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901:10-2-07 **Contents of a permit to operate and NPDES applications.**

(A) The application for a permit to operate and for a NPDES permit shall contain the following information:

(1) A manure management plan that is developed and implemented to comply with the best management practices set forth in rules 901:10-2-08 to 901:10-2-11, 901:10-2-13 to 901:10-2-16 and 901:10-2-18 of the Administrative Code, and

(2) Plans or schedules for inspections required in rule 901:10-2-08 of the Administrative Code.

(B) Additional requirements for an application for a permit to operate include submittal of:

(1) An insect and rodent control plan that conforms to best management practices and is in accordance with rule 901:10-2-19 of the Administrative Code.

(2) A plan for odor minimization in accordance with rule 901:10-2-12 of the Administrative Code.

(3) An emergency response plan in accordance with rule 901:10-2-17 of the Administrative Code.

(C) Additional requirements for an application for a NPDES permit for a large concentrated animal feeding operation shall contain the information required in Chapter 901:10-3 of the Administrative Code.

(D) If a biosecurity plan is submitted, it shall be included with the permit to operate application.

(E) The owner or operator shall maintain a copy of the current permit to operate and NPDES permit issued by the department at the concentrated animal feeding facility's site office.

(F) Additional requirements for an application for a NPDES permit for a medium or small concentrated animal feeding operation may also include best management practices specified by the director.

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901:10-2-08 **Contents of the manure management plan: inspections, maintenance and monitoring.**

(A) A manure management plan is a plan developed to minimize water pollution and protect waters of the state. The manure management plan shall include best management practices for reuse and recycling nutrients, prevent direct contact of confined animals with waters of the state, and ensure proper mortality management.

(1) The manure management plan shall specify the frequency of inspections to be conducted by the owner or operator at the manure storage or treatment facility; and

(2) The owner or operator shall maintain a list of equipment used, including land application equipment and a written chronological record of the dates of inspections, maintenance, calibration monitoring and repairs that shall be maintained in the operating record required by rule 901:10-2-16 of the Administrative Code and be made readily available during an inspection of the facility. These records shall also be made available at the request of the director. All repairs shall be completed promptly. The department shall inspect any major structural repairs; and

(3) The owner or operator must periodically inspect equipment used for land application of manure, litter, or process wastewater for leaks.

(4) At a minimum, the following must be inspected, performed, monitored or maintained at the manure storage or treatment facility and documented in the operating record:

(a) The operating level of manure treatment lagoons and manure storage ponds. The operating level must not exceed the level that provides adequate storage to contain a precipitation event as required in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code, plus an additional one foot of freeboard.

(b) The operating level of fabricated structures must not exceed the level that provides adequate storage to contain a precipitation event as required in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code, plus an additional six inches of freeboard, unless the fabricated structure is designed and maintained for solid manure and is not subject to precipitation.

(c) For paragraph (A)(4)(a) and (A)(4)(b) of this rule, the maximum operating level shall not exceed that specified in the manure management plan.

(d) Inspect in order to confirm that domestic and industrial wastewater from showers, toilets, sinks, medical wastes, chemicals and other contaminants etc., handled on-site are not discharged into the manure storage or treatment facility unless designed and permitted to do so.

(e) Manure storage or treatment facilities under the control of the owner or operator shall be inspected for evidence of erosion, leakage, animal damage, cracking, excessive vegetation, or discharge.

(f) Inspect liquid manure volume weekly and note in the operating record the level of liquid manure in manure storage or treatment facilities by the depth marker required in paragraph (A)(4)(o) of this rule.

(g) Document in the operating record procedures to ensure proper operation and maintenance of liquid manure in storage or treatment facilities, when manure and manure residuals are removed from the manure storage pond or manure treatment lagoon. The owner or operator shall take care to prevent damage to lagoon or pond dikes and liners when manure residuals are removed.

(h) Inspect to determine that all stormwater conveyances are maintained to keep runoff from the surrounding property and buildings and stormwater shall be diverted away from the manure treatment lagoons and manure storage ponds to prevent any unnecessary addition to the liquid volume in these structures, unless they are designed for such runoff containment. Identify appropriate buffer strips or equivalent practices, to control runoff of manure to waters of the state, and divert clean water, as appropriate, out of the production area.

(i) Conduct weekly inspections of stormwater or diversion devices, runoff diversion structures, devices channeling contaminated stormwater to the manure storage pond or manure treatment lagoon and note proper operation and maintenance in the operating record.

(j) Inspect the protective vegetative cover and any other approved means or materials for erosion control to determine that cover is maintained on all disturbed areas (lagoon or pond embankments, berms, pipe runs, erosion control areas, etc.).

(k) Ensure that any emerging vegetation such as trees, shrubs and other woody species shall not be allowed to grow on the pond or lagoon dikes or side slopes. Pond or lagoon areas are to be kept mowed and accessible unless these areas are grassed waterways or buffers that manage precipitation and runoff.

(l) Surface water and groundwater protection.

(i) Conduct annual sampling and analysis of ground water from a well as described by paragraphs (A)(2)(e) or (B)(2)(d) of rule 901:10-2-03 of the Administrative Code. In the event that a well does not already exist at the facility and the operation is not an operation as described in paragraph (A)(1) of rule 901:10-2-03 of the Administrative Code or is not served by a public water system as defined by paragraph (UUU) of rule 901:10-1-01 of the Administrative Code, then the owner or operator shall install a well at the facility that is properly located, protected and operated. The well shall be easily accessible for sampling and have an adequate water quantity for sampling.

(ii) The director may require additional sampling, including but not limited to, ground water samples from any additional ground water monitoring wells installed as required in paragraph (C)(2) of rule 901:10-2-03 of the Administrative Code.

(iii) The director may require samples of manure discharges from the production area that may occur; and

(iv) Results of sampling and analysis shall be documented in the operating record and, for manure discharges from the production area, results shall also be recorded in the annual report submitted to the director in accordance with rule 901:10-2-20 of the Administrative Code.

(m) Ensure proper management of dead livestock as required by rule 901:10-2-15 of the Administrative Code to ensure that there shall be no discharge of mortality to waters of the state and no disposal in a manure storage or treatment facility that is not specifically designed to treat animal mortalities.

(n) Inspect drinking water lines daily, including drinking water or cooling water lines that are located above ground, readily visible or accessible for daily inspections, and record in the operating record.

(o) All liquid manure in manure storage ponds or treatment facilities must have a depth marker or other appropriate device as approved by the Director in accordance with rule 901:10-2-06 of the Administrative Code which clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the twenty-five year, twenty four hour rainfall event, or, in the case of new sources subject to the requirement in rule 901:10-3-06(d) of the Administrative Code, the runoff and direct precipitation from a one-hundred year, twenty-four hour rainfall event.

(p) The director may determine that the monitoring required in subparagraphs (A)(4)(f), (A)(4)(n) and (A)(4)(o) of this rule may use alternative monitoring devices. Alternative monitoring devices include, but are not

limited to, sensors, remote sensors, electronic alarms, wireless receivers, other real time warning systems, or other flow control structure, or other steady state overflow structures.

(i) The owner or operator shall identify the alternative monitoring devices in the manure management plan submitted to the director. In approving the manure management plan, the director may approve the alternative monitoring devices.

(ii) The director may notify the owner or operator in writing to cease use of alternative monitoring devices if at any time that the director or the director's representative find that the operating record and documents maintained as required by this rule contain false or misleading information.

(q) Actions to be taken means actions to correct any deficiencies found as a result of the inspections conducted under this rule. Deficiencies are to be corrected as soon as possible and listed in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.

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901:10-2-09 **Contents of manure management plan: nutrient budget.**

(A) To the extent that manure is not managed through distribution and utilization methods in accordance with rule 901:10-2-11 of the Administrative Code, then the owner or operator shall prepare a manure management plan with a total nutrient budget for the facility based on the following:

(1) Targeted crop yields based on actual crop yields;

(2) Soil productivity information;

(3) Historical yield data;

(4) Potential yield; or

(5) Combinations of yield data.

(B) The manure management plan shall include the quantity of manure and manure nutrients for a twelve month period as derived from rule 901:10-2-10 of the Administrative Code.

(C) The manure management plan shall include the total summary of acres of land to be used for land application sites. This summary includes the land that is available for the duration of the permit and the land that is available for manure that is generated by the facility. The total summary shall be further characterized as follows:

(1) The total nutrient budget requirements on land application sites under the control of the owner or operator; and

(2) The quantity of commercial fertilizer nutrients or residual nutrients from all sources to be applied on land application sites under the control of the owner or operator for a twelve month period; and

(3) The quantity of nutrients to be managed by the owner or operator through distribution and utilization methods utilized for a twelve month period, in accordance with rule 901:10-2-11 of the Administrative Code.

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901:10-2-10 **Contents of manure management plan: manure characterization.**

The manure management plan shall contain information on manure to allow the owner or operator to plan for nutrient utilization at recommended agronomic rates and to minimize nutrient runoff that may impact waters of the state.

(A) Unless submitted as a permit to install application subject to paragraph (C) of rule 901:10-2-01 of the Administrative Code or for an operational change to be made to the manure management plan in accordance with rule 901:10-1-09 of the Administrative Code, manure shall be characterized by the owner or operator by analysis of manure from the manure storage and treatment facility, utilizing an actual sample from the facility. Manure characterization shall describe the manure by the per cent of liquid content, the per cent of solids content and/or manure density and shall follow the sampling procedures for manure sampling and analysis in "Recommended Methods of Manure Analysis" (a 3769), University of Wisconsin Extension, 2003. For a permit to install application as required by paragraph (C) of rule 901:10-2-01 of the Administrative Code or for an operational change or major operational change to be made to the manure management plan in accordance with rule 901:10-1-09 of the Administrative Code, the owner or operator must utilize the table appended to this rule.

(1) Total manure production quantified:

(a) Pounds per day; or

(b) Tons per year; or

(c) Cubic yards per day; or

(d) Gallons per day.

(2) Nutrient content quantified:

(a) Pounds per day; and/or

(b) Pounds per ton; or

(c) Pounds per one thousand gallons.

(B) The manure management plan shall contain an estimate, supported by calculations of the quantity and total nutrient content of manure produced, stored and treated during a twelve month period along with a schedule for manure removal or manure transfer

for purposes of land application. Manure may be removed based on results of inspections conducted pursuant to paragraph (A)(3)(f) of rule 901:10-2-08 of the Administrative Code or in accordance with distribution and utilization methods.

(C) At a minimum, manure from each manure storage or treatment facility shall be analyzed annually for the following: total nitrogen; ammonium nitrogen; organic nitrogen; phosphorus; potassium; and per cent total solids.

(D) In addition to the minimum requirements for annual manure analysis in paragraphs (A) to (C) of this rule, any manure with wastes that are process waste water, shall be characterized annually by the owner or operator by utilizing an actual sample from the facility, provided, however that for a permit to install application as required by paragraph (C) of rule 901:10-2-01 of the Administrative Code or for an operational change to be made to the manure management plan in accordance with rule 901:10-1-09 of the Administrative Code, the owner or operator may utilize a sample from a similar facility or by relying upon on existing published or documented data.

(E) Results of analyses and estimates conducted in paragraphs (A) to (D) of this rule shall be recorded in the operating record and shall be submitted as part of the annual report to the director required by rule 901:10-2-20 of the Administrative Code. Results of the manure analysis conducted in paragraph (C) of this rule shall be recorded in the operating record.

(F) After conducting manure analysis required in paragraph (C) of this rule, the owner or operator may request approval from the director for a major operational change to reduce the number of samples needed to be representative of each manure storage and treatment facility and to utilize composite sampling and analysis. The director may approve a request provided all of the following apply:

(1) The owner or operator submits a written request to the director along with copies of manure analyses from manure storage or treatment facilities from the same permitted facility;

(2) Manure analyses for three consecutive years demonstrate that analytical results are the same or similar for each manure storage or treatment facility at the permitted facility; and

(3) The owner or operator acknowledges that the director may notify the owner or operator in writing that the owner or operator shall comply with paragraph (C) if at any time the director or the director's representative find that composite sampling is no longer representative for reasons that include, but are not limited to:

(a) Changes in feed and feed rations;

(b) Age, size, or type of animals;

(c) Changes in clean out times;

(d) Changes in building design, such as changes in ventilation;

(e) Changes due to diseases and actions taken to eliminate disease.

(G) The manure management plan shall contain information on manure to allow the owner or operator or the person accepting manure under rule 901:10-2-11 of the Administrative Code to plan for nutrient utilization.

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Appendix to rules 901:10-2-04 and 901:10-2-10

Manure Production Characteristics

Values are as produced estimations and so not reflect any treatment. Values do not include bedding. The actual characteristics of manure can vary +30% from table values. Increase solids and nutrients by 4% for each 1% feed wasted above 5%.

		Total Measure of Manure Quantity					Total	Volatile		Nutrient Content		
	Size[1]	*Volume and/or Weight of Manure*			Water	Density	Solids	Solids	BOD_2	(lb/day)		
Animal	(lbs)	(lb/day)	(ft^3/day)	(gal/day)	(%)	(lb/day)	(lb/day)	(lb/day)	(lb/day)	(N)	(P_2O_2)	(K_2O)
Dairy Cattle	150	13	0.20	1.5	88	65	1.4	1.2	0.20	0.05	0.01	0.04
	250	21	0.32	2.4	88	65	2.3	1.9	0.33	0.08	0.02	0.07
Heifer	750	65 1.0		7.8	88	65	6.8	5.8	1.0	0.23	0.07	0.22
Lactating cow 1,000		108	1.7	12.7	88	62	10.0	8.5	1.60	0.58	0.30	0.31
	1,400	148	2.4	17.7	88	62	14.0	11.9	2.24	0.82	0.42	0.48
Dry cow	1,000	82	1.30	9.7	88	62	9.5	8.1	1.20	0.36	0.11	0.28
	1,400	115	1.82	13.6	88	62	13.3	11.3	1.70	0.50	0.20	0.40
Veal	250	9	0.14	1.1	96	62	0.32	0.14	0.22	0.04	0.03	0.06
Beef cattle												
Calf	450	26	0.42	3.1	92	63	3.40	2.88	0.58	0.14	0.10	0.11
High forage	750	62	1.0	7.5	92	62	5.8	5.2	1.05	0.41	0.14	0.25
High forage	1,100	92	1.4	11.0	92	62	8.5	7.6	1.50	0.61	0.21	0.36
High energy	750	54 0.87		6.5	92	62	4.2	3.9	1.0	0.38	0.14	0.22
High energy	1,100	80	1.26	9.5	92	62	6.2	5.7	1.50	0.54	0.21	0.32
Cow	1,000	63	1.00	7.5	88	63	7.70	6.00	1.40	0.31	0.19	0.26
Swine												
Nursery	25	2.7	0.04	0.3	89	62	0.27	0.22	0.09	0.02	0.01	0.01
Grow-Finish	150	9.5	0.15	1.2	89	62	1.0	0.90	0.30	0.08	0.05	0.04
Gestating	275	7.5	0.12	0.9	91	62	0.69	0.59	0.23	0.05	0.04	0.04
Lactating	375	22.5	0.36	2.7	90	63	2.25	2.03	0.75	0.18	0.13	0.14
Boar	350	7.2	0.12	0.9	91	62	0.66	0.59	0.23	0.05	0.04	0.04
Sheep	100	4.0	0.06	0.4	75	63	1.10	0.91	0.10	0.04	0.02	0.04
Poultry												
Layer	4	0.26	0.004	0.031	75	65	0.065	0.049	0.015	0.0035	0.0027	0.0016
Broiler	2	0.18	0.003	0.021	74	63	0.047	0.034	0.010	0.0023	0.0014	0.0011
Turkey	20	0.90	0.014	0.108	75	63	0.225	0.171	0.066	0.0126	0.0108	0.0054
Duck	6	0.33	0.005	0.040	73	62	0.089	0.053	0.012	0.0046	0.0038	0.0028
Horse	1,000	50	0.80	5.98	78	63	11.00	9.35	1.40	0.28	0.11	0.23

[1]Weights represent the average size of the animal during the stage of production.

