From 2018-2020 the same amount of manure went to the same fields, you still need to print out worksheet 3 for the three years. We did not apply manure to the alfalfa field because usually farmers will not allow solid manure after the first year. They may not allow solid manure at all on any of their hay fields. This would be a conversion between you and the farmer.

For this farm they need to apply to manure where all the nutrients in the manure can be utilized such as a corn field with low soil test P levels or a cool season hay. Anytime you apply manure to a hay field you may have to use a method of weed control. Hay field can better utilize the manure during the spring because new growth is coming on, but weed pressure can also be an issue.

<table>
<thead>
<tr>
<th>Tract No.</th>
<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 (toms/ac)</th>
<th>Solid or Commercial Fertilizer (S or C)</th>
<th>Actual Application Date</th>
<th>Actual Application Rate (toms/ac)</th>
<th>Weather at Time of Application (Cloudy, Raining, Sunny)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grass</td>
<td>3</td>
<td>55</td>
<td>Switchgrass (Ton)</td>
<td>Spring 2018</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>24 Hours Before 24 Hours After</td>
</tr>
<tr>
<td></td>
<td>Chuck 3</td>
<td>4</td>
<td>209</td>
<td></td>
<td>Spring 2018</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>24 Hours Before 24 Hours After</td>
</tr>
<tr>
<td></td>
<td>Chuck 2</td>
<td>3</td>
<td>23</td>
<td></td>
<td>Spring 2018</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>24 Hours Before 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 (BMP’s) to reduce the risk of nutrient movement to sensitive waterbodies. BMP’s 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.
### SOLIDS WORKSHEET 3 - APPLICATION RATES AND LAND REQUIREMENTS

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<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>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, Rainy, Sunny)</th>
<th>24 Hours Before</th>
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<td>Grass</td>
<td>3</td>
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<td>Switchgrass (Ton)</td>
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</tr>
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<td>4</td>
<td>209</td>
<td></td>
<td>Spring 2019</td>
<td>1</td>
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<td></td>
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<tr>
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<td>Switchgrass (Ton)</td>
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<table>
<thead>
<tr>
<th>SOLIDS WORKSHEET 2 - NUTRIENT BALANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trect</td>
</tr>
<tr>
<td>Grass</td>
</tr>
</tbody>
</table>

1. Crop or Crop Sequence/Rotation

2. Realistic Yield (Average from 5-10 Years on a per acre basis) 3.0

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/ton) Enter lab results in box on right to override Worksheet 1 values

8. Percent Nutrients Retained in System

9. Net Retained Nutrients in Manure (lbs/ton)

10. Percent of Available Nutrients

11. Net Available Nutrients (lbs/ton)

12. Application Rate (tons/ac)

13. Net Application Amount for All Nutrients (lbs/ac)

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

Tons Available 14 - Tons Applied in Field 3 = Balance 11
# 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>
</tr>
</thead>
<tbody>
<tr>
<td>Chuck 3</td>
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<td></td>
<td>209</td>
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</tbody>
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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/acre)

<table>
<thead>
<tr>
<th>N</th>
<th>P2O5</th>
<th>K2O</th>
</tr>
</thead>
<tbody>
<tr>
<td>105</td>
<td>30</td>
<td>50</td>
</tr>
</tbody>
</table>

4. Adjusted P2O5 Application Rate According to Threshold

5. Fertilizer Credits (lbs/acre)

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

7. Nutrients in Manure (lbs/ton)

<table>
<thead>
<tr>
<th>N</th>
<th>P2O5</th>
<th>K2O</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>18</td>
<td>43</td>
</tr>
</tbody>
</table>

8. Percent Nutrients Retained in System

9. Net Retained Nutrients in Manure (lbs/ton)

10. Percent of Available Nutrients

<table>
<thead>
<tr>
<th>N</th>
<th>P2O5</th>
<th>K2O</th>
</tr>
</thead>
<tbody>
<tr>
<td>80%</td>
<td>90%</td>
<td>100%</td>
</tr>
</tbody>
</table>

11. Net Available Nutrients (lbs/ton)

12. Application Rate (lbs/acre)

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

<table>
<thead>
<tr>
<th>N</th>
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</thead>
<tbody>
<tr>
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<td>27</td>
<td>43</td>
</tr>
</tbody>
</table>

14. Nutrient Needs [-] or Surplus [+] (lbs/acre)

<table>
<thead>
<tr>
<th>Tons Available</th>
<th>Tons Applied in Field</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

**If applying to a legume, apply based on phosphorus. (Unless STP exceeds 500)**

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>33</td>
<td>34</td>
<td>43</td>
</tr>
</tbody>
</table>

**Chosen Application Rate MUST ENTER**

<table>
<thead>
<tr>
<th>Application Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>
We applied more manure to this field because it could utilize the P & K according to the soil test P.