

Case No: R2012-023

My name is Ted Funk, and I am a licensed professional engineer employed by the University of Illinois at Urbana-Champaign as an Extension Specialist in Agricultural Engineering, and as a member of the faculty of the Department of Agricultural and Biological Engineering. I was born and raised on a dairy and hog farm in Adams County, Illinois. I have three engineering degrees from the University of Illinois, and have spent the majority of my career—over 32 years—working with the livestock industry in our state. A current résumé is attached.

On behalf of University of Illinois Extension I wish to provide testimony today based on my knowledge of and experience in the livestock industry, especially the aspects of nutrient management plan development. The rulemaking before us revolves around nutrient management planning: How to properly take care of and utilize manure and wastewater produced on Illinois livestock farms. I appreciate the Agency's efforts in seeking regulatory language that protects the environment for Illinois citizens while allowing the livestock industry to provide safe and affordable food and fiber.

My experience with livestock production is rooted in my farm background, but mostly stems from my work as an Extension agricultural engineer. I have been involved in every aspect of nutrient management planning, and have worked closely with producers and agencies as waste management regulations and practices have evolved over the last three decades.

At this time my Extension team is responsible for offering nutrient management plan-writing training programs to livestock producers and their consultants throughout Illinois. Our emphasis is on writing high-quality plans that are rule-compliant, scientifically sound, and are as easy as possible for the producers to implement and update.

I commend Illinois EPA for involving stakeholder representatives in the rule proposal regarding phosphorus and winter spreading. I urge the Board to resist overly prescriptive rules that may not fit all the conditions across our state, but to rely instead on robust common-sense plans, good records, and adequate manure and wastewater storage capacity for CAFOs desiring coverage under the state's NPDES permit program. As I will explain below, I am also suggesting that the Board recognize as adequate the nutrient management plans already in place at Illinois Large CAFOs that are not covered by NPDES permits nor are applying for permit coverage.

Here are some specific parts of the Agency's rule proposal that I suggest need revision prior to Board promulgation:

- Livestock Waste Volumes. 502.625 (b). I suggest that the Board reference other tabulated data for manure production volumes than those listed in the Agency's proposed rule, as the sources listed are outdated and may no longer be appropriate for planning purposes. Specifically, instead of those listed, I would suggest tables contained in MWPS-18 Section 1, Manure Characteristics, Second Edition, 2004, and NRCS Agricultural Waste Management Field Handbook Chapter 4, Agricultural Waste Characteristics. The second, NRCS AWMFH Chapter 4, is more widely accepted across the US among writers of nutrient management plans. A third source is ASABE Standard Data ASAE D384.2 MAR2005 (R2010), Manure Production and Characteristics. By adding these other sources, the Agency will be aligned with other entities involved in nutrient management planning, such as the Natural Resources Conservation Service (NRCS), and thus cause less confusion on the part of producers and their consultants who are preparing and implementing those plans.