Source: MWPS-18 (1) *Manure Characteristics* (2000). MidWest Plan Service. Iowa State University: Ames, IA.

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901:10-2-11 **Contents of manure management plan: distribution and utilization methods.**

(A) If the owner or operator elects to use distribution and utilization methods, the following is required:

(1) The owner or operator may submit distribution and utilization methods for the beneficial use of manure as part of the manure management plan.

(2) If the owner or operator decides to use distribution and utilization methods then the owner or operator shall provide a copy of appendices A and F of rule 901:10-2-14 of the Administrative Code, and a copy of the most recent analytical results that list the nutrient content of the manure based on an analysis consistent with the rules to the manure recipient. The owner or operator shall record in the operating record the name and address of the manure recipient, the date of distribution, and the approximate amount of manure in tons or gallons distributed on that date.

(3) In addition to the information in paragraph (A)(2) of this rule, if the owner or operator decides to use distribution and utilization methods for liquid manure, then the owner or operator shall also provide a copy of appendix B, the available water capacity chart that illustrates how to comply with the requirements of rule 901:10-2-14 of the Administrative Code.

(B) All of the information in paragraphs (A)(1) to (A)(3) of this rule shall be recorded in the operating record as described in rule 901:10-2-16 of the Administrative Code.

(C) An estimated amount of total manure transferred to other persons by the owner or operator in the previous twelve months (tons/gallons) shall be reported in the annual report required by rule 901:10-2-20 of the Administrative Code.

(D) If the owner or operator is notified by the director, or otherwise becomes aware that the recipient is not in compliance with rule 901:10-1-06 of the Administrative Code or best management practices set forth in chapter 1501:15-5 of the Administrative Code or with other applicable laws and rules, the owner or operator shall cease providing manure to the recipient until written authorization to continue is provided by the department.

[Comment: Distribution and utilization may include land application, composting, vermiculture and alternative fuel source uses.]

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901:10-2-12 **Contents of manure management plan: methods to minimize odors.**

(A) A manure management plan shall include best management practices to minimize odors. These best management practices shall be identified in the manure management plan and shall be compatible with the overall content of the manure management plan. These best management practices may include the following:

(1) Remove, transfer and land apply manure at optimum temperatures;

(2) Remove, transfer and land apply manure when wind direction is less likely to affect neighboring residences;

(3) Promptly inject or incorporate manure to minimize odors; or

(4) If manure is applied by spray irrigation, use appropriate pressure and nozzles.

(5) Additional controls on odor are included in the appendix to rule 901:10-2-06 of the Administrative Code. The information appended to rule 901:10-2-06 of the Administrative Code includes waste treatment systems that control and promote additional treatment reduction of odor.

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901:10-2-13 **Contents of manure management plan: soil characterization.**

The manure management plan shall contain information on soils to allow the owner or operator to plan for nutrient utilization at recommended agronomic rates and to minimize nutrient runoff to waters of the state. Soil shall be sampled and analyzed by utilizing the following procedures:

(A) At a minimum, soil samples shall be taken to a uniform depth and the fertility analysis shall include: pH, phosphorus, potassium, calcium, magnesium and cation exchange capacity.

(B) Soil fertility analysis shall be conducted in accordance with Publication 221, "Recommended Chemical Soil Test Procedures for the North Central Region; Published by the North Central Regional Committee on Soil Testing and Plant Analysis (NCR-13), North Dakota Agricultural Experiment Station."

(C) Soil samples shall be representative of a land application site with one composite soil sample representing no more than twenty-five acres or one composite soil sample for each land application site, whichever is less.

(D) The manure management plan shall specify the soil sampling frequency in accordance with the following requirements:

(1) A site that receives manure shall be soil tested, at a minimum, once every three years; and

(2) If any land application site is used by the owner or operator the land application site shall be sampled at least six months following application.

(E) Results of the soil sampling events in paragraphs (A) to (D) of this rule shall be recorded in the operating record in accordance with rule 901:10-2-16 of the Administrative Code and shall include the location of the soil sample collection site, the depth of the sample collected and the analysis.

(F) In developing appropriate manure application rates for land application methods in accordance with rule 901:10-2-14 of the Administrative Code, the owner or operator shall use the Bray P1 soil test level or equivalent appropriate phosphorus soil test, (Mehlich III, Olsen, phosphorus retention test), or other test methods approved by the director. The owner or operator shall choose a phosphorus soil test method and identify the selected method in the manure management plan.

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901:10-2-14 **Contents of manure management plan: land application methods.**

This rule establishes best management practices that govern land application of manure on land application sites. The land application of manure at each land application site shall be conducted to utilize nutrients at agronomic rates, and to minimize nutrient runoff to waters of the state and shall be recorded in the operating record in accordance with rule 901:10-2-16 of the Administrative Code. The discharge of manure to waters of the state from a facility as a result of application of that manure by the facility to land areas under its control is a discharge from that facility subject to NPDES requirements except where it is an agricultural stormwater discharge as defined in rule 901:10-1-01 of the Administrative Code. Where manure has been applied in accordance with an approved manure management plan, a precipitation-related discharge of manure from land areas under the control of the facility is agricultural stormwater discharge.

(A) The manure management plan shall contain procedures on how manure shall be transported to land application sites in a manner that minimizes loss or spillage, and how spills will be promptly cleaned up or removed.

(B) Manure application rate - testing criteria:

(1) The manure application rate shall be based on the land application site's soil tests conducted in accordance with rule 901:10-2-13 of the Administrative Code and that are no older than three years.

(2) The manure application rate shall be based on the most current manure test results conducted in accordance with rule 901:10-2-10 of the Administrative Code. The manure test results expressed as a nutrient percentage shall be converted into either pounds per ton of dry or wet manure or pounds per one thousand gallons of liquid manure.

(C) Manure application rate - general criteria: The manure application rate shall be based on the most limiting factor of rates derived from paragraph (B) of this rule and of paragraphs (C) to (E) of this rule, whichever is determined to be the most restrictive factor for purposes of protecting waters of the state.

(1) For liquid manure:

(a) The crop nitrogen requirements or removal as described in paragraph (D) of this rule and as expressed in thousands of gallons of manure per acre;

(b) The crop phosphorus requirements or removal as described in paragraph (E) of this rule and as expressed in thousands of gallons of manure per acre;

(c) The restrictions on the rate of liquid manure application, taken from notes (1) and (5) in appendix A, table 2 of this rule, with volume expressed as a measure of gallons per acre or inches per acre;

(d) The application rate shall not exceed the available water capacity of the soil as described in appendix B of this rule; and

(e) The application rate shall be adjusted to avoid surface ponding and/or runoff from a land application site.

(2) For solid manure:

(a) The crop nitrogen requirements or removal of nitrogen as described in paragraph (D) of this rule expressed in pounds per ton of dry manure per acre; or

(b) The crop phosphorus requirements or removal as described in paragraph (E) of this rule expressed in pounds per ton of dry manure per acre; or

(c) The restrictions on the volume of solid manure applied, taken from notes (1) and (5) in appendix A, table 2 of this rule with volume expressed as a measure of tons/acre.

(3) All land applications of manure shall comply with all restrictions contained in appendix A of this rule unless a compliance alternative is submitted in the manure management plan and approved by the director. As a compliance alternative, the concentrated animal feeding operation may demonstrate that a setback or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the one hundred foot setback or a thirty five foot vegetated buffer.

Comment: The natural resources conservation service and the Ohio state university have conducted extensive research on manure injection and manure incorporation on all representative Ohio soil types. Refer to "United States Department of Agriculture - Natural Resource Conservation Service. Field Office Technical Guide - Conservation Practice Standard 633. Columbus, Ohio, June 2003, revised August 2004."

(4) For all land application of liquid manures, the owner or operator shall maintain or have access to methods or devices to capture or stop subsurface drain flow if liquid manure reaches the subsurface drain outlets. Use of drain outlet

plugs or other devices shall be recorded in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.

(5) Calculate the total amount of nitrogen and phosphorus to be applied to each field, including sources other than manure such as commercial fertilizer or other organic by-products.

(6) Land application of manure shall not occur if the forecast contains a greater than fifty per cent chance of precipitation as determined in "Managing Manure Nutrients at Concentrated Animal Feeding Operations, Appendix M, United States Environmental Protection Agency, EPA-821-B-04-006, August 2004," exceeding an amount of one-half inch for a period extending twenty-four hours after the start of land application. Record weather conditions in the operating record for conditions at the time of application and for twenty-four hours prior to and following application.

(D) The manure application rate for nitrogen shall be based on the following criteria:

(1) The application rate for nitrogen shall be based on utilization of crops at the recommended agronomic rates and based on minimum runoff and leaching that may impact waters of the state.

(2) In determining the agronomic rate for nitrogen, the owner or operator shall do the following:

(a) Determine the nitrogen requirements or removal rates for the realistic yield goal of planned crops using nutrient amounts from appendix C, tables 1, 2 or 3 of this rule.

(b) Subtract the nitrogen credit for crop residue, legumes, and other sources of nitrogen to be given to the next corn crop in accordance with values for previous crops given in appendix C, table 4 of this rule;

(c) When applying nitrogen to a grass or legume cover crop that is growing or being established immediately after manure application, manure can be applied at the recommended nitrogen rate for the next non-legume crop or the nitrogen removal rate for the next legume crop.

(3) In determining how to minimize nitrogen leaching that may impact waters of the state, the owner or operator shall do the following:

(a) Assess each land application site with the Ohio nitrogen leaching risk

assessment procedure contained in appendix C, table 5 of this rule;

(b) If the nitrogen leaching risk assessment procedure completed in accordance with paragraph (D)(3)(a) of this rule demonstrates that the land application site has a high nitrogen leaching potential and no growing crop, then application of manure shall be limited to fifty pounds of nitrogen per acre calculated at the time of application prior to October first.

(4) In calculating the actual rate of application of nitrogen from manure, the figures in appendix C, table 6 of this rule shall be used along with the manure test results conducted according to rule 901:10-2-10 of the Administrative Code.

(5) The criteria applicable to manure application and the requirements of paragraph (D)~~(C)~~ of this rule may be changed only if the owner or operator can demonstrate to the director nutrient insufficiency in accordance with the presidedress nitrate soil test procedures of tables 7 and 8 in appendix C of this rule.

(E) Manure application rate phosphorus criteria:

(1) The application rate for phosphate applications shall be based on the following:

(a) Estimated plant uptake by crops at the recommended agronomic rates;

(b) Soil test analysis obtained pursuant to rule 901:10-2-13 of the Administrative Code;

(c) Subsequent phosphorus removal in plant biomass; and

(d) Minimum runoff that may impact waters of the state.

(2) In determining the agronomic rate for phosphate application, the owner or operator shall do the following:

(a) Determine the phosphorus requirements for the realistic yield goal of planned crops and/or crop rotations using amounts from appendix C, table 1 or appendix D, tables 1 to 5 of this rule.

(b) The application rate for phosphorus shall not exceed the rate provided in appendix C, table 1 or appendix D, tables 1 to 5 of this rule, unless

following the procedures in paragraph (E)(3) of this rule.

(3) In determining how to minimize phosphorus runoff that may impact waters of the state, the owner or operator shall do the following and apply no more than the value as determined by table 2 of appendix E of this rule:

(a) Prior to the land application of manure, a land application site shall be assessed with either the phosphorus index risk assessment procedure in appendix E, table 1 of this rule or the phosphorus soil test risk assessment procedure in appendix E, table 2 of this rule;

(b) Application of phosphorus shall not occur on land with soil tests over one hundred fifty parts per million Bray P1 or equivalent unless the owner or operator can demonstrate an alternative to the director through the use of the phosphorus index risk assessment procedure contained in appendix E, table 1 of this rule.

(c) Phosphorus applications between two-hundred and fifty pounds per acre and five hundred pounds per acre are not recommended but may be made if the values for liquid manure exceed sixty pounds phosphorus per one thousand gallons and if the values for solid manure exceed eighty pounds phosphorus per ton and application is subject to these additional requirements:

(i) No manure application shall occur on land with soil tests that exceed more than one hundred parts per million Bray P1;

(ii) No manure application shall occur on frozen or snow-covered ground;

(iii) The manure shall be incorporated within twenty-four hours;

(iv) No additional phosphorus application shall be made for a minimum of three years on fields with soils tests that measure less than forty parts per million Bray 1 or equivalent; and

(v) No additional phosphorus application shall be made for a minimum of five years on fields with soils tests between forty and one-hundred parts per million Bray P1 or equivalent.

(d) Notwithstanding the procedures in paragraph (E)(3)(a) or (E)(3)(b) of this rule but subject to the restrictions in appendix B of this rule, for a single

phosphorus application in a year, the application rate shall not exceed five hundred pounds per acre of phosphorus.

(F) Land application for crops or other uses not listed in appendices C and D of this rule will be considered on a case-by-case basis. The owner or operator shall submit existing published or documented data that is acceptable to the director.

(G) General criteria for frozen and snow-covered ground. In addition to complying with all of the criteria in paragraphs (A) to (F) of this rule, the following actions are required for surface application of manure to land with frozen or snow-covered ground.

If manure can be injected or incorporated then the land application site is not frozen or snow covered and therefore subject to paragraphs (A) to (F) of this rule.

The owner or operator shall comply with rule 901:10-2-08 of the Administrative Code and this rule and use best efforts to avoid surface application of manure to frozen or snow covered ground by ensuring enough manure storage capacity by November of each year for a minimum of one hundred twenty to one hundred eighty days.

Manure injection or manure incorporation performed within twenty-four hours at the land application site or manure stockpiling at the land application site are preferred alternatives to surface application of manure.

In the event that surface application of manure on frozen or snow-covered ground is unavoidable, then application shall be performed in accordance with all of the following requirements in paragraph (G)(1) of this rule.

(1) Application.

(a) Prior approval for surface application of manure shall be obtained from the director or his designated representative.

(b) Except as required by paragraph (G)(1)(g) of this rule, the application rate is limited to ten wet tons per acre for solid manure with more than fifty per cent moisture and five wet tons per acre for manure with less than fifty per cent moisture.

(c) Except as required by paragraph (G)(1)(g) of this rule, liquid manure the application rate is limited to five thousands gallons per acre.

(d) Applications are to be made on land with at least ninety per cent surface

residue cover at the time of application such as good quality hay or pasture field, all corn grain residue remaining after harvest, and all small grain residue cover remaining after harvest. Vegetation or residue shall not be completely covered by ice or snow at the time of application.

(e) Manure ponding shall be prevented. Manure shall not be applied on more than twenty contiguous acres. Contiguous areas for application are to be separated by a break of at least two hundred feet. Areas that are furthest from steams, ditches, waterways, surface waters are to be utilized in preference to areas with the potential for surface water runoff.

(f) Setbacks from surface waters and conduits to surface waters, (including grassed waterways and surface drains) shall be a minimum of two hundred feet. Setbacks shall have at least ninety percent surface residue cover and vegetation or residue shall not be completely covered by ice or snow at the time of application.

