

# *Illinois Waste Management Plan Regulations*

*Title 8: Agriculture and Animals  
Chapter I: Department of Agriculture  
Subchapter t: Waste Management  
Part 900 - Livestock Management Facility Regulations  
Subpart H: Waste Management Plan*

## SUBPART H: WASTE MANAGEMENT PLAN

### Section 900.801 Purpose

Livestock waste management plans shall be prepared by livestock management facility owners or operators to provide for adequate land area for the proper application of livestock waste at rates not to exceed the agronomic nitrogen demand of the crops to be grown when averaged over a 5-year period or at the phosphorus rate, depending on soil test results. [510 ILCS 77/20 (f)(4)].

### Section 900.802 Scope and Applicability

- a) A waste management plan shall be prepared according to the requirements contained in Section 20 of the Livestock Management Facilities Act [510 ILCS 77/20] and in this Subpart. *The application of livestock waste to the land is an acceptable, recommended, and established practice in Illinois. However, when livestock waste is not applied in a responsible manner, it may create pollutional problems. It is considered acceptable to prepare and implement a waste management plan based on a nitrogen rate, unless otherwise restricted by Section 20 of the Livestock Management Facilities Act and this Part.* [510 ILCS 77/20(f)]
- b) *The livestock management facility owner or operator at a facility of less than 1,000 animal units shall not be required to prepare and maintain a waste management plan.* [510 ILCS 77/20(b)]
- c) *The livestock management facility owner or operator at a facility of 1,000 or greater animal units but less than 5,000 animal units shall prepare, maintain and implement a waste management plan and comply with the following:*
  - 1) For facilities which commence operations or reach or exceed 1,000 animal units after the effective date of this Part, the owner or operator shall prepare, maintain, and implement a waste management plan within 60 working days after commencing operations or exceeding 1,000 animal units;
    - 2) Prior to the expiration of the waste management plan preparation period, the owner or operator shall submit to the Department a form certifying that a waste management plan has been prepared. The form shall list the animal unit capacity of the facility and the location of the plan;
    - 3) The waste management plan and records of livestock waste disposal shall be kept on file at the facility for a period of three years and shall be available for inspection by Department personnel during normal business hours; and 4) *Notwithstanding the provisions of this subsection (c), a livestock management facility subject to this subsection (c) may be operated on an interim basis but not to exceed 6 months after the effective date of this Part to allow for the owner or operator of the facility to develop a waste management plan.* [510 ILCS 77/20(c)]
  - d) *The livestock management facility owner or operator at a facility of 5,000 or greater animal units shall prepare, maintain, implement, and submit to the Department the waste management plan for approval* [510 ILCS 77/20(d)] *and comply with the following:*
    - 1) For facilities which commence operations after January 1, 2001, the owner or operator shall submit a waste management plan to the Department. The facility shall not commence operation before the Department approves the plan;
    - 2) For existing facilities that reach or exceed 5,000 animal units through expansion, the owner or operator shall submit for approval by the Department a waste management plan within 60 working days after reaching or exceeding 5,000 animal units; and
    - 3) The waste management plan and records of livestock waste disposal shall be kept on file at the facility for a period of three years and shall be available for inspection by Department personnel during normal business hours.
  - e) *The owner or operator of multiple livestock management facilities under common facility ownership where the cumulative animal units of the facilities are equal to or greater than the animal unit numbers provided for in subsection (c) of this Section shall prepare and keep on file at each facility a waste management plan in*

accordance with the requirements of subsection (c) of this Section. The owner or operator of multiple livestock management facilities that are under common facility ownership where the cumulative animal units of the facilities are equal to or greater than the animal unit numbers provided for in subsection (d) of this Section shall prepare and file with the Department a waste management plan in accordance with the provisions of subsection (d) of this Section. Cumulative animal units shall be determined by combining the animal units of multiple livestock management facilities under the common facility ownership based upon the maximum design capacity of each facility. For the purposes of this subsection, "under common facility ownership" means the same person or persons own, directly or indirectly, through majority owned business entities at least 51% of any person or persons (as defined by Section 10.55 of the Livestock Management Facilities Act [510 ILCS 77/10.55]) that own or operate the livestock management facility or livestock waste handling facility located in the State of Illinois. [510 ILCS 77/20(d-5)] A separate waste management plan shall be developed for each livestock waste handling facility.

