



University of Arkansas Division of Agriculture

An Agricultural Law Research Project

## **Nutrient Management Plans Statutes & Regulations**

**Iowa**

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## Nutrient Management Plans

### STATE OF IOWA

- 1) **Nutrient Management for Open Feedlot Operations**
- 2) **Iowa Code §§ 459.312, 312A, 400, 503; 567 IAC 65.16, 17**
- 3) **Iowa Code § 459A.208; 567 IAC 65.104(9)(a), 112, 208**
- 4) **Iowa Code § 459B.308; 567 IAC 65.17**

*The statutes and Constitution are current through the 2018 regular and special legislative sessions. The statutes are subject to changes by the Iowa Legislative Council.*

#### 1) **Nutrient Management for Open Feedlot Operations**

**(Basic information about NMPs for animal feeding operations)**

[Nutrient Management for Open Feedlot Operations](#)

#### 2) **Iowa Code §§ 459.312, 312A, 400, 503; 567 IAC 65.16, 17**

##### **§ 459.312. Manure management plan – requirements.**

1. The following persons shall submit a manure management plan, including an original manure management plan and an updated manure management plan, as required in this section to the department:

a. The owner of a confinement feeding operation, other than a small animal feeding operation, if any of the following apply:

(1) The confinement feeding operation was constructed after May 31, 1985, regardless of whether the confinement feeding operation structure was required to be constructed pursuant to a construction permit.

(2) The owner constructs a manure storage structure, regardless of whether the person is required to be issued a permit for the construction pursuant to section 459.303 or whether the person has submitted a prior manure management plan.

b. A person who applies manure from a confinement feeding operation, other than a small animal feeding operation, which is located in another state, if the manure is applied on land located in this state.

2. Not more than one confinement feeding operation shall be covered by a single manure management plan.

3. The owner of a confinement feeding operation who is required to submit a manure management plan under this section shall submit an updated manure management plan to the department on an annual basis. The department shall provide for a date that each updated manure management plan is required to be submitted to the department. The department may provide for staggering the dates on which updated manure management plans are due. To satisfy the requirements of an updated manure management plan, an owner of a confinement feeding operation may, in lieu of submitting a complete plan, file a document stating that the manure management plan has not changed, or state all of the changes made since the original manure management plan or a previous updated manure management plan was submitted and approved.

4.

a. The department shall deliver a copy of the manure management plan or require the person submitting the manure management plan to deliver a copy of the manure management plan to all of the following:

(1) The county board of supervisors in the county where the manure storage structure owned by the person is located.

(2) The county board of supervisors in the county where the manure storage structure is proposed to be constructed. If the person is required to be issued a permit for the construction of the manure storage structure as provided in section 459.303, the manure management plan shall accompany the application for the construction permit as provided in section 459.303.

(3) The county board of supervisors in the county where the manure is to be applied.

b. The manure management plan shall be filed with the county board of supervisors. The county auditor or other county officer may accept the manure management plan on behalf of the board.

5. A person shall not remove manure from a manure storage structure which is part of a confinement feeding operation for which a manure management plan is required under this section, unless the department approves a manure management plan, including an original manure management plan and an updated manure management plan, as required in this section. The manure management plan shall be submitted by the owner of the

confinement feeding operation as provided by the department in accordance with section 459.302. The owner of a confinement feeding operation required to submit a manure management plan for the construction of a manure storage structure may remove manure from another manure storage structure that is constructed, if the department has approved a manure management plan covering that manure storage structure. The department may adopt rules allowing a person to remove manure from a manure storage structure until the manure management plan is approved or disapproved by the department according to terms and conditions required by rules adopted by the department.

6. The department shall not approve an original manure management plan unless the plan is accompanied by a manure management plan filing fee required pursuant to section 459.400. The department shall not approve an updated manure management plan unless the updated manure management plan is accompanied by an annual compliance fee required pursuant to section 459.400.

7.

a. The department shall not approve an application for a permit to construct a confinement feeding operation structure unless the owner of the confinement feeding operation applying for approval submits an original manure management plan together with the application for the construction permit as provided in section 459.303.

b. The department shall not file a construction design statement as provided in section 459.306 unless the owner of the confinement feeding operation structure submits an original manure management plan together with the construction design statement. The construction design statement and manure management plan may be submitted as part of an application for a construction permit as provided in section 459.303.

8. A manure management plan must be authenticated by the person required to submit the manure management plan as required by the department in accordance with section 459.302.

9. The department shall approve or disapprove a manure management plan according to procedures established by the department:

a. For an original manure management plan submitted due to the construction of a confinement feeding operation structure, the department shall approve or disapprove the manure management plan as follows:

(1) If the confinement feeding operation structure is constructed pursuant to a construction permit issued pursuant to section 459.303, the manure management plan shall be approved or disapproved as part of the construction permit application.

(2) If the confinement feeding operation structure is not constructed pursuant to a construction permit issued pursuant to section 459.303, the manure management plan shall be approved or disapproved within sixty days from the date that the department receives the manure management plan.

b. For an original manure management plan submitted for a reason other than the construction of a confinement feeding operation structure, the manure management plan shall be approved within sixty days from the date that the department receives the manure management plan.

c. For an updated manure management plan, the manure management plan shall be approved within thirty days from the date that the department receives the updated manure management plan.

10. A manure management plan shall include all of the following:

a. Restrictions on the application of manure based on all of the following:

(1) Calculations necessary to determine the land area required for the application of manure from a confinement feeding operation based on nitrogen use levels in order to obtain optimum crop yields according to a crop schedule specified in the manure management plan, and according to requirements adopted by the department.

(2) A phosphorus index. The department shall establish a phosphorus index by rule in order to determine the manner and timing of the application to a land area of manure originating from a confinement feeding operation. The phosphorus index shall provide for the application of manure on a field basis. The phosphorus index shall be used to determine application rates, based on the number of pounds of phosphorus that may be applied per acre and application practices. The phosphorus index shall be based on the field office technical guide for Iowa as published by the United States department of agriculture, natural resources conservation service, which sets forth nutrient management standards.

b. Manure nutrient levels as determined by either manure testing or accepted standard manure nutrient values.

c. Manure application methods, timing of manure application, and the location of the manure application.

d. If the location of the application is on land other than land owned by the person applying for the construction permit, the plan shall include a copy of each written agreement executed between the person and the landowner where the manure will be applied.

e. An estimate of the annual animal production and manure volume or weight produced by the confinement feeding operation.

f. Methods, structures, or practices to prevent or diminish soil loss and potential surface water pollution.

g. Methods or practices to minimize potential odors caused by the application of manure by the use of spray irrigation equipment.

h. A description of land identified for the application of liquid manure due to an emergency if allowed pursuant to section 459.313A. The owner must identify the land in the original manure management plan or in the next updated manure management plan required to be submitted to the department following the application.

11. A confinement feeding operation classified as a habitual violator as provided in section 459.604 shall submit a manure management plan to the department on an annual basis, which must be approved by the department for the following year of operation. The manure management plan shall be a replacement original manure management plan rather than a manure management plan update. However, the habitual violator required to submit a replacement original manure management plan must submit an annual compliance fee in the same manner as if the habitual violator were submitting an updated manure management plan.

12. A person required to submit a manure management plan to the department shall maintain a current manure management plan and maintain records sufficient to demonstrate compliance with the manure management plan. Chapter 22 shall not apply to the records which shall be kept confidential by the department and its agents and employees. The contents of the records are not subject to disclosure except as follows:

a. Upon waiver by the person receiving the permit.

b. In an action or administrative proceeding commenced under this chapter. Any hearing related to the action or proceeding shall be closed.

c. When required by subpoena or court order.

13. The department may inspect the confinement feeding operation at any time during normal working hours, and may inspect records required to be maintained as part of the manure management plan. The department shall regularly inspect a confinement feeding operation if the operation or a person holding a controlling interest in the operation is classified as a habitual violator pursuant to section 459.604. The department shall assess and the confinement feeding operation shall pay the actual costs of the inspection.

14. A person required to authenticate a manure management plan submitted to the department who is found in violation of the terms and conditions of the plan shall not be subject to an enforcement action other than the assessment of a civil penalty pursuant to section 459.603.

**§ 459.312A. Election to be a small animal feeding operation.**

1. A person otherwise required to submit an updated manure management plan as required in section 459.312 and pay an annual compliance fee as required in section 459.400 may make a small animal feeding operation election as provided in this section.

2. Upon the effective date of the election, the confinement feeding operation covered by the updated manure management plan shall be considered a small animal feeding operation only for purposes of submitting the updated manure management plan and paying the annual compliance fee, during the period of the election.

3. A person is eligible to make an election only if all of the following apply:

a. The confinement feeding operation has a capacity of five hundred or fewer animal units which shall be calculated by determining all of the following:

(1) The number of animal units housed at the confinement feeding operation at any one time during the period of election.

(2) The animal unit capacity of each confinement feeding operation building that is used to store manure during the period of the election. However, this subparagraph (2) does not apply if a confinement feeding operation building stores manure pursuant to a temporary approval issued by the department. The department shall not issue a temporary approval unless the manure is stored on an emergency basis for a limited period. The department shall establish terms and conditions for a temporary approval. The department may issue one or more extensions to a temporary approval if necessary.

b. The department is notified of the election in a manner required by the department. The department may require that a person submit a notice of election as part of an updated manure management plan form or as a separate document.

4. The department shall provide for the period of election, including its effective and expiration dates. However, the period of election shall be at least for the same period covered by the updated manure management plan. An election automatically terminates when more than five hundred animal units are housed at the confinement feeding operation at any one time.

5. This section does not affect any of the following:

a. A condition associated with a construction permit as provided in this subchapter, including but not limited to a master matrix as provided in section 459.305.

b. A requirement unrelated to filing an updated manure management plan or paying an annual compliance fee, including but not limited to the filing of a construction design statement as provided in section 459.306, the application of manure as provided in section 459.313A, or the certification of a person as a confinement site manure applicator as provided in section 459.315.

#### **§ 459.400. Compliance fees.**

1. The department shall establish, assess, and collect all of the following compliance fees:

a. A construction permit application fee that is required to accompany an application submitted to the department for approval to construct a confinement feeding operation structure as provided in section 459.303. The amount of the construction permit application fee shall not exceed two hundred fifty dollars.

b. A manure management plan filing fee that is required to accompany an original manure management plan submitted to the department for approval as provided in section 459.312. However, the manure management plan required to be filed as part of an application for a construction permit shall be paid together with the construction permit application fee. The amount of the manure management plan filing fee shall not exceed two hundred fifty dollars.

c. An annual compliance fee that is required to accompany an updated manure management plan submitted to the department for approval as provided in section 459.312. The amount of the annual compliance fee shall not exceed a rate of fifteen cents per animal unit based on the animal unit capacity of the confinement feeding operation covered by the manure management plan. If the person submitting the manure management plan is a contract producer, as provided in chapter 202, the active contractor shall be assessed the annual compliance fee.

d. Educational program fees paid by persons required by the department to be certified as commercial manure service representatives or confinement site manure applicators pursuant to section 459.315. The amount of the educational program fees together with commercial manure service licensing fees shall be adjusted annually by the department based on the costs of administering section 459.315 and paying the expenses of the department relating to certification.

(1) The fee for certification of a commercial manure service representative shall not be more than seventy-five dollars. A commercial manure service licensed pursuant to section 459.314A may pay for the annual certification of its employees. If a commercial manure service makes payment for an employee to be certified as a commercial manure service representative



and that employee leaves employment, the commercial manure service may substitute a new employee to be certified for the former employee. The department shall not charge for the certification of the substituted employee. The department may require that the commercial manure service provide the department with documentation that the substitution is valid. The department shall not charge the fee to a person who is a manager of a commercial manure service licensed pursuant to section 459.314A. The department may require that the commercial manure service provide documentation that a person is a manager.