(g) For application fields with slopes greater than six percent, manure shall be applied in alternating strips sixty to two hundred feet wide generally on the contour, or in the case that the field is managed in contour strips with alternative strips in grass or legume, manure shall only be applied on alternative strips. Manure application rates shall be determined for each separate application strip area and not the area of the entire application field.

(h) Any manure application with phosphorus exceeding two hundred and fifty pounds per acre is prohibited.

(2) Monitoring.

(a) Concentrated field surface drainage and tile outlets shall be visually monitored at the conclusion of manure application and periodically afterwards when weather, temperature increase, snowmelt and rainfall are likely to produce manure runoff. Periodic visual monitoring shall continue until manure is assimilated into the application field and is no longer likely to discharge into waters of the state.

(b) Upon discovering a discharge, the owner or operator shall comply with rule 901:10-2-17 of the Administrative Code.

(c) In the event that the owner or operator fails to comply with the land

application requirements for frozen or snow covered ground, including but not limited to prior notice to the department, notice of discharges, monitoring and record keeping, for more than two surface land application events, then land application on any frozen or snow-covered shall be prohibited for that owner or operator for the duration of the permit upon receipt of a notice of deficiencies resulting in noncompliance pursuant to section 903.17 of the Revised Code.

(d) On and after April 1, 2007, in addition to the requirements for visual monitoring and reporting in paragraph (G)(2)(a) of this rule, the director may require the owner or operator to collect representative grab samples from discharges of manure from the land application site.

Replaces: 901:10-2-14

Effective:

R.C. 119.032 review dates: 11/09/2006

Certification

Date

Promulgated Under: 119.03
Statutory Authority: 903.08, 903.10
Rule Amplifies: 903.10, 903.02, 903.04, 903.07, 903.08, 903.081, 903.082, 903.09, 903.10
Prior Effective Dates: 9/15/2005

Appendix A to rule 901:10-2-14: How to Use the Appendices to this Rule.

Refer to Appendix A, Tables 1 and 2 - Soils Prone to Flooding through Appendix F, Most Limiting Manure Application Rates of rule 901:10-2-14 of the OAC.)

1. Determine if the site has soils that are prone to flooding and when the expected flooding seasons are (Appendix A, Table 1). Note that applications can only be made to soils prone to flooding at times outside the predicted flooding season. All applications to soils prone to flooding must be incorporated within 24 hours and must follow the setbacks in Appendix A, Table 2.

2. Determine if a solid or liquid manure application will be performed. Determine if solid manure will be stockpiled at the land application site. Stockpiles must meet the setbacks described in column 1 of Appendix A Table 2.

3. For liquid manure applications, follow Appendix B, Available Water Capacity Chart, and Appendix F, Most Limiting Manure Application Rates Chart (Table 1 - tiled fields, Table 2 - non-tiled fields). For solid manures, follow Appendix F, Most Limiting Manure Application Rates Chart.

4. Determine the nutrient removal for the expected cropping sequence using Appendix C, Tables 1-3. Determine residual nitrogen credits for the expected cropping sequence using Appendix C, Table 4.

5. Determine the nitrogen leaching potential of the field based on Appendix C, Table 5, Nitrogen Leaching Assessment Procedure. Note that all tiled fields have a high nitrogen leaching potential. High nitrogen leaching potential fields must have application rates less than or equal to 50 lb/ac as applied nitrogen (calculated by adding NH4-N to 1/3 Organic N) from June - October 1st unless the field has a cover crop planted.

6. Use the current manure analysis and the relevant sections of Appendix C Tables 6-7 through Appendix D, Tables 1-5 to determine the amount of manure nutrients available for crop production.

7. Use Appendix E, Table 1 (P-Index) if the Bray P1or equivalent value of the soil test is over 150 ppm. P-Index may only be relied upon for a transitional period of time to allow the owner or operator an opportunity to find other fields or other methods to distribute nutrients from of the facility in order to achieve less than 150 ppm Bray P1 soil test method.

8. Use Appendix F, Most Limiting Manure Application Rates Chart, Nitrogen, P_2O_5, K_2O, Rate (tons or gallons per acre), or Available Water Capacity *to determine the application rate. The selected application rate* must be the most restrictive of the five *"Limiting Application Rate Criteria" for each Field Situation & Time of Year.*

Other Notes:

9. When using Appendix F, although not recommended, Phosphate manure application rates can be made between 250-500lb/ac/yr in cases where liquid manure exceeds 60 lbs. P_2O_5 per 1000 gallons or solid manure that exceed 80 lbs. P_2O_5 per ton. The following criteria also apply: manure must be incorporated within 24 hours and no applications can be made on either frozen or snow covered ground or fields with soil tests over 100 ppm Bray P1; soil tests less than 40 ppm Bray P1 shall have no further P additions for 3 years; soil tests between 40 – 100 ppm Bray P1 shall have no further additions of P for 5 years; no other limiting criteria can be violated.

10. When using legumes as a nitrogen removal source, the maximum legume nitrogen removal must be less than or equal to 150 lbs./ac.

11. When applying liquid manure to tiled fields, the following criteria must be followed (except for growing crops):

    11a. Applications must be less than or equal to 0.5" or 13,576 gal/ac.

11b. Use a tool (AERWAY tool or similar tool) that can disrupt/close (using horizontal fracturing) the preferential flow paths in the soil, or till the surface of the soil 3-5" deep to a seedbed condition to soak up the liquid manure and keep it out of preferential flow channels.

11c. If injection is used, it should only be deep enough to cover the manure with soil. Till the soil at least 3" below the depth of injection prior to application. Tillage prior to application will be considered incorporation of the manure.

11d. The outlets must be monitored before, during, and after application AND provisions planned to plug the tile or capture the tile flow if liquid manure reaches the tile outlets. If No-till or pastures are used for applications, tiles must be plugged.

12. If manure is to be applied on frozen or snow covered ground, the field must have at least 90% surface residue cover (e.g. good quality hay or pasture field, all corn grain residue). For applications to or frozen or snow covered ground, manure shall not be applied on more than 20 contiguous acres. Contiguous areas for application are to be separated by a break from streams, ditches, waterways, surface water, etc (areas that present the least runoff potential and are furthest from surface water The setbacks in column 3 should be followed. Prior approval must be obtained from the ODA, Livestock Environmental Permitting Program before frozen or snow/ice covered ground surface manure applications. If manure can be incorporated within 24 hours on frozen ground, approval from ODA, Livestock Environmental Permitting Program is not required.

13. For surface manure applications, follow the setbacks in column 2. For incorporation within 24 hours or injection, follow the setbacks in column 4.

Appendix A Table 1 to rule 901:10-2-14 Soils Prone to Flooding

Soils	Month	
Abscota Variant	Feb-Jun	
Adrian	Nov-May	
Aetna	Dec-Jun	
Algansee	Nov-May	
Algiers	Nov-Jun	**Frequently flooded**
Algiers	Dec-Jun	**Occasionally flooded**
Alluvial land	Nov-Dec	**Long duration**
Alluvial land	Jan-Dec	**Very long duration**
Ashton	Dec-May	
Beaucoup	Mar-Jun	
Bonnie	Oct-Jun	
Brookston	Dec-May	
Carlisle	Nov-May	
Ceresco	Mar-May	
Chagrin	Nov-May	
Chavies	Nov-Mar	
Clifty	Nov-May	
Coblen	Nov-Jun	
Cohoctah	Nov-Apr	
Cuba	Jan-May	
Defiance	Jan-May	
Edwards	Sep-May	
Eel	Oct-Jun	
Eel variant	Jan-May	
Elkinsville	Jan-Dec	
Euclid	Dec-Jun	
Fitchville	Dec-Jun	
Flatrock	Dec-Apr	
Flatrock, limestone substratum	Nov-Apr	
Fluvaquents	Nov-Jun	
Genesee	Oct-May	
Genesee variant	Jan-May	
Gessie	Oct-May	
Glendora	Jan-Dec	
Grigsby	Dec-Apr	
Hackers	Jan-Apr	
Harrod	Nov-Jun	
Hartshorn	Nov-May	
Haymond	Dec-May	
Holly	Sep-May	**Frequently flooded, very long duration**
Holly	Nov-May	
Holton	Dec-Jun	
Huntington	Dec-May	
Joliet	Apr-Jun	
Jules	Mar-Jun	
Kerston	Mar-May	

Killbuck	Jan-Dec	
Kinn	Dec-Apr	
Knoxdale	Dec-Apr	
Kyger	Nov-May	
Landes	Jan-Jun	
Landes variant	Nov-Jun	
Lanier	Nov-Jun	
Latty	Jan-May	
Lenawee	Mar-May	
Lindside	Dec-Apr	
Linwood	Nov-Jun	
Lobdell	Jan-Apr	**Frequently flooded**
Lobdell	Nov-Apr	
Martinsville	Jan-Apr	
Martisco	Mar-Jun	
McGary variant	Jan-Dec	
Medway	Nov-Jun	
Medway variant	Nov-May	
Medway, limestone substratum	Nov-Dec	
Melvin	Sep-May	**Frequently flooded, long duration**
Melvin	Dec-May	
Mentor	Jan-Dec	
Millgrove	Nov-Jun	
Montgomery	Nov-May	
Moshannon	Dec-May	
Muskego	Nov-May	
Newark	Dec-Apr	
Newark variant	Jan-Apr	
Nolin	Feb-May	
Nolin variant	Feb-Apr	
Olentangy	Nov-Dec	
Orrville	Nov-May	
Otego	Nov-Dec-	
Papakating	Nov-Jun	
Patton	Jan-Dec	
Peoga	Jan-Dec	
Pewamo	Mar-Apr	
Philo	Dec-May	
Piopolis	Mar-Jun	
Pope	Nov-Apr	
Rockmill	Sep-Jun	
Romeo	Mar-Jun	
Ross	Nov-Jun	
Rossburg	Nov-Jun	
Sarahsville	Dec-May	
Saranac	Nov-May	
Scioto	Nov-Jun	
Sebring	Nov-Jun	**Occasionally flooded**
Senecaville	Dec-Apr	
Shoals	Oct-Jun	
Shoals variant	Nov-May	**used in Miami, Putnam, and Richland Counties**

Shoals variant	Oct-Jun	**used in Champaign County**
Shoals, till substratum	Nov-Dec	
Skidmore	Dec-May	
Sligo	Mar-Apr	
Sloan	Nov-Jun	
Sloan, till substratum	Nov-Dec	
Stanhope	Nov-Dec	
Stendal	Jan-May	
Stone	Nov-Jun	
Stonelick	Nov-Jun	
Stringley	Nov-Jun	
Taggart	Jan-Dec	
Tioga	Nov-May	
Tioga Variant	Jan-Apr	
Toledo	Nov-May	
Tremont	Jan-Dec	
Wabash	Nov-May	
Wabasha	Sep-Jun	
Wakeland	Jan-May	
Wallkill	Sep-Jun	
Wappinger	Jan-Dec	
Warsaw variant	Jan-May	
Wayland	Nov-Jun	
Wick	Oct-Jun	
Wilbur	Oct-Jun	
Willette	Nov-Dec	
Zepernick	Nov-Jun	
Zipp	Dec-May	

ACTION: Revised

AMENDED
Appendix
901:10-2-14

DATE: 11/13/2006 11:04 AM

Appendix A Table 2 to rule 901:10-2-14: Land application restrictions and setbacks

Land Application Restrictions

	1 Stockpiles	2 Surface Application	3 Winter Applications Frozen or Snow Covered Ground (1)	4 Surface Incorporation w/I 24 Hours OR Direct Injection
Class V wells, sinkholes	300'	300'	300'	100'
Surface Waters of the State (7)	300'	35' veg cover, 100' (2)	35' veg. cover, 200' ~~(2)~~(8)	35' veg. cover, 100'(2)
~~Private or Public Well~~ Wells	300'	300'	300'	100'
Bedrock	> 3' from bedrock	none	none	none
Public Surface Drinking Water Intake	1500'	300'	300'	300'
Springs	300'	300'	300'	300'
Neighboring residences:	500'	300'	300'	100'
Flooding/flood plains/floodways (3):	do not stockpile	do not apply	do not apply	permissible (3)
Slope (4):	0-6%	>15% see note 5	If > 6% see note 1	>15% see note 5
Field Surface ~~Drains~~ Furrows(6)	300'	35'	200'	none
Maximum Application Rate:	Liquid Manure - Based on Appendix B (AWC Chart) & Appendix F (Most Limiting Nutrient Chart) Solid Manure - Based on Appendix F (Most Limiting Nutrient Chart)			

Note (1): All winter surface applications must have prior approval from the Ohio Department of Agriculture. Application on frozen and snow covered soil is not recommended. However, if manure application becomes necessary on frozen or snow covered soils, only limited quantities of manure shall be applied to address waste storage limitations until non frozen soils are available for manure application. If frozen or snow covered ground application becomes necessary, applications are to be applied only if ALL the following criteria are met:

a. Application rate is limited to 10 wet tons/acre for solid manure more than 50% moisture and 5 wet tons for manure less than 50% moisture. For Liquid manure the application rate is limited to 5000 gallons/acre.

b. Applications are to be made on land with at least 90% surface residue cover (e.g. good quality hay or pasture field, all corn grain residue remaining after harvest, all wheat residue cover remaining after harvest).

c. Manure shall not be applied on more than 20 contiguous acres. Contiguous areas for application are to be separated by a break of at least 200 feet. Utilize those areas for manure application that are the furthest from streams, ditches, waterways, surface water, etc. (areas that present the least runoff potential and are furthest from surface water).

d. Increase the application setback distance to 200 feet "minimum" from all grassed waterways, surface drainage ditches, streams,~~surface inlets,~~ water bodies, and field surface furrows. This distance may need to be further increased due to local conditions.

e. The rate of application shall not exceed the rates specified in Table 4 - Determining The Most Limiting Manure Application Rates for winter application.

f. Additional winter application criteria for fields with significant slopes more than 6% - Manure shall be applied in alternating strips 60 to 200 feet wide generally on the contour, or in the case of contour strips on a alternating strips. ~~All winter surface applications must have prior approval from the Ohio Department of Agriculture.~~

~~Note (2): The first setback refers to a vegetative buffer strip that must be maintained while the second refers to the total setback distance.~~
~~Buffer strip is defined in the rules 901:10-1-01(R).~~
~~Can use a 35' non vegetative buffer for intermittent stream / ditches or surfaces inlets if the manure application area has at least 50% vegetation/residue cover at the time of application.~~

Note (2): Either a 35' wide vegetative buffer strip must be present or a total setback of 100' must be maintained. As a compliance alternative, the concentrated animal feeding operation may demonstrate that a setback or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the one hundred foot setback or a thirty five foot vegetative buffer. Buffer strip is defined in OAC 901:10-1-01(R).

Note (3): No applications during expected flooding season as reported in Appendix A, Table 1

Note (4): Must have < 5 ton/ac yearly average soil loss to perform surface manure applications

Note (5): Manures are not to be applied to cropland over 15% slope or to pastures/hayland over 20% slope unless ONE of the following precautions are taken:

a. Immediate incorporation or injection with operations done on the contour, UNLESS the field has 80% ground cover (residue or canopy).
b. Applications are timed during periods of lower runoff and/or rainfall (May 20th - October 15th)
c. Split applications are made (seperated by rainfall events) with single applications not exceeding 10 wet tons/ac or 5000 gal/ac.
d. The field is established and managed in contour strips with alternated strips in grass or legume.

