AGRICULTURE AND LAND STEWARDSHIP DEPARTMENT[21]

Regulatory Analysis

Notice of Intended Action to be published: 21—Chapter 44
"On-Site Containment of Pesticides, Fertilizers and Beneficial Substances"

Iowa Code section(s) or chapter(s) authorizing rulemaking: 200.14
State or federal law(s) implemented by the rulemaking: Iowa Code section 200.14

Public Hearing

A public hearing at which persons may present their views orally or in writing will be held as follows:

April 10, 2026 9 to 9:30 a.m.	Heritage West Conference Room (H560) Hoover State Office Building Des Moines, Iowa

Public Comment

Any interested person may submit written comments concerning this Regulatory Analysis, which must be received by the Department of Agriculture and Land Stewardship no later than 4:30 p.m. on the date of the public hearing. Comments should be directed to:

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Purpose and Summary

The purpose of this proposed rulemaking is to update the language in Chapter 44 to match the changes in the Iowa Code to incorporate beneficial substances in place of soil conditioners and to add more specifics to bulk storage options. The proposed definition of "low-nutrient substance" contains a cross-reference to content in proposed 567—Chapter 102 (**ARC 9926C**, IAB 1/7/26).

Analysis of Impact

1. **Persons affected by the proposed rulemaking:**

- **Classes of persons that will bear the costs of the proposed rulemaking:**

Agricultural industry that markets beneficial substances and agricultural industries that store bulk fertilizer or beneficial substances will bear the costs.

- **Classes of persons that will benefit from the proposed rulemaking:**

Agricultural industry that markets beneficial substances and agricultural industries that store bulk fertilizer or beneficial substances will have more options. Farmers will benefit from having new agronomic products available in Iowa. The general public benefits from additional safety measures designed to protect the environment from potential releases.

2. **Impact of the proposed rulemaking, economic or otherwise, including the nature and amount of all the different kinds of costs that would be incurred:**

- **Quantitative description of impact:**

This proposed rulemaking will modernize storage requirements for bulk products, creating additional storage solutions while maintaining environmental safeguards. These new options can be lower in cost to implement than what is currently required.

- **Qualitative description of impact:**

This proposed rulemaking will allow new, innovative products (biologicals) a pathway for use in Iowa agriculture.

Additionally, this proposed rulemaking will modernize storage requirements for bulk products, creating additional storage solutions while maintaining environmental safeguards. These new options can be lower in cost to implement than what is currently required.

3. **Costs to the State:**

- **Implementation and enforcement costs borne by the agency or any other agency:**

There will be minimal implementation or enforcement costs. Application and inspection forms will need to be updated, but no additional staffing will be required.

- **Anticipated effect on State revenues:**

There are no anticipated effects on State revenues.

4. **Comparison of the costs and benefits of the proposed rulemaking to the costs and benefits of inaction:**

This proposed rulemaking provides additional avenues for achieving secondary containment requirements at a lower cost while maintaining environmental safeguards.

5. **Determination whether less costly methods or less intrusive methods exist for achieving the purpose of the proposed rulemaking:**

This proposed rulemaking provides an equally efficient, more cost-effective way of attaining secondary containment requirements.

6. **Alternative methods considered by the agency:**

- **Description of any alternative methods that were seriously considered by the agency:**

The Department could have left the rules unchanged.

- **Reasons why alternative methods were rejected in favor of the proposed rulemaking:**

The Department needed to update with recent Iowa Code changes and to allow newer technology that the current rules do not allow.

Small Business Impact

If the rulemaking will have a substantial impact on small business, include a discussion of whether it would be feasible and practicable to do any of the following to reduce the impact of the rulemaking on small business:

- Establish less stringent compliance or reporting requirements in the rulemaking for small business.
- Establish less stringent schedules or deadlines in the rulemaking for compliance or reporting requirements for small business.
- Consolidate or simplify the rulemaking's compliance or reporting requirements for small business.
- Establish performance standards to replace design or operational standards in the rulemaking for small business.
- Exempt small business from any or all requirements of the rulemaking.