(2) A person who is certified as a confinement site manure applicator as provided in section 459.315 is exempt from paying the certification fee if all of the following apply:

(a) The person is certified within one year from the date that a family member has been certified as a confinement site manure applicator.

(b) The family member has paid the fee for that family member's own certification.

e. Fees paid by persons required by the department to be licensed as a commercial manure service as provided in section 459.314A. The fee for a commercial manure service license shall not be more than two hundred dollars. The amount of the licensing fees together with educational program fees shall be adjusted annually by the department based on the costs of administering section 459.315 and paying the expenses of the department relating to certification.

2. Compliance fees collected by the department shall be deposited into the animal agriculture compliance fund created in section 459.401.

a. Except as provided in paragraph "b", moneys collected from all fees shall be deposited into the compliance fund's general account.

b. Moneys collected from the annual compliance fee shall be deposited into the compliance fund's assessment account. Moneys collected from commercial manure service license fees and educational program fees shall be deposited into the compliance fund's educational program account.

3. At the end of each fiscal year the department shall determine the balance of unencumbered and unobligated moneys in the assessment account and the educational program account of the animal agriculture compliance fund created pursuant to section 459.401.

a. If on June 30, the balance of unencumbered and unobligated moneys in the assessment account is one million dollars or more, the department shall adjust the

rate of the annual compliance fee for the following fiscal year. The adjusted rate for the annual compliance fee shall be based on the department's estimate of the amount required to ensure that at the end of the following fiscal year the balance of unencumbered and unobligated moneys in the assessment account is not one million dollars or more.

b. If on June 30, the balance of unencumbered and unobligated moneys in the educational program account is twenty-five thousand dollars or more, the department shall adjust the rate of the commercial manure service license fee and the educational program fee for the following fiscal year. The adjusted rate for the fees shall be based on the department's estimate of the amount required to ensure that at the end of the following fiscal year the balance of unencumbered and unobligated moneys in the assessment account is not twenty-five thousand dollars or more.

**§ 459.503. Indemnity fee required – manure management plan.**

An indemnity fee shall be assessed upon persons required to submit an original manure management plan as provided in section 459.312, but not required to obtain a construction permit pursuant to section 459.303. A person required to submit a replacement original manure management plan shall not be assessed an indemnity fee. The amount of the fee shall be ten cents per animal unit of capacity for the confinement feeding operation covered by the manure management plan.

**567–65.16 (459,459B) Manure management plan requirements.**

**65.16(1)** In accordance with Iowa Code section 459.312, the following persons are required to submit manure management plans to the department, including an original manure management plan and an updated manure management plan, as required by this rule:

a. An applicant for a construction permit for a confinement feeding operation. However, a manure management plan shall not be required of an applicant for an egg washwater storage structure or for a small animal feeding operation.

b. The owner of a confinement feeding operation, other than a small animal feeding operation, if one of the following applies:

(1) The confinement feeding operation was constructed or expanded after May 31, 1985, regardless of whether the confinement feeding operation structure was required to have a construction permit.

(2) The owner constructs a manure storage structure, regardless of whether the person is required to be issued a permit for the construction pursuant

to Iowa Code section 459.303, or whether the person has submitted a prior manure management plan.

c. A person who applies manure in Iowa that was produced in a confinement feeding operation, other than a small operation, located outside of Iowa.

d. A new owner of a confinement feeding operation may apply manure under the most recent owner's manure management plan until the new owner develops and submits an original manure management plan. The new owner must develop and submit an original manure management plan within 60 days after acquiring the operation.

e. A research college is exempt from this subrule and the manure management plan requirements of rule 567-65.17(459,459B) for research activities and experiments performed under the authority of the research college and related to confinement feeding operations.

f. An animal feeding operation otherwise required to submit an updated manure management plan and pay an annual compliance fee may make an election to be considered a small animal feeding operation for purposes of filing updated manure management plans and annual compliance fees if the confinement feeding operation maintains an animal unit capacity of 500 or fewer animal units. The election shall automatically terminate when more than 500 animal units are housed at the confinement feeding operation at any one time. If the confinement feeding operation exceeds more than 500 animal units, a manure management plan shall be submitted.

**65.16(2)** The owner of a proposed confinement feeding operation who is not required to obtain a construction permit pursuant to subrule 65.7(1) but who is required to file a manure management plan pursuant to paragraph 65.16(1)"b" shall file a construction design statement and provide the information required in subrule 65.9(3), including the confinement feeding operation's manure management plan, to the department at least 30 days before the construction of an animal feeding operation structure begins, as defined in subrules 65.8(1) and 65.8(2).

**65.16(3)** Scope of manure management plan; updated plans; annual compliance fee.

a. Each confinement feeding operation required to submit a manure management plan shall be covered by a separate manure management plan.

b. The owner of a confinement feeding operation who is required to submit a manure management plan under this rule shall submit an updated manure management plan on an annual basis to the department. The updated manure management plan may be submitted by hard copy or by electronic submittal. The updated plan must reflect all amendments made during the period of time since the previous manure management plan submission.

(1) If the plan is submitted by hard copy, the submittal process shall be as follows: The owner of the animal feeding operation shall also submit the updated manure management plan on an annual basis to the board of supervisors of each county where the confinement feeding operation is located and to the board of supervisors of each county where manure from the confinement feeding operation is land-applied. If the owner of the animal feeding operation has not previously submitted a manure management plan to the board of supervisors of each county where the confinement feeding operation is located and each county where manure is land-applied, the owner must submit a complete manure management plan to each required county. The county auditor or other county official or employee designated by the county board of supervisors may accept the updated plan on behalf of the board. The updated plan shall include documentation that the county board of supervisors or other designated county official or employee received the manure management plan update.

(2) If the plan is submitted electronically, the submittal process shall be as follows: The owner of the animal feeding operation shall submit the updated manure management plan to the department through the department's electronic Web application. Once the submittal has been completed, the department shall provide electronic access of the updated manure management plan to the board of supervisors of each county where the confinement feeding operation is located and each county where manure is land-applied.

(3) The department will stagger the dates by which the updated manure management plans are due and will notify each confinement feeding operation owner of the date on which the updated manure management plan is due. To satisfy the requirements of an updated manure management plan, an owner of a confinement feeding operation must submit one of the following:

1. A complete manure management plan;
2. A department-approved document stating that the manure management plan submitted in the prior year has not changed; or
3. A department-approved document listing all the changes made since the previous manure management plan was submitted and approved.

c. An annual compliance fee of \$ 0.15 per animal unit at the animal feeding operation shall accompany an annual manure management plan update submitted to the department for approval. The annual compliance fee is based on the animal unit capacity of the confinement feeding operation stated in the updated annual

manure management plan submission. If the person submitting the manure management plan is a contract producer, as provided in Iowa Code chapter 202, the active contractor shall pay the annual compliance fee.

**65.16(4)** The department shall review and approve or disapprove all complete manure management plans within 60 days of the date they are received.

**65.16(5)** Manure shall not be removed from a manure storage structure which is part of a confinement feeding operation required to submit a manure management plan until the department has approved the plan. Manure shall be applied in compliance with rule 567-65.2(459,459B).

**65.16(6)** Manure storage indemnity fee. All persons required to submit a manure management plan to the department shall also pay to the department an indemnity fee as required in Iowa Code section 459.503 except those operations constructed prior to May 31, 1995, which were not required to obtain a construction permit.

**65.16(7)** Filing fee. Any person submitting an original manure management plan must also pay to the department a manure management plan filing fee of \$ 250. This fee shall be included with each original manure management plan being submitted. If the confinement feeding operation is required to obtain a construction permit and to submit an original manure management plan as part of the construction permit requirements, the applicant must pay the manure management plan filing fee together with the construction permit application fee, which total \$ 500.

**567–65.17 (459,459B) Manure management plan content requirements.** All manure management plans are to be submitted on forms or electronically as prescribed by the department. The plans shall include all of the information specified in Iowa Code section 459.312 and as described below.

**65.17(1) General.**

a. A confinement feeding operation that is required to submit a manure management plan to the department shall not apply manure in excess of the nitrogen use levels necessary to obtain optimum crop yields. A confinement feeding operation shall not apply manure in excess of the rates determined in conjunction with the phosphorus index. Information to complete the required calculations may be obtained from the tables in this chapter, actual testing samples or from other credible sources reviewed and approved by the department including, but not limited to, Iowa State University, the United States Department of Agriculture (USDA), a licensed professional engineer, or an individual certified as a crop consultant under the American Registry of Certified Professionals in Agronomy, Crops, and Soils (ARCPACS) program, the Certified Crop Advisors (CCA) program, or the Registry of Environmental and Agricultural Professionals (REAP) program.

b. Manure management plans shall comply with the minimum manure control requirements of 567-65.2(459,459B) and the requirements for land application of manure in 567-65.3(459,459B).

c. Manure management plans shall include all of the following:

(1) The name of the owner and the name of the confinement feeding operation, including mailing address and telephone number.

(2) The name of the contact person for the confinement feeding operation, including mailing address and telephone number.

(3) The location of the confinement feeding operation identified by county, township, section, 1/4 section and, if available, the 911 address.

(4) The animal unit capacity of the confinement feeding operation and, if applicable, the animal weight capacity.

d. A person who submits a manure management plan shall include a phosphorus index as part of the manure management plan as required in subrule 65.17(17).

e. For persons who anticipate the need to apply liquid manure on frozen or snow-covered ground, manure management plans shall include a description of land identified for the application of liquid manure due to an emergency if allowed pursuant to subrule 65.3(4). The phosphorus index for each potential emergency application field must be calculated, and application rates should be calculated appropriately. Locations of downgradient surface water drain tile intakes within all fields included in the plan should be identified by map or coordinates. Future applications of liquid manure must take the nutrients added during emergencies into consideration.

**65.17(2)** *Manure management plans for sales of manure.* Selling manure means the transfer of ownership of the manure for monetary or other valuable consideration. Selling manure does not include a transaction where the consideration is the value of the manure, or where an easement, lease or other agreement granting the right to use the land only for manure application is executed.

a. Confinement feeding operations that will sell dry manure as a commercial fertilizer or soil conditioner regulated by the Iowa department of agriculture and land stewardship (IDALS) under Iowa Code chapter 200 or 200A shall submit a copy of their site-specific IDALS license or documentation that manure will be sold pursuant to Iowa Code chapter 200 or 200A, along with the department-approved manure management plan form for sales of dry manure. Operations completely covered by this paragraph are not required to meet other manure management plan requirements in this rule.

b. A confinement feeding operation not fully covered by paragraph "a" above and that has an established practice of selling manure, or a confinement feeding operation that contains an animal species for which selling manure is a common practice, shall submit a manure management plan that includes the following:

(1) An estimate of the number of acres required for manure application calculated by one of the following methods:

1. Dividing the total phosphorus (as P<sub>2</sub>O<sub>5</sub>) available to be applied from the confinement feeding operation by the corn crop removal of phosphorus. The corn crop removal of phosphorus may be estimated by using the phosphorus removal rate in Table 4a at the end of this chapter and an estimate of the optimum crop yield for the property in the vicinity of the operation.

2. Totaling the quantity of manure that can be applied to each available field based on application rates determined in conjunction with the phosphorus index in accordance with 65.17(17), and ensuring that the total quantity that can be applied is equal to or exceeds the manure annually generated at the operation.

(2) The total nitrogen available to be applied from the confinement feeding operation.

(3) The total phosphorus (as P<sub>2</sub>O<sub>5</sub>) available to be applied from the confinement feeding operation if the phosphorus index is required in accordance with paragraph 65.17(1)"d."