- Winter spreading. I concur with the Agency's emphasis on maintenance of storage capacity so that winter spreading of manure and wastewater on land application fields can be avoided. However, I submit that some prescriptive rule language pertaining to surface application of manure in winter conditions—for example, the multiplication of setback distances required in 502.630.c)4) and 5)—is arbitrary and burdensome to implement. I would urge the Board to remove that language.
- Avoid manure nutrient management plan duplication. I urge the Board to recognize existing manure management plans, thereby qualifying unpermitted Large CAFOs maintaining those plans for the agricultural stormwater exclusion for any pollutant transport to waters of the state that occur as a result of precipitation. Here are my reasons:
 - In Illinois, livestock facilities having a design capacity of over 1,000 animal units as defined by the Livestock Management Facilities Act (LMFA) are already required by the LMFA to develop a manure management plan, and to notify the IL Department of Agriculture of the existence of the plan (8 IAC 900 Subpart H: Waste Management Plan). Facilities managing over 5,000 animal units are required to submit plans to the Department for review and approval. Thus the LMFA plan requirement includes virtually all the universe of Large CAFOs in Illinois as defined in the federal CAFO regulation.
 - Manure management plan development has been a recurring topic for many years at the annual Certified Livestock Manager Training workshop series, which I manage for Extension under contract to the Department. Producers managing more than 300 animal units are required by state law to participate in the CLM program; thus, livestock producers are routinely educated about the purpose of manure nutrient management planning and are updated about the practices that go into good quality plans.
 - In comparing the text of Section 502.505, "Nutrient Management Plan Items," to the LMFA rules in IAC Section 900.803, "Waste Management Plan Contents," it is obvious that that section of the proposed IEPA permit rules is lifted from the text in the LMFA, with some exceptions in the text that I will address below. It is appropriate and fitting that the NPDES General Permit for CAFOs and the LMFA Waste Management Plan be congruent, as the intentions for environmental protection are the same. Creating two separate sets of state regulatory requirements for the same purpose is confusing and burdensome.
 - I would suggest that the Board modify the regulatory proposal to ensure that an unpermitted Large CAFO already having a manure management plan under the LMFA would be allowed to operate under its existing plan, and continue to be allowed to assert the agricultural stormwater exclusion, provided annual plan updates are performed and appropriate notifications are done regarding any substantial changes to the facility's nutrient management plan over time. The LMFA rules already require the same protocols for manure and soil analyses, determination of manure application rates, and recordkeeping. I disagree with the Agency's assertion that an unpermitted Large CAFO operating under a LMFA "Waste management plan" is unable to assert the statutory agricultural stormwater exclusion.
- Many facilities in our state have had nutrient management plans developed by Technical Service Providers who are registered by NRCS to perform that service. Those nutrient management plans (CNMPs)—developed under the IL NRCS Comprehensive Nutrient Management Plan Criteria Practice/Activity Code 102—address even more rigorously than the LMFA the components listed in Section 502.615, Nutrient Transport Potential. As with the LMFA plan, I would hope that the Agency would recognize the nutrient management planning efforts already in place for many facilities, accept the LMFA and CNMP plans as valid, qualifying those unpermitted facilities for the agricultural stormwater exclusion, and would require no duplication or more detail than

specified in the federal CAFO regulation. The proposed rules contain prescriptive language in Section 502.615, Nutrient Transport Potential, which goes beyond the guidance in either the LMFA or the NRCS CNMP 102 regarding manure application setbacks from surface water. In the case of a livestock operation that has already had all its land application fields assessed and incorporated in either of the two above-mentioned plan systems, I would challenge the Agency to substantiate the need for such additional detail. More specifically, I ask that the Board balance such prescription with the Agency's desire for rule clarity and accountability. I believe these minutiae may constitute an unnecessary burden on compliance efforts by producers, with no verifiable impact on water quality.

I appreciate this opportunity to provide testimony for this rulemaking, on behalf of University of Illinois Extension.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Ted L. Funk".

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Educational Background

Ph.D.	University of Illinois, Agricultural Engineering	1994
M.S.	University of Illinois, Agricultural Engineering	1988
B.S.	University of Illinois, Mechanical Engineering	1974

List of Academic Positions since Final Degree

Area Extension Adviser – Agricultural Eng., Cooperative Extension Service	1980-92
Extension Educator – Farm Systems, Cooperative Extension Service	1992-95
Extension Specialist – Agricultural Engineering, University of Illinois Extension	1995 to present

Professional Registrations

Professional Engineer, Licensed in State of Illinois #062.043505

Professional Societies

ASABE, Member	1981-present
Committees:	
Member, SE-404 Swine Housing	1995-present
Member, SE-414 Solar and Wind Energy	1984-present
Associate editor, SE Division, ASABE Journals	2005-2010

Interests/Responsibilities

Lead the statewide Extension programs in bioenergy, livestock structures and environment, livestock waste management and bioenergy systems, and family housing. Provide input to legislative, community, and commodity groups regarding livestock siting and waste management regulation.