Note (6): Applications can be through field surface furrows ~~drains~~ if criteria in Appendix A, How to Use Appendices ~~Appendicies~~ are followed.

Note (7): See OAC 3745-1-02(B)(77)

Note (8): The first setback refers to a vegetative buffer strip that must be maintained while the second refers to the total setback distance. Buffer strip is defined in OAC 901:10-1-01(R).

Source: USDA-NRCS (2003). Field Office Technical Guide-Conservation Practice Standard, 633, Columbus, Ohio.

revised ~~7/05~~ 11/06

Appendix B to rule 901:10-2-14 Available Water Capacity (AWC)

Practical Soil Moisture Interpretations for Various Soils Textures and Conditions to Determine Liquid Waste Volume Applications not to exceed AWC.

This table shall be used to determine the AWC at the time of application and the liquid volume in gallons that can be applied not to exceed the AWC. To determine the AWC in the upper 8 inches use a soil probe or similar device to evaluate the soil to a depth of 8 inches.

For land application, liquid manure application may also be calculated by converting acres per inch to gallons per acre. This conversion is based on the following formula: 1 acre – inch equals 27,156 gallons per acre.

Available Moisture in the Soil	Sands and Loamy Sands	Sandy Loam and Fine Sandy Loam	Very Fine Sandy Loam, Loam, Silt Loam, Silty Clay Loam	Sandy Clay, Silty Clay, Clay, Fine and Very Fine Textured Soils
< 25% Soil Moisture	Dry, loose and single-grained; flows through fingers.	Dry and loose; flows through fingers.	Powdery dry; in some places slightly crusted but breaks down easily into powder.	Hard, baked and cracked; has loose crumbs on surface in some places.
Amount to Reach AWC	20,000 gallons/ac	27,000 gallons/ac	40,000 gallons/ac	27,000 gallons/ac
25-50% or Less Soil Moisture	Appears to be dry; does not form a ball under pressure.	Appears to be dry; does not form a ball under pressure.	Somewhat crumbly but holds together under pressure.	Somewhat pliable; balls under pressure.
Amount to Reach AWC	15,000 gallons/ac	20,000 gallons/ac	30,000 gallons/ac	20,000 gallons/ac
50 - 75 % Soil Moisture	Appears to be dry; does not form a ball under pressure.	Balls under pressure but seldom holds together.	Forms a ball under pressure; somewhat plastic; slicks slightly under pressure.	Forms a ball; ribbons out between thumb and forefinger.
Amount to Reach AWC	10,000 gallons/ac	13,000 gallons/ac	20,000 gallons/ac	13,000 gallons/ac
75% to Field Capacity	Sticks together slightly; may form a weak ball under pressure.	Forms a weak ball that breaks easily, does not stick.	Forms ball; very pliable; slicks readily if relatively high in clay.	Ribbons out between fingers easily; has a slick feeling.
Amount to Reach AWC	5,000 gallons/ac	7,000 gallons/ac	11,000 gallons/ac	7,000 gallons/ac
100% Field Capacity	On squeezing, no free water appears on soil, but wet outline of ball on hand.	On squeezing, no free water appears on soil, but wet outline of ball on hand.	On squeezing, no free water appears on soil, but wet outline of ball on hand.	On squeezing, no free water appears on soil, but wet outline of ball on hand.
Above Field Capacity	Free water appears when soil is bounced in hand.	Free water is released with kneading.	Free water can be squeezed out.	Puddles: free water forms on surface

Note: Liquid manure applications to tiled fields must be less than or equal to 13,576 gal/ac.

Appendix C Table 1 to rule 901:10-2-14 Nutrients removed in harvested portions of crops.

Table 1	Nutrients Removed for Given Yield[a]			Nutrients Removed for Unit Yield[b]	
Crop/Yield	N P_2O_5 K_2O P_2O_5				K_2O
	lb/acre			lb/bu or ton	
Alfalfa (6 T)	340[c]	80	360	13.3 lb/T	60 lb/T
Corn (150 Bu)					
Grain	135	55	40	0.37 lb/bu	0.27 lb/bu
Stover	100	25	160		
Corn-Silage (26T)	235	80	235	3.1 lb/T	9.0 lb/T
Grass-Cool Season (3.5T) Tall Grasses and/or Forage Legumes (established)	140	45	175	13.0 lb/T	60.0 lb/T
Oats (100 Bu)					
Grain	65	25	20	0.25 lb/bu	0.20 lb/bu
Straw	35	15	100	0.15 lb/bu	1.0 lb/bu
Sorghum-Grain (7,600 lb)					
Grain	105	30	30	0.39 lb/100 lb	0.39 lb/100 lb
Stover	80	50	230		
Soybean (50 Bu)	190[c] 40		70	0.80 lb/bu	1.4 lb/bu
Sugar Beets-Roots (25 T)	100	50	250	2.0 lb/T	10.0 lb/T
Tobacco-Burley and Cigar Filler					
Leaf (3000 Lb)	105	25	185		
Stems and Suckers (2000 lb)	55	15	65		
Leaves and Stalks				1.3 lb/100 lb	8.3 lb/100 lb
Wheat (55 Bu)					
Grain	70	35	20	0.64 lb/bu	0.36 lb/bu
Straw	30	5	50	0.09 lb/bu	0.91 lb/bu

[a]Source: National Plant Food Institute and others.
[b]Source: Ohio Agronomy Guide, 12th Edition.
[c]Inoculated legumes fix nitrogen from the air.

Appendix C Table 2 to rule 901:10-2-14 Nitrogen rates[a] for corn based on yield potential.

	Corn yield potential (bu/acre)					
Previous Crop	80	100	120	140	160	180+
Corn, small grains	80	110	140	160	190	220

[a]N fertilizer rates are based on the following relationship:
N (lb/acre) = -27 + (1.36 x yield potential) - N credit or 110 + [1.36 x (yield potential - 100) - N credit.

Appendix C Table 3 to rule 901-10-2-14 Nitrogen rates for wheat based on yield potential.

Yield Potential bu/acre	Nitrogen rate pounds N to apply/acre
50	40
70	75
90+	110

1. N rate is based on the relationship:
N (lb/acre) = 40 + [1.75 x (yield potential - 50)]
2. No nitrogen credits are made based on previous crop.

Appendix C Table 4 to rule 901:10-2-14 Residual nitrogen credits based on previous crop.

Previous Crop	N Credits
	Pounds of N
Corn, small grains	0
Soybeans	30
Grass sod	40
Established forage legume	
Average stand (3 plants/ft$_2$)	b
Good stand (5 plants/ft)	b
Annual legume cover crop	30

[b]N credits for established forage legume = 40 + 20 x (plants/to maximum of 140.

ft$_2$)

Appendix C Table 5 to rule 901:10-2-14 Ohio - Nitrogen Leaching Assessment Procedure

Ohio - Nitrogen Leaching Risk Assessment Procedure

Soils are classified as having a high, medium or low nitrogen leaching potential with relative index ratings from 0-10+ for their potential to leach nitrates below the root zone. The leaching potential is rated as high, medium or low by combining the soil's hydrologic soil grouping (A, B, C, or D), the local county's annual rainfall, and the local county's season rainfall (October 1 to March 1).

To determine the soil's nitrogen leaching potential, use the following procedure:

First, determine the soils hydrological soil grouping - A, B, C, or D. For this information, refer to USDA-NRCS Engineering Field Manual, Chapter 2 - Ohio Supplement (1989), Table 2.1, pages 2-42 through 2-83.

Second, Determine the local county's annual rainfall and the local county's season rainfall (October 1 to March 1). For this information, refer to USDA-NRCS Engineering Field Manual, Chapter 2 - Ohio Supplement (1989), Exhibit OH2-3, Supplement pages 1 through 4 and USDA-NRCS Engineering Field Manual, Chapter 2 - Ohio Supplement (1989), Exhibit OH2-1, and Sheets 1 through 3.

Third, refer to the table (next page) - Ohio (By County) Leaching Index Ratings for Soils by Hydrologic Groups (A, B, C, D) for the respective county to determine the soils relative leaching index rating.

(a) Soils with a rating of 0-2 have a low potential to leach nitrates below the root zone.
(b) Soils with a rating of 3-10 have a medium potential to leach nitrates below the root zone.
(c) Soils with a rating of 10+ have a high potential to leach nitrates below the root zone.
(d) All soils with systematic subsurface drains (tile) are rated high potential.

Ohio (By County) Leaching Index Ratings for Soils by Hydrologic Groups (A, B, C, D)

County	A	B	C	D	County	A	B	C	D
1. Adams	15	10	6	4	45. Licking	15	8	6	4
2. Allen	10	6	4	2	46. Logan	15	8	4	4
3. Ashland	15	8	4	4	47. Lorain	15	8	4	2
4. Ashtabula	15	10	4	4	48. Lucas	10	6	4	2
5. Athens	15	10	6	4	49. Madison	15	8	6	4
6. Auglaize	10	8	4	2	50. Mahoning	15	8	4	4
7. Belmont	15	10	6	4	51. Marion	15	8	4	4
8. Brown	15	10	6	4	52. Medina	15	8	4	4
9. Butler	15	10	6	4	53. Meigs	15	10	6	4
10. Carroll	15	8	4	4	54. Mercer	10	8	4	2
11. Champaign	15	8	4	4	55. Miami	15	8	4	4
12. Clark	15	8	6	4	56. Monroe	15	10	6	4
13. Clermont	15	10	6	4	57. Montgomery	15	10	6	4
14. Clinton	15	10	6	4	58. Morgan	15	8	6	4
15. Columbiana	15	8	4	4	59. Morrow	15	8	4	4
16. Coshocton	15	8	4	4	60. Muskingum	15	8	6	4
17. Crawford	15	8	4	2	61. Noble	15	8	6	4
18. Cuyahoga	15	8	4	4	62. Ottawa	10	6	4	2
19. Darke	15	8	4	4	63. Paulding	10	6	4	2
20. Defiance	10	6	4	2	64. Perry	15	8	6	4
21. Delaware	15	8	4	4	65. Pickaway	15	8	6	4
22. Erie	10	8	4	2	66. Pike	15	10	6	4
23. Fairfield	15	8	6	4	67. Portage	15	8	4	4

24. Fayette	15	10	6	4	68. Preble	15	10	6	4
25. Franklin	15	8	6	4	69. Putnam	10	6	4	2
26. Fulton	10	6	4	2	70. Richland	15	8	4	4
27. Gallia	15	10	6	4	71. Ross	15	10	6	4
28. Geauga	15	10	4	4	72. Sandusky	10	6	4	2
29. Greene	15	10	6	4	73. Scioto	15	10	6	4
30. Guernsey	15	8	6	4	74. Seneca	10	6	4	2
31. Hamilton	15	10	6	4	75. Shelby	15	8	4	4
32. Hancock	10	6	4	2	76. Stark	15	8	4	4
33. Hardin	10	8	4	2	77. Summit	15	8	4	4
34. Harrison	15	8	6	4	78. Trumbull	15	8	4	4
35. Henry	10	6	4	2	79. Tuscarawas	15	8	4	4
36. Highland	15	10	6	4	80. Union	15	8	4	4
37. Hocking	15	10	6	4	81. Van Wert	10	6	4	2
38. Holmes	15	8	4	4	82. Vinton	15	10	6	4
39. Huron	10	8	4	2	83. Warren	15	10	6	4
40. Jackson	15	10	6	4	84. Washington	15	10	6	4
41. Jefferson	15	8	6	4	85. Wayne	15	8	4	4
42. Knox	15	8	4	4	86. Williams	10	6	4	2
43. Lake	15	10	4	4	87. Wood	10	6	4	2
44. Lawrence	15	10	6	4	88. Wyandot	10	8	4	2

Appendix C Table 6 to rule 901:10-2-14 Method of Calculating N Availability of Manures.

This table can be used to estimate the availability of ammonia and organic nitrogen in the soil. Only about one-third of the organic nitrogen in animal manure is available to crops during the year it is applied, and the remaining two-thirds, residual organic nitrogen, becomes part of the soil organic matter. It is mineralized or becomes available at the rate of approximately five per cent a year. Because ammonia is subject to high volatilization, incorporation factors of time of year and days until incorporation effect the availability of nitrogen.

The first column is the per cent of available ammonia from animal manure. The second column is the per cent of available organic nitrogen from animal manure. The third column is the time of year in which application can be made. The fourth column is the number of days till incorporation.

For example: Using the first row of data, if manure is applied in November, fifty per cent of the available nitrogen comes from ammonia and thirty-three per cent of the available nitrogen from residual organic nitrogen in manure if incorporated in less than five days.

Using the second row of data, if manure is applied in November, twenty-five per cent of the available nitrogen comes from ammonia and thirty-three per cent of the available nitrogen from residual nitrogen in manure if incorporation is more than five days after application.

Method of Calculating N Availability of Manures[a]			
Available Nitrogen %		**Time of Application**	**Days Until Incorporated [b]**
NH_4	**Organic**	**Date**	**Days**
50	33	Nov-Feb	≤5
25	33	Nov-Feb	>5
50	33	Mar-Apr	≤3
25	33	Mar-Apr	>3
75	33	Apr-Jun	≤1
25	33	Apr-Jun	>1
75	15	Jul-Aug	≤1
25	15	Jul-Aug	>1
25	33	Sep-Oct	≤1
15	33	Sep-Oct	>1

[a] The calculations are for all animal manures. It is assumed that 50% of the organic N in poultry manure is converted to NH_4 rapidly and is therefore included in the NH_4 column for calculating available N.

[b] Incorporation is the mixing of manure and surface soil .

Source: Ohio Livestock Manure And Wastewater Management Guide - Bulletin 604. M. A. Veenhuizen, D.J. Eckert, K.Elder, J.W. Johnson, W.F. Lyon, K.M. Mancl and G. Schnitkey (1992). Columbus, OH: Ohio State University.

Appendix C Table 7 to rule 901:10-2-14 Nutrient Sufficiency Ranges for Corn, Soybeans, Alfalfa and Wheat.

Element	Corn	Soybeans	Alfalfa	Wheat
	Ear leaf sampled at initial silking	Upper fully developed leaf sampled prior to initial flowering	Top 6 inches sampled prior to initial flowering	Upper leaves sampled prior to initial bloom
	---------- Percent (%) ----------			
Nitrogen	2.90-3.50	4.25-5.50	3.76-5.50	2.59-4.00
Phosphorus	0.30-0.50	0.30-0.50	0.26-0.70	0.21-0.50
Potassium	1.91-2.50	2.01-2.50	2.01-3.50	1.51-3.00
Calcium	0.21-1.00	0.36-2.00	1.76-3.00	0.21-1.00
Magnesium	0.16-0.60	0.26-1.00	0.31-1.00	0.16-1.00
Sulfur	0.16-0.50	0.21-0.40	0.31-0.50	0.21-0.40
	---------- Parts per million (ppm) ----------			
Manganese	20-150	21-100	31-100	16-200
Iron	21-250	51-350	31-250	11-300
Boron	4-25	21-55	31-80	6-40
Copper	6-20	10-30	11-30	6-50
Zinc	20-70	21-50	21-70	21-70
Molybdenum	-	1.0-5.0	1.0-5.0	-

Original Source: M.L. Vitosh (Michigan State University), J.W. Johnson (The Ohio State University), and D.B. Mengel (Purdue University) (1995). Tri-State Fertilizer Recommendations for Corn, Soybeans, Wheat and Alfalfa. Bulletin E-2567. East Lansing Michigan; Michigan State University.

