



Nutrient Regulations and Voluntary Initiatives for Agriculture

IDEM Numeric Nutrient Criteria
Workgroup Meeting

August 28, 2012

Areas of Discussion

- CFO and CAFO NPDES Regulations
 - IDEM Regulatory Program
- Voluntary Initiatives
 - Coordination among agricultural organizations

CFO and CAFO NPDES Regulations

- New rules effective July 1, 2012
- NPDES: Adopted federal rule language
 - Applies only to operations which discharge
- CFO: Specific standards for broader scope of farms
 - Based solely on number of animals

New CAFO NPDES Rule

- Design, Construction, Operation
 - Must comply with CFO provisions for
 - Approval conditions
 - Mortality Management
 - Permit amendments
 - Groundwater Monitoring (if applicable)
 - Federal stormwater requirements
 - Design Standards
 - Maintenance Requirements

New CAFO NPDES Rule

- Nutrient Management
 - Sampling requirements
 - Nutrient Management Plans using
 - NRCS nutrient management plan references
 - Manure Management Planner from Purdue
 - Use CFO rule requirements for
 - Application rates
 - Setbacks
 - Application procedures
 - Application site inspection
 - Spray irrigation
 - Manure marketing

New CAFO NPDES Rule

- Nutrient Management (cont.)
 - Nutrient Management Plan = Effluent Limitation
 - Public review
 - Changes must be submitted to IDEM
 - IDEM determines whether “substantial”
 - If substantial, electronically noticed for 7 days
 - After 7 day review period, owner/operator can implement change

Who Needs a CFO Approval?

- Number of animals
 - 300 cattle
 - 600 hogs or sheep
 - 30,000 birds
 - 500 horses
- Operation causing a violation of water quality laws or rules

Stormwater Management

- Those farms not a “CAFO by the Numbers” must consider:
 - Potential pollutant sources
 - Location of existing control measures to reduce stormwater runoff
 - Materials management practices
 - Good housekeeping, preventative maintenance, sediment and erosion control, management of stormwater runoff
- Sign an IDEM form indicating the above items were considered
- IDEM can require additional measures

Nutrient Limits for Application

- Specific soil test requirements
- Manure nutrient calculation
- Nitrogen limits
- Phosphorus limits

Soil Test Requirements

- Sampling procedure in the manure management plan
- No more than 20 acres per sample
- Minimum of every 4 years

Manure Nutrient Calculation

- Manure tests
 - Minimum of every year
 - Representative sample of what is applied
- Application Rates
 - Based on actual manure sample value, **or**
 - *First application only* at 50% of value in NRCS Ag Waste Management Field Handbook

Nitrogen Rates

- Limited to rates in:
 - Purdue Extension pub ID-101: Animal Manure as a Plant Nutrient Source, Feb 2001
 - Tri-State Fertilizer Recommendations, E-2567, July 1995

Phosphorus Rates

- **All operations** now subject to application rates based upon phosphorus levels
- Requires soil test
- Multiple years worth of P applied so long as average does not exceed allowable amounts

Phosphorus Rates

Table 1.

PHOSPHORUS APPLICATION RATES FOR LARGE CAFOS APPROVED FOR INITIAL CONSTRUCTION AFTER FEBRUARY 13, 2003 AND CFOS APPROVED FOR INITIAL CONSTRUCTION AFTER THE EFFECTIVE DATE OF THIS ARTICLE

Soil test level (ppm)	Application rate
0-50	N based
51-100	1.5 × P crop removal
101-200	1.0 × P crop removal
201+	0

Phosphorus Rates

PHOSPHORUS APPLICATION RATES FOR ALL OTHER CFOS AND CAFOS

Soil test level (ppm)	YEAR ¹			
	2012-2013	2014-2015	2016-2017	2018+
0-50	N based	N based	N based	N based
51-100	1.5 × P crop removal	1.5 × P crop removal	1.5 × P crop removal	1.5 × P crop removal
101-200	1.0 × P crop removal	1.0 × P crop removal	1.0 × P crop removal	1.0 × P crop removal
201-250	0.9 × P crop removal	0.75 × P crop removal	0.75 × P crop removal	0
251-275	0.9 × P crop removal	0.75 × P crop removal	0.5 × P crop removal	0
276-300	0.9 × P crop removal	0.75 × P crop removal	0.25 × P crop removal	0
301-350	0.7 × P crop removal	0.5 × P crop removal	0	0
351-400	0.7 × P crop removal	0.25 × P crop removal	0	0
401+	0	0	0	0

¹ Multiple years of phosphorus may be applied as long as the net average of phosphorus does not exceed the amounts indicated in Table 1.

Frozen or Snow Covered Ground

- Injection or same day incorporation not restricted
- **Large CAFOs**-only allowed with individual NPDES permit provisions

Frozen or Snow Covered Ground

- Application allowed
 - Not large CAFO
 - Emergency applications
 - Farm with 120 days or less approved storage
- With conditions
 - Less than 2% slope unless 40% residue or cover crop
 - Not in flood plain
 - 200 feet setback from surface water
 - 50% rate

Frozen or Snow Covered Ground

- Emergency Applications
 - Triggered by unforeseen circumstances beyond control of owner
- Steps that must be followed
 - Notify IDEM prior to application
 - Provide specific info
 - Document emergency
 - Stop when emergency is gone

Frozen or Snow Covered Ground

- Farm with 120 days or less approved storage
 - Must seek approval from IDEM
 - Requirements
 - Provide proof of available storage capacity
 - Follow conditions
 - Authority terminates when a water quality violation documented

Voluntary Initiatives

- Nutrient Management/Soil Health
- Coordination of ag organizations
 - Working with government agencies and other NGOs
 - Expanding on work already being done
- Development stages

Nutrient Management/Soil Health

- Focus on education of farmers and advisors
 - Adaptive nutrient management
 - 4R principles (Right Source, Right Time, Right Place, Right Rate)
 - On-farm trials
 - Soil Health
 - Improve soil absorption capacity
- Local information/local action



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