Assistant Director of Extension and Outreach, Center for Advanced Bioenergy Research, University of Illinois, College of Agricultural, Consumer and Environmental Sciences.

Summary of Activities in Nutrient Management Planning for Livestock Facilities in Illinois

I have represented the University of Illinois at the following events:

- 1981 through 2009: Every two years I managed or co-managed Extension's statewide Manure Management Conference, serving producers, agencies, and agribusiness.
- 1992-2012: I have been the University of Illinois representative on a 25-state research and Extension project addressing "nuisance avoidance" in livestock and poultry production systems; this involvement has kept me informed of the issues and innovations, nationally and internationally, related to nutrient management and pollution potential.
- 1995: Environmental Stewardship training meetings in Illinois—Extension, commodity groups, and agencies. I wrote and presented materials on manure management plans.
- 1995: I worked with IL Dept of Agriculture to conduct field trials of swine carcass composting, and wrote draft rules for the practice, based on that experience, that were promulgated in 1996.

In 2003-2004 I again worked with the Department to get composting rules expanded to cover bovine and ovine animal mortalities.

- 1997: Illinois Certified Livestock Manager Training began—University of Illinois Extension, with myself as the training program manager, stepped up as contractor to the Illinois Department of Agriculture for the certification program that was mandated by the Livestock Management Facilities Act. The first year we trained 2,300 people in 15 workshops around the state. The program continues to date, focuses on manure management planning for all sizes of livestock facilities, and educates approximately 1,000 Illinois producers and agribusiness representatives in each 3-year certification cycle.
- 2000: Work began on the national Livestock and Poultry Environmental Stewardship (LPES) Curriculum. I was on the Review and Pilot Test team. The material was based upon work supported by USDA, the U.S. Environmental Protection Agency (EPA), the National Agriculture Compliance Assistance Center, and University of Nebraska Cooperative Extension. That multistate, multi-agency project produced an internationally-recognized training curriculum that Illinois still uses.
- 2002: I was co-principle investigator on a two-year Council for Food and Agricultural Research (CFAR)-funded Livestock Strategic Initiative project, on livestock facility siting and status of producer nutrient management plans in Illinois.
- 2003: Under my direction, University of Illinois Extension brought together the Illinois Natural Resources Conservation Service (NRCS), Illinois Department of Agriculture, and Illinois EPA to agree on a unified Manure Management Plan format for Illinois producers. The result, with substantial funding by Illinois EPA, was the Illinois Manure Management Plan workbook. The IMMP workbook, which was made available to all Illinois producers, contained all the forms and instructions necessary for a producer to put together a nutrient management plan for an existing livestock or poultry farm in our state.
- 2003: University of Illinois Extension held training sessions on the new US EPA CAFO regulation—450 producers and agribusiness representatives were in attendance at three workshops around the state.
- 2004: Illinois Manure Expo—industry, agency, academia, and producers attended the function at the U of I campus research farm.
- 2006: Under my direction, Extension demonstrated a web-based version of the Illinois Manure Management Plan (IMMP) to commodity groups and agency representatives. Thanks to funding from sponsors, the IMMP continues to be offered free to producers ever since.
- 2010-2011: A colleague and I participated in the IEPA NPDES General Permit Stakeholder meetings on phosphorus and winter spreading rules.

I also represented the University during these milestones:

- 1996 Livestock Management Facilities Act Emergency Rule
- 1997 Livestock Management Facilities Act final rule, where Extension took on the task of Certified Livestock Manager Training mandated in the rule
- US EPA and USDA “Unified Strategy” for interagency development of a manure-management producer assistance program—stakeholder listening session in Kansas City, MO
- 2008 US EPA CAFO regulation roll-out.

Awards

Extension Professional Staff Outstanding/Innovative Programming Team Award. Illinois Manure Management Plans (IMMP) Program. College of ACES, University of Illinois at Urbana-Champaign. 2009.

Campus Award for Excellence in Public Engagement. University of Illinois at Urbana-Champaign. 2004.