Wisconsin Crop Production and Nutrient Needs
What are Farmers Growing?

- **Corn**
  - Corn grain 3 million acres
  - Corn silage 980,000 acres

- Soybeans 1.58 million acres

- Small grains (oats, wheat, barley) 600,000 acres

- Alfalfa 1 million acres

- Potatoes 62,500 acres
Why These Crops?

- **Corn**
  - Animal feed (1.3 million dairy cows in WI)
  - Ethanol

- **Soybeans**
  - Animal feed
  - Bio fuels

- **Alfalfa**
  - Animal feed
Crop Nutrient Needs & Costs

180 bu/ac corn crop needs:

- 165-190 lbs Nitrogen
- 68 lbs $\text{P}_2\text{O}_5$
- 52 lbs $\text{K}_2\text{O}$

Cost: $138/ac
Crop Nutrient Needs & Costs

Equivalent 24 tons/ac Corn Silage

- 165-190 lbs Nitrogen
- 86 lbs $P_2O_5$
- 200 lbs $K_2O$

Cost: $196/ac
50 bu/ac Soybean crop needs:
- Soybeans will need 300 lbs of N but make it on their own
- 40 lbs P$_2$O$_5$
- 70 lbs K$_2$O

Cost: $42/ac
5 tons/ac Alfalfa
- 300 lbs/ac of N but will make on its own
- 65 lbs $\text{P}_2\text{O}_5$
- 300 lbs $\text{K}_2\text{O}$

Cost: $\$131$/ac
Nutrient Management Plans

Farmer’s and Agronomist’s World
This calculator converts biosolid lab analysis reports to the proper units for use in SnapPlus. The results shown in the grid below will be inserted as the available nutrient values for this nutrient source.

Source: Bio solids, year 2014
Source type: Biosolid, solid

Material applied as:
- [ ] Dry tons/acre
- [ ] Cubic yards/acre

- % Solids: 3.4
- Total Kjeldahl Nitrogen (TKN): 4.8 % dry matter
- Ammonium Nitrogen (NH4): 1.1 % dry matter
- Organic Nitrogen: 3.7 % dry matter
- Potassium (K), Total recoverable: 0.26 % dry matter
- Total Phosphorous (P): 4.1 % dry matter

Neutralizing Index (NI): NA

Available nutrients (lbs/dry ton):

<table>
<thead>
<tr>
<th></th>
<th>N Surface</th>
<th>N Incorporated</th>
<th>P2O5</th>
<th>K2O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application year</td>
<td>29.50</td>
<td>40.50</td>
<td>149.20</td>
<td>5.00</td>
</tr>
<tr>
<td>Second year</td>
<td>6.70</td>
<td>6.70</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Third year</td>
<td>3.00</td>
<td>3.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Year | Soil Test | pH | OM | P | K | County | Acres | Pred Soil | Symbol | Rest | Group | Texture
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
2014 | 2012-04-25 | 6.7 | 3.0 | 21 | 98 | Taylor | 19.2 | Brill | 488 | yes | L | Silt Loam

Crop Year (Fall to Fall):
- **2011**: Soybeans 7-10 inch row
- **2012**: Corn grain
- **2013**: Soybeans 7-10 inch row
- **2014**: Corn grain
- **2015**: Soybeans 7-10 inch row
- **2016**: Corn grain

**Rotation Settings**
- Name: Brill
- Symbol: 488
- Texture: Silt Loam

**Summary 2011 to 2016**
- Avg soil loss: 2.4 t/acre
- Field "T": 4 t/acre
- Avg P Index: 3
- SC1: 0.3

**Soil Testing**
- Soil testing: 50 or less so no P2O5 balance target is needed.
<table>
<thead>
<tr>
<th>Year</th>
<th>Soil Test</th>
<th>pH</th>
<th>OM</th>
<th>P</th>
<th>K</th>
<th>County</th>
<th>Acres</th>
<th>Pred Soil</th>
<th>Symbol</th>
<th>Rest</th>
<th>Group</th>
<th>Texture</th>
</tr>
</thead>
</table>

**Crop Year (Fall to Fall):**
- **Crop:** Soybeans 7-10 inch row
- **Yield Goal:** 46-55
- **Tillage:** Fall Chisel, disked
- **Fall Test Date:** 2012-04-26
- **Irrigation Info:** Irrigated
- **Rotation Settings:**
  - Rotation Start: 2011
  - Contouring: None
  - On Contour: None
  - ODC Design: None

**Summary 2011 to 2016**
- Avg soil loss: 2.4 t/acy
- Field "T": 4 t/acy
- Avg P Index: 3.3
- SCi: 0.3

**Nitrogen Recommendations:**
- 2011: 110, 30, 70, 110, 30, 70, 110, 30, 70
- 2012: 120, 30, 110, 110, 30, 110, 110, 30, 110
- 2013: 120, 30, 110, 110, 30, 110, 110, 30, 110
- **Total Nitrogen:** 320, 68, 320, 68
- **Balance:** 320, -360, lb/ac

**Notes:**
- Soil test P is 50 or less so no P2O5 balance target is needed.
<table>
<thead>
<tr>
<th>Year</th>
<th>Soil Test</th>
<th>pH</th>
<th>OM</th>
<th>P</th>
<th>K</th>
<th>County</th>
<th>Acres</th>
<th>Pred. Soil</th>
<th>Symbol</th>
<th>Rest</th>
<th>Group</th>
<th>Texture</th>
</tr>
</thead>
</table>

### Crop Rotation Wizard

<table>
<thead>
<tr>
<th>Year</th>
<th>Rotation Settings</th>
<th>Summary 2011 to 2016</th>
<th>Dominant critical soil details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td></td>
<td>Avg soil loss: 2.4 t/acre</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td>Field &quot;T&quot;: 4 t/acre</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td>Avg P Index: 4 SCI: 0.3</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td>P205: 320, K20: 385</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td>Balance: -322 lb/acre</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td>Soil test P is 50 or less so no P205 balance target is needed.</td>
<td></td>
</tr>
</tbody>
</table>
Communication between the producer and the bio solids supplier is absolutely critical. The producer must communicate his NMP to the supplier and the supplier must communicate the product details to the producer.
Questions ????

[Image of a white dog wearing a jersey standing on a baseball field]
Contact Information

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