(4) An estimate of the annual animal production and manure volume or weight produced.

(5) A manure sales form. If manure will be sold, the manure sales form shall include the following information:

1. A place for the name and address of the buyer of the manure.

2. A place for the quantity of manure purchased.

3. The planned crop schedule and optimum crop yields.

4. A place for the manure application methods and the timing of manure application.

5. A place for the location of the field including the number of acres where the manure will be applied.

6. A place for the manure application rate.

7. A place for a phosphorus index of each field receiving manure, as defined in paragraph 65.17(17)"a," including the factors used in the calculation. A copy of the NRCS phosphorus index detailed report shall satisfy the requirement to include the factors used in the calculation.

(6) Statements of intent if the manure will be sold. The number of acres indicated in the statements of intent shall be sufficient according to the manure management plan to apply the manure from the confinement feeding operation. The permit holder for an existing confinement feeding operation with a construction permit may submit past records of manure sales instead of statements of intent. The statements of intent shall include the following information:

1. The name and address of the person signing the statement.

2. A statement indicating the intent of the person to purchase the confinement feeding operation's manure.

3. The location of the farm where the manure can be applied including the total number of acres available for manure application.

4. The signature of the person who may purchase the confinement feeding operation's manure.

(7) The owner shall maintain in the owner's records a current manure management plan and copies of all of the manure sales forms; the sales forms must be completed and signed by each buyer of the manure and the applicant, and the copies must be maintained in the owner's records for three years after each sale. The owner shall maintain in the owner's records copies of all of the manure sales forms for five years after each sale. An owner of a confinement feeding operation shall not be required to maintain current statements of intent as part of the manure management plan.

**65.17(3)** *Manure management plan for nonsales of manure.* Confinement feeding operations that will not sell all of their manure shall submit the following for that portion of the manure which will not be sold:

a. Calculations to determine the land area required for manure application.



- b. The total nitrogen and total phosphorus (as P<sub>2</sub>O<sub>5</sub>) available to be applied from the confinement feeding operation.
- c. The planned crop schedule and optimum crop yields.
- d. Manure application methods and timing of the application.
- e. The location of manure application.
- f. An estimate of the annual animal production and manure volume or weight produced.
- g. Methods, structures or practices that will be used to reduce soil loss and prevent surface water pollution.
- h. Methods or practices that will be utilized to reduce odor if spray irrigation equipment is used to apply manure.
- i. A phosphorus index of each field in the manure management plan, as defined in paragraph 65.17(17)"a," including the factors used in the calculation. A copy of the NRCS phosphorus index detailed report shall satisfy the requirement to include the factors used in the calculation.

**65.17(4)** *Manure management plan calculations to determine land area required for manure application.*

- a. The number of acres needed for manure application for each year of the crop schedule shall be determined as required in subrule 65.17(17).
- b. Operations evaluated with the master matrix pursuant to 65.10(3) that claim points for additional separation distance for the land application of manure must maintain those distances for each year of the manure management plan.

**65.17(5)** *Total nitrogen and total phosphorus (as P<sub>2</sub>O<sub>5</sub>) available from the confinement feeding operation.*

- a. To determine the nitrogen available to be applied per year, the factors in Table 3, "Annual Pounds of Nitrogen Per Space of Capacity," multiplied by the number of spaces shall be used. To determine total phosphorus (as P<sub>2</sub>O<sub>5</sub>) available to be applied per year, the factors in Table 3a, "Annual Pounds of Phosphorus Per Space of Capacity," multiplied by the number of spaces shall be used. If the tables are not used to determine the nitrogen or phosphorus available to be applied, other credible sources for standard table values or the actual nitrogen and phosphorus content of the manure may be used. The actual nitrogen and phosphorus content shall be determined by a laboratory analysis along with measured volume or weight of manure from the manure storage structure or from a manure storage

structure with design and management similar to the confinement feeding operation's manure storage structure.

b. If an actual sample is used to represent the nutrient content of manure, the sample shall be taken in accordance with Iowa State University extension publication PM 1558, "Management Practices: How to Sample Manure for Nutrient Analysis." The department may require documentation of the manure sampling protocol or take a split sample to verify the nutrient content of the operation's manure.

**65.17(6) *Optimum crop yield and crop schedule.***

a. To determine the optimum crop yield, the applicant may either exclude the lowest crop yield for the period of the crop schedule in the determination or allow for a crop yield increase of 10 percent. In using these methods, adjustment to update yield averages to current yield levels may be made if it can be shown that the available yield data is not representative of current yields. The optimum crop yield shall be determined using any of the following methods for the cropland where the manure is to be applied:

(1) Soil survey interpretation record. The plan shall include a map showing soil map units for the fields where manure will be applied. The optimum crop yield for each field shall be determined by using the weighted average of the soil interpretation record yields for the soils on the cropland where the manure is to be applied. Soil interpretation records from NRCS shall be used to determine yields based on soil map units.

(2) USDA county crop yields. The plan shall use the county yield data from the USDA Iowa Agricultural Statistics Service.

(3) Proven yield methods. Proven yield methods may only be used if a minimum of the most recent three years of yield data for the crop is used. These yields can be proven on a field-by-field or farm-by-farm basis. To be considered a farm-by-farm basis, the fields must be owned, rented or leased for crop production by the person required to keep records pursuant to subrule 65.17(13) or included in a manure application agreement in that person's manure management plan. Crop disaster years may be excluded when there is a 30 percent or more reduction in yield for a particular field or farm from the average yield over the most recent five years. Excluded years shall be replaced by the most recent nondisaster years. Proven yield data used to determine application rates shall be maintained with the current manure management plan. Any of the following proven yield methods may be used:

1. Proven yields for USDA Farm Service Agency. The plan shall use proven yield data or verified yield data for Farm Service Agency programs.
2. Proven yields for multiperil crop insurance. Yields established for the purpose of purchasing multiperil crop insurance shall be used as proven yield data.
3. Proven yields from other methods. The plan shall use the proven yield data and indicate the method used in determining the proven yield.

b. Crop schedule. Crop schedules shall include the name and total acres of the planned crop on a field-by-field or farm-by-farm basis where manure application will be made. A map may be used to indicate crop schedules by field or farm. The planned crop schedule shall name the crop(s) planned to be grown for the length of the crop rotation beginning with the crop planned or actually grown during the year this plan is submitted or the first year manure will be applied. The confinement feeding operation owner shall not be penalized for exceeding the nitrogen or phosphorus application rate for an unplanned crop, if crop schedules are altered because of weather, farm program changes, market factor changes, or other unforeseeable circumstances. However, the penalty preclusion in the previous sentence does not apply to a confinement feeding operation owner subject to the NPDES permit program.

**65.17(7)** *Manure application methods and timing.*

- a. The manure management plan shall identify the methods that will be used to land-apply the confinement feeding operation's manure. Methods to land-apply the manure may include, but are not limited to, surface-apply dry with no incorporation, surface-apply liquids with no incorporation, surface-apply liquid or dry with incorporation within 24 hours, surface-apply liquid or dry with incorporation after 24 hours, knifed in or soil injection of liquids, or irrigated liquids with no incorporation.
- b. The manure management plan shall identify the approximate time of year that land application of manure is planned. The time of year may be identified by season or month.

**65.17(8)** *Location of manure application.*

- a. The manure management plan shall identify each farm where the manure will be applied, the number of acres that will be available for the application of manure from the confinement feeding operation, and the basis under which the land is available.

b. A copy of each written agreement executed with the owner of the land where manure will be applied shall be maintained with the current manure management plan. The written agreement shall indicate the number of acres on which manure from the confinement feeding operation may be applied and the length of the agreement. A written agreement is not required if the land is owned or rented for crop production by the owner of the confinement feeding operation. Owners of dry bedded confinement feeding operations required to have a manure management plan may execute a written agreement with the landowner or the person renting the land for crop production where the dry bedded manure will be applied.

c. If a present location becomes unavailable for manure application, additional land for manure application shall be identified in the current manure management plan prior to the next manure application period.

**65.17(9)** *Estimate of annual animal production and manure volume or weight produced.* Volumes or weights of manure produced shall be estimated based on the numbers of animals, species, and type of manure storage used. The plan shall list the annually expected number of production animals by species. The volume of manure may be estimated based on the values in Table 5 at the end of this chapter and submitted as a part of the plan. If the plan does not use the table to determine the manure volume, other credible sources for standard table values or the actual manure volume from the confinement feeding operation may be used.

**65.17(10)** *Methods to reduce soil loss and potential surface water pollution.* The manure management plan shall indicate for each field in the plan the crop rotation, tillage practices and supporting practices used to calculate sheet and rill erosion for the phosphorus index. A copy of an NRCS RUSLE2 erosion calculation record shall satisfy this requirement. The plan shall also identify the highly erodible cropland where manure will be applied.

**65.17(11)** *Spray irrigation.* Requirements contained in subrules 65.3(2) and 65.3(3) regarding the use of spray irrigation equipment to apply manure shall be followed. A plan which has identified spray irrigation equipment as the method of manure application shall identify any additional methods or practices to reduce potential odor, if any other methods or practices will be utilized.

**65.17(12)** *Current manure management plan.* The owner of a confinement feeding operation who is required to submit a manure management plan shall maintain a current manure management plan at the site of the confinement feeding operation or at a residence or office of the owner or operator of the operation within 30 miles of the site. The plan shall include completed manure sales forms for a confinement feeding operation from which manure is sold. If manure management practices change, a person required to submit a manure management plan shall make appropriate changes consistent with this rule. If values other than the standard table values are used for manure management plan calculations, the source of the values used shall be identified.

**65.17(13) Record keeping.** Records shall be maintained by the owner of a confinement feeding operation who is required to submit a manure management plan. Records shall be maintained for five years following the year of application or for the length of the crop rotation, whichever is greater. Records shall be maintained at the site of the confinement feeding operation or at a residence or office of the owner or operator of the facility within 30 miles of the site. Records to demonstrate compliance with the manure management plan shall include the following:

a. Factors used to calculate the manure application rate:

- (1) Optimum yield for the planned crop.
- (2) Types of nitrogen credits and amounts.
- (3) Remaining crop nitrogen needed.
- (4) Nitrogen content and first-year nitrogen availability of the manure.
- (5) Phosphorus content of the manure if required in accordance with 65.17(3)"i." If an actual sample is used, documentation shall be provided.

b. If phosphorus-based application rates are used, the following shall be included:

- (1) Crop rotation.
- (2) Phosphorus removed by crop harvest of that crop rotation.

c. Maximum allowable manure application rate.

d. Actual manure application information:

- (1) Methods of application when manure from the confinement feeding operation was applied.
- (2) Date(s) when the manure from the confinement feeding operation was applied.
- (3) Location of the field where the manure from the confinement feeding operation was applied, including the number of acres.
- (4) The manure application rate.

e. The date(s) and application rate(s) of commercial nitrogen and phosphorus on fields that received manure. However, if the date and application rate information is for fields which are not owned for crop production or which are not rented or

leased for crop production by the person required to keep records pursuant to this subrule, an enforcement action for noncompliance with a manure management plan or the requirements of this subrule shall not be pursued against the person required to keep records pursuant to this subrule or against any other person who relied on the date and application rate in records required to be kept pursuant to this subrule, unless that person knew or should have known that nitrogen or phosphorus would be applied in excess of maximum levels set forth in paragraph 65.17(1)"a." If manure is applied to fields not owned, rented or leased for crop production by the person required to keep records pursuant to this subrule, that person shall obtain from the person who owns, rents or leases those fields a statement specifying the planned commercial nitrogen and phosphorus fertilizer rates to be applied to each field receiving the manure.

f. A copy of the current soil test lab results for each field in the manure management plan.

g. For sales of manure under 65.17(2)"b," record-keeping requirements of 65.17(2)"b"(7) shall be followed.

