



# Ohio Department of Agriculture

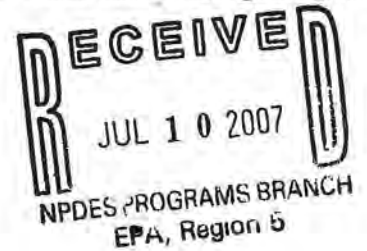


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June 22, 2007



Jo Lynn Traub  
Director, Water Division  
United States Environmental Protection Agency  
Region 5 W-15J, WN-16J  
77 West Jackson Blvd.  
Chicago, Illinois 60604-3590

Dear Ms. Traub:

My staff and I would like to take this opportunity to respond to the initial questions posed by U.S. EPA Region 5 in your letter of April 4, 2007. Your letter listed 14 questions and four concerns about land application of manure and wastewater. The land application issue is governed by one rule within the Ohio National Pollutant Discharge Elimination System (NPDES) program revision submitted for transfer from the Ohio Environmental Protection Agency to the Ohio Department of Agriculture (ODA).

Staff in the ODA's Livestock Environmental Permitting Program (LEPP) conferred with Region 5 about questions posed on the land application rule (Rule 901:10-2-14 of the Ohio Administrative Code (OAC)). As requested, we are responding in writing to each of the 14 questions. The responses are enclosed with a full re-statement of each question.

We have been advised that you do not require a response to the four concerns listed in the April 4th letter. However, we have carefully evaluated these concerns and are prepared to respond to these and to additional questions U.S. EPA identifies in its review as you wish. Allow me to renew my offer to meet with you and your staff to discuss the proposed transfer of the Ohio NPDES program for CAFOs if you believe that would be helpful. Thank you.

Sincerely yours,

Robert J. Boggs, Director  
Ohio Department of Agriculture

Cc: Chris Korleski, Director, Ohio EPA  
George Elmaraghy, Chief, Ohio EPA-Division of Surface Water  
Kevin Elder, Executive Director, LEPP

## Enclosure

### Questions

1. The Effluent Limitations Guidelines and New Source Performance Standards for the concentrated animal feeding operations (CAFO) point source category, 40 CFR part 412, prohibit dry-weather discharges of manure, litter, and process wastewater (manure) from land application areas under the control Large CAFOs in the cattle, swine, poultry and veal subcategories. *See: 71 Federal Register 37769, June 30, 2006.* Does chapter 903 of the Ohio Revised Code or chapter 901 of the Ohio Administrative Code require National Pollutant Discharge Elimination System (NPDES) permits to be issued by the Ohio Department of Agriculture (ODA) to prohibit discharges from land application areas when such discharges are not agricultural storm water as defined in rule 901:10-1-01(D)?

**ODA Response:** Yes. There is a prohibition for dry weather discharges from production areas (see 40 CFR § 412.31(a) and 40 CFR § 412.43(a) for swine, with reference to BPT facilities). Ohio's rules governing cattle (901:10-3-04(A)(1)) and swine, poultry, and veal operations (901:10-3-06(A)(1)) similarly prohibit discharges from production areas. As for the land application areas, 40 CFR § 412.31(b) states: "Discharges from land application areas are subject to the following requirements: (1) Develop and implement the best management practices specified in § 412.4; (2) Maintain the records specified at § 412.37(c)...." 40 CFR §412.4 and § 412.37(c) describe the best management practices of setbacks, phosphorus and nitrogen application rates, compliance alternatives, inspections, etc., that are described in Ohio's 901:10-2-14 and that are designed to prevent dry weather discharges. 40 CFR § 412.37's recordkeeping requirements, which relate to keeping track of weather conditions and dates of applications, are covered in OAC 901:10-2-08 and 901:10-2-16.

Ohio's cattle effluent limitation rule is 901:10-3-04. That rule, like the federal rule 40 CFR § 412.31, has one part dealing with production area discharges and one part dealing with land application areas. Ohio's equivalent to 40 CFR 412.31(b) is 901:10-3-04(A)(2). Ohio's rule provides as follows:

"(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...."

OAC 901:10-2-07(A), which is referenced in 901:10-3-04(A)(2), provides as follows:  
"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.”

Ohio’s 901:10-3-04(A) thus incorporates by reference the requirements of 901:10-2-14, 901:10-2-08, and 901:10-2-16 that contain the federal equivalents that are within 40 CFR 412.31(b), 412.4, and 412.37(c) for cattle land application areas.