If legal and feasible, how does the rulemaking use a method discussed above to reduce the substantial impact on small business?

This proposed rulemaking allows more products to be placed on the market and gives companies lower-cost options for storage of certain bulk products. Both benefit small businesses by allowing options that require less capital and allow the innovation of new products to be introduced to the market.

Text of Proposed Rulemaking

ITEM 1. Rescind 21—Chapter 44 and adopt the following **new** chapter in lieu thereof:

CHAPTER 44
ON-SITE CONTAINMENT OF PESTICIDES, FERTILIZERS AND BENEFICIAL SUBSTANCES

PESTICIDES

21—44.1(206) Definitions. Where used in these rules:

"Aerial applicator" means a commercial applicator who is certified in #11—Aerial Application and who applies the pesticide by using an aircraft.

"Bulk pesticide" means any registered pesticide that is transported or held in an individual container in undivided quantities of greater than 55 U.S. gallons liquid measure or 100 pounds net dry weight.

"Bulk repackaging" means the transfer of a registered pesticide from one bulk container (containing undivided quantities of greater than 55 U.S. gallons liquid measure or 100 pounds net dry weight) to another bulk container (containing undivided quantities of greater than 55 U.S. gallons liquid measure or 100 pounds of net dry weight) in an unaltered state in preparation for sale or distribution to another person.

"Certified commercial applicator" means a pesticide applicator or individual who applies or uses a pesticide or device on any property of another for compensation.

"Mobile containers" means containers designed and used for transporting pesticide materials.

"Nonmobile containers" means all containers not defined as mobile.

"Permanent pesticide storage and mixing site" means a site where pesticides are being stored for more than 30 days per year and at which more than 300 gallons of liquid pesticide or 300 pounds of dry pesticide are being mixed, repackaged or transferred from one container to another within a 30-day period.

"Secondary containment" means any structure used to prevent runoff or leaching of pesticide materials.

21—44.2(206) On-site containment of pesticides. All nonmobile bulk pesticide storage containers shall be located within a watertight secondary containment facility.

All mixing, repackaging and transfer of pesticides from one container to another performed at a permanent pesticide storage and mixing site shall be done within a containment area. The designated site shall be paved with asphalt or concrete and be elevated above the surrounding area or curbed so as not to receive runoff from surrounding areas that would overload the recovery system and shall slope to a discharge point that allows materials to flow to a watertight containment structure in compliance with rule 21—44.10(206).

21—44.3(206) Design plans and specifications. Design plans and specifications for facilities required under these rules shall be submitted to the department of agriculture and land stewardship prior to the start of construction, along with certification from an Iowa registered engineer (as defined in Iowa Code chapter 542B) that the designed facilities will comply with all requirements of these rules.

A person may deviate from the requirements of these rules if such deviations are clearly noted on the design plans and specifications, along with certification from an Iowa registered engineer that these deviations will not reduce the effectiveness of the facilities in protecting surface or groundwaters.

21—44.4(206) Certification of construction. Upon completion of construction, certification by the owner or owner's agent shall be made to the department of agriculture and land stewardship that the facilities were constructed in accordance with rules 21—44.2(206) through 21—44.11(206). If departmental investigation, subsequent to the completion of construction, determines the constructed facilities were not constructed in accordance with the submitted plans and specifications or the

requirements of these rules, the owner shall correct any deficiencies in a timely manner as set forth by the department.

The department may exempt any person from a requirement under rules 21—44.2(206) through 21—44.11(206) if an engineering justification is provided demonstrating variations from the requirements will result in at least equivalent effectiveness.

21—44.5(206) New pesticide storage and mixing site location. New permanent storage and mixing sites as defined in rule 21—44.1(206) shall be selected in accordance with requirements of the department of natural resources. The new site, if located in a flood plain, shall be protected from inundation from floods. New permanent pesticide storage and mixing sites shall be located a minimum of 400 feet from public water supply wells or below ground level finished water storage facilities and a minimum of 150 feet from private water supply wells.