**65.17(14) *Record inspection.*** The department may inspect a confinement feeding operation at any time during normal working hours and may inspect the manure management plan and any records required to be maintained. As required in Iowa Code section 459.312(12), Iowa Code chapter 22 shall not apply to the records which shall be kept confidential by the department and its agents and employees. The contents of the records are not subject to disclosure except as follows:

- a. Upon waiver by the owner of the confinement feeding operation.
- b. In an action or administrative proceeding commenced under this chapter. Any hearing related to the action or proceeding shall be closed.
- c. When required by subpoena or court order.

**65.17(15) *Enforcement action.*** An owner required to provide the department a manure management plan pursuant to this rule who fails to provide the department a plan or who is found in violation of the terms and conditions of the plan shall not be subject to an enforcement action other than assessment of a civil penalty pursuant to Iowa Code section 455B.191.

**65.17(16) *Soil sampling requirements for fields where the phosphorus index must be used.*** Soil samples shall be obtained from each field in the manure management plan, and the soil samples shall be four years old or less. Each soil sample shall be analyzed for phosphorus and pH. The soil sampling protocol shall meet all of the following requirements:

- a. Acceptable soil sampling strategies include, but are not limited to, grid sampling, management zone sampling, and soil type sampling. Procedural details can be taken from Iowa State University extension publication PM 287, "Take a Good Soil Sample to Help Make Good Decisions," NCR-13 Report 348, "Soil Sampling for Variable-Rate Fertilizer and Lime Application," or other credible soil sampling publications.
- b. Each soil sample must be a composite of at least ten soil cores from the sampling area, with each core containing soil from the top six inches of the soil profile.
- c. Each soil sample shall represent no more than ten acres. For fields less than or equal to 15 acres, only one soil sample is necessary.
- d. Soil analysis must be performed by a lab enrolled in the IDALS soil testing certification program.
- e. The soil phosphorus test method must be an appropriate method for use with the phosphorus index. If soil pH is greater than or equal to 7.4, soil phosphorus data from the Bray-1 extraction method is not acceptable for use with the phosphorus index.

**65.17(17)** *Use of the phosphorus index.* Manure application rates shall be determined in conjunction with the use of the Iowa Phosphorus Index as specified by NRCS Iowa Technical Note No. 25.

- a. The phosphorus index shall be used on each individual field in the manure management plan. The fields must be contiguous and shall not be divided by a public thoroughfare or a water source as each is defined in this chapter. Factors to be considered when a field is defined may include, but are not limited to, cropping system, erosion rate, soil phosphorus concentration, nutrient application history, and the presence of site-specific soil conservation practices.
- b. When sheet and rill erosion is calculated for the phosphorus index, the soil type used for the calculation shall be the most erosive soil map unit that is at least 10 percent of the total field area. In all manure management plans submitted to the department for approval, the dominant critical soil map unit consistent with NRCS conservation planning guidelines shall be used to calculate sheet and rill erosion for the phosphorus index. (See NRCS Technical Note No. 29.)
- c. The average (arithmetic mean) soil phosphorus concentration of a field shall be used in the phosphorus index.
- d. Soil phosphorus concentration data is considered valid for use in the phosphorus index if the data is four years old or less and meets the requirements of 65.17(16).

e. For an original manure management plan, previous soil sampling data that does not meet the requirements of subrule 65.17(16) may be used in the phosphorus index if the data is four years old or less. In the case of fields for which soil sampling data is used that does not meet the requirements of subrule 65.17(16), the fields must be soil-sampled according to the requirements of subrule 65.17(16) no more than one year after the original manure management plan is approved and a new manure management plan shall be submitted with the results of the new samples.

f. The following are the manure application rate requirements for fields that are assigned the phosphorus index site vulnerability ratings below as determined by the NRCS Iowa Technical Note No. 25 to the NRCS 590 standard rounded to the nearest one-hundredth:

(1) Very Low (0-1).

1. Manure shall not be applied in excess of a nitrogen-based rate in accordance with 65.17(18).

2. If, pursuant to 65.17(19), manure is applied at phosphorus-based rates within soil sampling periods on fields in the Very Low risk category, each soil sample may represent up to 20 acres for the next required soil sampling.

(2) Low (>1-2).

1. Manure shall not be applied in excess of a nitrogen-based rate in accordance with 65.17(18).

2. If, pursuant to 65.17(19), manure is applied at phosphorus-based rates within soil sampling periods on fields in the Low risk category, each soil sample may represent up to 20 acres for the next required soil sampling.

(3) Medium (>2-5).

1. Manure may be applied at a nitrogen-based rate in accordance with 65.17(18) if current or planned soil conservation and phosphorus management practices predict the rating of the field to be not greater than 5 for the next determination of the phosphorus index as required by 65.17(17)"h"(3).

2. Manure shall not be applied in excess of two times the phosphorus removed with crop harvest over the period of the crop rotation.



3. If, pursuant to 65.17(19), manure is applied at phosphorus-based rates within soil sampling periods on fields in the Medium risk category, each soil sample may represent up to 20 acres for the next required soil sampling.

(4) High (>5-15). Manure shall not be applied on a field with a rating greater than 5 and less than or equal to 15 until practices are adopted which reduce the phosphorus index to at least the Medium risk category.

(5) Very High (>15). Manure shall not be applied on a field with a rating greater than 15.

g. Additional commercial fertilizer may be applied as follows on fields receiving manure:

(1) Phosphorus fertilizer may be applied in addition to phosphorus provided by the manure up to amounts recommended by soil tests and Iowa State University extension publication PM 1688, "General Guide for Crop Nutrient Recommendations in Iowa."

(2) Nitrogen fertilizer may be applied in addition to nitrogen provided by the manure to meet the remaining nitrogen need of the crop as calculated in the current manure management plan. Additional nitrogen fertilizer may be applied up to the amounts indicated by soil test nitrogen results or crop nitrogen test results as necessary to obtain the optimum crop yield.

h. Updating the phosphorus index.

(1) When any inputs to the phosphorus index change, an operation shall recalculate the phosphorus index and adjust the application rates if necessary.

(2) If additional land becomes available for manure application, the phosphorus index shall be calculated to determine the manure application rate before manure is applied.

(3) An operation must submit a complete manure management plan using a new phosphorus index, including soil sampling as required in subrule 65.17(16), for each field in the manure management plan a minimum of once every four years.

**65.17(18)** *Requirements for application of a nitrogen-based manure rate to a field.*

a. Nitrogen-based application rates shall be based on the total nitrogen content of the manure unless the calculations are submitted to show that nitrogen crop usage

rates based on plant-available nitrogen have not been exceeded for the crop schedule submitted.

b. The correction factor for nitrogen losses shall be determined for the method of application by the following or from other credible sources for nitrogen volatilization correction factors.

Knifed in or soil injection of liquids 0.98

Surface-apply liquid or dry with incorporation within 24 hours 0.95

Surface-apply liquid or dry with incorporation after 24 hours 0.80

Surface-apply liquids with no incorporation 0.75

Surface-apply dry with no incorporation 0.70

Irrigated liquids with no incorporation 0.60

c. Nitrogen-based application rates shall be based on the optimum crop yields as determined in 65.17(6) and crop nitrogen usage rate factor values in Table 4 at the end of this chapter or other credible sources. However, subject to the prohibition in 65.17(20), liquid manure applied to land that is currently planted to soybeans or to land where the current crop has been harvested and that will be planted to soybeans the next crop season shall not exceed 100 pounds of available nitrogen per acre. Further, the 100 pounds per acre application limitation in the previous sentence does not apply on or after June 1 of each year; in that event 65.17(6) and Table 4 would apply as provided in the first sentence of this paragraph.

d. A nitrogen-based manure rate shall account for legume production in the year prior to growing corn or other grass crops and shall account for any planned commercial fertilizer application.

**65.17(19)** *Requirements for application of a phosphorus-based manure rate to a field.*

a. Phosphorus removal by harvest for each crop in the crop schedule shall be determined using the optimum crop yield as determined in 65.17(6) and phosphorus removal rates of the harvested crop from Table 4a at the end of this chapter or other credible sources. Phosphorus crop removal shall be determined by multiplying optimum crop yield by the phosphorus removal rate of the harvested crop.

b. Phosphorus removal by the crop schedule shall be determined by summing the phosphorus crop removal values determined in 65.17(19)"a" for each crop in the crop schedule.

c. The phosphorus applied over the duration of the crop schedule shall be less than or equal to the phosphorus removed with harvest during that crop schedule as calculated in 65.17(19)"b" unless additional phosphorus is recommended by soil tests and Iowa State University extension publication PM 1688, "General Guide for Crop Nutrient Recommendations in Iowa."

d. Additional requirements for phosphorus-based rates.

(1) No single manure application shall exceed the nitrogen-based rate of the planned crop receiving the particular manure application.

(2) No single manure application shall exceed the rate that applies to the expected amount of phosphorus removed with harvest by the next four anticipated crops in the crop schedule.

e. If the actual crop schedule differs from the planned crop schedule, then any surplus or deficit of phosphorus shall be accounted for in the subsequent manure application.

f. Phosphorus in manure should be considered 100 percent available unless soil phosphorus concentrations are below optimum levels for crop production. If soil phosphorus concentrations are below optimum levels for crop production phosphorus availability, values suggested in Iowa State University extension publication PMR 1003, "Using Manure Nutrients for Crop Production" or other credible sources shall be used.

**65.17(20)** *Liquid manure on land planted to soybeans.* Rescinded IAB 11/9/16, effective 12/14/16.

### **3) Iowa Code § 459A.208; 567 IAC 65.104(9)(a), 112, 208**

#### **§ 459A.208. Nutrient management plan – requirements.**

1. The following persons shall develop and implement a nutrient management plan meeting the requirements of this section:

a. The owner of an open feedlot operation which has an animal unit capacity of one thousand animal units or more or which is required to be issued a NPDES permit.

b. The owner of an animal truck wash facility, other than a small animal truck wash facility, which has an animal truck wash effluent structure. However, for an animal truck wash facility which is part of a confinement feeding operation, in

lieu of submitting a nutrient management plan, the owner of the animal truck wash facility may submit an original manure management plan and an updated manure management plan to the department as required by section 459.312, including rules adopted by the commission pursuant to that section.

2. Not more than one open feedlot operation shall be covered by a single nutrient management plan.

3.

a. A person shall not remove open feedlot effluent from an open feedlot operation structure or animal truck wash effluent from an animal truck wash effluent structure for which a nutrient management plan is required under this section, unless the department approves a nutrient management plan as required in this section.

b. Notwithstanding paragraph “a”, the commission may adopt rules allowing a person to remove effluent from an open feedlot operation structure or animal truck wash effluent structure until the nutrient management plan is approved or disapproved by the department according to terms and conditions required by rules adopted by the commission.

4. The department shall not approve an application for a permit to construct a settled open feedlot effluent basin or animal truck wash effluent structure, unless the owner of the open feedlot operation or animal truck wash facility, applying for approval submits a nutrient management plan together with the application for the construction permit as provided in section 459A.205. The owner of the open feedlot operation shall also submit proof that the owner has published a notice for public comment as provided in this section. The department shall approve or disapprove the nutrient management plan as provided in section 459A.201.

5. For an animal feeding operation, prior to approving or disapproving a nutrient management plan as required in this section, the department may receive comments exclusively to determine whether the nutrient management plan is submitted according to procedures required by the department and that the nutrient management plan complies with the provisions of this chapter.

a. The owner of the open feedlot operation shall publish a notice for public comment in a newspaper having a general circulation in the county where the open feedlot operation is or is proposed to be located and in the county where open feedlot effluent, which originates from the open feedlot operation, may be applied under the terms and conditions of the nutrient management plan.

b. The notice for public comment shall include all of the following:

(1) The name of the owner of the open feedlot operation submitting the nutrient management plan.