Appendix D Table 1 to rule 901:10-2-14 Phosphate (P_2O_5) Rate for Corn.

	Yield potential - bu/acre				
Soil test	100	120	140	160	180
ppm (lb/acre)	lb P_2O_5 per acre				
5 (10)[1]	85	95	100	110	115
10 (20)	60	70	75	85	90
15-30 (30-60)	35	45	50	60	65
35 (70)	20	20	25	30	35
40 (80)	0	0	0	0	0

[1] Values in parentheses are lb/acre.

Appendix D Table 2 to rule 901:10-2-14 Phosphate (P_2O_5) Rate for Corn Silage.

	Yield potential - tons per acre				
Soil test	20	22	24	26	28
ppm (lb/acre)	lb P_2O_5 per acre				
5 (10)[1]	115	125	130	135	140
10 (20)	90	100	105	110	115
15-30 (30-60)	65	75	80	85	90
35 (70)	35	40	40	45	45
40 (80)	0	0	0	0	0
[1] Values in parentheses are lb/acre.					

Appendix D Table 3 to rule 901:10-2-14 Phosphate (P_2O_5) Rate for Soybeans.

	Yield potential - bu/acre				
Soil test	30	40	50	60	70
ppm (lb/acre)	lb P_2O_5 per acre				
5 (10)[1]	75	80	90	100	105
10 (20)	50	55	65	75	80
15-30 (30-60)	25	30	40	50	55
35 (70)	10	15	25	25	30
40 (80)	0	0	0	0	0
[1] Values in parentheses are lb/acre.					

Appendix D Table 4 to rule 901:10-2-14 Phosphate (P_2O_5) Rates for Wheat.

	Yield potential - bu/acre				
Soil test	50	60	70	80	90
ppm (lb/acre)	lb P_2O_5 per acre				
15 (30)[1]	80	90	95	100	105
20 (40)	55	65	70	75	80
25-40 (50-80)	30	40	45	50	55
45 (90)	15	20	20	25	30
50 (100)	0	0	0	0	0
[1] Values in parentheses are lb/acre.					

Appendix D Table 5 to rule 901:10-2-14 Phosphate (P_2O_5) Rates for Alfalfa.

	Yield potential - tons per acre				
Soil test	5	6	7	8	9
ppm (lb/acre)	lb P_2O_5 per acre				
15 (30)[1]	115	130	140	185	165
20 (40)	90	105	115	130	140
25-40 (50-80)[2]	65	80	90	105	115
45 (90)	35	40	45	50	60
50 (100)	0	0	0	0	0
[1] Values in parentheses are lb./acre.					

Appendix E to rule 901:10-2-14.

Table 1 Phosphorus Index (P Index) Risk Assessment Procedure

The P Index is a procedure that combines well-established factors that influence the runoff of phosphorus to surface waters. Each of the factors is evaluated based on site-specific data and weighted according to its overall effect on phosphorus transport. Each of the site subvalues are added together to establish an overall site rating of low, moderate, high, or very high risk.

In most cases the use of the P Index will allow higher rates of Phosphorus application than the Phosphorus Soil Test Risk Assessment Procedure. The use of the P Index should be viewed as a continuous measure until other alternatives can be developed to utilize excess phosphorus produced on the farm.

Purpose:

The P Index is a planning tool designed to help identify fields or areas of fields on a farm that have a higher or lower risk of Phosphorus runoff from manure or other organic materials. Based on the risk assessment the appropriate land treatment and nutrient application treatments can be planned to minimize Phosphorus transport from the site.

Procedure:

Use the P Index Assessment Procedure Worksheet to determine the site's overall P Index. Use the following guidance to determine each of the site's subvalues. The subvalues are added together to determine the overall site P Index. The worksheet can be photocopied as needed. A "Field Summary Worksheet" is also available with this procedure to record a series of site/field values for a given farm. It can be photocopied as needed.

1. **SOIL EROSION** – Sheet and rill erosion as measured by the Revised Universal Soil Loss Equation (RUSLE) [USDA-NRCS (2001) National Soil Survey handbook, Section 618.55] or Wind Erosion Prediction Procedure (where wind erosion is the primary concern) [USDA-NRCS (2001) National Soil Survey handbook, Section 618.72]. Determine the predicted soil loss and multiply by (1) to determine the "soil loss" site subvalue.

2. **CONNECTIVITY TO WATER** – Defines the vulnerability of P to be transferred from the site to a perennial stream or water body. The more closely connected the runoff is from the field via concentrated flow (from a defined grassed waterway or surface drain) to a perennial stream or water body the higher the vulnerability of P transport. To determine the "connectivity to water" site subfactor ask the question: Does concentrated flow (via a defined waterway, tile inlet, or surface drain) leave the site? Read the value definitions to determine the site's "connectivity to water" subvalue.

3. **RUNOFF CLASS** – This represents the effect of the Hydrologic Soil Group (A, B, C, D) combined with the effect of slope. This factor represents the site's runoff vulnerability. Use the table below to determine the runoff class. The runoff class is the site's subvalue.

Runoff Class Matrix - Phosphorus Index Values

	Hydrologic Soil Group			
Slope Range	**A**	**B**	**C**	**D**
<1 %	0	1	3	6
1-3%	1	2	4	7
4-6%	2	3	5	8
7-10%	3	5	7	10
11-15%	4	6	9	12
>15%	6	8	11	15

Appendix C Table 8 to rule 901:10-2-14 Sidedress N fertilizer rates for corn, based on a presidedress nitrate soil test at the 4 to 6 leaf stage.

Soil Nitrate Level			Corn Yield Potential (Bu/A)			
80 100		120	140	160	180	
ppm NO3-N			----------pounds additional fertilizer N to apply per acre----------			
0-10 80	110		140	160	190	220
11-15 50	80		110	140	160	190
16-20	30	60	90	120	140	170
21-25 0	10		40	60	90	120
>25 0	0		0	0	0	0

Instructions.

To effectively use the presidedress nitrate soil test, soil samples should be collected when the corn is in the 4 to 6 leaf stage, or 6 to 12 inches tall. Where manure or fertilizer has been broadcast, sampling procedures consist of taking a composite soil sample of 20-25 soil cores at random throughout the sampling area. The cores should be collected to a depth of 12 inches.

4. **SOIL "P" TEST (BRAY-KURTZ P1)** – The soil test procedure using the Bray P1 extraction, or other extraction test calibrated to Bray P1, that provides an index of plant available P expressed in either ppm or lbs/ac (ppm X 2 = lbs/ac). Determine the Bray P1 value in PPM and multiply the PPM by (0.07) to determine the "soil P test site subvalue.

5. **FERTILIZER P2O5 APPLICATION RATE** - The amount of manufactured (commercial) phosphate fertilizer applied expressed in lbs/ac of P2O5. To determine the site's subvalue multiply the year's P fertilizer application rate by (0.05).

6. **FERTILIZER P2O5 APPLICATION METHOD** – Defines if the phosphate (P2O5) fertilizer is actually incorporated into the soil and the time interval between application and incorporation or if the fertilizer is applied over a given amount of crop residue. Incorporation or injection with the fertilizer application equipment or using a tillage tool operated a minimum of 3-4 inches deep to incorporate the P2O5 fertilizer. To determine the site's subvalue select the description that most closely describes the method of application. The value with that description is the site's subvalue.

7. **ORGANIC P2O5 APPLICATION RATE** - The amount of phosphate applied (expressed in lbs/ac of P2O5) from manure, sludge, or other bio-solids. To determine the site's subvalue multiply the year's P fertilizer application rate by (0.06).

8. **ORGANIC P2O5 APPLICATION METHOD** - Defines if the phosphate (P2O5) from the manure, sludge, or other bio-solids is actually incorporated into the soil, the time interval between application and incorporation, or if the manure/bio-solids are applied over a given amount of crop residue. Incorporation or injection with the application equipment or by using a tillage tool operated a minimum of 3-4 inches deep to incorporate the manure, sludge, or other bio-solids. To determine the site's subvalue select the description that most closely describes the method of application. The value with that description is the site's subvalue.

9. **BUFFER STRIP** - Deduct 2 points if field runoff flows via sheet flow through a designed filter strip - minimum 35 feet wide. For the type of buffer strip that is limited to the use of filter strips only, it is critical that sheet flow crosses the filter strip, not concentrated flow, to credit a 2 point deduction.

Phosphorus Index Risk Assessment Procedure Worksheet

Site Characteristic	**Phosphorus Vulnerability Values**				
1. Soil Erosion	**Soil Loss (Tons/Acre/Year) X 1.0**				
2. Connectivity to Water. Does concentrated flow (via a defined waterway, tile inlet, or surface drain) leave the site?	NO, and the site is not adjacent to an intermittent or perennial stream. **Value = 0**	NO, but the site is adjacent to an intermittent or perennial stream. **Value = 4.0**	Yes, but the site is intermittent or pere **Value = 8.0**	Yes, and the site is adjacent to and/or the concentrated flow outlets into an intermittent stream or through a tile inlet. **Value = 12.0**	Yes, and the site is adjacent to and/or the concentrated flow outlets into a perennial stream or through a tile inlet; OR Outlets to a pond or lake within 1 mile. **Value = 16.0**
3. Runoff Class	**See Runoff Class Matrix**				

4. Soil Test Bray-Kurtz P1 PPM	**Bray – Kurtz P1 (PPM) X (0.07)**				
5. Fertilizer P2O5 Application Rate	**Fertilizer P2O5 Applied (Lbs/Acre) X (0.05)**				
6. Fertilizer P2O5 Application Method	0 Applied **Value = 0**	Immediate Incorporation Or Applied on 80% Cover **Value = 0.75**	Incorporation < 1 Week Or Applied on 50-80% Cover **Value = 1.5**	Incorporation > 1 Week & < 3 Months Or Applied on 30-49% Cover **Value = 3.0**	No Incorporation Or Incorporation > 3 Months Or Applied on < 30% Cover **Value = 6.0**
7. Organic P2O5 Application Rate	**Available - Manure / Biosolids P2O5 Applied (Lbs/Ac) X (0.06)**				
8. Organic P2O5 Application Method	0 Applied **Value = 0**	Immediate Incorporation Or Applied on 80% Cover **Value = 0.5**	Incorporation < 1 Week Or Applied on 50-80% Cover **Value = 1.0**	Incorporation > 1 Week & < 3 Months Or Applied on 30-49% Cover **Value = 2.0**	No Incorporation Or Incorporation > 3 Months Or Applied on < 30% Cover **Value = 4.0**
Buffer Strip Factor (Deduct 2 points if field runoff flows through a designed filter strip - minimum 35 feet wide)					
Total Site Index Value					

Field Vulnerability for Phosphorus Loss to Surface Water

Phosphorus Index for Field	**Generalized Interpretation of Phosphorus Index & Management**
LOW < 15	LOW potential for P movement from the field. If farming practices are maintained at the current level there is a low probability of an adverse impact to surface waters from P loss. Manure or other bio-solids can be applied to meet the recommended nitrogen for the next grass crop or nitrogen removal of the next legume crop.
MEDIUM 15-30	MEDIUM potential for P movement from the field. The chance of organic material and nutrients getting into surface water exists. Runoff reduction practices such as buffers, setbacks, lower manure/bio-solid rates, cover crops, and crop residue practices alone or in combination should be considered to reduce P loss impacts. Manure or other bio-solids can be applied to meet the recommended nitrogen for the next grass crop or nitrogen removal of the next legume crop. Applications of P at the crop removal rate should be considered.
HIGH 31-45	HIGH potential for P movement from the field and for an adverse impact on surface waters unless remedial action is taken. Runoff reduction practices such as buffers, setbacks, lower manure/bio-solid rates, cover crops, and crop residue practices alone or in combination should be considered to reduce P loss impacts. Limit application of P to crop removal rates for one year.

VERY HIGH **> 45**	VERY HIGH potential for P movement from the field and an adverse impact on surface water. Remedial action is required to reduce the risk of P loss. A complete soil and water conservation system is needed. Apply no additional P.

Appendix E Table 2 of rule 901:10-2-14.

Phosphorus Soil Test Risk Assessment Procedure
Nitrogen and Phosphorus Application Criteria For Manure~~, Organic By-Products, and Biosolids~~

Criteria Applicable to All Soil Test Levels:

1. Nitrogen application rates from manure~~, other organic by-products, or biosolids~~ shall be based on Total Ammonium Nitrogen Content plus 1/3 of the Organic Nitrogen calculated at time of application when applied during the summer, fall, or winter for spring planted crops. When applied in the spring for spring planted crops the nitrogen application rate can be adjusted to apply the recommended nitrogen within the P2O5, K2O, and other limitations.
2. Nitrogen rates are not to exceed the succeeding crop's recommended Nitrogen for non-legume crops or the Nitrogen removal in the crop's biomass for legume crops.
3. All applications are based on current soil test results (not more than 3~~-5~~ years old).
4. No manufactured P2O5 applied above 40 ppm Bray P1 or equivalent test, unless recommended by appropriate industry standards or the land grant universities for specialty crops, vegetable crops, etc.
5. Manure shall be applied in accordance with the restrictions and setbacks in Appendix A Table 2 of this rule.

"P" Soil Test Level	**Application Criteria**
Bray P1 < 40 ppm (< 80 Lbs/Ac) OR Other Equivalents (e.g. Mehlich 3) ~~**LOW POTENTIAL**~~	**Recommended N or P2O5.** Manure ~~or other Organic By Products~~ can be applied to meet the succeeding crop's recommended nitrogen ~~NITROGEN~~ requirements for non-legume crops or the nitrogen ~~NITROGEN~~ removal for legume recommended P2O5 but not to exceed the nitrogen ~~NITROGEN~~ needs of the succeeding crop.
Bray P1 40-100 ppm (80 – 200 Lbs/Ac) OR Other Equivalents (e.g. Mehlich 3) ~~**MODERATE POTENTIAL**~~	**Recommended N or P2O5 Removal whichever is less.** The field shall have > 30% ground cover at the time of application or the manure ~~or other organic by products~~ shall be incorporated within one week. The manure ~~or other organic by products~~ can be applied to meet the succeeding crop's recommended nitrogen ~~NITROGEN~~ requirements for non-legume crops or the nitrogen ~~NITROGEN~~ removal for legume crops; or P2O5 removal (annual or multiple year applications) whichever is less.
Bray P1 100-150 ppm (200-300 Lbs/Ac) OR Other Equivalents (e.g. Mehlich 3) ~~**HIGH POTENTIAL**~~	**Recommended N or P2O5 Removal whichever is less ~~PLUS additional distance criteria from drainageway/water source or other sensitive area, OR Filter Strips~~.** Manure ~~or other organic by products~~ shall ~~can~~ be applied so as not to exceed ~~to meet~~ the succeeding crop's recommended nitrogen ~~NITROGEN~~ requirements for non-legume crops or the nitrogen ~~NITROGEN~~ removal for legume crops. In addition a multiple year application of Phosphorus is authorized if the following conditions are met:~~; or P2O5 removal (annual or multiple year applications) whichever is less IF:~~ 1. The application field has > 50% ground cover at the time of application; or~~the material is incorporated within 7 days on areas with < 50% cover.~~ ~~AND~~ 2. The manure is incorporated into the application field within 7 days on fields with <50% cover. ~~2. Unless the manure or other organic by-products are~~

	~~incorporated within 24 hours, no manure or other organic by products are to be applied within 100 feet of a drainageway, water source or other sensitive area; or, the width of a vegetative filter strip (minimum width 35 feet) maintained adjacent to the drainageway, water source, or sensitive area.~~
Bray P1 > 150 ppm (> 300 Lbs/Ac) OR Other Equivalents (e.g. Mehlich 3) ~~VERY HIGH POTENTIAL~~	1. No additional P2O5 – Use P2O5 Draw-down Strategies; or 2. Shall use the P Site Assessment in Appendix E Table 1.