- f) Waste management plans prepared pursuant to the emergency amendment adopted in R97-14 at 20 Ill. Reg. 14903, effective October 31, 1996, the emergency rules adopted in R97-14 at 21 Ill. Reg. 4313, effective March 31, 1997, and the rules adopted in R97-15(A) at 21 Ill. Reg. 6851, effective May 20, 1997 shall be revised as follows:
- 1) The owner or operator of an existing facility of 1,000 or greater animal units but less than 5,000 animal units shall prepare a new or revised waste management plan that complies with the requirements of this Part and submit a waste management plan certification form to the Department pursuant to Section 900.802(c)(2) of this Subpart within 60 days after January 1, 2001.
  - 2) The owner or operator of an existing facility of 5,000 or greater animal units shall prepare a new or revised waste management plan that complies with the requirements of this Part for submittal to and review by the Department within 60 days after January 1, 2001.
- g) For the purposes of this Subpart, the number of animal units served by a livestock waste handling facility shall be determined as the maximum design capacity of the livestock management facility which is being served by the livestock waste handling facility.

### **Section 900.803 Waste Management Plan Contents**

The livestock waste management plan shall contain the following items:

- a) Name, address, and phone number of the owners of the livestock facility;
- b) Name, address, and phone number of the managers or operators if different than the owners;
- c) Address, phone number, and plat location of the facilities;
- d) Type of waste storage for the facilities;
- e) Species, general size, number of animals, and number of animal units at the facilities;
- f) Aerial photos or maps depicting fields available and intended for livestock waste applications with available acreage listed and indicating residences, non-farm businesses, common places of assembly, streams, wells, waterways, lakes, ponds, rivers, drainage ditches, other water sources, and areas restricted for application by this Subpart;
- g) For application fields not owned or rented, copies of waste application agreements between the owner or operator of the livestock facilities and the owner of the land where livestock waste will be applied;
- h) Cropping schedule for each field for the past year, anticipated crops for the current year, and anticipated crops for the next two years after the current year;
- i) Targeted crop yield goal for each crop in each field;
- j) *An estimate of the nutrient value of the waste* [510 ILCS 77/20(f)(3)];
- k) Livestock waste application methods;
- l) *Results of the Bray P1 or Mehlich test for soil phosphorus reported in pounds of elemental phosphorus per acre* [510 ILCS 77/20(f)(3.5)];

- m) Calculations showing the following:
- 1) *An estimate of the volume of livestock waste to be disposed of annually* [510 ILCS 77/20(f)(1)];
  - 2) Nitrogen loss due to the method of storage, if applicable;
  - 3) Amount of nitrogen available for application;
  - 4) Nitrogen loss due to the method of application;
  - 5) Amount of plant-available nitrogen including first-year mineralization of organic nitrogen;
  - 6) Amount of nitrogen required by each crop in each field based on targeted crop yield goal;
  - 7) Nitrogen credits from previous crops, from other sources of fertilizer applied for the growing season, and from any manure applications during the previous three years for each application field;
  - 8) Livestock waste application rate based on nitrogen for each application field; and
  - 9) Land area required for application;
- n) A listing of fields and the planned livestock waste application amounts for each field;
- o) *A provision that livestock waste applied within ¼ mile of any residence not part of the facility shall be injected or incorporated on the day of application. However, livestock management facilities and livestock waste handling facilities that have irrigation systems in operation prior to May 21, 1996, or existing facilities applying waste on frozen ground, are not subject to the provisions of this subsection (o)* [510 ILCS 77/20(f)(5)];
- p) *A provision that livestock waste may not be applied within 200 feet of surface water unless the water is upgrade or there is adequate diking and waste will not be applied within 150 feet of potable water supply wells* [510 ILCS 77/20(f)(6)];
- q) *A provision that livestock waste may not be applied in a 10-year flood plain unless the injection or incorporation method of application is used* [510 ILCS 77/20(f)(7)];
- r) *A provision that livestock waste may not be applied in waterways.* [510 ILCS 77/20(f)(8)] For the purposes of this Part, a grassed area serving as a waterway may receive livestock waste through an irrigation system if there is no runoff, the distance from applied livestock waste to surface water is greater than 200 feet, the distance from applied livestock waste to potable water supply wells is greater than 150 feet; the distance from applied livestock waste to a non-potable well, an abandoned or plugged well, a drainage well, or an injection well is greater than 100 feet; and precipitation is not expected within 24 hours;
- s) *A provision that if waste is spread on frozen or snow-covered land, the application will be limited to land areas on which:*
- 1) *land slopes are 5% or less; or*
  - 2) *adequate erosion control practices exist* [510 ILCS 77/20(f)(9)];
- t) For livestock facilities utilizing an earthen lagoon or other earthen waste storage structure, a provision that the owner, operator, or certified livestock manager shall inspect all bermtops, exterior berm sides, and non-submerged interior berm sides for evidence of erosion, burrowing animal activity, and other indications of berm degradation on a frequency of not less than once every two weeks; and
- u) A provision that livestock waste may not be applied during a rainfall or to saturated soil and that conservative waste loading rates will be used in the case of a high water table or shallow earth cover to fractured bedrock. Caution should be exercised in applying livestock wastes, particularly on porous soils, so as not to cause nitrate or bacteria contamination of groundwaters.