(2) The name of the township where the open feedlot operation is or is proposed to be located and the name of the township where open feedlot effluent originating from the open feedlot operation may be applied.

(3) The animal unit capacity of the open feedlot operation.

(4) The time when and the place where the nutrient management plan may be examined as provided in section 22.2.

(5) Procedures for providing public comment to the department. The notice shall also include procedures for requesting a public hearing conducted by the department. The department is not required to conduct a public hearing if it does not receive a request for the public hearing within ten days after the first publication of the notice for public comment as provided in this subsection. If such a request is received, the public hearing must be conducted within thirty days after the first date that the notice for public comment was published.

(6) A statement that a person may acquire information relevant to making comments under this subsection by accessing the department's internet site. The notice for public comment shall include the address of the department's internet site as required by the department.

c. The department shall maintain an internet site where persons may access information relevant to making comments under this subsection. The department may include an electronic version of the nutrient management plan as provided in section 459A.201. The department shall include information regarding the time when, the place where, and the manner in which persons may participate in a public hearing as provided in this subsection.

6. A nutrient management plan must be authenticated by the owner of the open feedlot operation or the owner of the animal truck wash facility as required by the department in accordance with section 459A.201.

7. A nutrient management plan shall include all of the following:

a. Restrictions on the application of open feedlot effluent or animal truck wash effluent based on all of the following:

(1) Calculations necessary to determine the land area required for the application of the effluent based on nitrogen use levels in order to obtain optimum crop yields according to a crop schedule specified in the nutrient

management plan, and according to requirements adopted by the department.

(2) A phosphorus index established pursuant to section 459.312.

b. Information relating to the application of the effluent, including all of the following:

(1) Nutrient concentrations of the effluent.

(2) Application methods, the timing of the application, and the location of the land where the application occurs.

c. If the application is on land other than land owned or rented for crop production by the owner, the plan shall include a copy of each written agreement executed by the owner and the landowner or the person renting the land for crop production where the effluent may be applied.

d. An estimate of the effluent volume or weight produced by the open feedlot operation or animal truck wash facility.

e. Information which shows all of the following:

(1) There is adequate storage for open feedlot effluent or animal truck wash effluent, including procedures to ensure proper operation and maintenance of an open feedlot operation structure or animal truck wash effluent structure.

(2) For an animal feeding operation, all of the following:

(a) The proper management of animal mortalities to ensure that animals are not disposed of in an open feedlot operation structure or a treatment system that is not specifically designed to treat animal mortalities.

(b) Animals kept in the open feedlot operation do not have direct contact with any waters of the United States.

(3)

(a) Surface drainage prior to contact with an open feedlot structure is diverted, as appropriate, from the open feedlot operation.

(b) Surface drainage prior to contact with an animal truck wash facility is diverted, as appropriate, from the animal truck wash facility.

(4) Chemicals or other contaminants handled on-site are not disposed of in an open feedlot operation structure, an animal truck wash facility, or a treatment system that is not specifically designed to treat such chemicals or contaminants.

8. If an open feedlot operation uses an alternative technology system as provided in section 459A.303, the nutrient management plan is not required to provide for settled effluent that enters the alternative technology system.

9. The owner of an open feedlot operation or animal truck wash facility who is required to develop and implement a nutrient management plan shall maintain a current nutrient management plan and maintain records sufficient to demonstrate compliance with the nutrient management plan.

#### **567–65.104 (459,459B) NPDES permits.**

[ . . . ]

##### **65.104(9)(a)**

a. *Nutrient management plan.* Open feedlot CAFOs shall comply with the requirements of 567—65.112(459A) and any additional nutrient management plan requirements for CAFOs in these rules. CAFOs that seek to obtain coverage under an NPDES permit shall have a nutrient management plan developed and implemented upon the date of permit coverage.

[ . . . ]

#### **567–65.112 (459A) Nutrient management plan requirements.**

**65.112(1)** The owner of an open feedlot operation which has an animal unit capacity of 1,000 animal units or more or which is required to be issued an NPDES permit shall develop and implement a nutrient management plan meeting the requirements of this rule. The owner of an open feedlot operation that seeks to obtain or is required to be issued an NPDES permit shall develop and implement a nutrient management plan meeting the requirements of this rule no later than the date on which the NPDES permit becomes effective. For the purpose of this rule, requirements pertaining to open feedlot effluent also apply to settled open feedlot effluent and settleable solids.

**65.112(2)** Not more than one open feedlot operation shall be covered by a single nutrient management plan. For an open feedlot operation that is required to have an NPDES permit and the animal feeding operation includes an open feedlot operation and a confinement feeding operation, the nutrient management plan must include both the open feedlot operation and the confinement feeding operation if the confinement feeding

operation does not have a manure management plan. If the confinement feeding operation portion of the animal feeding operation does have a manure management plan as required in 567-65.16(455B) and 567-65.17(455B), the confinement feeding operation portion shall not be included in the nutrient management plan; however, in that event, the manure management plan must be amended to include the information specified in 65.112(8)"e."

**65.112(3)** A person shall not remove manure, process wastewater or open feedlot effluent from an open feedlot operation structure which is part of an open feedlot operation for which a nutrient management plan is required under this rule, unless the department approves a nutrient management plan as required in this rule.

**65.112(4)** The department shall not approve an application for a permit to construct a settled open feedlot effluent basin or AT system unless the owner of the open feedlot operation applying for approval submits a nutrient management plan together with the application for the construction permit as provided in rule 567-65.105(459A). The owner shall also submit proof that the owner has published a notice for public comment as provided in 65.112(7).

**65.112(5)** If a construction permit is required as provided in rule 567-65.105(459A), the department shall approve or disapprove the nutrient management plan as part of the construction permit application. If a construction permit is not required, the department shall approve or disapprove the nutrient management plan within 60 days from the date that the department receives the nutrient management plan.

**65.112(6)** Prior to approving or disapproving a nutrient management plan as required in this rule, the department may receive comments exclusively to determine whether the nutrient management plan is submitted according to procedures required by the department and that the nutrient management plan complies with the provisions of this rule.

**65.112(7)** Public notice.

a. The owner of the open feedlot operation shall publish a notice for public comment in a newspaper having a general circulation in the county where the open feedlot operation is or is proposed to be located and in the county where manure, process wastewater, or open feedlot effluent which originates from the open feedlot operation may be applied under the terms and conditions of the nutrient management plan.

b. The notice for public comment shall include all of the following:

(1) The name of the owner of the open feedlot operation submitting the nutrient management plan.

(2) The name of the township where the open feedlot operation is or is proposed to be located and the name of the township where manure,



process wastewater, or open feedlot effluent originating from the open feedlot operation may be applied.

(3) The animal unit capacity of the open feedlot operation.

(4) The time when and the place where the nutrient management plan may be examined as provided in Iowa Code section 22.2.

(5) Procedures for providing public comment to the department. The notice shall also include procedures for requesting a public hearing conducted by the department. The department is not required to conduct a public hearing if it does not receive a request for the public hearing within ten days after the first publication of the notice for public comment as provided in this subrule. If such a request is received, the public hearing must be conducted within 30 days after the first date that the notice for public comment was published.

(6) A statement that a person may acquire information relevant to making comments under this subrule by accessing the department's Internet Web site. The notice for public comment shall include the address of the department's Internet Web site as required by the department.

**65.112(8)** Except as provided in 65.112(8)"f," a nutrient management plan shall include all of the following:

a. Restrictions on the application of open feedlot effluent based on all of the following:

(1) A phosphorus index of each field in the nutrient management plan, as required in 65.17(17), including the factors used in the calculation. A copy of the NRCS phosphorus index detailed report shall satisfy the requirement to include the factors used in the calculation. In addition, total phosphorus (as P<sub>2</sub>O<sub>5</sub>) available to be applied from the open feedlot operation shall be included.

(2) Calculations necessary to determine the land area required for the application of manure, process wastewater and open feedlot effluent from an open feedlot operation based on nitrogen or phosphorus use levels (as determined by phosphorus index) in order to obtain optimum crop yields according to a crop schedule specified in the nutrient management plan, and according to requirements specified in subrule 65.17(4). The 100 pounds of available nitrogen per acre limitation specified in paragraph 65.17(18)"c" (applicable to open feedlot operations and combined open feedlot and confinement operations with an NPDES permit because of requirements in subrule 65.17(4)) pertaining to liquid manure applied to land currently planted to soybeans or to land where a soybean crop is

planned applies only to liquid manure, process wastewater or settled open feedlot effluent.

b. Information relating to the application of the manure, process wastewater and open feedlot effluent, including all of the following:

(1) Nutrient concentration of the manure, process wastewater and open feedlot effluent.

(2) Application methods, the timing of the application, and the location of the land where the application occurs.

c. If the application is on land other than land owned or rented for crop production by the owner of the open feedlot operation, the plan shall include a copy of each written agreement executed by the owner of the open feedlot operation and the landowner or the person renting the land for crop production where the manure, process wastewater or open feedlot effluent may be applied. The written agreement shall indicate the number of acres on which the manure, process wastewater or effluent may be applied and the length of the agreement.

d. An estimate of the manure, process wastewater and open feedlot effluent volume or weight produced by the open feedlot operation.

e. Information which shows all of the following:

(1) There is adequate storage for manure, process wastewater, stockpiled manure and open feedlot effluent, including procedures to ensure proper operation and maintenance of the storage structures.

(2) The proper management of animal mortalities to prevent discharge of pollutants to surface water and to ensure that animals are not disposed of in an open feedlot operation structure or a treatment system that is not specifically designed to treat animal mortalities.

(3) Surface drainage prior to contact with an open feedlot structure is diverted, as appropriate, from the open feedlot operation.

(4) Animals kept in the open feedlot operation do not have direct contact with any waters of the United States.

(5) Chemicals or other contaminants handled on site are not disposed of in manure, process wastewater, an open feedlot operation structure or a treatment system that is not specifically designed to treat such chemicals or contaminants.

(6) Equipment used for the land application of manure, process wastewater or open feedlot effluent must be periodically inspected for leaks.

(7) Appropriate site-specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the United States.

(8) Protocols for appropriate testing of manure, process wastewater, open feedlot effluent and soil.

(9) Protocols to land-apply manure, process wastewater or open feedlot effluent in accordance with site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter, process wastewater or open feedlot effluent.

(10) Identification of specific records that will be maintained to document the implementation and management of the requirements in this subrule.

f. Sales of scraped solids or settleable solids licensed by the Iowa department of agriculture and land stewardship (IDALS). Open feedlot operations that will sell scraped solids or settleable solids as a bulk dry animal nutrient product under Iowa Code chapter 200A as regulated by IDALS may, in lieu of complying with this subrule for that portion of open feedlot effluent, submit to the department a copy of the operation's site-specific IDALS license or documentation for any scraped solids or settleable solids that will be sold pursuant to Iowa Code chapter 200A, along with the department-approved nutrient management plan form for sales of scraped solids or settleable solids.

g. An open feedlot operation must submit a complete nutrient management plan using a new phosphorus index, including soil sampling as required in subrule 65.17(16), for each field in the nutrient management plan a minimum of once every five years, submitting the plan with the NPDES permit renewal application if the open feedlot operation has an NPDES permit.

**65.112(9)** If an open feedlot operation uses an alternative technology system as provided in rule 567-65.110(459A), the nutrient management plan is not required to provide for settled open feedlot effluent that enters the AT system.

