

Nutrient Management Planning in Iowa
Paul Miller, NRCS
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There are various nutrient management plans that are developed and implemented in Iowa. This session discussed the similarity and differences between plans that are required by the state and plans developed voluntarily by producers. The plans discussed were manure management plans and nutrient management plans.

The Iowa Department of Natural Resources (IDNR) administers Manure Management Plans (MMP) through the Iowa Administrative Code Chapter 65. MMP's are required of confinement (totally roofed) feeding operations of a certain size (more than 200,000 pounds of swine or poultry and greater than 400,000 pounds of bovine) and built or expanded after May 31, 1985. A MMP is also required of operations filing for a construction permit.

These plans must be submitted to IDNR on designated forms available from the IDNR and Internet. MMP's are still being accepted by IDNR, however, plans submitted after September 18, 2001 must be approved by IDNR before any manure can be applied to cropland. There is no certification required for individuals to develop MMP's. Many producers have developed their own MMP while others have hired private consultants to develop plans.

The calculation for the land area needed for manure application is determined by dividing the total nitrogen available by the crop usage rate. Since the manure application rate is based on the nitrogen needs of the crop, soil tests are not required. The nitrogen available in the manure is determined by analysis or book values. The manure nitrogen available is then adjusted by an application loss factor based on the method of application and by the percent nitrogen available the first, second and third year after application. The crop nitrogen usage rate is based on the crop optimum yield adjusted for legume nitrogen credits, commercial nitrogen, and any manure nitrogen carryover.

If manure is applied to land that the producer does not own or rent a written agreement to apply manure to that land must be included with the plan. A summary or copy of a conservation plan must also be included if manure is applied to highly erodible land. If a MMP is revised because of changes in an operation, the updated MMP needs to be kept at the site of the operation and is not required to be sent to the IDNR. Records showing the method, date, location, and rate of manure application must be kept for three years or the length of the crop rotation, whichever is greater.

The voluntary Nutrient Management Plans (NMP) are developed for producers that request technical assistance provided by the Natural Resources Conservation Service (NRCS). NMP's are based on the NRCS nutrient management standard (590) and are meant to be planned and applied as part of a conservation system. A NMP addresses

managing the amount, source, placement, form, and timing of nutrient application to achieve realistic yields while minimizing nutrient movement to surface and groundwater.

The 590 has general criteria, that all NMP's follow, and additional criteria for certain identified environmental concerns. The general criteria require NMP's to include current soil test by Iowa Department of Agriculture certified labs. Nutrient application rates follow Iowa State University recommendations based on realistic yield potentials adjusted for legume and manure credits. Manure analysis or book values can be used and application equipment must be calibrated annually.

Iowa has developed a Phosphorus Index as a risk assessment tool. When manure is applied the application rate is based on nitrogen or phosphorus needs of the crop depending on the results of the risk assessment tool. The phosphorus index is also used when nutrients are applied to fields that are in a watershed of a impaired waterbody due to phosphorus, fields that test very high in soil test phosphorus, and fields where the soil loss exceeds the tolerable level. Criteria is also given for nutrient application around sensitive areas.

The major differences between the required MMP's and voluntary NMP's are as follows:

<u>MMP</u>	<u>NMP</u>
Confinement (roofed) operations	Operations requesting assistance
Nitrogen based application rates	N or Phos based (phosphorus index)
No soil test required	Soil test required
No equipment calibration required	Equipment calibration required
Plans on designated forms	No forms
No certification for planners	Approved by certified planner