21—44.6(206) Pesticide storage and mixing site. Each site shall comply with those ordinances and regulations enacted by the city or county affected by such location that related to the location of such sites. All sites and facilities where flammable pesticides are stored shall comply with state and federal fire protection rules and regulations, including the National Fire Protection Standards (Standard 30) for storage of flammable liquids.

21—44.7(206) Secondary containment for nonmobile bulk pesticide storage and mixing. Base and walls of secondary containment facilities must be constructed of concrete, steel or other impervious materials that are compatible with the pesticides being stored and will maintain their integrity under fire conditions. Storage containers must be anchored, as necessary, to prevent flotation or instability in the event of discharge into the secondary containment facility. Routine inspection is required to ensure against cracks or other conditions that may reduce the effectiveness of the containment facility. Cracks that occur in a secondary containment structure must be repaired with an acceptable sealant, and other repairs shall be made as needed to maintain the effectiveness of the containment facility.

The diked area shall not have a relief outlet and valve. The base shall slope to a collecting spot where precipitation water may be pumped out, provided the liquid is not contaminated with pesticides. If contaminated with a pesticide, the liquid shall be disposed of in accordance with applicable hazardous or solid waste requirements or field-applied according to the pesticide label instructions.

44.7(1) Storage in other than an enclosed structure.

a. Secondary containment for nonmobile bulk liquid pesticide storage located in other than an enclosed structure shall be constructed with a volume sufficient to contain a minimum of 110 percent of the capacity of the largest single container, plus the space occupied by other tanks located within the secondary containment structure.

b. Secondary containment for nonmobile bulk dry pesticide storage located in other than an enclosed structure shall be constructed to contain any releases of dry pesticide. The secondary containment will have as a minimum a six-inch-high curb separated horizontally from the storage vessel a minimum of three feet. Provisions shall be made for the collection of rainwater, and rainwater shall not be allowed to accumulate in the containment structure.

44.7(2) Storage in an enclosed structure.

a. Secondary containment for nonmobile bulk liquid pesticide storage located in an enclosed structure shall be constructed with a volume sufficient to contain a minimum of 100 percent of the capacity of the largest single container, plus the space occupied by other tanks located within the secondary containment structure.

b. Secondary containment for nonmobile bulk dry pesticide storage located in an enclosed structure shall be constructed to contain any releases of dry pesticide. The secondary containment will have as a minimum a six-inch-high curb separated horizontally from the storage vessel a minimum of three feet on an open side. Nonmobile bulk dry pesticide storage tanks may be constructed within

three feet of a permanent wall provided the wall is lined with an impervious surface that contains and directs any spilled material into a containment structure according to the engineer's design plans.

44.7(3) Precipitation must not be allowed to accumulate in the secondary containment facility. Failure to properly maintain secondary containment facilities may subject the firm to state and federal regulations related to hazardous waste generators.

44.7(4) Discharges into a secondary containment facility must be promptly recovered to the maximum extent possible. Failure to properly manage discharge may subject the firm to pesticide misuse regulations and possibly to regulations related to hazardous waste generators.

44.7(5) Pesticides shall be handled in a manner that minimizes the movement of pesticide dusts, aerosols and vapors from the pesticide storage and mixing site. The following dust control measures shall apply to bulk dry pesticide storage tanks:

a. Primary vents on all tanks must be equipped with a dust filter. Filters shall be capable of handling 500 cubic feet per minute air flow. Primary filtration systems may be mounted on the tank or on the delivery truck.

b. Filters shall retain all particles greater than ten microns in size and retain greater than 90 percent of particles between three and ten microns in size.

c. Pressure relief valves shall be enclosed in a filter arrangement capable of retaining 100 percent of ten-micron particles. Filters shall be maintained on a regular basis and replaced when necessary to maintain the proper filtering capacity.

d. Tanks and loading areas and all plant site transfer systems shall be equipped with fittings that facilitate closed system handling.

