Fertilizer Application Regulations

Matt Pearson
Office of Indiana State Chemist
Fertilizer Administrator
OISC regulations do not replace any of the Indiana Department of Environmental Management manure regulations, permitting, spill reporting, or other water quality standards.
Why are we regulating nutrients?
USGS SPARROW model
USGS SPARROW model
What is a Fertilizer Material?
It is any substance containing nitrogen, phosphate, potash or any plant nutrient, including anhydrous ammonia.

Two Types:
1. Inorganic: 28% potash, anhydrous ammonia
2. Organic: manure, compost, dry distiller grains

Exemptions:
Lime, gypsum, biosolids
Who is exempt from standards? Any person distributing or using less than 10 cubic yards or 4000 gallons of any type of fertilizer material* in a calendar year.
What creates 10 yrd³ per year?

10 yrd³ is produced by:

- 1 dairy cow
- 1 horse
- 2 finishing steers
- 12 finishing pigs
- 4 sows
- 240 layers
- 1500 broilers (total number in 1 year)
- 205 male turkeys

Source: ASAE D384.2 MAR2005; Manure Production and Characteristics
What creates 10 yrd\(^3\) per year?

10 yrd\(^3\) is produced by:

- Sow = 2
- Finishing Hogs = 10
- Steer = 1
- Dairy Cow = 1
- Ewe = 7
- Horses = 1
- Layers = 239
- Broilers = 212
- Turkeys = 82
- Ducks = 118

Source: IDEM numbers
Fertilizer Certification Rule:

1) Persons who apply or transport commercial fertilizer material for hire.

2) Persons who apply or transport manure, from the following:
   - Indiana regulated confined feeding operations.
   - Operations outside Indiana that would be confined feeding operations if they were located in Indiana.
CFO Manure Required Records for Distributor/Seller

- Applicator must have Category 14 Certification to obtain manure from CFO.
- Name, certification number, amount sold, analysis, date.
- Records kept for 2 years
- Similar to private applicator recordkeeping requirements for restricted-use pesticides.
Category 14 Certification

Who does it apply to?

- For Hire Ag & Transporters (commercial)
- Users of manure from a CFO (private)

Manure that is custom-applied doesn’t require the grower to be certified, just like RUP and private pesticide applicators.
NOW the New NEW RULE

Fertilizer Material Use, Distribution and Record Keeping
Plan

► Fertilizer Plan required by **ALL** growers. Required for both Manure (organic) and Inorganic Fertilizer applications

► The Fertilizer Plan, at a minimum, is a written plan that ties the application of fertilizer to agronomic rates.

► Must include how fertilizer rates are determined.

► The purpose is that you have thought about rates to meet the crop’s needs.
Fertilizer Plan Resources:

Tri- State Fertilizer Recommendations, AY- 9- 32

Agronomist recommendations

The following website http://extension.agron.iastate.edu/soilfertility/nrate.aspx
Staging
Staging is the *temporary* placement of product in a pile in preparation of field application. The fertilizer material is meant to be used now, rather than later.

Fertilizer materials behind the barn are not defined as ‘staging’ and are exempt from setback restrictions.
Fertilizer material staging and application regulations include major changes that will give nearby landowners legal status to their complaints.
**INORGANIC Fertilizer Staging**

**Restrictions**

- Cannot place within 300 feet of surface water, drainage inlets (risers in field) or water wells
- Cannot place in standing water, a waterway, or floodway
- After 72 hours, the pile needs to be covered
- Can be staged along property line
- Applied within 30 days
Potash Staging
**Manure (Organic) Staging Restrictions**

- Do not place within 300 feet of surface water, drainage inlets or water wells

- Cannot place in standing water, a waterway or floodway

- After 72 hours, the pile needs to be covered or bermed
**MANURE** (Organic) Staging Restrictions

- **100 feet from property line or public road**
- **400 feet from residential buildings**
- **Manure cannot be staged on the side of a hill**
- **Applied within 90 days**
NOTE:
These setback standards will be used by OISC to handle complaints. This applies to all manure staging.
Fertilizer Material Application Restrictions

- Cannot be applied directly to water
- Cannot be applied from a public road
- Cannot be applied to saturated ground

If you can get in the field, then it’s not saturated

No other application restrictions Inorganic.
**MANURE (Organic) Application Restrictions**

Affects **ANYONE** applying manure.

<table>
<thead>
<tr>
<th></th>
<th><strong>LIQUID Injection or Single-pass Incorporation of LIQUID or SOLID</strong></th>
<th><strong>LIQUID Incorporation (within 24 hr) or Surface-applied SOLID</strong></th>
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<tbody>
<tr>
<td>Public Water Supply</td>
<td>500 feet</td>
<td>500 feet</td>
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<tr>
<td>Surface Waters</td>
<td>25 feet</td>
<td>50 feet</td>
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<td>Sinkholes</td>
<td>25 feet</td>
<td>50 feet</td>
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<td>Water Wells</td>
<td>50 feet</td>
<td>50 feet</td>
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<tr>
<td>Drainage Inlets</td>
<td>5 feet</td>
<td>50 feet</td>
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<td>Property Lines</td>
<td>0 feet</td>
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<td>Public Roads</td>
<td>0 feet</td>
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Watch out for property lines and wells

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<tr>
<th>MANURE</th>
<th>Surface-applied Liquid—no incorporation or injection of manure</th>
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<tr>
<td></td>
<td>Less than 6% Slope or Residue Cover</td>
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<tr>
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<td>500 feet</td>
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<td>100 feet</td>
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Manure cannot be applied to HEL unless the land has:
- At least 40% crop residue; or
- A vegetative cover crop.
MANURE (Organic) Applications to Frozen or Snow Covered Ground

A CFO (IDEM-permitted) facility CANNOT apply manure to frozen ground, unless special permission granted by IDEM.
Manure obtained from all sources (including CFO) can apply manure to frozen ground in the following circumstances.