The swine, poultry, and veal land application areas (federal rule 40 CFR 412.43(b)) are similarly addressed through Ohio’s 901:10-3-06(A)(2). Both Ohio’s rules and the federal rules do not make a distinction in the required effluent limitations as it relates to BPT, BCT, BAT, or New Source Performance, for land application areas, other than in the dates of implementation. There are identical references (referring back to the BPT paragraphs) in the same rules relating to BCT, BAT, and New Source Performance Standards. Finally, Section 903.08(G) of the Ohio Revised Code requires the Director to establish terms and conditions of NPDES permits by rule that shall be designed to achieve and maintain full compliance with national effluent limitations, national standards of performance for new sources, the most current water quality standards...and other requirements of the Federal Water Pollution Control Act. OAC 901:10-1-03(C) authorizes the Director to modify a NPDES permit if the director determines that discharge from the facility will prevent or interfere with attainment or maintenance of applicable water quality standards adopted under section 6111.041 of the Revised Code and the most current antidegradation policy adopted under section 6111.12 of the Revised Code.

2. Rule 901:10-2-14(C)(1)(d) provides that the rate of liquid manure application shall not exceed the available water capacity as described in appendix B of rule 901:10-2-14. When soil moisture is at or above field capacity, appendix B does not identify liquid amounts required to reach the available water capacity. Does rule 901:10-2-14(C)(1)(d) prohibit liquid manure application when soil moisture equals or exceeds field capacity?

**ODA Response:** Yes. If the soil is at 100% of Field Capacity or greater, liquid manure application is prohibited. There is no manure application rate provided in the respective columns/rows on the Available Water Capacity Chart, Appendix B of rule 901:10-2-14. The AWC chart has no application rate in the columns and rows for fields at 100% field capacity or above, while all other categories have a specific rate of application.

3. Rule 901:10-2-14(C)(1)(e) requires CAFO owners or operators to adjust the application rate for liquid manure to avoid surface ponding and/or runoff. Rule 901:10-2-14(G)(1)(c) allows owners or operators to apply 5,000 gallons (gal) of liquid manure on an acre of frozen ground. When ground is frozen but not covered with snow, which rule governs for the purpose of limiting the rate at which liquid manure may be applied?

**ODA Response:** The most limiting of these two criteria governs the application rate at the time of application. In addition, surface ponding prevention is included within the frozen and snow-covered ground criteria in 901:10-2-14(G)(1)(e).

4. Rule 901:10-2-14(C)(3) provides that land application of manure shall comply with all restrictions in appendix A of rule 901:10-2-14 unless a compliance alternative is

submitted in the manure management plan and approved by the director. Does the allowance for compliance alternatives extend only to the setbacks in appendix A, table 2, of rule 901:10-2-14 or does it extend to all of the best management practices in appendix A of rule 901:10-2-14?

**ODA Response:** The compliance alternatives apply to Appendix A, Table 2 of rule 901:10-2-14 as described in the second sentence of Rule 901:10-2-14(C)(3), referring to setbacks or buffers.

5. The federal regulation at 40 CFR § 412.4(c)(5) contains a 100-foot setback applicable to manure application near conduits to surface water<sup>1</sup>. Ohio rule 901:10-2-14(C)(3) (incorporating appendix A, table 2, by reference) does not expressly incorporate a setback applicable to conduits to surface water. However, it does incorporate a setback applicable to surface waters of the State. Are roadside ditches included within the meaning of the term surface waters of the State as that term is used in rule 901:10-2-14 (C)(3)?

**ODA Response:** Yes. Road ditches that would combine or form a junction with natural surface waters would be considered surface waters of the State.

As defined in the Ohio Administrative Code 3745-1-02(B)(77), "Surface waters of the state" means all streams, lakes, reservoirs, ponds, marshes, wetlands or other waterways which are situated wholly or partially within the boundaries of the state, except those private waters which do not combine or effect a junction with natural surface or underground waters.

According to Section 903.01(FF) of the Ohio Revised Code, "waters of the state" has the same meaning as in Section 6111.01 of the Ohio Revised Code. Section 6111.01(H) defines "waters of the state" to include:

**all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and other bodies or accumulations of water, surface and underground, natural or artificial, regardless of the depth of the strata in which underground water is located, that are situated wholly or partly within, or border upon, this state, or are within its jurisdiction, except those private waters that do not combine or effect a junction with natural surface or underground waters.**

Ohio's definition of "waters of the state" is very broad and encompasses virtually all surface waters with no exclusions for waters on private property or non-continuous or intermittent water bodies. Thus, Ohio's definition of "waters of the state" is the state analogy to the federal definition of "waters of the U.S." found at 40 C.F.R Section 122.2 except that Ohio's definition does not include the territorial seas as Ohio does not border any territorial sea.

