Wisconsin’s Nutrient Management Standard Revisions

Bill Stangel
Soil Solutions Consulting
Madison, WI

January 15, 2002
Why the Changes?

- First version 1993
- Need to step up P strategies
- Wisconsin Non-Point Rules
- Body of knowledge is changing
- Structural revisions
Who is Involved in the Revision

Standards Oversight Committee (SOC)

- Agencies
  - DNR
  - NRCS
  - DATCP

- UW
  - Extension
  - Researchers
  - Staff

- Private Sector
  - Consultants
  - Farmers
  - Industry

Soil Solutions Consulting
Challenges to the Process

- Need to merge Federal and State directives
- Uncertainty of Non-point rule content
- Developing research
- Economic solutions to problems
- Current momentum of NM in WI
## General Criteria

### 1993 vs. 2002

<table>
<thead>
<tr>
<th>1993 Criteria</th>
<th>2002 Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘T’ on Manure Fields</td>
<td>‘T’ on All Fields</td>
</tr>
<tr>
<td>N based manure</td>
<td>N or P based</td>
</tr>
<tr>
<td>Annual Nutrient Needs</td>
<td>Rotational P Needs</td>
</tr>
<tr>
<td>Field by Field Rec’s</td>
<td>Field by Field or NM Unit</td>
</tr>
</tbody>
</table>
General Criteria
’02 Manure/Legumes

• First Year Legume/Manure Required

• Second year recommended

• Recognize limits of credit estimates
General Criteria
’02 Manure Applications

No Runoff during application
If it happens:
• Stop Application
• Take corrective action
• Modify application
• Report spills to waters of state
Groundwater Criteria applied to all Fields

- High Permeability Soils
- Other critical sites
High Permeability

• Equivalent to Hydrologic Group A
  
  - Infiltration > 6” or more/hr in top 20”
  and
  > 0.6” in the upper 40”

• List of soils by county in Tech Note
High Permeability Sites
Fertilizer N

• Where Commercial N is Applied:
  - No Fall N – except fall cereals
  - Manage N with one of the following:
    > Use nitrification inhibitors
    > Apply majority of N post-planting

Soil Solutions Consulting
High Permeability Sites

Manure N

• Soil Temps > 50° F: (apply one)

1. Use inhibitors and limit Fall N to 120 lbs
2. Delay appl. to 9/15 and limit 90 lbs N/A.
3. Apply to established perennial crops
Groundwater Critical Sites
Manure

- Incorporate w/in 200’ upslope of:
  - Identified wells
  - Creviced bedrock at surface
  - Gravel pits
Surface Water Criteria

All sites

- Avoid building P beyond the required range for the crop rotation.
- Identify areas of high potential for impact to waters.
Surface Water Criteria

• New Criterion 1:
  P Index
  - Erosion
  - Soil test P
  - P Delivery
  - Management

• Criterion 2:
  Similar to old version plus a soil P limit.
Criterion 2
Soil P Limits

- < 50 ppm: Manure applied to N needs of crop.
- 50 – 100 ppm: P applied to P removal in rotation (up to 4 years)
- > 100 ppm: Eliminate P if possible and apply < crop removal.
Criterion 2
Location & Timing

- **Surface Water Quality Management Areas**

  (SWQMA)
  
  = within 300’ of streams or 1000’ of lakes

- Consistent with NR 151 rules
Criterion 2
Management

• No manure on frozen ground w/in SWQMA

• If not frozen, utilize management practices for manures or fertilizers appropriate for site (buffers, residue, incorporation, etc)
When Will it Begin?

- Limited use for 2003 growing season
- Dependent on targets of non-point rules
THANK YOU

??Questions??