**65.112(10)** Current nutrient management plan, record keeping and inspections.

a. *Current nutrient management plan.* The owner of an open feedlot operation who is required to submit a nutrient management plan shall maintain a current nutrient management plan at the site of the open feedlot operation and shall make the current nutrient management plan available to the department upon request. If nutrient management practices change, a person required to submit a nutrient

management plan shall make appropriate changes consistent with this rule. If values other than the standard table values are used for nutrient management plan calculations, the source of the values used shall be identified.

b. *Record keeping.* Records shall be maintained by the owner of an open feedlot operation who is required to submit a nutrient management plan. This recorded information shall be maintained for five years following the year of application or for the length of the crop rotation, whichever is greater. Records shall be maintained at the site of the open feedlot operation and shall be made available to the department upon request. Records to demonstrate compliance with the nutrient management plan shall include the following:

(1) Factors used to calculate the manure, process wastewater and open feedlot effluent application rate:

1. Optimum yield for the planned crop.
2. Types of nitrogen credits and amounts.
3. Remaining crop nitrogen needed.
4. Nitrogen content and first-year nitrogen availability of the manure, process wastewater and open feedlot effluent.
5. Phosphorus content of the manure, process wastewater and open feedlot effluent as required in 65.17(3)"i"(1) and (2). If an actual sample is used, documentation shall be provided.

(2) If phosphorus-based application rates are used, the following shall be included:

1. Crop rotation.
2. Phosphorus removed by crop harvest of that crop rotation.

(3) Maximum allowable manure, process wastewater and open feedlot effluent application rate.

(4) Actual manure, process wastewater and open feedlot effluent application information:

1. Method(s) of application when manure, process wastewater or open feedlot effluent from the open feedlot operation was applied.
2. Date(s) when the manure, process wastewater or open feedlot effluent from the open feedlot operation was applied.

3. Weather conditions at time of application and for 24 hours prior to and following the application.

4. Location of the field where the manure, process wastewater or open feedlot effluent from the open feedlot operation was applied, including the number of acres.

5. The manure, process wastewater or open feedlot effluent application rate.

6. Dates when application equipment was inspected.

(5) Date(s) and application rate(s) of commercial nitrogen and phosphorus on fields that received manure, process wastewater or open feedlot effluent. However, if the date and application rate information is for fields which are not owned for crop production or which are not rented or leased for crop production by the person required to keep records pursuant to this subrule, an enforcement action for noncompliance with a nutrient management plan or the requirements of this subrule shall not be pursued against the person required to keep records pursuant to this subrule or against any other person who relied on the date and application rate in records required to be kept pursuant to this subrule, unless that person knew or should have known that nitrogen or phosphorus would be applied in excess of maximum levels set forth in paragraph 65.17(1)"a." If nutrients are applied to fields not owned, rented or leased for crop production by the person required to keep records pursuant to this subrule, that person shall obtain from the person who owns, rents or leases those fields a statement specifying the planned commercial nitrogen and phosphorus fertilizer rates to be applied to each field receiving the nutrients.

(6) A copy of the current soil test laboratory results for each field in the nutrient management plan.

(7) All applicable records identified in 65.112(8)"e"(7).

c. *Record inspection.* The department may inspect an open feedlot operation at any time during normal working hours and may inspect the nutrient management plan and any records required to be maintained.

**567–65.208(459A) Nutrient management plan requirements.**

**65.208(1)** The owner of an animal truck wash facility, other than a small animal truck wash facility, which has an animal truck wash effluent structure shall develop and implement a nutrient management plan meeting the requirements of this rule. However,

an animal truck wash facility which is part of a confinement feeding operation, in lieu of submitting a nutrient management plan, may submit an original manure management plan and an updated manure management plan to the department.

**65.208(2)** A person shall not remove animal truck wash effluent from an animal truck wash facility for which a nutrient management plan is required under this rule, unless the department approves a nutrient management plan as required in this rule.

**65.208(3)** The department shall not approve an application for a permit to construct an animal truck wash effluent structure unless the owner of the animal truck wash facility applying for approval submits a nutrient management plan together with the application for the construction permit as provided in rule 567-65.202(459A).

**65.208(4)** If a construction permit is required as provided in rule 567-65.202(459A), the department shall approve or disapprove the nutrient management plan as part of the construction permit application. If a construction permit is not required, the department shall approve or disapprove the nutrient management plan within 60 days from the date that the department receives the nutrient management plan.

**65.208(5)** A nutrient management plan shall include all of the following:

a. Restrictions on the application of animal truck wash effluent based on all of the following:

(1) A phosphorus index of each field in the nutrient management plan, as required in 65.17(17), including the factors used in the calculation. A copy of the NRCS phosphorus index detailed report shall satisfy the requirement to include the factors used in the calculation. In addition, total phosphorus (as P<sub>2</sub>O<sub>5</sub>) available to be applied from the animal truck wash facility shall be included.

(2) Calculations necessary to determine the land area required for the application of animal truck wash effluent from an animal truck wash facility based on nitrogen or phosphorus use levels (as determined by the phosphorus index) in order to obtain optimum crop yields according to a crop schedule specified in the nutrient management plan, and according to requirements specified in subrule 65.17(4).

b. Information relating to the application of the animal truck wash effluent, including all of the following:

(1) Nutrient concentration of the animal truck wash effluent. Animal truck wash facilities shall provide yearly animal truck wash effluent test analysis for aluminum, copper, and iron.

(2) Application methods, the timing of the application, and the location of the land where the application occurs.

c. If the application is on land other than land owned or rented for crop production by the owner of the animal truck wash facility, the plan shall include a copy of each written agreement executed by the owner and the landowner or the person renting the land for crop production where the animal truck wash effluent may be applied. The written agreement shall indicate the number of acres on which the animal truck wash effluent may be applied and the length of the agreement.

d. An estimate of the animal truck wash effluent volume or weight produced by the animal truck wash facility.

e. Information which shows all of the following:

(1) There is adequate storage for animal truck wash effluent, including procedures to ensure proper operation and maintenance of the storage structures.

(2) Surface drainage is diverted from the animal truck wash facility.

(3) Chemicals or other contaminants handled on site are not disposed of in an animal truck wash facility that is not specifically designed to store such chemicals or contaminants.

(4) Equipment used for the land application of animal truck wash effluent must be periodically inspected for leaks.

(5) Appropriate site-specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the United States.

(6) Protocols for appropriate testing of animal truck wash effluent and soil.

(7) Protocols to land-apply animal truck wash effluent in accordance with site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the animal truck wash effluent.

(8) Identification of specific records that will be maintained to document the implementation and management of the requirements in this subrule.

**65.208(6)** Current nutrient management plan, record keeping and inspections.

a. Current nutrient management plan. The owner of an animal truck wash facility who is required to submit a nutrient management plan shall maintain a current nutrient management plan at the site of the animal truck wash facility and shall make the current nutrient management plan available to the department upon request. If nutrient management practices change, a person required to submit a nutrient management plan shall make appropriate changes consistent with this rule. If values other than the standard table values are used for nutrient management plan calculations, the source of the values used shall be identified.

b. Record keeping. Records shall be maintained by the owner of an animal truck wash facility who is required to submit a nutrient management plan. This recorded information shall be maintained for five years following the year of application or for the length of the crop rotation, whichever is greater. Records shall be maintained at the site of the animal truck wash facility and shall be made available to the department upon request. Records to demonstrate compliance with the nutrient management plan shall include the following:

(1) Factors used to calculate the animal truck wash effluent application rate:

1. Optimum yield for the planned crop.
2. Types of nitrogen credits and amounts.
3. Remaining crop nitrogen needed.
4. Nitrogen content and first-year nitrogen availability of the animal truck wash effluent.
5. Phosphorus content of the animal truck wash effluent as required in 65.17(3)"i"(1) and (2). If an actual sample is used, documentation shall be provided.
6. For animal truck wash facilities, the soil test analysis must include phosphorus, aluminum, copper and iron. The yearly effluent analysis for animal truck wash facilities shall include metals testing.

(2) If phosphorus-based application rates are used, the following shall be included:

1. Crop rotation.
2. Phosphorus removed by crop harvest of that crop rotation.

(3) Maximum allowable animal truck wash effluent application rate.



(4) Actual animal truck wash effluent application information:

1. Method(s) of application when animal truck wash effluent from the animal truck wash facility was applied.
2. Date(s) when the animal truck wash effluent from the animal truck wash facility was applied.
3. Weather conditions at the time of application and for 24 hours prior to and following the application.
4. Location of the field where the animal truck effluent from the animal truck wash facility was applied, including the number of acres.
5. The animal truck wash effluent application rate.
6. Dates when application equipment was inspected.

(5) Date(s) and application rate(s) of commercial nitrogen and phosphorus on fields that received animal truck wash effluent. However, if the date and application rate information is for fields which are not owned for crop production or which are not rented or leased for crop production by the person required to keep records pursuant to this subrule, an enforcement action for noncompliance with a nutrient management plan or the requirements of this subrule shall not be pursued against the person required to keep records pursuant to this subrule or against any other person who relied on the date and application rate in records required to be kept pursuant to this subrule, unless that person knew or should have known that nitrogen or phosphorus would be applied in excess of maximum levels set forth in paragraph 65.17(1)"a." If nutrients are applied to fields not owned, rented or leased for crop production by the person required to keep records pursuant to this subrule, that person shall obtain from the person who owns, rents or leases those fields a statement specifying the planned commercial nitrogen and phosphorus fertilizer rates to be applied to each field receiving the nutrients.

(6) A copy of the current soil test laboratory results for each field in the nutrient management plan.

(7) All applicable records identified in 65.208(5)"e."

c. Record inspection. The department may inspect an animal truck wash facility at any time during normal working hours and may inspect the nutrient management plan and any records required to be maintained.

#### **4) Iowa Code § 459B.308; 567 IAC 65.17**

##### **§ 459B.308. Manure management plan for a dry bedded confinement feeding operation.**

For purposes of a manure management plan for a dry bedded confinement feeding operation, if the application of dry bedded manure is on land other than land owned or rented for crop production by the owner of the dry bedded confinement feeding operation, the plan shall include a copy of each written agreement executed by the owner of the dry bedded confinement feeding operation and the landowner or the person renting the land for crop production where the dry bedded manure may be applied.

**567–65.17 (459,459B) Manure management plan content requirements.** All manure management plans are to be submitted on forms or electronically as prescribed by the department. The plans shall include all of the information specified in Iowa Code section 459.312 and as described below.

##### **65.17(1) General.**

a. A confinement feeding operation that is required to submit a manure management plan to the department shall not apply manure in excess of the nitrogen use levels necessary to obtain optimum crop yields. A confinement feeding operation shall not apply manure in excess of the rates determined in conjunction with the phosphorus index. Information to complete the required calculations may be obtained from the tables in this chapter, actual testing samples or from other credible sources reviewed and approved by the department including, but not limited to, Iowa State University, the United States Department of Agriculture (USDA), a licensed professional engineer, or an individual certified as a crop consultant under the American Registry of Certified Professionals in Agronomy, Crops, and Soils (ARCPACS) program, the Certified Crop Advisors (CCA) program, or the Registry of Environmental and Agricultural Professionals (REAP) program.

b. Manure management plans shall comply with the minimum manure control requirements of 567-65.2(459,459B) and the requirements for land application of manure in 567-65.3(459,459B).

c. Manure management plans shall include all of the following:

(1) The name of the owner and the name of the confinement feeding operation, including mailing address and telephone number.

(2) The name of the contact person for the confinement feeding operation, including mailing address and telephone number.

(3) The location of the confinement feeding operation identified by county, township, section, 1/4 section and, if available, the 911 address.

