Nutrient Management Plans for Open Feedlots
All Manure

- Manure
- Process wastewater
- Open feedlot effluent
- Settled Open Feedlot Effluent
- Settable Solids
Nutrient Management Plans (NMPs)

- For existing permitted CAFOs- NMPS are due to DNR by July 31, 2007
- All feedlot over 1,000 a.u. needs NMP
- DNR has 60 days to approve or disapprove NMP
- Requires Public Notice for Public Comment
Nutrient Management Plans (NMPs)

- Requires that a P-Index be calculated on each field
- This requires that RUSLE2 be run on each field
- This requires that each field have current soil samples
Nutrient Management Plans (NMPs)

- Timeline
  - 60 days for approval
  - Final plan due July 31
  - Public Hearing within 30 d of notice
  - Request for Public Hearing 10 d after notice
  - Public Notice May
  - P-Index, RUSLE2, develop plan Now (Spring 2007)
  - Soil samples Now (Spring 2007)
Nutrient Management Plans (NMPs)

• Responsibility: Who does what?
  – Soil samples
  – RUSLE2
  – P-Index
  – Plan development
  – Recordkeeping
Public Notice

• The owner of the open feedlot shall publish notice for public comment in a newspaper with general circulation in the county where the open feedlot operation is or is proposed to be and in the county where manure, process wastewater, or open feedlot effluent may be applied.
Public Notice- Required

• Name of owner
• Name of township of open feedlot operation and where manure is to be applied
• Animal Unit Capacity
• Time and Place where NMP can be examined
• Procedures for providing public comment to DNR and procedures for requesting a public hearing
• Statement on how to acquire info on making public comment to DNR and the DNR’s web site address
Nutrient Management Plans

- P Index
- Calculations to determine land area needed (based on N or P)
- Animal production, manure production, total nutrient production
- Crop nutrient use based on N or P
- Allocation of manure to fields
  - Timing and location
- Manure and effluent storage
- Manure agreements/easements
Nutrient Management Plan cont..

• Chemical Handling
  – pesticides, commercial fertilizer, hazardous and toxic chemicals, petroleum by-products

• Storage and Inspection of Land Application Equipment

• Animal Mortalities

• Diversion of Clean Water

• Prevention of Animal contact with Waters of the US
Supporting Info

• A Plat Map
  – Animal feeding operation and all fields where manure is applied

• Aerial Photos
  – Fields of manure application, boundaries and areas not available for application

• Documentation of Optimum Yields

• If Irrigation is used
  – Information on how to meet restrictions and reduce potential odors
Supporting Info, Cont…

- Written Manure Application Agreements
- A copy of the NRCS P Index detailed report for each field
- A copy of the RUSLE2 profile erosion record for each field
Updating Your NMP

• Changes to the plan must be documented prior to implementation in the field and the documented changes must be kept on site with the NMP
Inputs to Nutrient Management Plan

• P Index
  – Risk assessment tool for predicting potential loss of P from a field to surface water
  – Soil sampling data

• RUSLE2
P Index

- Provides a risk rating
- Helps identify causes of high P losses
- Provides options for better soil conservation and P management
- The P Index must be calculated every 4 years
P Index

• The P Index is not just a measurement of your soil test P level
• The P Index does not limit manure application based on soil test P only
• The P Index does not tell you how much P is lost from a field
Site vulnerability ratings for the P Index

- Very Low (0-1) and Low (>1-2)
  - May apply at N-rate
- Medium (>2-5)
  - May apply at N-rate, but must keep below 5
  - P-application can't exceed two times the crop removal of the rotation
Site vulnerability ratings for the P Index

• High (>5-15)
  – No manure until practices are adopted which reduce the P Index to at least the medium risk category

• Very High (>15)
  – Manure shall not be applied on a field with a rating greater than 15
RUSLE2

• Revised Universal Soil Loss Equation
• Estimates rill and interrill erosion
• Considers crop systems, management systems, soil, rainfall and topography
Soil Sampling for Nutrient Management Plans