### **Section 900.804 Livestock Waste Volumes**

The estimate of the annual volume of available livestock waste for application, as required in Section 900.803(m)(1) of this Part, *shall be obtained by multiplying the number of animals constituting the maximum design capacity of the facility by the appropriate amount of waste generated by the animals.* [510 ILCS 77/20(f)(1)] The following sources may be used to obtain the amount of waste generated: MidWest Plan Service, MWPS-18, Livestock Waste Facilities Handbook, Table 2-1, or 35 Ill. Adm. Code 560, Table 1.

### **Section 900.805 Nutrient Value of Livestock Waste**

- a) *The owner or operator may prepare a plan based on an average of the minimum and maximum numbers in the table values derived from MidWest Plan Service's MWPS-18, Livestock Waste Facilities Handbook (Table 2-1, 10-6, or 10-7) or the Agency's Agriculture Related Pollution regulations (35 Ill. Adm. Code 560, Table 1 or Table 2), or the results of analysis performed on samples of waste. [510 ILCS 77/20(f)(3)]* If "as produced" or "as excreted" nutrient values are used, the nitrogen value shall be adjusted to account for losses due to the type of storage system utilized using an average of the ranges in MidWest Plan Service, MWPS-18, Livestock Waste Facilities Handbook, Table 10-1. Other sources of nutrient values may be used if approved by the Department.
- b) If results of an analysis performed on samples of waste are used for the nutrient values in a plan, the following procedures shall be followed:
  - 1) The livestock waste handling facility owner or operator shall annually obtain a laboratory analysis of the nutrient content of the livestock waste to be applied to land as provided within the waste management plan. Livestock waste shall be sampled during the application process. Multiple subsamples shall be obtained and combined into one sample so that a representative sample is obtained for analysis. Results of a sample taken during waste application the previous year can be used for plan preparation unless there has been a change in the waste management practices during the year.
  - 2) Livestock waste sampling shall be performed under the direction of a certified livestock manager to ensure a representative sample from the livestock waste storage facility and to preserve the integrity of the sample.
  - 3) The laboratory analysis of the livestock waste sample shall include, but not be limited to, total nitrogen, ammonium nitrogen, total phosphorus, and total potassium. Results of the analysis shall be included in the waste management plan.

### **Section 900.806 Adjustments to Nitrogen Availability**

Adjustments shall be made to nitrogen availability to account for the following:

- a) Nitrogen loss from livestock waste due to method of application, as required in Section 900.803(m)(4) of this Part and obtained from an average of the ranges in MidWest Plan Service, MWPS-18, Livestock Waste Facilities Handbook, Table 10-2; and
- b) The first-year mineralization of organic nitrogen into a plant available form, as required in Section 900.803(m)(5) of this Part and obtained from MidWest Plan Service, MWPS-18, Livestock Waste Facilities Handbook, Table 10-5.

### **Section 900.807 Targeted Crop Yield Goal**

- a) The targeted crop yield goal, as required in Section 900.803(m)(6) of this Part, shall be determined for each field where the livestock waste is to be applied. The targeted crop yield goal shall be determined by obtaining an average yield over a five-year period from the field where livestock waste is to be applied. The following listing of sources of data shall be utilized to determine the targeted crop yield goal.
  - 1) Proven yields. The proven yield shall be determined by obtaining an average yield over a five-year period from the field where livestock waste is to be applied. The owner or operator shall indicate the method used to determine the proven yield. Data from years with crop disasters may be discarded. Proven yields shall be used unless there is a sound agronomic basis for predicting a different targeted crop yield goal;
  - 2) Crop insurance yields. A copy of the crop insurance yields shall be included in the plan; or

- 3) Farm Service Agency - United States Department of Agriculture yields. A copy of the assigned crop yields shall be included in the plan.
- b) Soils based yield data from the Natural Resources Conservation Service of the United States Department of Agriculture shall be used if the owner or operator cannot obtain a targeted crop yield goal pursuant to subsection (a) of this Section. A soil map of the application areas shall be included in the plan. The targeted crop yield goal shall be determined by a weighted average of the soil interpretation yield estimates for the areas that will receive livestock waste.
- c) Nitrogen and phosphorus fertilization rates for the targeted crop yield goal may be obtained from the Illinois Agronomy Handbook, or 35 Ill. Adm. Code 560, Appendix A.

