### SOLIDS WORKSHEET 2 - NUTRIENT BALANCE

<table>
<thead>
<tr>
<th>Tract</th>
<th>Field No.</th>
<th>Acres</th>
<th>Soil Test P Value (Mehlich 3)</th>
<th>120</th>
</tr>
</thead>
</table>

1. **Crop or Crop Sequence/Rotation**

2. **Realistic Yield [Average from 5-10 Years on a per acre basis]**

3. **Plant Nutrients Needed or Allowed [Ibs/acre]**

4. **Adjusted P, K Application Rate According to Threshold**

5. **Fertilizer Credits [Ibs/acre]**

6. **Plant Nutrients Needed Minus Credits [Ibs/acre]**

7. **Nutrients in Manure [Ibs/ton]**

8. **Percent Nutrients Retained in System [Table 1]**

9. **Net Retained Nutrients in Manure [Ibs/ton]**

10. **Percent of Available Nutrients [Table 2]**

11. **Net Available Nutrients [Ibs/ton]**

12. **Application Rate [Tons/acre]**

13. **Net Application Amount for All Nutrients [Ibs/acre]**

14. **Nutrient Needs (-) or Surpluses (+) [Ibs/acre]**

| Tons Available | 269 | - | Tons Applied in Field | 128 | = Balance | 141 |

Enter Lab Results Here to Override Calculations From Worksheet 1 on Step 7

**N** | **P2O5** | **K20**

**Chosen Application Rate MUST ENTER**

4

Go to Worksheet 3 Solids
Each corn field was to receive 4 T/ac because that is what the farmer requested. The extra manure would be best utilized in field H5, because the P soil levels are below 45 lbs./ac. When making a plan the goal is to balance of the recommendations of the tool, soil test results, and what the farmer is willing to do.
### SOLIDS WORKSHEET 3 - APPLICATION RATES AND LAND REQUIREMENTS

<table>
<thead>
<tr>
<th>Field No.</th>
<th>Acres</th>
<th>Soil Test Phosphorus (STP)</th>
<th>Crop Rotation / Sequence</th>
<th>Planned Application Date or Timing</th>
<th>Planned Application Rate(^2) (tons/ac)</th>
<th>Solid or Commercial Fertilizer (S or C)</th>
<th>Actual Application Date</th>
<th>Actual Application Rate(^2) (tons/ac)</th>
<th>Weather at Time of Application(^3) (Cloudy, Raining, Sunny)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M2</td>
<td>32</td>
<td>120</td>
<td>Corn Silage (Tons)</td>
<td>Spring 2018</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>M5</td>
<td>19</td>
<td>36</td>
<td>Corn Silage (Tons)</td>
<td>Spring 2018</td>
<td>7</td>
<td></td>
<td></td>
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<td></td>
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<tr>
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</tr>
</tbody>
</table>

1. Where land application is occurring under long term lease or agreement with adjacent landowner, fields must be included in the above table.

2. Fields that have a "High" soil test phosphorus (>400) should implement Best Management Practices (BMPs) to reduce the risk of nutrient movement to sensitive waterbodies. BMPs may include, but not be limited to: installing conservation buffers, reducing P2O5 application rate, incorporating manure, adding chemical treatments to litter that tie up soluble P and keep it from moving over the landscape, and/or adjusting application timing.

3. It illegal to make land applications when the ground is frozen. It is recommended that land applications are not made within 48 hours of forecasted precipitation.
When applying manure to corn, remember to look at the soil test and follow the recommendations of a split application when it comes to N. The fertilizer credit (step 5) is used because we are applying liquid and solid manure. The numbers for the credit come from worksheet 2 solids step.

13.
The farmer wants to apply liquids to soybeans at 2,000 G/ac. This is not the best utilization of the manure because soybeans are a legume. The best utilization would be to put the manure on field H5 because it is not a legume and the soil test P is below 45 lbs./ac. We need to make a plan that the farmer will use but without polluting the water/environment.
# LIQUIDS WORKSHEET 2 - NUTRIENT BALANCE

<table>
<thead>
<tr>
<th>Tract</th>
<th>Field No.</th>
<th>Acres</th>
<th>Soil Test P Value (Mehlich 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H6</td>
<td>11</td>
<td>79</td>
</tr>
</tbody>
</table>

1. Crop or Crop Sequence/Rotation

2. Realistic Yield (Average from 5-10 Years on a per acre basis)

3. Plant Nutrients Needed or Allowed (lbs/ac)

4. Adjusted P<sub>2</sub>O<sub>5</sub> Application Rate According to Threshold

5. Fertilizer Credits (lbs/ac)

6. Plant Nutrients Needed Minus Credits (lbs/ac)

7. Nutrients in Manure (lbs/1,000 gallons)
   Enter lab results in box on right to override Worksheet 1 values

8. Percent Nutrients Retained in System
   First Worksheet 2 values used or zero if lab results are used

9. Not Retained Nutrients in Manure (lbs/1,000 gallons)

10. Percent of Available Nutrients
    Enter Table 2 value for N

11. Net Available Nutrients (lbs/1,000 gallons)

12. Application Rate (1,000 gallons/ac)
    Application limitations may apply.
    Enter Chosen Application Rate in box on right