44.7(6) Discharge of pesticides from a secondary containment facility shall be recovered to the maximum extent possible. The department of natural resources, the county sheriff or local police shall be contacted as soon as possible, but not later than six hours after onset or discovery of spill.

21—44.8(206) Pesticide storage and mixing site containers.

44.8(1) Containers used for pesticide storage and handling shall be of materials and construction compatible with the pesticide stored and the conditions of storage and maintained in a manner as to minimize the possibility of a spill.

44.8(2) Storage container labeling and protection. Upon delivery of the bulk pesticide, the registered product label shall be affixed in a prominent location on the bulk pesticide storage container and designed to remain intact and legible throughout the active use of the container.

Locking devices are required on bulk pesticide storage containers, and all valves shall be closed and locked when the facility is left unattended.

Containers, pipes and valves must be protected against reasonably foreseeable risks of damage by trucks and other moving vehicles.

21—44.9(206) Transportation of bulk pesticides. Bulk pesticide containers shall meet all applicable standards of the appropriate state and U.S. Department of Transportation laws and regulations.

44.9(1) Mobile bulk pesticide containers shall be secured to prevent significant movement during transportation.

44.9(2) Mobile bulk pesticide containers shall bear the registered product label for the material contained therein.

21—44.10(206) Mixing, repackaging and transfer of pesticides. Pesticides shall be mixed, repackaged and transferred in a manner that will prevent unreasonable adverse effects to humans or to the environment. Physical and chemical properties, including volatility, toxicity and flammability, shall be considered in the mixing, repackaging and transfer of pesticides.

44.10(1) Spilled, leaked or unchecked pesticides.

a. Liquid pesticides that are spilled, leaked or otherwise unchecked during the normal operation of permanent pesticide storage and mixing sites (including the mixing, repackaging and transfer of

pesticides) must discharge or drain into a watertight catch basin from which discharges are to be recovered, including discharge from any empty pesticide containers not rinsed according to label.

b. Dry pesticides that are spilled or otherwise unchecked during normal operation of permanent pesticide storage and mixing sites (including the mixing, repackaging and transfer of pesticides) must be located within an operational containment area that is curbed and watertight to facilitate the recovery of any product spilled.

44.10(2) All washing of pesticide handling and application equipment performed at a permanent pesticide storage and mixing site shall be conducted within an area that drains to a watertight containment structure. No pesticide rinsates or wash waters from pesticide equipment shall be disposed of through storm sewer systems, no pesticide rinsates or wash waters shall be disposed of through sanitary sewer systems without a National Pollutant Discharge Elimination System Permit, and no pesticide rinsates or wash waters shall be disposed of through sanitary sewers connected to a publicly owned treatment works without prior approval of the sanitary sewer authority and in accordance with the discharge limitations of a pretreatment agreement or sewer use ordinance.

44.10(3) Before being refilled, bulk pesticide containers must be thoroughly cleaned, except when a sealed or dedicated recyclable bulk pesticide container is refilled with the same labeled pesticide product as the preceding product.

44.10(4) All drainage into a containment structure shall be monitored and properly managed. All rinsates and minor spillages related to pesticides that have not resulted from a container failure and that accumulated in the secondary containment structure shall be disposed of as provided by the product's original labeling. If contaminated with a pesticide product that is labeled incompatible because of chemical characteristics, the pesticide bureau of the department of agriculture and land stewardship shall be contacted for guidance.

44.10(5) All pesticide handling facilities shall be equipped with adequate personal protective equipment as required by each label of each pesticide handled and as needed for the number of employees handling these pesticides. Emergency first-aid provisions shall be maintained in an area immediately accessible by all employees, if and when needed.

44.10(6) Field mixing and transferring of pesticides, including field rinsing of equipment, is exempted from the on-site containment provisions of rule 21—44.2(206). Rinsates shall be field-applied at rates compatible with pesticide product labeling. No mixing and transferring of pesticides and rinsing of equipment shall be conducted on public highways, roads or streets.

