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MMPs, NMPs, CNMPs and NPDES Permits: The Alphabet Soup of Nutrient Management Planning

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Introduction

Nutrient management planning in Iowa can be a complex process. The degree of planning is dependent on the need for one or more different types of management plans to serve the different requirements of state and federal agencies.

Producers, their technical advisors, and agency staff are often confused as to what regulations must be met and what practices must be employed to meet the various planning processes of state and federal agencies. The objective of this paper is to review the state and federal requirements, the terminology and the current programs involving the alphabet soup of Manure Management Plans (MMPs), Nutrient Management Plans (NMPs), Comprehensive Nutrient Management Plans (CNMPs), National Pollutant Discharge Elimination System (NPDES) permits and a few additional acronyms related to nutrient management planning.

State Requirements

Confinement Facilities-MMPs

Since 1995, producers who raised animals in confinement facilities with more than 200,000 lbs. of swine or 400,000 lbs of beef were required to have a manure management plan filed with the Iowa Department of Natural Resources (IDNR). In 2002, the requirement for filing a MMP changed from animal weight capacity to animal units (a.u.). The current law requires MMPs from owners of confinement feeding operations with more than 500 a.u. and if the operation was constructed or expanded after May 31, 1985, or if you are currently constructing a manure-storage structure or confinement site building. From 1995 to 2002, MMPs have been based on manure application rates that met the nitrogen requirements of the crops being grown.

Legislation in 2002 also required the IDNR to determine manure application rates based on the Iowa Phosphorus Index. The Iowa Phosphorus Index is a risk assessment tool that is used to determine the risk of losing phosphorus from a field by erosion, runoff and subsurface drainage. A common misconception of producers and service providers is the Iowa Phosphorus Index is solely based on soil test phosphorus levels and if a soil test exceeds a particular level, the field will not be eligible for future manure applications. This is not true, although soil test levels are a component of the Iowa Phosphorus Index. MMPs based on the Iowa Phosphorus Index may continue to allow producers to apply manure on a nitrogen-based rate, if the Phosphorus Index vulnerability rating allows. However, it is also possible manure application rates may need to be adjusted to apply manure only to meet the phosphorus needs of crops. In some cases this may lower the overall application rate and require additional acres for manure application. Currently producers are facing an implementation schedule as to when they need to comply with the
Phosphorus Index based MMP. The schedule is shown in Table 1.

Table 1. Implementation schedule for P-Index MMPs

<table>
<thead>
<tr>
<th>Date original MMP was submitted to DNR</th>
<th>Implementation of P-Index MMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to April 1, 2002</td>
<td>When first annual update is due after August 25, 2008</td>
</tr>
<tr>
<td>Between April 1, 2002 and October 25, 2004</td>
<td>When first annual update is due after August 25, 2006</td>
</tr>
<tr>
<td>After October 25, 2004</td>
<td>Upon Submittal</td>
</tr>
</tbody>
</table>

Other requirements for confinement facilities include meeting separation distances for land application of manure, being certified to haul or apply manure from a facility with more than 500 a.u.; and soil sampling for future MMPs.

**Open Feedlots**

Open feedlots are not currently required to have a “MMP”. However, it is anticipated that beginning as early as 2006, open feedlots of a designated size and identified as a Concentrated Animal Feeding Operation (CAFO) under federal requirements will be required to have a nutrient management plan. Open feedlots, regardless of size, are also required to meet minimum separation distances for land application of manure near “designated areas” such as sinkholes, cisterns, abandoned wells, drinking water wells, designated wetlands, water sources, high quality water resources, unplugged agricultural drainage wells and agricultural drainage well inlets.

**Small Animal Feeding Operations**

Small animal feeding operations (SAFO) are any animal feeding operation with 500 animal units or less. SAFOs are not required to have a MMP; however, they are required to meet the same separation distances for “designated areas” as open feedlots and confinement facilities.

**Federal Requirements**

Federal requirements are divided into two components, requirements to meet USDA-Natural Resources Conservation Service (NRCS) and requirements to meet the U.S. Environmental Protection Agency (EPA).

**Nutrient Management Plans**

A NMP is a field-by-field plan to apply nutrients at the right time of the growing season and according to the needs of the particular crop. The official definition of a NMP is found in the NRCS Nutrient Management Standard usually referred to as “The 590 standard”. The 590 standard refers to Nutrient Management as “Managing the amount, source, placement, form, and the timing of the application of nutrients and soil amendments”.

A NMP is required if a producer is participating in the Environmental Quality Incentive Program (EQIP) which offers incentives to develop and implement nutrient management plans voluntarily. These incentives vary county by county depending on the priority at the county level. NMPs can be written by Technical Service Providers (TSPs) certified minimally as a certified organic/inorganic nutrient management planner or an employee of the NRCS certified as a conservation planner. Currently if a producer is implementing a NMP and they follow their Conservation Plan they will meet the water quality objective of the Conservation Security Program (CSP) and be eligible to participate in CSP.
Comprehensive Nutrient Management Plans
A CNMP is total conservation plan for an animal feeding operation. A CNMP is more inclusive than an MMP and includes conservation practices to address land treatment concerns such as erosion. A CNMP will consist of the following elements: manure and wastewater handling and storage; land treatment practices; recordkeeping and nutrient management. Optional, but recommended elements include feed management and other utilization activities. In Iowa, CNMPs are required of animal feeding operations who request technical assistance from NRCS or livestock producers who receive cost-share dollars from EQIP to help construct manure handling and storage facilities. CNMPs must be written by a TSP certified for CNMP nutrient management or an employee of the NRCS certified as a conservation planner. In Iowa, a CNMP can be filed with the IDNR in place of a MMP.

NPDES Permits-Nutrient Management Plans
The NPDES program regulates discharges to waters from point sources and CAFOs are considered point sources of pollution under the Clean Water Act. The NPDES program is administered through the US EPA, but in Iowa, the program is enforced by the IDNR. The term CAFO applies to both open feedlots and confinement facilities that meet certain size and designation requirements.

The concepts of a CNMP are very similar to the requirements of a “nutrient management plans” as identified in the EPA’s proposed CAFO rules that were announced in December 2002. Since that time, a lawsuit has delayed implementation of the CAFO rules. The EPA recently announced they will need to extend the original deadline of December 2006 for nutrient management plans as part of a NPDES permit to meet the CAFO rules. The new deadline has not been announced. Open lots designated as CAFOs will be required to have a NPDES-NMP. Because confinement facilities in Iowa have been required to have a MMP it is not certain what additional nutrient management planning will be required of these facilities to meet the CAFO requirements. If the confinement facility is a CAFO and it has had a discharge, and a NPDES permit becomes a requirement for that facility, then the facility will need a NPDES-NMP as well as their state MMP. Non-CAFO sized open feedlots have no requirements for nutrient or manure management plans.

Web Resources for Additional Information
Iowa Manure Management Action Group – http://extension.agron.iastate.edu/immag/

ISU Soil Fertility Page – http://extension.agron.iastate.edu/soilfertility/


Iowa Natural Resources Conservation Service – http://www.ia.nrcs.usda.gov/

The Iowa Phosphorus Index Calculator – ftp://ftp-fc.sc.egov.usda.gov/IA/technical/P-Index_02_10_05.xls

RUSLE2 – http://www.ia.nrcs.usda.gov/technical/RUSLE2.html


