I applied the maximum amount of manure based on Phosphorus needs of the plant for the corn silage, then applied the rest to the alfalfa field. The alfalfa will take up the nutrients that were put down but it is not needed. The rest of the P needed for the plant will come from the soil as a draw down.
**LIQUIDS WORKSHEET 2 - NUTRIENT BALANCE**

<table>
<thead>
<tr>
<th>Treat</th>
<th>Field No</th>
<th>Acres</th>
<th>Soil Test P Value (Mehlich 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>644</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 (lb/acre)

4. Adjusted P$_2$O$_5$ Application Rate According to Threshold

5. Fertilizer Credits (lb/acre)

6. Plant Nutrients Needed Minus Credits (lb/acre)

7. Nutrients in Manure (lb/1,000 gallons)

8. Percent Nutrients Retained in System

9. Net Retained Nutrients in Manure (lb/1,000 gallons)

10. Percent of Available Nutrients

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

12. Application Rate (1,000 gallons/acre)

13. Net Application Amount for All Nutrients (lb/acre)

14. Nutrient Needs (-) or Surpluses (+) (lb/acre)

<table>
<thead>
<tr>
<th>N</th>
<th>P$_2$O$_5$</th>
<th>K$_2$O</th>
</tr>
</thead>
<tbody>
<tr>
<td>194</td>
<td>72</td>
<td>160</td>
</tr>
</tbody>
</table>

**Gallons Available:** 939,562  
**Gallons Applied in Field:** 900,000  
**Balance:** 39,562

---

- **45-45-45:** Phosphorus applications at rates not to exceed the estimated removal of phosphorus in the harvested plant biomass.
- **601-600 STP:** Phosphorus applications at rates not to exceed 92% of the estimated removal of phosphorus in the harvested plant biomass.
- **800 STP:** Phosphorus applications are no longer allowed (manure may not be land applied in accordance with this guidance).

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

<table>
<thead>
<tr>
<th>N</th>
<th>P$_2$O$_5$</th>
<th>K$_2$O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

**Chosen Application Rate MUST ENTER**

45

One-time application rate should not exceed 13,500 gallons per acre (or 12 inch per acre).

This field will need split applications.
### 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></td>
<td></td>
<td>538</td>
</tr>
</tbody>
</table>

1. **Crop or Crop Sequence/Rotation**
   - Alfalfa Hay (Toni) (legume)

2. **Realistic Yield (Average from 5-10 Years on a per acre basis)**
   - 0.0

3. **Plant Nutrients Needed or Allowed (lb/ha)**
   - N: 408, P₂O₅: 112, K₂O: 440

4. **Adjusted P₂O₅ Application Rate According to Threshold**
   - 12

5. **Fertilizer Credits (lb/ha)**
   - 408, 112, 440

6. **Plant Nutrients Needed Minus Credits (lb/ha)**
   - 10, 10, 12

7. **Nutrients in Manure (lb at 1000 gallons)**
   - Enter lab results in box on right to override Worksheet 1 values

8. **Percent Nutrients Retained in System**
   - 0%, 0%, 65%

9. **Net Retained Nutrients in Manure (lb at 1000 gallons)**
   - 1.0, 1.0, 0.8

10. **Percent of Available Nutrients**
    - Enter Table 2 value for N
    - 60%, 60%, 100%

11. **Net Available Nutrients (lb at 1000 gallons)**
    - 0.8, 0.8, 0.8

12. **Application Rate (1000 gallons/ac)**
    - Application limitations may apply.
    - Enter chosen application rate in box on right
    - 2

13. **Net Application Amount for All Nutrients (1000 gallons/ac)**
    - -436, -110, -436

