address, and telephone number of the applicant to whom a permit is to be issued;

B. the number and location, by legal description, of well heads, surface water supply withdrawal points, or the public water supply that will be used in the chemigation process;

C. the estimated amounts and types of agricultural chemicals to be applied through the irrigation system;

D. diagrams or photographs of the irrigation system detailing the required antipollution devices;

E. diagrams, drawings, and calculations detailing the required safeguards of agricultural chemical storage containers at the chemigation site, if applicable;

F. the number of the applicant's department of natural resources water appropriation permit, if applicable;

G. the applicant's or applicant's agent's private applicator certification or noncommercial certification number, if applicable; and

H. a description of the chemigation system inspection procedures and time frames for inspection.

Subp. 5. **Chemigation system alteration.** Before substantially altering a chemigation system, an applicant shall submit a permit application form to the commissioner describing the changes made to the chemigation system. No additional fee is required.

An applicant is considered to be permitted-by-rule for the substantial alteration if the applicant complies with parts 1505.2100 to 1505.2800.

Subp. 6. **Inspection.** Chemigation systems are subject to inspection by the commissioner or the commissioner's agent under Minnesota Statutes, section 18D.201.

1505.2300 AGRICULTURAL CHEMICAL APPLICATION; SETBACKS AND



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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.



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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.



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(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 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;



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(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 by the Department of Health under chapter 4715, and applicants must install and maintain a reduced pressure zone backflow preventer under chapter 4715.

The commissioner shall keep and provide to interested persons a list of Department of Health approved reduced pressure zone backflow preventers and mainline check valves certified by independent testing laboratories. Mainline check valves approved by the commissioner under repealed parts 1505.2000 to 1505.2080 may continue to be used after the effective date of this part 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



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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.



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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



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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.

1505.2400 RECORDS AND REPORTS.

Pesticide chemigation system application records and fertilizer chemigation system mix and application records must be kept by the chemigation system applicant for five years from the date of application. Records detailing dates of chemigation system inspection, names of persons performing the inspection, and condition of the chemigation unit must be kept on forms provided by the commissioner. System inspection and equipment maintenance records must be retained by the chemigation system permit holder for five years.

1505.2500 RESPONSIBILITY; CALIBRATION AND OPERATION; INSPECTION; OFF-TARGET APPLICATION; INCIDENT PREVENTION; INCIDENT REPORTING.

A chemigation system applicant or the applicant's agent shall:

A. calibrate and operate each chemigation system in a



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manner that prevents an agricultural chemical incident or nonlabeled application of a pesticide;

B. inspect each chemigation system as necessary while agricultural chemicals are being applied;

C. prevent operation of a chemigation system in such a manner that agricultural chemicals are applied to an area other than an area targeted to receive an agricultural chemical application;

D. not clean agricultural chemical chemigation application, storage, pumping, or injection equipment in surface waters of the state, or fill or clean agricultural chemical chemigation application, storage, pumping, or injection equipment adjacent to surface waters, ditches, or wells where, because of the slope or other conditions, agricultural chemicals or materials contaminated with agricultural chemicals could enter or contaminate the surface waters, groundwater, or wells, as a result of overflow, leakage, or other causes; and

E. upon discovering that an incident has occurred, immediately report the incident to the commissioner.

1505.2600 COMMISSIONER'S RESPONSIBILITY.

The commissioner shall annually provide chemigation safety information to each chemigation system applicant.

1505.2700 INSTALLATION; MAINTENANCE; MODIFICATION.

Subpart 1. **Proper installation and maintenance.** Irrigation systems, antipollution devices and valves, and agricultural chemical injection units, pumps, and solution tanks used for chemigation purposes must be installed and maintained to ensure proper functioning during chemigation. Maintenance necessary to assure proper functioning of the device must be performed before introduction of agricultural chemicals.

Subp. 2. **Modification.** If modification or changes in design, technology, irrigation practices, or other similar reasons warrant the use or placement of equipment other than that specified in parts 1505.2100 to 1505.2800, the commissioner may allow the changes if protection to the water supply is at



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least equal to that provided by the equipment or equipment placement required in parts 1505.2100 to 1505.2800.