21—44.11(206) Distribution of bulk pesticides. Bulk repackaging for sale or delivery may be made provided the establishment conducting the transfer, sale or delivery shall comply with FIFRA, Section 7 (registration of pesticide producing establishments).

44.11(1) There shall be no change in pesticide product labeling, except for the addition of the required EPA establishment number and net contents statement; or identity of the party accountable for the integrity of the product (i.e., the manufacturer or registrant as evidenced by the assigned EPA product registration number).

44.11(2) A written letter of authorization from the registrant is required for the bulk repackaging.

44.11(3) Bulk repackaging may be made only into containers that conform with rules 21—44.8(206) and 21—44.9(206) and that meet the approval of the seller of the pesticide.

44.11(4) Scales or meters used for bulk pesticide sales shall meet the specifications, tolerances and other technical requirements for weighing and measuring devices as specified by the department of agriculture and land stewardship, bureau of weights and measures.

44.11(5) Appropriate measures shall be taken to prevent contamination of product when meters or other devices are used to dispense pesticides.

These rules are intended to implement Iowa Code section 206.19.

21—44.12(206) Secondary containment for aerial applicator aircraft. If the spray component of an aircraft is being drained or repaired during aircraft maintenance, secondary containment with permanent devices or portable devices suitable for use with pesticides is required.

21—44.13 to **44.49** Reserved.

21—44.50(200) On-site containment of fertilizers and beneficial substances. Effective February 18, 1987, all new construction of fertilizer, fertilizer material and beneficial substance permanent storage sites shall provide secondary product containment as specified in rules 21—44.51(200) through 21—44.58(200).

21—44.51(200) Definitions.

"Low-nutrient substance" means a beneficial substance that meets all of the following conditions:

1. Contains less than 8 percent of the total combined nitrogen, available phosphorus (P_2O_5), and soluble potassium (K_2O);
2. Contains less than 3 percent nitrogen;
3. Does not contain any animal or fish by-products unless the substance is finished compost pursuant to 567—Chapter 105;
4. Is not a hazardous waste as defined in Iowa Code section 455B.411;
5. Meets the criteria for land application in 567—subrules 102.103(2) through 102.103(7).

"Minimally manipulated manures" means minimally processed, nonliquid substances that are composed primarily of excreta, plant remains, or mixtures of such substances.

"Minimally processed" means a nonliquid substance processed in a manner that does not modify the nutrient value on a dry matter basis.

"Mobile containers" means containers that are designed and actively used for transporting fertilizers, fertilizer materials or beneficial substances.

"Permanent storage site" means a location where fertilizers, fertilizer materials or beneficial substances are stored or intended to be stored and the combined nominal capacity of all storage structures on the site are 5,000 gallons or more.

"Permanent storage structure" means a storage structure that is located on a permanent storage site.

"Secondary containment structure" means a secondary structure, barrier or container that encompasses a storage structure to protect surface or groundwater from any runoff or leaching of a fertilizer, fertilizer material or beneficial substance due to a release from a storage structure.

"Storage structure" means a primary structure or container, except a mobile container, that is capable of use to store fertilizers, fertilizer materials or beneficial substances.

21—44.52(200) Design plans and specifications.

44.52(1) Design plans and specifications for permanent storage structures and secondary containment structures shall be submitted to and approved by the department prior to the start of construction, along with certification from a professional engineer (as defined in Iowa Code section 542B.2) that the designed storage structures and secondary containment structures will comply with all requirements of these rules. As part of its approval process, the department may conduct an on-site inspection of the permanent storage site and the locations of the permanent storage structures and secondary containment structures.

44.52(2) A person may deviate from the requirements of these rules if such deviations are clearly noted on the design plans and specifications, along with certification from a professional engineer that these deviations will not reduce the effectiveness of the permanent storage structure or secondary containment structures in protecting surface or groundwaters.

21—44.53(200) New permanent storage site location.

44.53(1) New permanent storage sites shall be selected in accordance with the requirements of the department of natural resources. The new permanent storage site, if located in a floodplain, shall be protected from inundation from floods. For earthen storage basins, construction requirements must

comply with Iowa Wastewater Facilities Design Standards, Chapter 8C. For storage lagoons, the top of the lagoon embankments shall be constructed at least one foot above the 100-year flood elevation.