(4) The animal unit capacity of the confinement feeding operation and, if applicable, the animal weight capacity.

d. A person who submits a manure management plan shall include a phosphorus index as part of the manure management plan as required in subrule 65.17(17).

e. For persons who anticipate the need to apply liquid manure on frozen or snow-covered ground, manure management plans shall include a description of land identified for the application of liquid manure due to an emergency if allowed pursuant to subrule 65.3(4). The phosphorus index for each potential emergency application field must be calculated, and application rates should be calculated appropriately. Locations of downgradient surface water drain tile intakes within all fields included in the plan should be identified by map or coordinates. Future applications of liquid manure must take the nutrients added during emergencies into consideration.

**65.17(2)** *Manure management plans for sales of manure.* Selling manure means the transfer of ownership of the manure for monetary or other valuable consideration. Selling manure does not include a transaction where the consideration is the value of the manure, or where an easement, lease or other agreement granting the right to use the land only for manure application is executed.

a. Confinement feeding operations that will sell dry manure as a commercial fertilizer or soil conditioner regulated by the Iowa department of agriculture and land stewardship (IDALS) under Iowa Code chapter 200 or 200A shall submit a copy of their site-specific IDALS license or documentation that manure will be sold pursuant to Iowa Code chapter 200 or 200A, along with the department-approved manure management plan form for sales of dry manure. Operations completely covered by this paragraph are not required to meet other manure management plan requirements in this rule.

b. A confinement feeding operation not fully covered by paragraph "a" above and that has an established practice of selling manure, or a confinement feeding operation that contains an animal species for which selling manure is a common practice, shall submit a manure management plan that includes the following:

(1) An estimate of the number of acres required for manure application calculated by one of the following methods:

1. Dividing the total phosphorus (as P<sub>2</sub>O<sub>5</sub>) available to be applied from the confinement feeding operation by the corn crop removal of phosphorus. The corn crop removal of phosphorus may be estimated by using the phosphorus removal rate in Table 4a at the end of this chapter and an estimate of the optimum crop yield for the property in the vicinity of the operation.

2. Totaling the quantity of manure that can be applied to each available field based on application rates determined in conjunction with the phosphorus index in accordance with 65.17(17), and ensuring that the total quantity that can be applied is equal to or exceeds the manure annually generated at the operation.

(2) The total nitrogen available to be applied from the confinement feeding operation.

(3) The total phosphorus (as P<sub>2</sub>O<sub>5</sub>) available to be applied from the confinement feeding operation if the phosphorus index is required in accordance with paragraph 65.17(1)"d."

(4) An estimate of the annual animal production and manure volume or weight produced.

(5) A manure sales form. If manure will be sold, the manure sales form shall include the following information:

1. A place for the name and address of the buyer of the manure.

2. A place for the quantity of manure purchased.

3. The planned crop schedule and optimum crop yields.

4. A place for the manure application methods and the timing of manure application.

5. A place for the location of the field including the number of acres where the manure will be applied.

6. A place for the manure application rate.

7. A place for a phosphorus index of each field receiving manure, as defined in paragraph 65.17(17)"a," including the factors used in the calculation. A copy of the NRCS phosphorus index detailed report shall satisfy the requirement to include the factors used in the calculation.

(6) Statements of intent if the manure will be sold. The number of acres indicated in the statements of intent shall be sufficient according to the manure management plan to apply the manure from the confinement feeding operation. The permit holder for an existing confinement feeding operation with a construction permit may submit past records of manure sales instead of statements of intent. The statements of intent shall include the following information:

1. The name and address of the person signing the statement.
2. A statement indicating the intent of the person to purchase the confinement feeding operation's manure.
3. The location of the farm where the manure can be applied including the total number of acres available for manure application.
4. The signature of the person who may purchase the confinement feeding operation's manure.

(7) The owner shall maintain in the owner's records a current manure management plan and copies of all of the manure sales forms; the sales forms must be completed and signed by each buyer of the manure and the applicant, and the copies must be maintained in the owner's records for three years after each sale. The owner shall maintain in the owner's records copies of all of the manure sales forms for five years after each sale. An owner of a confinement feeding operation shall not be required to maintain current statements of intent as part of the manure management plan.

**65.17(3)** *Manure management plan for nonsales of manure.* Confinement feeding operations that will not sell all of their manure shall submit the following for that portion of the manure which will not be sold:

- a. Calculations to determine the land area required for manure application.
- b. The total nitrogen and total phosphorus (as P<sub>2</sub>O<sub>5</sub>) available to be applied from the confinement feeding operation.
- c. The planned crop schedule and optimum crop yields.
- d. Manure application methods and timing of the application.
- e. The location of manure application.

- f. An estimate of the annual animal production and manure volume or weight produced.
- g. Methods, structures or practices that will be used to reduce soil loss and prevent surface water pollution.
- h. Methods or practices that will be utilized to reduce odor if spray irrigation equipment is used to apply manure.
- i. A phosphorus index of each field in the manure management plan, as defined in paragraph 65.17(17)"a," including the factors used in the calculation. A copy of the NRCS phosphorus index detailed report shall satisfy the requirement to include the factors used in the calculation.

**65.17(4)** *Manure management plan calculations to determine land area required for manure application.*

- a. The number of acres needed for manure application for each year of the crop schedule shall be determined as required in subrule 65.17(17).
- b. Operations evaluated with the master matrix pursuant to 65.10(3) that claim points for additional separation distance for the land application of manure must maintain those distances for each year of the manure management plan.

**65.17(5)** *Total nitrogen and total phosphorus (as P2O5) available from the confinement feeding operation.*

- a. To determine the nitrogen available to be applied per year, the factors in Table 3, "Annual Pounds of Nitrogen Per Space of Capacity," multiplied by the number of spaces shall be used. To determine total phosphorus (as P2O5) available to be applied per year, the factors in Table 3a, "Annual Pounds of Phosphorus Per Space of Capacity," multiplied by the number of spaces shall be used. If the tables are not used to determine the nitrogen or phosphorus available to be applied, other credible sources for standard table values or the actual nitrogen and phosphorus content of the manure may be used. The actual nitrogen and phosphorus content shall be determined by a laboratory analysis along with measured volume or weight of manure from the manure storage structure or from a manure storage structure with design and management similar to the confinement feeding operation's manure storage structure.
- b. If an actual sample is used to represent the nutrient content of manure, the sample shall be taken in accordance with Iowa State University extension publication PM 1558, "Management Practices: How to Sample Manure for Nutrient Analysis." The department may require documentation of the manure sampling protocol or take a split sample to verify the nutrient content of the operation's manure.

**65.17(6) *Optimum crop yield and crop schedule.***

a. To determine the optimum crop yield, the applicant may either exclude the lowest crop yield for the period of the crop schedule in the determination or allow for a crop yield increase of 10 percent. In using these methods, adjustment to update yield averages to current yield levels may be made if it can be shown that the available yield data is not representative of current yields. The optimum crop yield shall be determined using any of the following methods for the cropland where the manure is to be applied:

(1) Soil survey interpretation record. The plan shall include a map showing soil map units for the fields where manure will be applied. The optimum crop yield for each field shall be determined by using the weighted average of the soil interpretation record yields for the soils on the cropland where the manure is to be applied. Soil interpretation records from NRCS shall be used to determine yields based on soil map units.

(2) USDA county crop yields. The plan shall use the county yield data from the USDA Iowa Agricultural Statistics Service.

(3) Proven yield methods. Proven yield methods may only be used if a minimum of the most recent three years of yield data for the crop is used. These yields can be proven on a field-by-field or farm-by-farm basis. To be considered a farm-by-farm basis, the fields must be owned, rented or leased for crop production by the person required to keep records pursuant to subrule 65.17(13) or included in a manure application agreement in that person's manure management plan. Crop disaster years may be excluded when there is a 30 percent or more reduction in yield for a particular field or farm from the average yield over the most recent five years. Excluded years shall be replaced by the most recent nondisaster years. Proven yield data used to determine application rates shall be maintained with the current manure management plan. Any of the following proven yield methods may be used:

1. Proven yields for USDA Farm Service Agency. The plan shall use proven yield data or verified yield data for Farm Service Agency programs.

2. Proven yields for multiperil crop insurance. Yields established for the purpose of purchasing multiperil crop insurance shall be used as proven yield data.

3. Proven yields from other methods. The plan shall use the proven yield data and indicate the method used in determining the proven yield.

b. Crop schedule. Crop schedules shall include the name and total acres of the planned crop on a field-by-field or farm-by-farm basis where manure application will be made. A map may be used to indicate crop schedules by field or farm. The planned crop schedule shall name the crop(s) planned to be grown for the length of the crop rotation beginning with the crop planned or actually grown during the year this plan is submitted or the first year manure will be applied. The confinement feeding operation owner shall not be penalized for exceeding the nitrogen or phosphorus application rate for an unplanned crop, if crop schedules are altered because of weather, farm program changes, market factor changes, or other unforeseeable circumstances. However, the penalty preclusion in the previous sentence does not apply to a confinement feeding operation owner subject to the NPDES permit program.

**65.17(7)** *Manure application methods and timing.*

a. The manure management plan shall identify the methods that will be used to land-apply the confinement feeding operation's manure. Methods to land-apply the manure may include, but are not limited to, surface-apply dry with no incorporation, surface-apply liquids with no incorporation, surface-apply liquid or dry with incorporation within 24 hours, surface-apply liquid or dry with incorporation after 24 hours, knifed in or soil injection of liquids, or irrigated liquids with no incorporation.

b. The manure management plan shall identify the approximate time of year that land application of manure is planned. The time of year may be identified by season or month.

**65.17(8)** *Location of manure application.*

a. The manure management plan shall identify each farm where the manure will be applied, the number of acres that will be available for the application of manure from the confinement feeding operation, and the basis under which the land is available.

b. A copy of each written agreement executed with the owner of the land where manure will be applied shall be maintained with the current manure management plan. The written agreement shall indicate the number of acres on which manure from the confinement feeding operation may be applied and the length of the agreement. A written agreement is not required if the land is owned or rented for crop production by the owner of the confinement feeding operation. Owners of dry bedded confinement feeding operations required to have a manure management plan may execute a written agreement with the landowner or the person renting the land for crop production where the dry bedded manure will be applied.



c. If a present location becomes unavailable for manure application, additional land for manure application shall be identified in the current manure management plan prior to the next manure application period.

**65.17(9) *Estimate of annual animal production and manure volume or weight produced.*** Volumes or weights of manure produced shall be estimated based on the numbers of animals, species, and type of manure storage used. The plan shall list the annually expected number of production animals by species. The volume of manure may be estimated based on the values in Table 5 at the end of this chapter and submitted as a part of the plan. If the plan does not use the table to determine the manure volume, other credible sources for standard table values or the actual manure volume from the confinement feeding operation may be used.

**65.17(10) *Methods to reduce soil loss and potential surface water pollution.*** The manure management plan shall indicate for each field in the plan the crop rotation, tillage practices and supporting practices used to calculate sheet and rill erosion for the phosphorus index. A copy of an NRCS RUSLE2 erosion calculation record shall satisfy this requirement. The plan shall also identify the highly erodible cropland where manure will be applied.

**65.17(11) *Spray irrigation.*** Requirements contained in subrules 65.3(2) and 65.3(3) regarding the use of spray irrigation equipment to apply manure shall be followed. A plan which has identified spray irrigation equipment as the method of manure application shall identify any additional methods or practices to reduce potential odor, if any other methods or practices will be utilized.

**65.17(12) *Current manure management plan.*** The owner of a confinement feeding operation who is required to submit a manure management plan shall maintain a current manure management plan at the site of the confinement feeding operation or at a residence or office of the owner or operator of the operation within 30 miles of the site. The plan shall include completed manure sales forms for a confinement feeding operation from which manure is sold. If manure management practices change, a person required to submit a manure management plan shall make appropriate changes consistent with this rule. If values other than the standard table values are used for manure management plan calculations, the source of the values used shall be identified.