Source: USDA-NRCS (2001). Field Office Technical Guide – Conservation Practice Standard. *Section 1.* Columbus, OH.

Appendix F to rule 901:10-2-14 Most Limiting Manure Application Rates.

Table 1. Most Limiting Manure Application Rates for Tiled Fields.

Select the Most Limiting Application Rate Based on the Following Criteria					
Field Situation & Time of Year	**Limiting Application Rate Criteria**				
	Nitrogen	**P2O5 4/**	**K2O**	**Tons/Ac Gallons/Ac**	**AWC Table**
Subsurface Drained (Tiled) Fields					
(April - June) Subsurface Drained or High N Leaching Potential	1/ Crop Needs factoring N losses	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac	13,000 gal/ac	Upper 8"
(April - June) **Pasture > 20% or Cropland > 15%** Subsurfaced Drained or High N Leaching Potential	Crop Needs factoring N losses	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac	5/ 10 wet tons 5,000 gal/ac - unless contoured strips or incorporated immediately	Upper 8"
(July - Sept.) **No Growing Crop** Subsurface Drained or High N Leaching Potential	2/ 50 lbs/ac as applied N	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac	13,000 gal/ac	Upper 8"
(July - Sept.) **With a Growing Cover Crop** Subsurface Drained or High N Leaching Potential	3/ Next year's crop needs as applied N	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac	13,000 gal/ac	Upper 8"
(July - Sept.) **No Growing Crop** **Cropland > 15%** Subsurfaced Drained or High N Leaching Potential	2/ 50 lbs/ac as applied N	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac	13,000 gal/ac	Upper 8"
(Oct. - March) Subsurface Drained or High N Leaching Potential	3/ Next year's crop needs as applied N	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac	13,000 gal/ac	Upper 8"
(Oct. - March) **Pasture > 20% or Cropland > 15%** Subsurfaced Drained or High N Leaching Potential	3/ Next year's crop needs as applied N	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac	5/ 10 wet tons 5,000 gal/ac - unless contoured strips or incorporated immediately	Upper 8"
Frozen or Snow Cover Subsurface Drained or High N Leaching Potential	3/ Next year's crop needs as applied N	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac	5/ 10 wet tons < 50% solids, 5 wet tons > 50% solids, liquid manure 5,000 gal/ac	

Note: Comments below Table 2 also pertain to this Table.

Appendix F to rule 901:10-2-14 Most Limiting Manure Application Rates.

Table 2. Most Limiting Manure Application Rates for Non-Tiled Fields.

Select the Most Limiting Application Rate Based on the Following Criteria					
Field Situation & Time of Year	**Limiting Application Rate Criteria**				
	Nitrogen	**P2O5 4/**	**K2O**	**Tons/Ac Gallons/Ac**	**AWC Table**
Non Subsurface Drained (Tiled) Fields					
(July - Sept.) Not Subsurface Drained	1/ Crop Needs factoring N losses	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac		Upper 8"
(Oct. - March) Not Subsurface Drained	1/ Crop Needs factoring N losses	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac		Upper 8"
(April - June) Not Subsurfaced Drained Pasture > 20% or Cropland > 15%	1/ Crop Needs factoring N losses	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac	5/ 10 wet tons 5,000 gal/ac - unless contoured strips or incorporate immediately	Upper 8"
(July - Sept.) Not Subsurfaced Drained Pasture > 20% or Cropland > 15%	1/ Crop Needs factoring N losses	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac		Upper 8"
Frozen or Snow Cover Not Subsurface Drained	1/ Next year's crop needs factoring N losses	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac	5/ 10 wet tons < 50% solids, 5 wet tons > 50% solids, liquid manure 5,000 gal/ac	
(Oct. - March) Not Subsurfaced Drained Pasture > 20% or Cropland > 15%	1/ Crop Needs factoring N losses	Crop Needs or Crop Removal < 250 Lbs/ac	Crop Needs or Crop Removal < 500 Lbs/ac	5/ 10 wet tons 5,000 gal/ac - unless contoured strips or incorporate immediately	Upper 8"

1/ Crop Needs factoring N losses - Maximum total nitrogen applied to meet the succeeding crop's recommended NITROGEN requirements for non-legume crops or 150 lbs/ac NITROGEN for the succeeding legume crop. **Considers loss of N through application method and time of year.**

2/ 50 lbs/ac as applied N - Nitrogen application limited to 50 lbs/ac based on the addition of the NH4 or NH3 (ammonium/ammonia) content of the manure + 1/3 of the organic nitrogen content the manure as applied. **Considers no losses due to application method or time of year.**

3/ Next year's crop needs as applied N – Maximum total nitrogen applied to meet the succeeding crop's recommended NITROGEN requirements for non-legume crops or 150 lbs/ac NITROGEN for the succeeding legume crop. **Considers no losses due to application method or time of year.**

4/ Under special conditions and criteria the rate of P2O5 application can be increased to 500 lbs./acre (See Appendix A or rule 901:10-2-14). **Frozen or Snow covered ground and fields over 100 ppm Bray P1 soil test are exempt and are always limited to applications less than or equal to 250 lb/ac P_2O_5.**

5/ Wet tons refers to the weight of the manure as it is applied – include solids and moisture weight.

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901:10-2-15 **Manure management plan and the plan for the disposal of dead livestock.**

A manure management plan shall include a plan for the disposal of dead livestock. The plan shall include best management practices to burn, bury, render or compost consistent with sections 941.14, 953.26, and 1511.022 of the Revised Code. In the alternative, the owner or operator may choose to follow the requirements set forth in section 3734.02 of the Revised Code and rules promulgated thereunder. Records for implementing the plan for the disposal of dead livestock shall be included in the operating record set forth in rule 901:10-2-16 of the Administrative Code.

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901:10-2-16 **Permit to operate and operating record requirements.**

(A) An operating record shall be generated as part of the permit to operate and NPDES permit.

(1) The owner or operator shall maintain the operating record on forms provided by the department and other forms selected by the owner or operator for the facility. The operating record shall be retained for a minimum period of five years, shall be made available to the director upon request, and shall record and document the following information:

(a) The manure storage or treatment facility. Records required by rule 901:10-2-08 or 901:10-2-19 of the Administrative Code, including:

(i) Measurements of manure volume and the depth of liquid manure in manure storage or treatment facilities by the depth marker or other appropriate device as approved by the Director in accordance with rule 901:10-2-06 of the Administrative Code as required by paragraph (A)(3)(o) of rule 901:10-2-08 of the Administrative Code which clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the twenty-five year, twenty-four hour rainfall event, or, in the case of new sources subject to the requirement in paragraph (C) of rule 901:10-3- 06 of the Administrative Code, the runoff and direct precipitation from a one-hundred year, twenty-four hour rainfall event, plus the levels of freeboard as required in either paragraph (A)(3)(a) or paragraph (A)(3)(b) of rule 901:10-2-08 of the Administrative Code;

(ii) Records of inspections of the structural integrity and vegetative management systems of the manure storage or treatment facility taken at intervals specified in the manure management plan and including evidence of erosion, leakage, animal damage, and problems of emerging vegetation.

(iii) Records of measurements of storage capacity remaining in the manure storage and treatment facility, based upon inspections conducted at intervals specified in the manure management plan.

(iv) Records of inspections of stormwater conveyances, diversion devices, runoff diversion structures, and devices channeling contaminated stormwater to the manure storage pond or manure treatment lagoon.

(v) Records of inspections of the protective vegetative cover that is maintained on all disturbed areas (lagoon or pond embankments, berms, pipe runs, erosion control areas, etc.)

(vi) Implementation dates of those best management practices necessary to operate and maintain settling basins, grass filtration or soil infiltration systems or diverting clean water and roof water away from the production area..

(vii) Records of groundwater sampling and analysis and any surface water sampling and analysis.

(viii) Records required in rule 901:10-2-19 of the Administrative Code for the insect and rodent control plan.

(ix) Records of inspections of water lines located above ground and readily accessible or visible for daily inspection, including drinking water or cooling water lines.

(x) Records of actions taken to correct any deficiencies found as a result of inspections conducted in the production area. If actions were not taken within thirty days of discovery, then the operating record shall record the reasons explaining why corrections could not be made immediately.

(xi) Records documenting the current design of any manure storage or treatment facility including volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity.

(xii) Records of the date, time, and estimated volume of any overflow or discharge from the production area.

(b) Manure characterization records. Manure characterization data, test methods, results, and other information as required in paragraph (E) of rule 901:10-2-10 of the Administrative Code.

(c) Land application site records. Records for each land application site, including:

(i) The owner or operator shall maintain or have access to adequate land application equipment and record this in the operating record.

(ii) The owner or operator shall list or otherwise describe those acres of land in the operating record for land application of manure, whether the land is owned or leased. In the alternative, use of a distribution and utilization plan should be recorded in the operating record.

(iii) When liquid manure is applied to a land application site with subsurface drains, document the periodic observations of the drain outlets for liquid manure flow during and after application in the operating record.

(iv) When liquid manure is applied to a land application site with a subsurface drain, document the use of drain outlet plugs or other devices in the operating record.

(v) Land application sites as described on a soil survey map.

(vi) All soil tests within the last five years. Soil test results shall be maintained in the operating record with the information required in rule 901:10-2-13 of the Administrative Code.

(vii) Implementation dates of those best management practices to maintain vegetative cover and protect stream channels or areas adjacent to such stream channels.

(viii) Records of the cropping schedule for each land application site for the past year, anticipated crops for the current year, and anticipated crops for the next two years after the current year.

(ix) Targeted crop yield for each crop in each land application site based on:

(a) Soil productivity information;

(b) Historical yield data;

(c) Potential yield; or

(d) Combinations of yield data.

(x) An additional ten per cent may be added to the potential and/or historical yields to account for improvements in management and technology.

(a) When historical yield data is not available a realistic yield may be based on local research or on yields from similar soils and/or cropping systems in the area.

(b) For new or potential crops or varieties, industry yield estimates may be used until actual yields are available for documentation in the operating record.

(xi) Actual yield, if available.

(xii) Results of the nitrogen leaching risk assessment procedure and the phosphorus soil test assessment procedure and an explanation of the basis for determining manure application rates, as provided in rule 901:10-2-14 of the Administrative Code.

(xiii) The number of years needed to reach one hundred fifty parts per million Bray P1 or equivalent if manure application rates exceed the phosphorus crop removal rates.

(xiv) Date, rate, quantity and method of application of the nutrient, and/or form and source of manure, commercial fertilizer and/or other organic by-products.

(xv) Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied.

(xvi) Condition of soil at the time of application including, but not limited to, available water capacity and evidence of soil cracks and related information on soil conditions.

(xvii) Temperature, including general weather conditions at time of application and for twenty-four hours prior to and following application.

(xviii) Implementation dates of those best management practices necessary to reduce the risk of nitrogen or phosphorus runoff by crop rotation, cover crops or residue management in accordance with paragraphs (B) to (E) of rule 901:10-2-14 of the Administrative Code.

(xix) Record the annual projected nutrient budget for nitrogen and phosphorus for each site for the plant production sequence and/or crop rotation.

(d) Unless otherwise recorded with the insect and rodent control plan implementation or land application records, records of inspections and actions taken at manure stockpile or manure transfer sites.

(e) The records for implementation of distribution and utilization methods, if used, shall include:

(i) Quantity of manure transferred off-site for each twelve month period (tons/gallons);

(ii) Date of off-site transfer for distribution;

(iii) Name and address of recipient of manure; and

(iv) Record that the recipient was provided with a copy of the appendices A, B and F to rule 901:10-2-14 of the Administrative Code, a copy of the most recent manure analysis consistent with the rules.

(f) Disposal of dead livestock. The records for implementing the plan for the disposal of dead livestock shall include, but not be limited to:

(i) The disposal method used for removal of dead livestock;

(ii) A record of the date and time of inspection of each facility; and

(iii) Those best management practices necessary to implement the disposal of dead livestock.

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901:10-2-17 **Emergency response plan.**

(A) An emergency response plan shall include, but is not limited to the following:

(1) The names and telephone numbers of persons who are identified by the owner or operator as responsible for implementing the plan.

(2) Areas of the facility where potential spills can occur and their accompanying surface and subsurface drainage points.

(3) Procedures to be followed in the event of a spill, including actual or imminent discharge to waters of the state:

(a) Actions to contain or manage the spill;

(b) Identification of proper authorities to be contacted;

(c) Actions to mitigate any adverse effects of a spill; and

(d) Identification of equipment and clean-up materials to be used in the event of a spill.

(4) Procedures for reporting.

(a) The owner or operator shall report by telephone to the department as soon as possible, but in no case more than twenty-four hours following first knowledge of the occurrence of the following:

(i) The times at which the discharge or manure spill occurred and was discovered;

(ii) The approximate amount and the characteristics of the discharge or manure spillage;

(iii) The waters of the state affected by the discharge or spillage;

(iv) The circumstances which created the discharge or spillage;

(v) The names and telephone numbers of persons who have knowledge of these circumstances;

(vi) Those steps being taken to clean up the discharge or spillage; and

(vii) The names and telephone numbers of persons responsible for the cleanup.

(b) For any emergency that requires immediate reporting after normal business hours, contact the Ohio department of agriculture's emergency telephone number.

(c) If applicable, the owner or operator shall notify appropriate local authorities.

(d) The owner or operator shall also file a written report of the occurrence in letter form within five days following first knowledge of the occurrence, unless the director allows an extension of time or waives the reporting requirement. This report shall outline the actions taken or proposed to be taken to correct the problem and to ensure that the problem does not recur.

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901:10-2-18 **Closure plan requirements.**

No later than one hundred eighty days before the expiration of a permit to operate or a NPDES permit, the owner or operator must submit an application to renew the permits. However the owner or operator of a facility need not continue to seek continued permit coverage under a permit to operate or a NPDES permit or reapply for permit coverage if the facility has ceased operation, if the facility is no longer a concentrated animal feeding facility or a concentrated animal feeding operation, or if the facility is no longer required to maintain permit coverage in the permit program in accordance with Section 903.082 of the Revised Code. In addition, the owner or operator shall demonstrate to the satisfaction of the director that there is no remaining potential for a discharge of manure that was generated while the operation was a concentrated animal feeding operation, other than agricultural stormwater from land application areas.

(A) The owner or operator shall notify the director in writing and allow the director opportunity to inspect the facility to verify that a permit is no longer required and that the facility is closed for purposes of Chapter 903 of the Revised Code in accordance this rule. Thereafter, the director will notify the owner or operator in writing that the facility is closed in accordance with this rule.

(B) If all or part of the manure storage or treatment facility at a concentrated animal feeding facility or a concentrated animal feeding operation will be closed or discontinued, the owner or operator shall implement a closure plan for all or part of the manure storage or treatment facility. At least ninety days before closure, the owner or operator shall submit such a closure plan for the director's approval that provides for the following:

(1) Implementation of best management practices during closure.

(2) Removal of all manure from the discontinued portions of the manure storage or treatment facility.