44.53(2) New permanent storage sites shall be located at a minimum of 400 feet from public water supply wells or below-ground, level-finished water storage facilities and a minimum of 150 feet from private water supply wells.

44.53(3) New permanent storage sites where a permanent storage structure does not completely enclose a fertilizer, fertilizer material, or beneficial substance shall be located, at a minimum:

a. 1,250 feet from a residence, business, church, school, or public use area.

b. 1,000 feet from any surface water intake, well, known sinkholes or open water source.

21—44.54(200) Certification of construction.

44.54(1) Upon completion of construction and prior to any storage of fertilizers, fertilizer materials or beneficial substances, the owner or owner's agent shall certify to the department that the storage structures and secondary containment structures were constructed in accordance with these rules. The department must approve the certification of construction for the permanent storage structures and secondary containment structures prior to any fertilizers, fertilizer materials or beneficial substances being stored in the storage structures.

44.54(2) As part of its approval process, the department may conduct an on-site inspection of the permanent storage site, the permanent storage structures and secondary containment structures. If departmental investigation, subsequent to the completion of construction, determines the constructed storage structure or secondary containment structure was not constructed in accordance with the submitted plans and specifications or the requirements of these rules, the owner shall correct any deficiencies in a timely manner as set forth by the department.

44.54(3) The department may exempt any person from a requirement under rules 21—44.52(200) through 21—44.58(200) if an engineering justification is provided demonstrating variations from the requirements will result in at least equivalent effectiveness. All materials and components used for permanent storage structures or secondary containment structures must be recognized by the manufacturer as an intended use for the particular purpose and product it is being used to contain. All storage structures must maintain the fertilizer or the beneficial substance labeled guaranteed analysis.

44.54(4) All permanent storage structures, secondary containment structures and any material or components must be installed according to the specifications of a registered engineer and in accordance with any manufacturer's recommendations.

44.54(5) Secondary containment structures may be constructed of earth, concrete, steel, synthetic material or any combination that is certified by a professional engineer as being impermeable for the fertilizer, fertilizer material or beneficial substance and meets the requirements of these rules. Secondary containment structures must be protected from surface water entering the secondary containment structure and must not have a relief outlet or valve within the secondary containment structure.

21—44.55(200) Secondary containment for liquid fertilizers, liquid fertilizer materials or liquid beneficial substances permanent storage structures. All permanent storage structures as defined in rule 21—44.51(200) that store a liquid fertilizer, fertilizer material or beneficial substance, except anhydrous ammonia storage facilities, must be located within a secondary containment structure. Secondary containment structures must comply with one of the following:

44.55(1) A secondary containment structure for a liquid fertilizer, fertilizer material or beneficial substance permanent storage structure shall have a volume 10 percent greater than the volume of the largest storage structure within the secondary containment structure, plus the space occupied by the other storage structure in the area.

44.55(2) A secondary containment structure for a liquid fertilizer, fertilizer material or beneficial substance permanent storage structure must have all of the following:

a. Secondary containment that encompasses the entire storage structure, and the storage structure must completely enclose the liquid fertilizer, fertilizer material or beneficial substance.

b. A functional liquid level monitoring device to prevent overfilling of the storage structure.

c. A functional leak detection system.

d. Valve and hose connections must be designed or constructed to prevent shearing.

e. Monthly inspections of all secondary containment and storage structure components.

44.55(3) A secondary containment structure that stores a low-nutrient product exclusively must meet all of the following conditions:

a. A guaranteed analysis of the low-nutrient substance intended to be stored prior to, or in conjunction with, the submission of the design plans and specifications for the permanent storage structures and secondary containment structures must be submitted to the department, and the department must approve that the substance qualifies as a low-nutrient substance.

b. A functional liquid level monitoring device to prevent overfilling of the storage structure must be installed and maintained.

c. A functional leak detection system must be installed and maintained.

d. Valve and hose connections must be designed or constructed to prevent shearing.

e. Monthly inspections of all secondary containment and storage structure components must be completed.

f. Any storage structures that do not completely enclose the low-nutrient substance must have the capacity to hold a 100-year rain event in addition to the product stored at all times.