- Samples must be taken at least once every 4 years
- Each sample must be analyzed for P and pH
- Soil analysis completed by lab enrolled in IDALS certification program
  - Contact 515-242-6377 or
  - http://extension.agron.iastate.edu/immag/info/naptiowa06.xls
Soil Sampling for NMPs

• Sampling strategies may include
  – grid sampling
  – management zone sampling
  – soil type sampling
Soil Sampling for NMPs

- Each core must represent the top 0-6 inch depth
- Each sample must be a composite of at least 10 cores
- Each sample must represent no more than 10 acres
Soil Sampling for NMPs

• Fields Less than or Equal to 15 Acres
  – Only One Soil Sample is Necessary

• If P-based Rates are Used Between Sampling Periods
  – Up to 20 Acres Per Soil Sample
  – Only After First P Index Calculations are Run
Soil Sampling for NMPs

• Copy of soil sample test report must be kept in NMP records and reported when taken in qtr report

• Soil test P value used in P Index calculation should be an average of all samples in that field
Soil Sampling Timeline for NMPs

• New NMPs will be allowed to meet soil sampling requirements up to one year after plan is filed
  – existing soil sample information used to file plan
  – if existing data is older than 4 years or does not meet requirements, producers have up to one year to take the new samples and will need to re-submit the plan
Recordkeeping

- Records must be kept for 5 years following the year of application (or for the length of rotation - whichever is greater?)
- Must be made available to DNR upon request
NMP Records

- Optimum yield
- Type and amount of N credit
- Remaining Crop N needed
- N content and first year availability
- P content
- Crop Rotation
- P removed by crops
NMP Records

• Max application rate and actual rate
• Method of application
• Date of application
• Weather conditions 24 hours prior, during and 24 after
• Location of application
• Date of application equipment inspection
• Date and rate of any commercial N or P applied
• Copy of current soil test lab results
Reporting Releases

- shall notify the DNR of the occurrence of release as soon as possible but not later than 6 hours after the onset or discovery of the release.
- Spill Number 515-281-8694
- Must also call local police department or sheriff’s office
Reporting Releases

• Verbal report and written report need to include
  – Approximate location
  – Time and date of spill if known and time and date of discovery
  – Time and date of verbal report
  – Name, address, and phone of person reporting release
Reporting Releases

- Name, address and phone of others with knowledge of the release
- Source of manure,
- Estimated or known volume
- Weather conditions at time of release or discovery
- Circumstances
Reporting Releases

• Approximate location of nearest stream or other body of water and tile intakes or tile lines
• Description of containment or remedial actions
• Any additional info
NMP vs. CNMP

• A Comprehensive Nutrient Management Plan (CNMP) developed for USDA-NRCS can be substituted for your NMP.

• NOTE: Not all requirements of NMP are found in a CNMP, so you may need to file additional paperwork to complete requirements
Hiring a Consultant

• No certification required to write NMPs
• Must be certified (TSP) to develop CNMPs
• Manure Plan Writers
  – http://extension.agron.iastate.edu/immag/spprivmmp.html
• TSPs
  – Contact Local NRCS office
Hiring a Consultant

- Inquire if they have feedlot experience
- Ask if they have been trained to use the P Index, RUSLE2 or develop a NMP
- Ask what kind of support you will receive
  - Plan development, recordkeeping etc…
Other Considerations

- Manure Applicator Certification
  - Confinements over 500 a.u.
  - 2 hours of annual training

- Hiring Commercial Applicator

- Selling Manure
  - Chapter 200A

- Separation Distances for Application
  - DNR Fact Sheet 113
  - Table 2 applies to Open Feedlots
Resources for Info

• Manure Applicator Certification
  – http://extension.agron.iastate.edu/immag/mac.html

• List of Commercial Manure Applicators
  – http://extension.agron.iastate.edu/immag/info/cca.xls

• Contact Info For Selling Manure
  – Iowa Department of Agriculture and Land Stewardship- Terry Jensen (515) 281-8599
Resources for Information

- DNR Fact Sheet on Separation Distances for Land Application