<sup>1</sup> As compliance alternatives, the regulation provides that a CAFO owner or operator may substitute a 35-foot vegetative buffer or demonstrate that a setback or buffer is not necessary because conservation practices or field conditions provide pollutant reductions equivalent to or better than a 100-foot setback.

6. Rule 901:10-2-14(C)(3) (incorporating appendix A, table 2, by reference) contains a 35-foot setback applicable to surface application of manure near field surface furrows. Rule 901:10-1-01 defines a field surface furrow as "an area of ... concentrated surface water runoff [that] ... is not a river, stream, ditch, or grassed waterway. Field surface furrows are areas that are normally planted with crops each year." A December 22, 2006, memorandum from Kevin Elder to Jo Lynn Traub indicates that such furrows are "derived from the [Ohio] Natural Resources Conservation Service (NRCS) Conservation Practice Standard 607, which was developed to be used predominantly in Northwest Ohio to remove standing water from crops during the growing season. The systems are usually made up of small, temporary lateral surface furrows that convey water to main surface drains (collectors)." Has Ohio NRCS or Ohio State University published criteria applicable to the design and construction of field surface furrows? If so, please provide a copy of the published criteria. If not, please provide ODA's design and construction criteria if they exist.

**ODA Response: Ohio NRCS and The Ohio State University do not use the regulatory term "field surface furrows" in NRCS Practice Standard 607, but ODA refers to this standard for temporary installations of field surface furrows. Any temporary installation removes standing water from the field to allow for suitable conditions for crop production, determined by the producer or contractor at the time of installation. Field surface furrows are eliminated by ODA's requirement to incorporate or inject manure for applications on tiled fields.**

7. Rule 901:10-2-14(D)(2)(b) requires the owner or operator to subtract the nitrogen credit for crop residue, legumes, and other sources of nitrogen to be given to the next corn crop. Are credits from prior applications of manure included within the meaning of "other sources of nitrogen" as these words are used in rule 901:10-2-14(D)(2)(b)? Please see 68 *Federal Register* 7211, February 12, 2003.

**ODA Response: Yes. Nitrogen credit from previous applications of organic nitrogen is considered "other sources of nitrogen," provided that the remaining nitrogen would be considered a substantial amount. ODA has been encouraging facilities to incorporate a pre-sidedress nitrate soil testing procedure into their agronomic practices (see Rule 901:10-2-14(D)(5)).**

8. Rule 901:10-2-14(D)(2)(b) expressly requires the owner or operator to subtract credits to be given to the next corn crop. Does it or any other rule require the owner or operator to subtract credits to be given to the next crop other than corn? If a rule other than rule 901:10-2-14(D)(2)(b) requires credits to be given to the next crop other than corn, please identify the rule.

**ODA Response: ODA will clarify this by removing the word "corn" from 901:10-2-14(D)(2)(b) in its next rulemaking cycle. In the meantime, ODA will plan to write NPDES permits that require nitrogen credits to be given for any crop and these shall be calculated as stated in item 4 in Appendix A to rule 901:10-2-14: "How to**

**Use the Appendices to this Rule” no matter what the crop to be planted. The nitrogen credit is figured based on Appendix C, Table 4 of rule 901:10-2-14, which states the required residual nitrogen credits that are to be used based on the previous crop.**

9. Rule 901:10-2-14(D)(5) provides that the criteria applicable to manure application and the requirements of paragraph (D) of rule 901:10-2-14 may be changed if the owner or operator can demonstrate nutrient insufficiency to the director. Do the words "criteria applicable to manure application," as used in paragraph (D)(5) of rule 901:10-2-14, refer to all of the criteria in rule 901:10-2-14 or only the criteria in rule 901:10-2-14(D)(1) through (4)?

**ODA Response: As described in Rule 901:10-2-14(D)(5), the pre-sidedress nitrate test can be utilized by the producers to demonstrate whether nitrogen is sufficient or insufficient prior to additional nitrogen applications and thus, the words “criteria applicable to manure application” only refers to (D)(1) to (4) of this rule.**

10. Rule 901:10-2-14(E)(3)(b) provides that application of phosphorus shall not occur on land with soil tests over 150 parts per million (ppm) Bray P1 or equivalent unless an owner or operator can demonstrate an alternative to the director through use of the phosphorus index risk assessment procedure contained in appendix E, table 1, of rule 901:10-2-14. Are all such alternative applications subject to the applicable prohibition or limitation in the *Generalized Interpretation of Phosphorus Index & Management* column in appendix E, table 1, of rule 901:10-2-14?