### **Section 900.808 Nitrogen Credits**

- a) Nitrogen credits shall be calculated by the livestock facility owner or operator, pursuant to Section 900.803(m)(7) of this Part, for nitrogen-producing crops grown the previous year, for other sources of nitrogen applied for the growing season, and for mineralized organic nitrogen in livestock waste applied during the previous three years.
- b) Nitrogen credits shall be calculated by the livestock facility owner or operator for the mineralized organic nitrogen in livestock waste applied during the previous three years at the rate of 50%, 25%, and 12.5%, respectively, of that mineralized during the first year.

### **Section 900.809 Records of Waste Disposal**

Records of the livestock waste disposal shall include the following items:

- a) Date of livestock waste application;
- b) The field where livestock waste application was made;
- c) Method of livestock waste application;
- d) Livestock waste application rate;
- e) Number of acres receiving waste; and
- f) Amount of livestock waste applied.

### **Section 900.810 Approval of Waste Management Plans**

- a) Department approval of livestock waste management plans shall be based on the following criteria:
  - 1) Livestock waste application rate of nitrogen not to exceed the crop nitrogen requirements for targeted crop yield goals;
  - 2) Demonstration of adequate land area for livestock waste application based on Section 900.803 of this Part; and
  - 3) Completeness and accuracy of plan contents as specified in Section 900.803 of this Part.
- b) The owner or operator of the livestock management facility shall be notified by the Department within 30 working days after receipt of the livestock waste management plan that the plan has been approved or that further information or changes are needed. The owner or operator shall provide the information or changes within 30 working days.

### **Section 900.811 Sludge Removal**

- a) Within 60 days prior to periodic removal of sludge from a livestock waste storage structure, the livestock facility owner or operator shall test the sludge for nutrient content. Application of the sludge to the land shall not exceed the nitrogen requirement to obtain targeted yields of the crop to be grown for fields with soil phosphorus test results of 300 pounds or less of elemental phosphorus per acre pursuant to Section 900.813(a) of this Subpart. Application of the sludge shall be at a rate not to exceed the phosphorus rate on fields with soil phosphorus test results of greater than 300 pounds of elemental phosphorus per acre pursuant to Section 900.813(b) and (c)(3) of this Subpart.

- b) Prior to the removal of the remaining livestock waste, soil, and sludge during a lagoon closure, the waste, soil, and sludge shall be tested for nutrient content. Application of the waste, soil, and sludge to the land shall not exceed the nitrogen requirement to obtain targeted yields of the crop to be grown for fields with soil phosphorus test results of 300 pounds or less of elemental phosphorus per acre pursuant to Section 900.813(a) of this Subpart. Application of the waste, soil, and sludge shall be at a rate not to exceed the phosphorus rate on fields with soil phosphorus test results of greater than 300 pounds of elemental phosphorus per acre pursuant to Section 900.813(b) and (c)(3) of this Subpart.
- c) Nitrogen requirements based on targeted yields for the crop to be grown may be met but shall not be exceeded by any combination of the following:
  - 1) Livestock waste applications;
  - 2) Periodic sludge applications; or
  - 3) Remaining livestock waste, soil, or sludge applications during a waste storage structure closure.

### **Section 900.812 Soil Phosphorus Testing**

*Soil samples shall be obtained and analyzed from the livestock waste application fields on land owned or under the control of the owner or operator where applications are planned. Fields where livestock waste is applied shall be sampled every 3 years. Sampling procedures, such as the number of samples and the depth of sampling, as outlined in the Illinois Agronomy Handbook shall be followed when soil samples are obtained. [510 ILCS 77/20(f)(3.5)]* For the purposes of this Subpart, "land owned or under the control of" means livestock waste application fields which are owned, rented, or leased by the owner or operator of the livestock management facility or livestock waste handling facility, or those fields that are the subject of a livestock waste application agreement between the facility owner or operator and the land owner.