44.55(4) Secondary containment structures constructed entirely or partially of earth shall comply with the following minimum requirements:

a. A dike shall be protected against erosion. If the slope is 30 degrees or less, grass can be sufficient protection, provided it does not interfere with the required soil seal. If greater than 30 degrees, other methods of erosion protection shall be used.

b. Top width of a dike shall be no less than 2½ feet. The slope should be no greater than 45 degrees.

c. The base shall slope to a collecting spot where storm water can be pumped over the berm, provided the liquid is not contaminated with a fertilizer, fertilizer material or beneficial substance. If contaminated with a fertilizer, fertilizer material or beneficial substance, the liquid shall be field-applied at normal fertilizer application rates or transferred to a permanent storage structure.

d. Permanent storage structures shall be anchored or placed on a raised area to prevent flotation or instability in the event of discharge into the secondary containment structure.

44.55(5) Secondary containment structures constructed of concrete shall comply with the following requirements:

a. The base of the secondary containment structure shall be designed to support all storage structures and their contents.

b. The concrete base shall be sloped to a collecting area for recovery of fertilizer material. Storm water may be discharged over the containment wall, provided the liquid is not contaminated with a fertilizer, fertilizer material or beneficial substance. If contaminated, the liquid shall be field-applied at normal fertilizer application rates or transferred to a permanent storage structure.

c. Permanent storage structures shall be anchored or placed on a raised area to prevent flotation or instability in the event of discharge into the secondary containment structure.

21—44.56(200) Secondary containment for nonliquid fertilizers and beneficial substances. A nonliquid fertilizer, fertilizer material and beneficial substance stored in a totally enclosed building are exempt from the requirements of this rule. Unless stored in a totally enclosed building, all nonliquid fertilizers, fertilizer materials and beneficial substances shall be stored within a secondary containment structure. The secondary containment structure shall have a volume sufficient to retain the equivalent of 12 inches of rain. Secondary containment structures may be constructed of earth,

concrete, synthetic material or any combination that is certified by a professional engineer as effective in protecting surface waters or groundwaters and meet the requirements of these rules.

44.56(1) Secondary containment structures constructed entirely or partially of earth shall comply with the following requirements:

a. A dike shall be protected against erosion. If the slope is 30 degrees or less, grass can be sufficient protection, provided it does not interfere with the required soil seal. If greater than 30 degrees, other methods of erosion protection shall be used.

b. Top width of a dike shall be no less than 2½ feet. The slope should be no greater than 45 degrees.

c. All liquid and other material collected shall be field-applied at normal fertilizer application rates or transferred to auxiliary storage tanks.

44.56(2) Low-nutrient substances may be stored without a secondary containment structure in the field of application if all of the following apply:

a. The low-nutrient substance is being temporarily stored in the field to prepare for application and is not stored as long-term storage or part of the manufacturing or mixing process.

b. The low-nutrient substance is stored in the field of application or adjacent fields of application and the amount stored does not exceed the necessary amount of nitrogen, phosphorus, or potassium to achieve optimal crop yields, as determined by average county or proven yields, or the substances recommended application rate on the acres in the fields of application. The total potential acres of application stored in any field shall not exceed an amount necessary for application on 640 acres.

c. The low-nutrient substance is stored in the field for a period not to exceed 12 weeks.

d. The low-nutrient substance meets all of the storage requirements for bulk dry animal nutrients under rule 21—49.7(200A), other than those in numbered paragraph "8," which instead shall be 1,250 feet.

21—44.57(200) Fertilizer loading, unloading, and mixing area.