**ODA Response: All such alternative phosphorus applications are required to comply with values determined by table 2 of appendix E of 901:10-2-14 as stated in paragraph (E)(3). However, if soil tests show over 150 ppm Bray P1 (or equivalent), then manure application is prohibited unless the owner or operator demonstrates the alternative through use of appendix E, table 1. Paragraph (E)(3) states the general rule (use of appendix E, table 2) and is modified by subparagraph (E)(3)(b) only for the circumstances of a soil test exceeding 150 ppm Bray P1. If the Phosphorus Index (Appendix E, Table 1) is used as an alternative, the restriction based solely on the soil test value of 150 ppm does not apply since this value is incorporated into the assessment procedure as one of the components in determining a site index value. Once a phosphorus site index value is determined, the categories shown at the end of Table 1, *Generalized Interpretation of Phosphorus Index & Management*, are used to determine the rate or criteria for phosphorus application.**

11. Rule 901:10-2-14(E)(3)(c) provides that phosphorus applications between 250 and 500 pounds (lbs) per acre may be made if the values for liquid manure exceed 60 lbs per 1,000 gal and if the values for solid manure exceed 80 lbs per ton. Is the allowance in rule 901:10-2-14(E)(3)(c) subject to any more stringent nitrogen limitation derived under rule 901:10-2-14(D)?

**ODA Response: Yes. The nitrogen limitations that exist in 901:10-2-14(D) are still required to be met. See also, 901:10-2-14(C) which requires the most limiting factor to determine the application rate.**

12. Rule 901:10-2-14(E)(3)(b) provides that an owner or operator shall not apply phosphorus on land with soil tests over 150 ppm Bray PI or equivalent unless the owner or operator can demonstrate an alternative through use of the Ohio phosphorus index procedure. However, rule 901:10-2-14(E)(3)(d) provides that, "[N]otwithstanding the procedures in paragraph (E)(3)(a) or (E)(3)(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." Are manure applications conducted in accordance with rule 901:10-2-14(E)(3)(d) subject to any more stringent prohibition or limitation derived under rule 901:10-2-14(E)(3) or rule 901:10-2-14(E)(3)(b)?

**ODA Response: Applications under 901:10-2-14(E)(3)(d) are governed by paragraph (E)(3) and any phosphorus application would still need to meet the requirements of either the Phosphorus Index Risk Assessment Procedure or the Phosphorus Soil Test Risk Assessment Procedure, with the maximum amount of phosphorus applied at one time not to exceed 500 lbs./acre. ODA is considering clarifying this in its next rulemaking cycle at (E)(1), (E)(2), (E)(3) and (E)(3)(a) and, in the meantime, will write NPDES permits that further clarify the interpretation of this specific rule.**

13. Rule 901:10-2-14(G)(1)(a) provides that prior approval for surface application of manure on frozen or snow-covered ground shall be obtained from the director or his or her representative. On what basis will the director or his or her representative grant or deny such an approval?

**ODA Response: Approval or disapproval is based on an ODA site-specific assessment of the application site based on the criteria established in 901:10-2-14 (G). If the criteria are not met as established by rule, then approval will not be granted. ODA is considering clarifying this in its next rulemaking cycle by adding a phrase at the end of (G)(1)(a): Prior approval for surface application of manure shall be obtained from the director or his designated representative for each application. Procedures for ODA site-specific assessment of sites for application on frozen or snow-covered ground are addressed at pages 46 to 48 of the Program Description.**

14. Rules 901:10-2-14(G)(1)(b) and (c) provide that the rate of application on frozen or snow-covered ground is limited as follows: 10 tons per acre (solid manure with more than 50 percent moisture), five tons per acre (solid manure with less than 50 percent moisture), and 5,000 gal per acre (liquid manure). The limitations in these rules are not expressed in units of time. Will ODA determine compliance with the limitations during each discrete period of time during which ground is frozen or snow-covered or will ODA determine compliance on a cumulative basis for all periods in a winter during which ground is frozen or snow-covered? For example, if a winter includes three periods during which ground is frozen or snow-covered, could

an owner or operator apply 5,000 gal of liquid manure per acre during each period, for a cumulative rate of 15,000 gal per acre, or would he or she be limited to 5,000 gal per acre in total?

**ODA Response: See 13 above. ODA will determine compliance with limitations during each discrete period of time, allowing for 5,000 gal per acre each time. The period of time between application events shall be sufficient enough to allow for the previous application to be absorbed by the soil. This would require a thawing cycle to allow for assimilation of the nutrients into the soil matrix. If the soil refreezes and all other criteria are met in the rules, no restrictions exist that would prevent another application during another freeze cycle.**