

Changes Made in the DRAFT Iowa 590 Nutrient Management Conservation Practice Standard

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Changes made in the proposed 2013 Iowa 590 Nutrient Management Standard using the 2012 National 590 standard as a baseline and incorporating ideas from the 2008 Iowa 590 standard.

General changes

- Compliance with the Plain Writing Act of 2010.
- Aligned better with the nutrient management conservation planning process.
- More consistent use of 4Rs language (the **Right** nutrient source applied at the **Right** rate in the **Right** place at the **Right** time) to describe nutrient management planning.
- Manure and commercial fertilizer management are treated more similarly than different.

Significant changes

- Adds municipal and industrial biosolids management as sources of plant nutrients as a purpose plus related criteria.
- Adds manure with high ammonium content and MAP/DAP to the current anhydrous criteria for fall application (50 degrees or colder)
- Adds a "Rescue Nitrogen Application" section to the criteria, which allows over-application of N when weather causes a loss of N. Specifies evaluating the cause of the N loss, and formulating and evaluating management alternatives.
- Eliminates the requirement that sheet and rill erosion be controlled to Tolerable Soil Loss or "T". Requires that when "T" is not met the P-Index be used and met.
- Specifies additional conservation practices that can be used to control and trap nutrients preventing them from being delivered to surface or ground water.

Timing of Fall N Applications

- Adds other high ammonium fertilizers to anhydrous temp restriction
 - MAP/DAP
 - high ammonium manure



Strategies to Trap Nitrogen

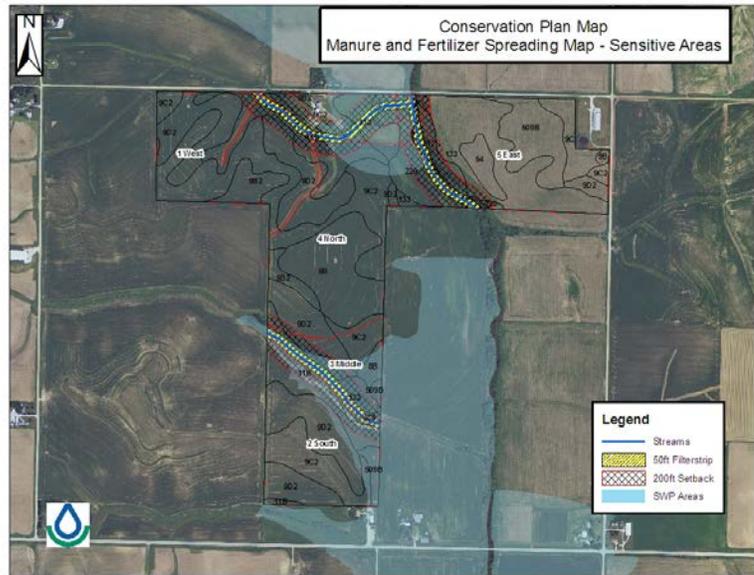
- 340 Cover Crops
- 393 Filter Strip
- 332 Contour Buffer Strips
- 656 Constructed Wetland
- 554 Drainage Water Management
- 747 Denitrifying Bioreactors
- 739 Vegetated Subsurface Drain Outlet

Strategies to Control and Trap Phosphorus (P-Index)

- 329 Residue and Tillage Management, No-Till/Strip Till/Direct Seed
- 345 Residue and Tillage Management, Mulch Till
- 330 Contour Farming
- 340 Cover Crops
- 393 Filter Strip
- 391 Riparian Forest Buffer
- 412 Grass Waterway
- 638 Water & Sediment Control Basin
- 600 Terrace

- Sensitive areas changes
 - Adds tile inlets to the list of water quality sensitive areas.

- Sensitive area nutrient application restrictions apply to all P & N nutrient sources.
- 50' filter strip can be substituted for the 200' setback.
- Specifies that fields within well source water protection areas be identified on plan map
- Adds that manure testing will be done by a certified lab.
- Switches from "yield goal" language to "realistic yield potential" and provides simpler methodologies to estimate.
- Adds guidance to use adaptive nutrient management.
- Emphasizes calibration.



Other changes

- Adds "reducing odor" to the air quality purpose and provides considerations for planning.
- Adds criteria for organic crop production/
- Adds specifications for precision agriculture.
- Adds organic matter analysis to each soil test (previously every 12 years).
- Removes the reference to using the 303d list to trigger the use of the P-Index. The old criteria "Directly draining into..." a 303d listed water body was difficult to define and implement. The replacement trigger criteria are designed to require the use of the P-Index when there is a potential that the risk of P runoff is high.
- Adds a Leaching Index report which estimates the likelihood that water will leach through the field. Interpretations will be used for educational purposes.
- Promotes innovative use of cover crops to manage nutrients.
- Will be providing considerations in the form of a technical note to improve soil quality.

Adaptive Nutrient Management

Table 1 Paired comparison layout of two different treatments

Pair 1		Pair 2		Pair 3		Pair 4		Pair 5		Pair 6		Pair 7	
A Treatment	B Treatment	B Treatment	A Treatment	B Treatment	A Treatment	A Treatment	B Treatment	B Treatment	A Treatment	A Treatment	B Treatment	B Treatment	A Treatment

No changes

- The Iowa Phosphorus Index and interpretations remain the same.
- Applications of manure to frozen, snow covered, or saturated soils is precluded except for some emergency situations.
- No direct cap on soil test phosphorus.