13. Not Application Amount for All Nutrients (1,000 gallons/ac)

14. Nutrient Needs [-] or Surpluses [+] (lbs/ac)

Gallons Available 114,654 - Gallons Applied in Field 33,000 = Balance 81,664

If applying to a legume, apply based on phosphorus. (Unless STP exceeds 60)

Enter Lab Results Here to Override Calculations From Worksheet 1 on Step 7

<table>
<thead>
<tr>
<th>N</th>
<th>P&lt;sub&gt;2&lt;/sub&gt;O&lt;sub&gt;5&lt;/sub&gt;</th>
<th>K&lt;sub&gt;2&lt;/sub&gt;O</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

*Chosen Application Rate MUST ENTER*

Go to Worksheet 3 Liquids
This field has a high P level in the soil, applying to this field would be a waste of money because the plant does not need N or P. We are still allowed to apply to this field because the P levels are below 800 lbs./ac. This is not the best utilization, but when making a NMP you need to explain why we should not apply to this field.
### LIQUIDS WORKSHEET 2 - NUTRIENT BALANCE

<table>
<thead>
<tr>
<th>Tract</th>
<th>Field No.</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>H10</td>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>

- **Soil Test P Value (Mehlich 3):** 126

1. **Crop or Crop Rotation**
   - Soybean Grain (Bushel) (Legume)

2. **Realistic Yield (Average from 5-10 Years on a per acre basis):** 60

3. **Plant Nutrients Needed or Allowed (lbs/acre):**
   - N
   - P<sub>2</sub>O<sub>5</sub>
   - K<sub>2</sub>O
   - 228
   - 50
   - 78

4. **Adjusted P<sub>2</sub>O<sub>5</sub> Application Rate According to Threshold:**
   - 0

5. **Fertilizer Credits (lbs/acre):**

6. **Plant Nutrients Needed Minus Credits (lbs/acre):**
   - 228
   - 50
   - 78

7. **Nutrients in Manure (lbs/1,000 gallons):**
   - Enter lab results in box on right to override Worksheet 1 values
   - 2.0
   - 10
   - 2.0

8. **Percent Nutrients Retained in System:**
   - First Worksheet 2 values used or zero if lab results are used
   - 0%
   - 0%
   - 0%

9. **Net Retained Nutrients in Manure (lbs/1,000 gallons):**
   - 2.0
   - 10
   - 2.0

10. **Percent of Available Nutrients:**
    - Enter Table 2 value for N
    - 45%
    - 80%
    - 100%

11. **Net Available Nutrients (lbs/1,000 gallons):**
    - 0.9
    - 0.8
    - 2.0

12. **Application Rate (1,000 gallon/acre):**
    - Application limitations may apply
    - Enter Chosen Application Rate in box on right
    - 2
    - 2
    - 2

13. **Net Application Amount for All Nutrients (1,000 gallon/acre):**
    - 2
    - 2
    - 4

14. **Nutrient Needs (-) or Surpluses (+) (lbs/acre):**
    - -226
    - -43
    - -74

- **Gallons Available:** 17,664
- **Gallons Applied in Field:** 16,000
- **Balance:** 1,664

If applying to a legume, apply based on phosphorus. (Unless S/T/P exceeds 600)

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**Enter Lab Results Here to Override Calculations From Worksheet 1 on:**

**Step 7**

<table>
<thead>
<tr>
<th>N</th>
<th>P&lt;sub&gt;2&lt;/sub&gt;O&lt;sub&gt;5&lt;/sub&gt;</th>
<th>K&lt;sub&gt;2&lt;/sub&gt;O</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Chosen Application Rate MUST ENTER:**

2

Go to Worksheet 3, Liquids
<table>
<thead>
<tr>
<th>Field No.</th>
<th>Acres</th>
<th>Soil Test Phosphorus (STP)</th>
<th>Crop Rotation / Sequence</th>
<th>Planned Application Date or Timing</th>
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<th>Liquid or Commercial Fertilizer (L or C)</th>
<th>Actual Application Date</th>
<th>Actual Application Rate (1,000 gal/ac)</th>
<th>Weather at Time of Application (Cloudy, Raining, Sunny)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2</td>
<td>52</td>
<td>120</td>
<td>Corn Silage (Toni)</td>
<td>Spring 2018</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>24 Hours Before</td>
</tr>
<tr>
<td>H5</td>
<td>19</td>
<td>36</td>
<td>Corn Silage (Toni)</td>
<td>Spring 2018</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td>24 Hours Before</td>
</tr>
<tr>
<td>H6</td>
<td>11</td>
<td>79</td>
<td>Squash (Stakes, Squash)</td>
<td>Spring 2018</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>24 Hours Before</td>
</tr>
<tr>
<td>H7</td>
<td>32</td>
<td>450</td>
<td>Squash (Stakes, Squash)</td>
<td>Spring 2018</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>24 Hours Before</td>
</tr>
<tr>
<td>H10</td>
<td>8</td>
<td>126</td>
<td>Squash (Stakes, Squash)</td>
<td>Spring 2018</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>24 Hours Before</td>
</tr>
</tbody>
</table>

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