(3) Removal of all associated appurtenances and conveyance structures from uncovered liquid manure storage or treatment facilities.

(4) Land application of the manure in accordance with rule 901:10-2-14 of the Administrative Code or disposal in another manner allowed by these rules.

(C) If the manure storage or treatment facility will not be completely closed for purposes of Chapter 903 of the Revised Code, the owner or operator shall apply for a permit modification removing the closed portions of the facility from the permit and

recalculating the storage volume for the facility. If applicable, the owner or operator shall also submit an application for a permit to install.

(D) If no portion of a manure storage or treatment facility at a concentrated animal feeding facility or a concentrated animal feeding operation will be discontinued, the owner or operator shall, at least ninety days before closure, submit for the director's approval, and thereafter shall implement, a closure plan that provides for the following:

(1) Implementation of best management practices during closure.

(2) Any other action necessary to prevent a discharge of manure that was generated while the operation was a concentrated animal feeding operation, other than agricultural stormwater from application areas.

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901:10-2-19 **Permit to operate: insect and rodent control plan.**

(A) Purpose and applicability.

(1) This rule establishes the best management practices to minimize the presence and negative effects of insects and rodents at the concentrated animal feeding facility and in surrounding areas, including land on which the manure is stored or applied. Subject to the requirements set forth in rules 901:10-2-07 and 901:10-2-08 of the Administrative Code, and rule 901:10-1-06 of the Administrative Code no person shall own or operate a concentrated animal feeding facility unless an insect and rodent control plan for the facility has been approved by the director.

[Comment: In preparing the plan, the owner or operator is advised to refer to the Food Quality Protection Act (FQPA); Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and worker protection standards (WPS).]

(2) An insect and rodent control plan that specifies plans to minimize the activity of insects and rodents and their presence at the facility is to be integrated with other requirements of the permit to operate in accordance as set forth in rules 901:10-2-07 to 901-10-2-19 of the Administrative Code.

(B) Contents of an insect and rodent control plan.

(1) An insect and rodent control plan shall be prepared by the owner or operator and shall be submitted to the director for approval. Upon approval by the director, the insect and rodent control plan shall be incorporated into the permit to operate. The insect and rodent control plan shall be specific to the agricultural animal species of the facility.

(2) An insect and rodent control plan shall:

(a) Include a narrative description of balanced integrated pest management to minimize the presence and negative effects of insects and rodents;

(b) Set forth with specificity the standard operating procedures for actions to minimize the activity and reduce the presence of insects and rodents at the facility; and

(c) Set forth methods of monitoring and procedures for record keeping in the operating record to document inspection results and actions performed.

[Comment: The department may make available scientific references concerning the methods for monitoring and recommendations for control of insect and rodent populations to owners or operators or direct them to other resources.]

(3) Standard operating procedures set forth in paragraphs (B)(3)(a) to (B)(3)(d) and paragraph (C) of this rule set forth some but not all of the necessary integrated pest management actions to minimize the activity and reduce the presence of insects and rodents at the facility.

(a) Management controls. The following management controls require regular inspections to be conducted by the owner or operator in intervals as described in the insect and rodent control plans. Monitoring records and inspection records shall be maintained in the operating record as required by rule 901:10-2-16 of the Administrative Code. Management controls consist of the following:

(i) The owner or operator shall specify inspection intervals in the insect and rodent control plan and shall conduct and document inspections as specified in the plan.

(ii) The owner or operator shall inspect for the presence or absence of watering and feeding system leaks. If any leaks are detected, appropriate repairs shall be undertaken promptly.

(iii) The owner or operator shall inspect and record observations made regarding the presence and level of pest activity. Appropriate control actions shall be undertaken promptly when activity of insects and rodents is observed that requires actions as described in the plan required by paragraph (B)(2) of this rule.

(iv) The owner or operator shall manage moisture levels in manure to minimize the activity and reduce the presence of insects and rodents at the facility. Methods to control moisture may include but are not limited to: building design; adequate ventilation; mechanical aeration; leak detection and repair; proper site grading and drainage and maintenance of watering and feeding systems.

(v) Except for manure storage ponds and manure treatment lagoons, manure storage or treatment facilities shall be covered unless the runoff and drainage is collected and stored, or directed to a specifically designed infiltration area or other adequate treatment system. Appropriate control actions shall be undertaken prior to the removal of manure to minimize the activity and reduce the presence of insects and rodents at the facility.

(vi) Except for manure storage ponds and manure treatment lagoons, the owner or operator shall inspect manure storage or treatment facilities for pest activity prior to the removal of manure. Appropriate control actions shall be undertaken prior to the removal of manure to minimize the activity and reduce the presence of insects and rodents.

(vii) The owner or operator shall inspect land application sites during and after the land application of manure.

(viii) The owner or operator shall monitor manure stockpiles for insect and rodent activity on a seasonally appropriate basis.

(b) The following management actions are required but do not require record keeping and consist of the following:

(i) Maintain sanitation procedures designed to minimize the activity and reduce the presence of insects and rodents including: maintenance of vegetation around the buildings; cleaning of the facility; removal of dead or trapped animals at a frequency that prevents their accumulation and utilization of covered receptacles for food, feed, dead animals or refuse that are durable, cleanable, inaccessible to insects or rodents, leak proof and nonabsorbent;

(ii) Buildings shall be maintained and managed in such a manner as to minimize the activity and reduce the presence of insects and rodents. The director may consider the function, purpose and age of the buildings;

(iii) The owner or operator shall maintain or have prompt access to appropriate insect and rodent control equipment;

(iv) The owner or operator shall maintain or have prompt access to suitable cleaning implements and supplies as necessary for effective cleaning of the facility; and

(v) The owner or operator shall maintain or have prompt access to insect and rodent monitoring methods and devices.

(c) Biological controls may be used to minimize the activity and reduce the presence of insects and rodents as part of integrated pest management. Biological controls shall include standard operating procedures designed to encourage the development and preservation of beneficial organisms.

[Comment: Beneficial organisms may be appropriate when contained within the facility but may not be appropriate when removed from the

facility. Prior to manure removal, the owner or operator is advised to evaluate the potential effects of beneficial organisms outside of the facility, e.g., at any site used for land application of manure.]

(d) Chemical controls may be used to minimize the activity and reduce the presence of insects and rodents as part of integrated pest management.

[Comment: Utilization of chemical controls may require, but not be limited to, asking the owner or operator to become a certified pest control applicator and keep accurate records on methods or products used and on dosage rates under Chapter 921. of the Revised Code.]

(e) Utilization of chemical controls may include, but not be limited to the following:

(i) Insecticides, larvicides, rodenticides, space sprays, fly baits, vapor strips;

(ii) Chemical application equipment; and

(iii) Inside and outside control measures.

(C) Storing, stockpiling and land applying manure.

(1) The insect and rodent control plan shall be consistent with the manure management plan in order to minimize the activity and reduce the presence of insects and rodents at the facility and shall include both the manure storage or treatment facility and the land application site.

(2) The storing, stockpiling and land application of manure shall be done in accordance with standard operating procedures set forth in this paragraph and in the owner or operator's insect and rodent control plan in order to minimize the activity and reduce the presence of insects and rodents. These standard operating procedures may include but are not limited to:

(a) Treatment of pests at the land application site;

(b) Setback distances during land application that are consistent with the manure management plan for the facility and with rule 901:10-2-14 of the Administrative Code;

(c) Extended stockpiling times after removal from the facility and prior to land application;

(d) Covering of the manure storage or treatment facility or covering the stockpile for thermal treatment;

(e) Implementing appropriate control measures for manure stockpiled more than one week; and

(f) Chemical treatment of the manure or the facility;

(g) Manure stockpiled for over one week shall have appropriate control actions implemented.; and

(h) If the presence of insect and rodent activity is not minimized and/or reduced prior to the removal of manure from the manure storage or treatment facility, the owner or operator shall visually monitor and observe fields spread with that manure for pest activity during application and shall conduct a final inspection of those fields when applications are complete.

(D) Emergency procedures. Each facility shall develop and maintain emergency procedures of action in order to minimize the activity and reduce the presence of insects and rodents at the facility.

(E) Compliance. Compliance with an insect and rodent control plan shall be determined as follows:

(1) Before proceeding with the procedures set forth in rule 901:10-5-03 of the Administrative Code, the director shall review the operating record, together with the insect and rodent control plan, examine any records of management actions taken, records of implementation of standard operating procedures and other appropriate control actions, and any monitoring data collected in the operating record.

(2) The director shall determine if insect and rodent activity has been minimized and the presence of the insects and rodents reduced by evaluating the records and assessing trends and making visual observations at the facility as evidenced by implementation of the insect and rodent control plan over an appropriate period of time and during periodic inspections at the facility. In making this determination for an appropriate period of time, consideration will be given, but not limited to the following: prevailing wind patterns, siting criteria, precipitation patterns, seasonal effects and weather conditions.

(3) Upon completion of the evaluation described in paragraphs (E)(1) and (E)(2) of this rule, the director may do the following:

(a) If the owner or operator is in compliance with the plan, the director may seek voluntary action by the owner or operator to modify the insect and rodent control plan including but not limited to further minimizing and reducing the activity and presence of insects and/or rodents at the facility; or

(b) If the owner or operator will not consent to modifying the plan, or if the owner or operator is not in compliance with the plan, then the director may propose to modify the insect and rodent control plan or the owner or operator may submit an application to modify the plan, in accordance with the procedures in rule 901:10-1-09 of the Administrative Code.

(4) The director is not required to comply with paragraphs (E)(1) to (E)(3) of this rule if the director determines:

(a) An emergency exists as described in rule 901:10-5-05 of the Administrative Code; or

(b) In consultation with federal, state or local health agencies, the director determines that there exists a high risk of zoonotic disease.

(F) Criteria for approving, disapproving or modifying an insect and rodent control plan including any major operational change to an insect and rodent control plan..

(1) The director shall consider the following criteria in determining an action on an insect and rodent control plan:

(a) Compliance with paragraphs (B) to (D) of this rule.

(b) Completeness and appropriateness of the methods for disposal of rodents on a daily or weekly basis or if there is an emergency. The director will require compliance with rule 901:10-2-15 of the Administrative Code.

(c) In order to comply with rule 901:10-1-09 of the Administrative Code for any proposed major operational change of the insect and rodent control plan, the owner or operator shall:

(i) Demonstrate that insect and rodent activity has been minimized; or

(ii) Demonstrate that the proposed major operational change will improve the management of pests: and

(iii) Authorize the director or the director's representative to evaluate the operating records and assess trends and make visual observations at the facility of implementation of the insect and rodent control plan over an appropriate period of time and during periodic inspections at the facility. In making a determination under this paragraph and rule 901:10-1-09 of the Administrative Code, the director may consider the following: prevailing wind patterns, siting criteria, precipitation patterns, seasonal effects, weather conditions, and applicable scientific and technical references for monitoring and control of insect and rodent populations.

(2) The director must act upon, approve or deny an insect and rodent control plan within ninety days of receiving it.

(G) Penalties. The director or his designated representative will determine civil penalties for violations of this rule in accordance with the rule 901:10-5-04 of the Administrative Code.

901:10-2-19

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901:10-2-20 **Annual report.**

The owner or operator of a concentrated animal feeding operation with a NPDES permit must submit an annual report to the director. The annual report must include:

(A) The number and type of animals, whether in open confinement or housed under roof (beef cattle, broilers, layers, chickens other than laying hens, swine weighing fifty-five pounds or more, swine weighing less than fifty-five pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, other);

(B) Estimated amount of total manure generated by the facility in the previous twelve months (tons/gallons);

(C) Estimated amount of total manure transferred to other person by the facility in accordance with rule 901:10-2-11 of the Administrative Code;

(D) Total number of acres for land application covered by the manure management plan developed in accordance with rule 901:10-2-07 of the Administrative Code;

(E) Total number of acres under control of the facility that were used for land application of manure in the previous twelve months;

(F) Summary of all manure discharges from the production area that have occurred in the previous twelve months, including date, time, and approximate volume; and

(G) A statement indicating whether the current version of the facility's manure management plan was developed or approved by a certified nutrient management planner.

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901:10-3-01 Additional requirements for a NPDES permit application.

(A) Concentrated animal feeding operations must have or seek to obtain coverage under a NPDES permit within the time frame provided in accordance with 40 C.F.R. 122.23(g) and in division (J) of section 903.08 of the Revised Code.

(B) Unless otherwise indicated, the application for an individual NPDES permit and the NPDES permit (if issued by the director) shall contain the following information:

(1) The information required in rule 901:10-1-02 of the Administrative Code for NPDES permits.

(2) To the extent required by federal law, a manure management plan that complies with the requirements of rules 901:10-2-08 to 901:10-2-11, 901:10-2-13 to 901:10-2-16 and rule 901:10-2-18 of the Administrative Code.

(a) Inspections required in rule 901:10-2-08 of the Administrative Code.

(b) Information on nutrient budget, manure characterization, soil tests, distribution and utilization methods for manure (if applicable to the facility), and land application of manure as required in rules 901:10-2-09 to 901:10-2-14 of the Administrative Code.

(3) An operating record developed in accordance with rule 901:10-2-16 of the Administrative Code with the use of forms prescribed by the director and other forms selected by the owner or operator for the facility and approved by the director. The operating record shall be maintained at the site office at all times. Upon approval of the NPDES permit, the operating record shall be deemed part of the NPDES permit.

(4) An emergency response plan containing the information required in rule 901:10-2-17 of the Administrative Code.

(C) Any person who discharges or proposes to discharge pollutants and who does not have an effective NPDES permit, except persons covered by a general NPDES permit, must submit a complete application to the director in accordance with this rule. The director shall not issue a NPDES permit before receiving a complete application for a NPDES permit except NPDES general permits. An application for a NPDES permit is complete when the director receives an application form and any supplemental information which are completed to his or her satisfaction. All applicants for NPDES permits must provide the following information to the director:

(1) The activities conducted by the applicant, which require it to obtain a NPDES permit~~, specifically~~:

(a) Information about the number and type of animals, whether in open confinement or housed under roof (beef cattle, broilers, layers, chickens other than layers, swine weighing fifty-five pounds or more, swine weighing less than fifty-five pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, other);

(b) The types of manure storage areas, waste containment areas, and total capacity for manure storage (tons/gallons);

(c) The total number of acres under control of the applicant available for land application of manure;

(d) Estimated amounts of manure generated per year (tons/gallons);

(e) Estimated amounts of manure transferred to other persons per year (tons/gallons); and

(f) For operations that must seek coverage under a permit after December 31, 2006, certification that a nutrient management plan has been completed and will be implemented upon the date of permit coverage.

(2) The name and address of the owner and operator and information required by paragraph (C)(1) of rule 901:10-2-01 of the Administrative Code;

(3) Whether the operation is located on Indian lands;

(4) A listing of all permits or construction approvals received or applied for under any of the following programs:

(a) Hazardous waste management program under the Resource Conservation and Recovery Act (RCRA);

(b) Underground injection control (UIC) program under the Safe Drinking Water Act (SDWA);

(c) The Prevention of Significant Deterioration (PSD) program under the Clean Air Act;

(d) Non-attainment program under the Clean Air Act;

(e) National Emissions Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act;

(f) Dredge or fill permits under section 404 of the Clean Water Act;

(g) Other relevant environmental permits, including state permits;

(5) Latitude and longitude of the production area (entrance to the production area); and

(6) A topographic map of the geographic area in which the concentrated animal feeding operation is located showing the specific location of the production area.