44.57(1) All loading, unloading, and mixing of a liquid fertilizer, liquid fertilizer material, or liquid beneficial substance at a permanent storage site, unless performed in the field of application, shall be done within a containment area. The containment area shall be large enough to prevent spillage onto unprotected areas and paved with asphalt, concrete, or other impervious material. It shall slope to a recovery system that will allow collected materials to move to a containment structure that complies with rule 21—44.55(200). In addition, the area shall be so constructed, using curbs or other means, as to prevent spilled materials from running out of the containment area. Any contaminated liquid or material shall be field-applied at normal fertilizer rates or used in a liquid mixing operation.

44.57(2) All loading or mixing of a nonliquid fertilizer, nonliquid fertilizer material or nonliquid beneficial substance at permanent storage sites shall be done in an area paved with asphalt, concrete or other impervious materials. The area shall also be so constructed, using curbs or other means to prevent run-on or runoff of storm water generated by a four-inch rain. The area shall contain a recessed catch basin so that contaminated water can be moved to storage tanks or a secondary containment area. Uncontaminated rain water, ice, or snow can be discharged as storm water. Any contaminated water or other materials shall be field-applied at normal fertilizer rates or used in a liquid mixing operation.

44.57(3) A spill containment structure will not be required if loading, unloading, or mixing of a nonliquid fertilizer, nonliquid fertilizer material or nonliquid beneficial substance is done entirely within an enclosed building and no washing operations are conducted within the enclosed area.

44.57(4) Unloading of all types of equipment and loading of railroad cars with nonliquid fertilizers, nonliquid fertilizer materials or nonliquid beneficial substances shall be exempt from the containment area provisions of subrule 44.57(2), provided any materials spilled during the unloading or loading operations are promptly cleaned up and fed back into the unloading or loading system.

44.57(5) Rules 21—44.2(206) through 21—44.11(206) shall apply when fertilizers, fertilizer materials or beneficial substances and pesticides are combined.

44.57(6) Fertilizers, fertilizer materials and beneficial substances must be stored and handled in a manner that minimizes any movement of dust or vapors from off of the permanent storage site. Fertilizers, fertilizer materials and beneficial substances must be stored and handled in a manner that discourages vermin activity.

21—44.58(200) Wash water and rinsates. All washing of fertilizer, fertilizer material and beneficial substance handling and application equipment at permanent storage sites shall be conducted within an area that drains into a containment structure that complies with rule 21—44.55(200). No fertilizer rinsates or wash waters from fertilizer, fertilizer material or beneficial substance equipment shall be disposed of through sanitary or storm sewer systems. Field washing of fertilizer, fertilizer material or beneficial substance equipment is permissible and encouraged if performed at the site of final application for a given day and no runoff from the wash site occurs.

21—44.59(200) Operation requirements.

44.59(1) *Employee training.*

a. Any person who is required to transfer, mix, load, unload, or otherwise handle fertilizers, fertilizer materials or beneficial substances must receive training prior to engaging in such activities. Each employee must also receive training at least once each calendar year. The training shall include, at a minimum, instruction sufficient to ensure competence in safe handling and operating practices and appropriate response actions in the event of a discharge or other emergency.

b. Training records must be retained for five years.

44.59(2) *Site security.*

a. Access to the permanent storage site must be limited by use of physical barriers, including but not limited to fences or locked doors.

b. All main tank valves must be secured in the closed position when the facility is not in use.

c. Access to system controls and power supply must be secured when not in use.

44.59(3) *Site inspection.*

a. When any fertilizer, fertilizer material or beneficial substance is being stored at a permanent storage site, permanent storage structures and secondary containment structures must be inspected weekly. All materials and components used for permanent storage structures or secondary containment structures must be operated and maintained in accordance with the manufacturer's recommendations or best engineering practices. Any cracks, faults or other degradation of the structures must be fixed immediately.

b. Inspection records must be maintained for five years.

44.59(4) *Notice of release.* A permanent storage site shall notify the department within 24 hours of identifying any unintentional release or spill of fertilizers, fertilizer materials or beneficial substances from the permanent storage site's storage structures or secondary containment structure.

These rules are intended to implement Iowa Code section 200.14.