14. **Nutrient Needs (–) or Surpluses (+) (lb/ha)**

- **If applying to a legume, apply based on phosphorus:** (Unless STP exceeds 500)
  - **< 150 STP:** Phosphorus applications at rates not to exceed 12% of the estimated removal of phosphorus in the harvested plant biomass.
  - **> 500 STP:** Phosphorus applications are no longer allowed (manure may not be land applied in accordance with this guidance).
### LIQUIDS 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$^2$ (1,000 gal/ac)</th>
<th>Liquid or Commercial Fertilizer (L or C)</th>
<th>Actual Application Date</th>
<th>Actual Application Rate$^2$ (1,000 gal/ac)</th>
<th>Weather at Time of Application$^3$ (Cloudy, Raining, Sunny)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>18</td>
<td>538</td>
<td>Wheat Bran (Bushel)</td>
<td>Fall 2019</td>
<td>25</td>
<td></td>
<td></td>
<td>25</td>
<td>24 Hours Before/Falling Rain 24 Hours After</td>
</tr>
<tr>
<td>A</td>
<td>20</td>
<td>553</td>
<td>Wheat Bran (Bushel)</td>
<td>Fall 2019</td>
<td>25</td>
<td></td>
<td></td>
<td>25</td>
<td>24 Hours Before/Falling Rain 24 Hours After</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td>0</td>
<td>24 Hours Before/Falling Rain 24 Hours After</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td>0</td>
<td>24 Hours Before/Falling Rain 24 Hours After</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td>0</td>
<td>24 Hours Before/Falling Rain 24 Hours After</td>
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<td>0</td>
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<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td>0</td>
<td>24 Hours Before/Falling Rain 24 Hours After</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td>0</td>
<td>24 Hours Before/Falling Rain 24 Hours After</td>
</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 F20S 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.
**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>
<th>538</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 (Ib/a)**

4. **Adjusted P₂O₅ Application Rate According to Threshold**

5. **Fertilizer Credits (Ib/a)**

6. **Plant Nutrients Needed Minus Credits (Ib/a)**

7. **Nutrients in Manure (Ib/a,000 gallons)**

8. **Percent Nutrients Retained in System**

9. **Net Retained Nutrients in Manure (Ib/a,000 gallons)**

10. **Percent of Available Nutrients**

11. **Net Available Nutrients (Ib/a,000 gallons)**

12. **Application Rate (1,000 gallons/ac)**

13. **Net Application Amount for All Nutrients (Ib/a)**

14. **Nutrient Needs (-) or Surpluses (+) (Ib/a)**

---

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

<table>
<thead>
<tr>
<th>N</th>
<th>P₂O₅</th>
<th>K₂O</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

---

**Chosen Application Rate MUST ENTER**

25

One-time application rate should not exceed 18,500 gallons per acre (or 12 inches per acre).
# Liquids Worksheet 2 - Nutrient Balance

<table>
<thead>
<tr>
<th>Treated Field No.</th>
<th>Acres</th>
<th>Soil Test P Value (Mehlich 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>20</td>
<td>553</td>
</tr>
</tbody>
</table>

1. Crop or Crop Sequence/Rotation: Wheat Grain (Bushel)

2. Realistic Yield (Average from 5-10 Years on a per acre basis): 50.0

3. Plant Nutrients Needed or Allowed (lbs/acre):
   - N: 75
   - P<sub>2</sub>O<sub>5</sub>: 30
   - K<sub>2</sub>O: 17

4. Adjusted P<sub>2</sub>O<sub>5</sub> Application Rate According to Threshold: 30

5. Fertilizer Credits (lbs/acre): 75

6. Plant Nutrients Needed Minus Credits (lbs/acre):
   - N: 0
   - P<sub>2</sub>O<sub>5</sub>: 30
   - K<sub>2</sub>O: 17

7. Nutrients in Manure (lbs/1,000 gallons):
   - N: 1.0
   - P<sub>2</sub>O<sub>5</sub>: 1.0
   - K<sub>2</sub>O: 4.0

8. Percent Nutrients Retained in System:
   - N: 0%
   - P<sub>2</sub>O<sub>5</sub>: 0%
   - K<sub>2</sub>O: 0%

9. Net Retained Nutrients in Manure (lbs/1,000 gallons):
   - N: 1.0
   - P<sub>2</sub>O<sub>5</sub>: 1.0
   - K<sub>2</sub>O: 4.0

10. Percent of Available Nutrients:
    - Enter Table 2 value for N
    - 50%

11. Net Available Nutrients (lbs/acre):
    - N: 0.5
    - P<sub>2</sub>O<sub>5</sub>: 0.8
    - K<sub>2</sub>O: 4.0

12. Application Rate (1,000 gallons/acre):
    - 25
    - Do not exceed phosphorus application rate.
    - Implement a phosphorus drawdown plan

13. Net Application Amount for All Nutrients (1,000 gallons/acre):
    - N: 13
    - P<sub>2</sub>O<sub>5</sub>: 22
    - K<sub>2</sub>O: 100

14. Nutrient Needs (-) or Surpluses (+) (lbs/acre):
    - N: -83
    - P<sub>2</sub>O<sub>5</sub>: -11
    - K<sub>2</sub>O: 83

Gallons Available: 489,562
Gallons Applied in Field: 500,000

Applied more than available.

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>1</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

One-time application rate should not exceed 13,500 gallons per acre (or 72 inch per acre).