- If equipment can inject or incorporate the same day application is allowed when the crop is not in the field. Application can be at full recommended rate.
If the equipment can only apply the manure to the surface without incorporation, then the following rules cover those surface-only applications.
(Organic) Applications to Frozen Ground or Snow Covered Ground

- Cannot apply within 200 feet of surface water
- Cannot apply within floodway
- Can only represent up to 50% of the next crop
- Cannot apply when slope is greater than 2% unless 40% crop residue or cover crop

Inorganic fertilizer **CAN** be applied to frozen ground
Monitor soil conditions and weather forecast for the 24 before the application
Monitor surface water & field tile for change in color, flow or volume
If there is a change:
   ▶ Report it as a spill to IDEM;
   ▶ Stop the application immediately;
   ▶ Stop or capture the effluent; and
   ▶ Land apply or store the effluent.
Fertilizer Materials

Application Records

- Category 14 private applicators only keep records of manure (organic) applications.
- Category 14 commercial applicators keep records of inorganic fertilizer and manure (organic) applications.
- Records kept for 2 years.
- Commercial company can maintain records for their customers.
Required Records

| Location: |

<table>
<thead>
<tr>
<th>Applicator + Cert. no.</th>
<th>Date (m- d- yr)</th>
<th>Fertilizer Type</th>
<th>Nutrient Value</th>
<th>Rate/acre</th>
<th>Application Method</th>
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For the following examples, you will use the tables and information found in the handout.
What regulations must be followed if staging fertilizer in this location?

- Must be staged 300 feet from surface water
- Cover pile after 72 hours
- Apply to field within 30 days
What is the setback distance to stage in this field?

300 feet
What is the minimum distance that is required between a house and the staging of inorganic and organic?

- If inorganic, no restrictions from building, can be right up to property line
- If organic, must be 400 feet from residential buildings and 100 feet from property line or public road
How close to the property line can an application of inorganic and organic be made?

Inorganic – no restrictions, can be applied right up to property line

Organic – setbacks vary between 0 feet and 50 feet depending on liquid/solid, incorporation and land slope (see table)
Under what conditions can manure be applied?
Can you apply inorganic fertilizer on frozen ground?

- If manure (organic) is incorporated or injected, it is allowed.
- If not, setback is 200 feet from surface water, cannot be applied in floodway, can only apply up to 50% of need

CFO cannot apply unless permission from IDEM!

Inorganic fertilizers can be applied to frozen ground.
Under what conditions can you apply this inorganic fertilizer?

- Ground is not saturated
- Not applied from a public road
Under what conditions can fertilizer be applied to this field?

Inorganic – no setbacks from sinkholes. Recommendation: Be a good steward and follow setbacks for organic fertilizer.

Organic – depends on application method

Look at table for sinkhole category – setbacks are 25 ft, 50 ft, 100 ft and 200 ft.
Surface liquid manure application was made in past 24 hours, incorporation follows, is this an acceptable application?

**NO!**

Must be 50 feet from any surface water
The county educator received calls about a manure pile that has been in a field a *long* time. How long can manure be in a field before application?
Will application of this pile meet deadline?
What are the conditions of this application? What rules need to be met?

Surface applied inorganic fertilizer
• Do not apply directly to water
• Do not apply from public road
• Do not apply to saturated ground

Follow your agronomic plan!
Conclusions

- Category 14 certification required for manure obtained from CFO by the grower.
- Category 14 certified seller and user of manure must keep records.
- Fertilizer Plan required by **ALL** growers. Required for both Manure (organic) and Inorganic Fertilizer applications.
- Staging of Inorganic Fertilizers: use within 30 days in the field pile must be covered.
- Manure (organic): Many setback and application restrictions.
- Some application restrictions when surface applied on frozen ground.
Section 5. (a) Except as provided in subsection (b), a person may not:

1. throw, run, drain, or otherwise dispose; or
2. cause, permit, or suffer to be thrown, run, drained, allowed to seep, or otherwise disposed;

into any of the streams or waters of Indiana any organic or inorganic matter that causes or contributes to a polluted condition of any of the streams or waters of Indiana, as determined by a rule of the board adopted under sections 1 and 3 of this chapter.

(b) Subsection (a) does not apply to organic or inorganic matter that consists of fertilizer material contained in:

1. runoff from a storm event; or
2. irrigation return flow;

entering the waters of Indiana as a result of land application of fertilizer material in compliance with rules adopted by the state chemist under IC 15-16-2-44.

Amended by P.L.189-2011, SEC.11.
Compliance with the rules began on February 16, 2013.
For more information
OISC
765 494 1492
800 893 6637
www.oisc.purdue.edu
“A good laugh is like manure to a farmer – it doesn't do any good until you spread it around.”