**65.17(13) *Record keeping.*** Records shall be maintained by the owner of a confinement feeding operation who is required to submit a manure management plan. Records shall be maintained for five years following the year of application or for the length of the crop rotation, whichever is greater. Records shall be maintained at the site of the confinement feeding operation or at a residence or office of the owner or operator of the facility within 30 miles of the site. Records to demonstrate compliance with the manure management plan shall include the following:

a. Factors used to calculate the manure application rate:

- (1) Optimum yield for the planned crop.
- (2) Types of nitrogen credits and amounts.
- (3) Remaining crop nitrogen needed.
- (4) Nitrogen content and first-year nitrogen availability of the manure.
- (5) Phosphorus content of the manure if required in accordance with 65.17(3)"i." If an actual sample is used, documentation shall be provided.

b. If phosphorus-based application rates are used, the following shall be included:

- (1) Crop rotation.
- (2) Phosphorus removed by crop harvest of that crop rotation.

c. Maximum allowable manure application rate.

d. Actual manure application information:

- (1) Methods of application when manure from the confinement feeding operation was applied.
- (2) Date(s) when the manure from the confinement feeding operation was applied.
- (3) Location of the field where the manure from the confinement feeding operation was applied, including the number of acres.
- (4) The manure application rate.

e. The date(s) and application rate(s) of commercial nitrogen and phosphorus on fields that received manure. However, if the date and application rate information is for fields which are not owned for crop production or which are not rented or leased for crop production by the person required to keep records pursuant to this subrule, an enforcement action for noncompliance with a manure management plan or the requirements of this subrule shall not be pursued against the person required to keep records pursuant to this subrule or against any other person who relied on the date and application rate in records required to be kept pursuant to this subrule, unless that person knew or should have known that nitrogen or phosphorus would be applied in excess of maximum levels set forth in paragraph 65.17(1)"a." If manure is applied to fields not owned, rented or leased for crop production by the person required to keep records pursuant to this subrule, that person shall obtain from the person who owns, rents or leases those fields a

statement specifying the planned commercial nitrogen and phosphorus fertilizer rates to be applied to each field receiving the manure.

f. A copy of the current soil test lab results for each field in the manure management plan.

g. For sales of manure under 65.17(2)"b," record-keeping requirements of 65.17(2)"b"(7) shall be followed.

**65.17(14) *Record inspection.*** The department may inspect a confinement feeding operation at any time during normal working hours and may inspect the manure management plan and any records required to be maintained. As required in Iowa Code section 459.312(12), Iowa Code chapter 22 shall not apply to the records which shall be kept confidential by the department and its agents and employees. The contents of the records are not subject to disclosure except as follows:

a. Upon waiver by the owner of the confinement feeding operation.

b. In an action or administrative proceeding commenced under this chapter. Any hearing related to the action or proceeding shall be closed.

c. When required by subpoena or court order.

**65.17(15) *Enforcement action.*** An owner required to provide the department a manure management plan pursuant to this rule who fails to provide the department a plan or who is found in violation of the terms and conditions of the plan shall not be subject to an enforcement action other than assessment of a civil penalty pursuant to Iowa Code section 455B.191.

**65.17(16) *Soil sampling requirements for fields where the phosphorus index must be used.*** Soil samples shall be obtained from each field in the manure management plan, and the soil samples shall be four years old or less. Each soil sample shall be analyzed for phosphorus and pH. The soil sampling protocol shall meet all of the following requirements:

a. Acceptable soil sampling strategies include, but are not limited to, grid sampling, management zone sampling, and soil type sampling. Procedural details can be taken from Iowa State University extension publication PM 287, "Take a Good Soil Sample to Help Make Good Decisions," NCR-13 Report 348, "Soil Sampling for Variable-Rate Fertilizer and Lime Application," or other credible soil sampling publications.

b. Each soil sample must be a composite of at least ten soil cores from the sampling area, with each core containing soil from the top six inches of the soil profile.

c. Each soil sample shall represent no more than ten acres. For fields less than or equal to 15 acres, only one soil sample is necessary.

d. Soil analysis must be performed by a lab enrolled in the IDALS soil testing certification program.

e. The soil phosphorus test method must be an appropriate method for use with the phosphorus index. If soil pH is greater than or equal to 7.4, soil phosphorus data from the Bray-1 extraction method is not acceptable for use with the phosphorus index.

**65.17(17) *Use of the phosphorus index.*** Manure application rates shall be determined in conjunction with the use of the Iowa Phosphorus Index as specified by NRCS Iowa Technical Note No. 25.

a. The phosphorus index shall be used on each individual field in the manure management plan. The fields must be contiguous and shall not be divided by a public thoroughfare or a water source as each is defined in this chapter. Factors to be considered when a field is defined may include, but are not limited to, cropping system, erosion rate, soil phosphorus concentration, nutrient application history, and the presence of site-specific soil conservation practices.

b. When sheet and rill erosion is calculated for the phosphorus index, the soil type used for the calculation shall be the most erosive soil map unit that is at least 10 percent of the total field area. In all manure management plans submitted to the department for approval, the dominant critical soil map unit consistent with NRCS conservation planning guidelines shall be used to calculate sheet and rill erosion for the phosphorus index. (See NRCS Technical Note No. 29.)

c. The average (arithmetic mean) soil phosphorus concentration of a field shall be used in the phosphorus index.

d. Soil phosphorus concentration data is considered valid for use in the phosphorus index if the data is four years old or less and meets the requirements of 65.17(16).

e. For an original manure management plan, previous soil sampling data that does not meet the requirements of subrule 65.17(16) may be used in the phosphorus index if the data is four years old or less. In the case of fields for which soil sampling data is used that does not meet the requirements of subrule 65.17(16), the fields must be soil-sampled according to the requirements of subrule 65.17(16) no more than one year after the original manure management plan is approved and a new manure management plan shall be submitted with the results of the new samples.

f. The following are the manure application rate requirements for fields that are assigned the phosphorus index site vulnerability ratings below as determined by the NRCS Iowa Technical Note No. 25 to the NRCS 590 standard rounded to the nearest one-hundredth:

(1) Very Low (0-1).

1. Manure shall not be applied in excess of a nitrogen-based rate in accordance with 65.17(18).
2. If, pursuant to 65.17(19), manure is applied at phosphorus-based rates within soil sampling periods on fields in the Very Low risk category, each soil sample may represent up to 20 acres for the next required soil sampling.

(2) Low (>1-2).

1. Manure shall not be applied in excess of a nitrogen-based rate in accordance with 65.17(18).
2. If, pursuant to 65.17(19), manure is applied at phosphorus-based rates within soil sampling periods on fields in the Low risk category, each soil sample may represent up to 20 acres for the next required soil sampling.

(3) Medium (>2-5).

1. Manure may be applied at a nitrogen-based rate in accordance with 65.17(18) if current or planned soil conservation and phosphorus management practices predict the rating of the field to be not greater than 5 for the next determination of the phosphorus index as required by 65.17(17)"h"(3).
2. Manure shall not be applied in excess of two times the phosphorus removed with crop harvest over the period of the crop rotation.
3. If, pursuant to 65.17(19), manure is applied at phosphorus-based rates within soil sampling periods on fields in the Medium risk category, each soil sample may represent up to 20 acres for the next required soil sampling.

(4) High (>5-15). Manure shall not be applied on a field with a rating greater than 5 and less than or equal to 15 until practices are adopted which reduce the phosphorus index to at least the Medium risk category.

(5) Very High (>15). Manure shall not be applied on a field with a rating greater than 15.

g. Additional commercial fertilizer may be applied as follows on fields receiving manure:

(1) Phosphorus fertilizer may be applied in addition to phosphorus provided by the manure up to amounts recommended by soil tests and Iowa State University extension publication PM 1688, "General Guide for Crop Nutrient Recommendations in Iowa."

(2) Nitrogen fertilizer may be applied in addition to nitrogen provided by the manure to meet the remaining nitrogen need of the crop as calculated in the current manure management plan. Additional nitrogen fertilizer may be applied up to the amounts indicated by soil test nitrogen results or crop nitrogen test results as necessary to obtain the optimum crop yield.

h. Updating the phosphorus index.

(1) When any inputs to the phosphorus index change, an operation shall recalculate the phosphorus index and adjust the application rates if necessary.

(2) If additional land becomes available for manure application, the phosphorus index shall be calculated to determine the manure application rate before manure is applied.

(3) An operation must submit a complete manure management plan using a new phosphorus index, including soil sampling as required in subrule 65.17(16), for each field in the manure management plan a minimum of once every four years.

**65.17(18)** *Requirements for application of a nitrogen-based manure rate to a field.*

a. Nitrogen-based application rates shall be based on the total nitrogen content of the manure unless the calculations are submitted to show that nitrogen crop usage rates based on plant-available nitrogen have not been exceeded for the crop schedule submitted.

b. The correction factor for nitrogen losses shall be determined for the method of application by the following or from other credible sources for nitrogen volatilization correction factors.

Knifed in or soil injection of liquids 0.98

Surface-apply liquid or dry with incorporation within 24 hours 0.95

Surface-apply liquid or dry with incorporation after 24 hours 0.80

Surface-apply liquids with no incorporation 0.75

Surface-apply dry with no incorporation 0.70

Irrigated liquids with no incorporation 0.60

c. Nitrogen-based application rates shall be based on the optimum crop yields as determined in 65.17(6) and crop nitrogen usage rate factor values in Table 4 at the end of this chapter or other credible sources. However, subject to the prohibition in 65.17(20), liquid manure applied to land that is currently planted to soybeans or to land where the current crop has been harvested and that will be planted to soybeans the next crop season shall not exceed 100 pounds of available nitrogen per acre. Further, the 100 pounds per acre application limitation in the previous sentence does not apply on or after June 1 of each year; in that event 65.17(6) and Table 4 would apply as provided in the first sentence of this paragraph.

d. A nitrogen-based manure rate shall account for legume production in the year prior to growing corn or other grass crops and shall account for any planned commercial fertilizer application.

**65.17(19)** *Requirements for application of a phosphorus-based manure rate to a field.*

a. Phosphorus removal by harvest for each crop in the crop schedule shall be determined using the optimum crop yield as determined in 65.17(6) and phosphorus removal rates of the harvested crop from Table 4a at the end of this chapter or other credible sources. Phosphorus crop removal shall be determined by multiplying optimum crop yield by the phosphorus removal rate of the harvested crop.

b. Phosphorus removal by the crop schedule shall be determined by summing the phosphorus crop removal values determined in 65.17(19)"a" for each crop in the crop schedule.

c. The phosphorus applied over the duration of the crop schedule shall be less than or equal to the phosphorus removed with harvest during that crop schedule as calculated in 65.17(19)"b" unless additional phosphorus is recommended by soil tests and Iowa State University extension publication PM 1688, "General Guide for Crop Nutrient Recommendations in Iowa."

d. Additional requirements for phosphorus-based rates.

(1) No single manure application shall exceed the nitrogen-based rate of the planned crop receiving the particular manure application.

(2) No single manure application shall exceed the rate that applies to the expected amount of phosphorus removed with harvest by the next four anticipated crops in the crop schedule.

e. If the actual crop schedule differs from the planned crop schedule, then any surplus or deficit of phosphorus shall be accounted for in the subsequent manure application.

f. Phosphorus in manure should be considered 100 percent available unless soil phosphorus concentrations are below optimum levels for crop production. If soil phosphorus concentrations are below optimum levels for crop production phosphorus availability, values suggested in Iowa State University extension publication PMR 1003, "Using Manure Nutrients for Crop Production" or other credible sources shall be used.

**65.17(20)** *Liquid manure on land planted to soybeans.* Rescinded IAB 11/9/16, effective 12/14/16.