(D) Purpose and applicability of the individual NPDES permit.

(1) On or after the date on which the United States environmental protection agency approves the NPDES program submitted by the director of agriculture, each concentrated animal feeding operation as defined in ~~section 903.01 of the Revised Code or~~ rule 901:10-3-07 of the Administrative Code has a duty to seek coverage under a NPDES permit issued by the director of agriculture. A concentrated animal feeding operation is not required to seek coverage under a NPDES permit only if the owner or operator has received from the director notification of a determination that the concentrated animal feeding operation has no potential to discharge manure in accordance with this rule and rules 901:10-6-01 to 901:10-6-06 of the Administrative Code.

(2) Persons that have been issued a NPDES permit by the director are required to comply with the following requirements as determined by the director:

(a) Rule 901:10-3-10 of the Administrative Code;

(b) Rules 901:10-3-02 to 901:10-3-06 of the Administrative Code;

(c) Applicable water quality standards adopted under section 6111.041 of the Revised Code;

(d) National standards of performance for new sources;

(e) The antidegradation policy adopted under section 6111.12 of the Revised Code; and

(f) Other applicable requirements of the Act.~~act.~~

(E) In establishing the terms and conditions of the NPDES permit, the director, to the extent consistent with the Act, ~~act,~~ shall consider technical feasibility and economic costs and shall allow a reasonable period of time for coming into compliance with the permit.

(F) The director, upon request, may make a case-specific determination that a large concentrated animal feeding operation has no potential to discharge manure to waters of the state. In making this determination, the director must consider the potential for discharges from both the production area and any land application areas. The director must also consider any record of prior discharges by the operation. In no case may the concentrated animal feeding operation be determined to have no potential to discharge if it has had a discharge within the five years prior to the date of the request submitted under this paragraph. For purposes of this rule, the term no potential to discharge means that there is no potential for any manure to be added to waters of the state under any circumstance or climatic condition. A determination that there is no potential to discharge for purposes of this rule only relates to discharges of manure covered by this rule.

(1) In requesting a determination of no potential to discharge, the owner or operator must submit any information that would support such a determination. Such information shall be submitted within the time frame provided in accordance with 40 C.F.R. 122.23(g) or 40 C.F.R. 122.23(h) and must include all of the information specified in paragraph (C) of this rule. The director has discretion to require additional information to supplement the request, and may also gather additional information through on-site inspection of the concentrated animal feeding operation.

(2) The director must base the decision to grant a no potential to discharge determination on the administrative record, which includes all information submitted in support of a no potential to discharge determination and any other supporting data gathered by the permitting authority. The director must notify any concentrated animal feeding operation seeking a no potential to discharge determination of its final determination within ninety days of receiving the request.

(3) If the director's final decision is to deny the no potential to discharge determination, the owner or operator must seek coverage under a NPDES

permit within thirty days after the denial.

(4) Any unpermitted operation that discharges manure into waters of the state is in violation of this chapter even if it has received a no potential to discharge determination from the director. Any operation that has received a determination of no potential to discharge, but who anticipates changes in circumstances that could create the potential for a discharge, should contact the department and apply for and obtain permit authorization prior to the change of circumstances.

(5) Where the director has issued a determination of no potential to discharge, the director retains the authority to subsequently require NPDES permit coverage if circumstances at the facility change, if new information becomes available, or if there is other reason for the director to determine that the operation has a potential to discharge.

(G) In addition to conditions required in all permits to meet the requirements of rule 901:10-3-10 of the Administrative Code, the director shall establish conditions, as required on a case-by-case basis, to provide for and assure compliance with all applicable requirements of the act and regulations. These shall include conditions under 40 CFR sections 122.44, 122.46, 122.47, 122.48 and 40 CFR Part 132.

Replaces: 901:10-3-01

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Certification

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Date

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901:10-3-02 **Effluent limitations definitions and applicability.**

(A) Rules 901:10-3-02 to 901:10-3-11~~901:10-3-12~~ of the Administrative Code are applicable to concentrated animal feeding operations that are subject to a NPDES permit and establish effluent limitations for both the production area and the land application area as those terms are defined in section 903.01 of the Revised Code. The discharge of manure to waters of the state by the owner or operator of a concentrated animal feeding operation to land application areas under the control of the owner or operator, is a discharge from that concentrated animal feeding operation and subject to a NPDES permit unless the discharge is an agricultural stormwater discharge. Where the manure has been applied in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of nutrients in manure in compliance with the best management practices set forth in Chapter 901:10-2 of the Administrative Code, then a precipitation-related discharge of manure from land application areas under the control of an owner or operator is an agricultural stormwater discharge.

(B) An animal feeding facility is defined as a concentrated animal feeding operation only if the specific threshold specified in division (M) of section 903.01 of the Revised Code is met for any one animal species. "Concentrated animal feeding operation" may also mean any animal feeding facility that meets the criteria of division (Q) or division (EE) of section 903.01 of the Revised Code. Once an operation is defined as a concentrated animal feeding operation, the NPDES requirements apply with respect to all animals in confinement at the operation and all manure generated by those animals or the production of those animals, regardless of the type of animal.

(C) Best practicable control technology currently available or BPT means the degree of effluent reduction attainable through the application of the best control measures and practices currently available which shall be determined by taking into account the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, the age of the equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impacts (including energy requirements) and such other factors as deemed appropriate.

(D) Best available technology economically achievable or BAT means the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedure innovations, operating methods and other alternatives. BAT shall be determined by taking into account the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, the cost of achieving such effluent reduction, non-water quality environmental impacts (including energy requirements) and such other factors as deemed appropriate.

(E) Any facility or operation subject to Chapter 903. of the Revised Code that introduces manure, including process wastewater, into a publicly owned treatment works must comply with 40 CFR part 403 and Chapter 6111. of the Revised Code and rules promulgated thereunder.

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901:10-3-03 **Horses and sheep.**

This rule applies to discharges resulting from the production areas at horse and sheep concentrated animal feeding operations. This rule does not apply to such concentrated animal feeding operations with less than the following capacities: ten thousand sheep or five hundred horses.

(A) Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).

(1) Except as provided in rule 901:10-3-08 of the Administrative Code, and subject to the provisions of paragraph (A)(2) of this rule, any existing point source subject to this rule must achieve the following effluent limitations representing the application of BPT: there shall be no discharge of manure to waters of the state.

(2) Manure in the overflow may be discharged to waters of the state whenever rainfall events, either chronic or catastrophic, cause an overflow of manure from a facility designed, constructed and operated to contain all manure plus the runoff from a ten-year, twenty-four hour rainfall event for the location of the point source.

(B) Effluent limitations attainable by the application of the best available technology economically achieveable (BAT).

(1) (1)Except as provided in rule 901:10-3-08 of the Administrative Code, and when the provisions of paragraph (B)(2) of this rule apply, any existing point source subject to the rule must achieve the following effluent limitations representing the application of BAT: there shall be no discharge of manure into waters of the state.

(2) Whenever rainfall events cause an overflow of manure from a facility designed, constructed, operated, and maintained to contain all manure plus the runoff from a twenty-five year, twenty-four hour rainfall event at the location of the point source, any manure in the overflow may be discharged into waters of the state.

(C) Standards of performance for new sources (new source performance standards or "NSPS").

(1) Except as provided in paragraph (C)(2) of this rule, any new source subject to this rule must achieve the following performance standards: there must be no discharge of manure to waters of the state.

(2) Whenever rainfall events cause an overflow of manure from a facility designed, constructed, operated, and maintained to contain all manure plus the runoff from a twenty-five year, twenty-four hour rainfall event at the location of the point source, any manure in the overflow may be discharged into waters of the state.

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901:10-3-04 **Dairy cows and cattle other than veal calves.**

This rule applies to operations defined as concentrated animal feeding operations under rule 901:10-1-01 (HH) of the Administrative Code and includes the following animals: mature dairy cows, either milking or dry; cattle other than mature dairy cows or veal calves. Cattle other than mature dairy cows includes but is not limited to heifers, steers, and bulls. This rule does not apply to such concentrated animal feeding operations with less than the following capacities: seven hundred mature dairy cows whether milked or dry; one thousand cattle other than mature dairy cows or veal calves.

(A) Effluent limitations attainable by the application of the best practicable control technology currently available (BPT). Except as provided in rule 901:10-3-08 of the Administrative Code, any existing point source subject to this rule must achieve the following effluent limitations representing the application of BPT:

(1) For the concentrated animal feeding operation production areas. Except as provided in paragraph (A)(1) through (A)(2) of this rule, there must be no discharge of manure into waters of the state from the production area.

(a) Whenever precipitation causes an overflow of manure, pollutants in the overflow may be discharged into waters of the state provided:

(i) The production area is designed, constructed, operated and maintained to contain all manure including the runoff and the direct precipitation from a twenty-five year, twenty-four hour rainfall event;

(ii) The production area is operated in accordance with the requirements set forth in the manure management plan in rule 901:10-2-08 of the Administrative Code and the records required by rule 901:10-2-16 of the Administrative Code.

(b) Voluntary alternative performance standards. Any concentrated animal feeding operation subject to this rule may request the director to establish NPDES permit effluent limitations based upon site-specific alternative technologies that achieve a quantity of pollutants that would be discharged under the baseline performance standards as provided by paragraph (A)(1)(a) of this rule.

(i) Supporting information. In requesting site-specific effluent limitations to be included in the NPDES permit, the concentrated animal feeding facility owner or operator must submit a supporting technical analysis and any other relevant information and data that would support such

site-specific effluent limitations within the time frame provided by the director. The supporting technical analysis must include calculation of the quantity of pollutants discharged, on a mass basis where appropriate, based on a site-specific analysis of a system designed, constructed, operated and maintained to contain all manure including the runoff from a twenty-five year, twenty-four hour rainfall event. The technical analysis of the discharge of pollutants must include:

(a) All daily inputs to the manure storage or treatment facility, including manure, direct precipitation, and runoff.

(b) All daily outputs from the manure storage or treatment facility, including losses due to evaporation, manure residuals removal, and the removal of process wastewater or process generated wastewater for use on cropland at the concentrated animal feeding operation or transport off site.

(c) A calculation determining the predicted median annual overflow volume based on a twenty-five year period of actual rainfall data applicable to the site.

(d) Site-specific pollutant data, including N, P, BOD5, and total suspended solids (TSS) for the concentrated animal feeding operation from representative sampling and analysis of all sources of input to the storage system or other pollutant data.

(e) Predicted annual average discharge of pollutants, expressed where appropriate as a mass discharge on a daily basis (lbs/day), and calculated considering paragraphs (A)(1)(b)(i)(a) to (A)(1)(b)(i)(d) of this rule.

(ii) The director has the discretion to request additional information to supplement the supporting technical analysis, including inspection of the concentrated animal feeding operation.

(c) The concentrated animal feeding operation shall attain the limitations and requirements of this rule as of the date of permit coverage.

(2) For concentrated animal feeding operation land application areas.

Discharges from land application areas are subject to the following requirements:

(a) Develop and implement the best management practices set forth for the manure management plan in rule 901:10-2-07(A)(1) of the Administrative Code;

(b) Maintain the records specified in rule 901:10-2-16 of the Administrative Code; and

(c) The concentrated animal feeding operation shall attain the limitations and requirements of this rule by December 31, 2006.

(B) Effluent limitations attainable by the application of the best conventional pollutant control technology (BCT).

(1) Except as provided in rule 901:10-3-08 of the Administrative Code, any existing point source subject to this rule must achieve the following effluent limitations representing the application of BCT:

(a) For the concentrated animal feeding operation production areas: the operation shall attain the requirements in paragraph (A)(1) of this rule.

(b) For the land application areas: The operation shall attain the same limitations and requirements set forth for the manure management plan in paragraph (A)(2) of this rule.

(C) Effluent limitations attainable by the application of the best available technology economically achievable (BAT).

(1) Except as provided in rule 901:10-3-08 of the Administrative Code, any existing point source subject to this rule must achieve the following effluent limitations representing the application of BAT:

(a) For concentrated animal feeding operation production areas: The operation shall attain the same limitations and requirements set forth in paragraph (A)(1) of this rule.

(b) For the operation land application areas: the facility shall attain the same limitations and requirements as those set forth for the manure management plan in paragraph (A)(2) of this rule.

(D) New source performance standards (NSPS).

(1) Any new point source subject to this rule must achieve the following effluent limitations representing the application of NSPS:

(a) For the concentrated animal feeding operation production areas, the facility shall comply with the requirements of paragraph (A)(1) of this rule.

(b) For the land application areas, the operation shall attain the requirements as listed for the manure management plan in rule 901:10-2-07(A)(1) of the

Administrative Code and the records required in rule 901:10-2-16 of the Administrative Code.

(c) The facility shall attain the limitations and requirements of this rule as of the date of permit coverage.

(d) Any source subject to this rule that commenced discharging after April 14, 1993 and prior to April 14, 2003 which was a new source subject to the standards specified in paragraph (C) of rule 901:10-3-03 of the Administrative Code, revised as of July 1, 2002, must continue to achieve those standards for the applicable time period specified in 40 CFR 122.29(d)(1). Thereafter, the source must achieve the standards specified in paragraphs (A)(1) and (A)(2) of this rule.

901:10-3-04

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901:10-3-05 **Effluent limitations for ducks category of feedlots.**

This rule applies to discharges resulting from the production areas at dry lot and wet lot duck concentrated animal feeding operations. This rule does not apply to such concentrated animal feeding operations with less than the following capacities: five thousand ducks.

(A) Definitions

(1) Dry lot means a facility for raising ducks in confinement with a dry litter floor cover and no access to swimming areas.

(2) Wet lot means a confinement facility for raising ducks which is open to the environment, has a small portion of shelter area, and having open water runs and swimming areas to which ducks have access.

(B) Effluent limitation attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in rule 901:10-3-08 of the Administrative Code, any existing point source subject to this rule shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

Effluent limitations

Regulated parameter	~~Maximum Daily2~~ Maximum Daily [1]	~~Maximum Monthly Average1~~ Maximum Monthly Average[1]	Maximum Daily[2]	Maximum Monthly Average[2]
BOD5	3.66	2.0	1.66	0.91
Fecal coliform	(3)	(3)	(3)	(3)

Metric units

1 Pounds per 1,000 ducks

2 Kilograms per 1,000 ducks

3 Not to exceed most probable number (mpn) of 400 per 100 ml at any time. ~~cells/100 ml at any time.~~

(C) New source performance standards (NSPS).

(1) Except as provided in paragraph (C)(2) of this rule, any new source subject to this rule must achieve the following performance standards: there must be no discharge of manure into waters of the state.

(2) Whenever rainfall events cause an overflow of manure from a facility designed, constructed, operated, and maintained to contain all manure plus the runoff from a twenty-five year, twenty-four hour rainfall event at the location of the point source, any manure in the overflow may be discharged into waters of the state.

(D) Pretreatment standards for new sources

(1) Except as provided in paragraph (D)(2) of this rule, any new source subject to this rule must comply with paragraph (E) of rule 901:10-3-02 of the Administrative Code and must achieve the following performance standards: there must be no introduction of manure to a publicly owned treatment works.

(2) Whenever precipitation events cause an overflow of manure from a facility designed, constructed, operated and maintained to contain all manure plus the runoff from a twenty-five year, twenty-four hour rainfall event at the location of the point source, any manure in the overflow may be introduced to a publicly owned ~~publicly-owned~~ treatment works but in accordance with the requirements of paragraph (E) of rule 901:10-3-02 of the Administrative Code.

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