1505.2800 PROHIBITED ACTS.

It is a violation of Minnesota Statutes, chapters 18B and 18C, for a person to apply an agricultural chemical to land, crops, or plants in or with irrigation water in violation of parts 1505.2100 to 1505.2800. Parts 1505.2100 to 1505.2800 are enforceable under Minnesota Statutes, chapter 18D.

EFFECTIVE DATE. Parts 1505.2100 to 1505.2800 are effective January 1, 1994, except that an owner or operator may submit an application for a chemigation permit according to part 1505.2200 and the commissioner may collect the required fee and grant a chemigation permit before January 1, 1994.

REPEALER. Minnesota Rules, parts 1505.2000; 1505.2010; 1505.2020; 1505.2030; 1505.2040; 1505.2050; 1505.2060; 1505.2070; and 1505.2080, are repealed effective December 31, 1993.



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# Office of the Revisor of Statutes

## Administrative Rules

**TITLE:** Proposed Permanent Rules Relating to Chemigation

**AGENCY:** Department of Agriculture

**MINNESOTA RULES:** Chapter 1505

The attached rules are approved for
publication in the State Register

Craig E. Lindeke
Senior Assistant Revisor

STATE OF MINNESOTA

DEPARTMENT OF AGRICULTURE

In the Matter of the Proposed Adoption of the Rule of the State Department of Agriculture Governing Chemigation

NOTICE OF SUBMISSION OF RULE ADOPTED WITHOUT PUBLIC HEARING TO THE ATTORNEY GENERAL

Pursuant to your request and in accordance with Minnesota Statutes, section 14.26:

PLEASE TAKE NOTICE that the above-captioned rule as adopted has been submitted to the Attorney General on the date of this notice, August 18, 1992, for review as to legality and form to the extent form relates to legality. The proposed rule, the rule as adopted, all the notices, the Statement of need and Reasonableness, all written comments and requests for a hearing received, and other required documents also have been submitted to the Attorney General.

The proposed rule which was published in the *State Register* and made available to the public on June 8, 1992, has been modified. A copy of the rule as modified is enclosed with this notice.

The rule must be approved or disapproved by the Attorney General within 14 calendar days of the date of submission to the Attorney General. You may submit written comments to the Attorney General on the legality of the rule. Any written comments must be submitted within eight calendar days of the date of submission of the rule to the Attorney General. Your comments must address only the issue of legality of the rule or the legality of the specific parts or subparts of the rule. The Attorney General standards of review are set forth in Minnesota Rules, part 2010.1000. You may receive a copy of the Attorney General decision upon written request to the Attorney General. Your comments or request for the decision must be addressed to:

The Office of the Attorney General
Public Finance Division
515 Transportation Building
John Ireland Boulevard
St. Paul, MN 55155
Telephone Number: (612)297-2040

Any written comments submitted to the Attorney General must be submitted simultaneously to:

Carol Milligan
Minnesota Department of Agriculture
90 West Plato Boulevard
St. Paul, MN 55107
Telephone Number: (612)296-6906

Date: 8/18/92

Carol Milligan
Carol Milligan
Management Analyst

In the Matter of the Proposed Adoption
of the Rule of the State Department of
Agriculture Governing Chemigation

AFFIDAVIT OF MAILING
THE NOTICE OF SUBMISSION
OF RULE ADOPTED
WITHOUT PUBLIC HEARING
TO THE ATTORNEY GENERAL

STATE OF MINNESOTA )
) ss.
COUNTY OF RAMSEY )

Marie Skerbitz, being sworn, says:

That on the 18th day of August, 1992, at the City of St. Paul, County of Ramsey, State of Minnesota, I mailed the attached Notice of Submission to the Attorney General by depositing in the State of Minnesota Central Mail System for United States mailing a copy thereof, with postage prepaid, to all persons and associations who requested notice that the rule in the above-entitled matter has been submitted to the Attorney General.

DIANE M. WINDHAM
NOTARY PUBLIC - MINNESOTA
RAMSEY COUNTY
My commission expires 11-1-96

Marie Skerbitz
Mail Room Clerk

Subscribed and sworn to before me
this 18th day of August, 1992.

Diane M. Windham