### **Section 900.813 Phosphorus Based Application**

- a) *If the average Bray P1 or Mehlich test result for soil phosphorus calculated from samples obtained from the application field is 300 pounds or less of elemental phosphorus per acre, livestock waste may continue to be applied to that field in accordance with subsection (f) of Section 20 of the Livestock Management Facilities Act [510 ILCS 77/20(f)] and this Subpart. [510 ILCS 77/20(f)(3.6)]*
- b) *If the average Bray P1 or Mehlich test result for soil phosphorus for an application field is greater than 300 pounds of elemental phosphorus per acre, the owner or operator shall apply livestock waste at a rate not to exceed the phosphorus maintenance fertilizer rate to the field pursuant to subsection (c) of this Section, until the average Bray P1 or Mehlich test for soil phosphorus indicates there is less than 300 pounds of elemental phosphorus per acre. [510 ILCS 77/20(f)(3.6)]*
- c) If a phosphorus application rate is required for a field, the plan shall be amended by the owner or operator for that field to determine the maximum livestock waste application rate. The amendment to the plan for that field shall contain the following:
  - 1) The phosphorus content of the livestock waste, expressed as P2O5, derived from MidWest Plan Service's MWPS-18, Livestock Waste Facilities Handbook (Table 2-1, 10-6, or 10-7), 35 Ill. Adm. Code 560 (Table 1 or Table 2), or the results of analysis performed on samples of waste;
  - 2) The targeted crop yield goal of each crop in the field, obtained pursuant to Section 900.807 of this Subpart;
  - 3) The phosphorus maintenance fertilizer amount, expressed as P2O5 for the targeted crop yield goal of each planned crop, obtained from the Illinois Agronomy Handbook; and
  - 4) The maximum livestock waste application rate, calculated from the items in this subsection (c), for each planned crop.

### Section 900.814 Plan Updates

- a) The waste management plan shall be reviewed annually by the livestock facility owner or operator and updated when there is a change in the volume of livestock waste to be disposed of annually, calculated pursuant to Section 900.804 of this Subpart, that will cause additional application land not already included in the plan to be needed.
- b) The waste management plan shall also be updated when at least one of the following occurs:
  - 1) The average Bray P1 or Mehlich test result for soil phosphorus for an application field is greater than 300 pounds of elemental phosphorus per acre, in which case a separate plan for that field shall be prepared pursuant to Section 900.813 of this Subpart if application to that field is to continue;
  - 2) A change in land that is available for livestock waste application occurs, if the land is not currently included in the waste management plan;
  - 3) A change in the method of livestock waste disposal or application occurs; or
  - 4) A change in the crop to be grown on the application field occurs, if the crop is not already included in the plan.

### Section 900.815 Penalties

- a) *Any person who is required to prepare a waste management plan and who fails to do so shall be subject to the following:*
  - 1) *The person shall be issued a warning letter by the Department for the first violation and shall be given 30 working days to prepare a waste management plan.*
  - 2) *For failure to prepare a waste management plan within 30 working days pursuant to subsection (a)(1) of this Section, the person shall be fined an administrative penalty of up to \$1,000 by the Department and shall be required to enter into an agreement of compliance to prepare a waste management plan within 30 working days.*
  - 3) *For failure to prepare a waste management plan after the second 30 day period or for failure to enter into a compliance agreement pursuant to subsection (a)(2) of this Section, the Department may issue an operational cease and desist order until compliance is attained. [510 ILCS 77/20(g)]*
- b) Any person who is required to maintain and implement a waste management plan and who fails to do so shall be subject to the following:
  - 1) The person shall be issued a warning letter by the Department for the first violation and shall be given 30 working days to maintain and implement a waste management plan.
  - 2) For failure to maintain and implement a waste management plan within 30 working days pursuant to subsection (b)(1) of this Section, the person shall be fined an administrative penalty of up to \$1,000 by the Department and shall be required to enter into an agreement of compliance to maintain and implement a waste management plan within 30 working days.
  - 3) For failure to maintain and implement a waste management plan after the second 30 day period or for failure to enter into a compliance agreement pursuant to subsection (b)(2) of this Section, the Department may issue an operational cease and desist order until compliance is attained.
- c) The operational cease and desist order procedures may be suspended by the Department upon submittal of a waste management plan by the owner or operator to the Department. The cease and desist order shall be canceled by the Department upon approval of the waste management plan by the Department.
- d) A waste management plan prepared as a result of a warning letter or compliance agreement shall be subject to approval by the Department.
- e) Penalties shall not be imposed for excessive nitrogen application for unplanned cropping changes due to weather or other unforeseeable circumstances.