

## Example 3—Dairy

### Part 1:

- 35 Head Dairy, 1,400 lbs. average weight.
- Milks twice a day.
- Cows on the floor 1.5 hours for each milking, spend rest of the time grazing.
- Stores manure in a lagoon – capacity is six months.
- Has a 50 by 80 foot impervious area.
- The lagoon has a surface area of 50 by 70 foot.
- Spring & Fall surface application with no incorporation.
- Farmer wants liquids to be spread evenly across all fields.

### Part 2:

- 10 heifers average weight 800 lbs. (confinement).
- 15 heifers/calves average weight 450 lbs. (confinement).
- Clean out early spring and late fall (Solid manure), no incorporation.

## Spring 2016

Field	Acreage	Yield (tons/ac)	P (lbs./ac)
H1-Corn Silage	20	20 t/a	75
H2- Corn Silage	10	20 t/a	120
H5- Corn Silage	19	20 t/a	36
Fall 2016			
Field	Acreage	Yield	P (lbs./ac)
H1-Barley	20	70 bu/a	75
H2- Wheat Silage	10	6 t/a	120
H5- Wheat Silage	19	6 t/a	36

### Dairy

- Fields H1 only receives liquid manure, it is close to neighbors.
- Field H2 only receives liquid, solids are too far to haul.
- Field H5 receives solid & liquid manure.

## Spring 2017

Field	Acreage	Yield	P (lbs./ac)
H1-Alfalfa	20	5 t/a	75
H2- Corn Silage	10	20 t/a	120
H5- Corn Silage	19	20 t/a	36
Fall 2017			
Field	Acreage	Yield	P (lbs./ac)
H1- Alfalfa	20	5 t/a	75
H2- Wheat Silage	10	6 t/a	120
H5- Wheat Silage	19	6 t/a	36

### Dairy

- Fields H1 only receives liquid manure, it is close to neighbors.
- Field H2 only receives liquids, solids are too far to haul.
- Field H5 only receives solids.
- The Alfalfa field should receive 4,000 gallons per acre, for spring & fall applications.

**SOLIDS WORKSHEET 1 - ESTIMATING NUTRIENTS GENERATED PER CONFINEMENT PERIOD**

**1. Nutrients Generated (As Excreted)**

Animal Type	Number of Animals	Percent Waste as Solid *	Average Weight (lbs.)	1000	Time Between Clean Outs/Land Applications <sup>b</sup> (Confinement)	Animal Unit Days	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
Dairy Heifers	10	100%	800.0	1000	182	1,456	393	160	204
Dairy Heifers	15	100%	450.0	1000	182	1,229	332	135	172
				1000		0			
<b>Step 1 Total =</b>							<b>725</b>	<b>295</b>	<b>376</b>
							(lbs.)		

**2. Manure Generated (As Excreted)**

Animal Unit Days	x	Manure/A.U.	=	Volume of Manure (cu.ft.)
1,456	x	0.9	=	1,310
1,229	x	0.9	=	1,106
	x		=	
<b>Step 2 Total =</b>				<b>2,416</b> cu.ft.

**3. Total Tons**

Step 2	/	Conversion Factor	=	Total Tons
1,310	/	33	=	40
1,106	/	33	=	34
	/		=	
<b>Step 3 Total =</b>				<b>73</b> tons

**4. Weighted Nutrient Values Before Nutrient Losses**

Step 4 Total =	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
	9.9	4.0	5.1
(lbs./ton)			

<sup>a</sup> The percent of the manure that is handled as a solid.

<sup>b</sup> Confinement period should be adjusted for animals that are only in confinement for a portion of the day. For example if animals spend 16 hours on pasture and 8 hours in confinement, then the confinement period would be 1/3 of a day or 122 days/year.

The heifers are in total confinement but we are making the first worksheet for six months because they spread solid manure spring & fall. All the manure from the heifers is solid, no manure goes into the lagoon.

## SOLIDS WORKSHEET 2 - NUTRIENT BALANCE

Tract	Field No.	Acres
	H5	19

Soil Test P Value (Mehlich 3)

1. Crop or Crop Sequence/Rotation	<input type="text" value="Corn Silage (Ton)"/>		
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	<input type="text" value="20.0"/>		
3. Plant Nutrients Needed or Allowed (lbs/ac)	<b>N</b>	<b>P<sub>2</sub>O<sub>5</sub></b>	<b>K<sub>2</sub>O</b>
	194	72	160
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	<input type="text" value="0"/>		
5. Fertilizer Credits (lbs/ac)	<input type="text"/>		
6. Plant Nutrients Needed Minus Credits (lbs/ac)	194	72	160
7. Nutrients in Manure (lbs/ton) Enter lab results in box on right to override Worksheet 1 values	9.9	4.0	5.1
8. Percent Nutrients Retained in System <input type="text" value="Table 1"/> Enter Table 1 values or Enter zero if lab results are used in Step 7	80%	95%	95%
9. Net Retained Nutrients in Manure (lbs./ton)	7.9	3.8	4.9
10. Percent of Available Nutrients Enter Table 2 value for N <input type="text" value="Table 2"/>	35%	80%	100%
11. Net Available Nutrients (lbs./ton)	2.8	3.1	4.9
12. Application Rate (ton/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	4	4	4
13. Net Application Amount for All Nutrients (lbs/ac)	11	12	20
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	-183	-60	-140

Tons Available  - Tons Applied in Field  = Balance

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

N	P205	K20
<input type="text"/>	<input type="text"/>	<input type="text"/>

Chosen Application Rate **MUST ENTER**

[Go to Worksheet 3 Solids](#)

All the solid manure goes on field H5.

**SOLIDS WORKSHEET 3 - APPLICATION RATES AND LAND REQUIREMENTS <sup>1</sup>**

Tract No.										
Field No.	Acres	Soil Test Phosphorus (STP)	Crop Rotation / Sequence	Planned Application Date or Timing	Planned Application Rate <sup>2</sup> (tons/ac)	Solid or Commercial Fertilizer (S or C)	Actual Application Date	Actual Application Rate <sup>2</sup> (tons/ac)	Weather at Time of Application <sup>3</sup> (Cloudy, Raining, Sunny)	
									24 Hours Before	24 Hours After
									H5	19
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					

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 is 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 1 - ESTIMATING NUTRIENTS GENERATED PER CONFINEMENT PERIOD																
1. Nutrients Generated (As Excreted)																
Animal Type	Number of Animals	Percent Waste as Liquid	Average Weight (lbs)	/ 1000	x	Time Between Clean Outs/Land Applications (Confinement Period)	=	Animal Unit	Table 1 Value	=	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O			
Dairy Cows	35	100%	1,400.0	/	1000	x	23	=	1,127	x	N	0.45	=	507		
				/	1000	x		=	0	x	P <sub>2</sub> O <sub>5</sub>	0.21	=		237	
				/	1000	x		=	0	x	K <sub>2</sub> O	0.35	=			394
				/	1000	x		=	0	x	N		=			
				/	1000	x		=	0	x	P <sub>2</sub> O <sub>5</sub>		=			
				/	1000	x		=	0	x	K <sub>2</sub> O		=			
Step 1 Total =											507	237	394			
												(lbs)				
2. Manure Generated (As Excreted)																
Animal Unit Day x Manure/A.U. = Volume of Manure (gallons)																
1,127	x	1.4	=	11,834	gallons											
0	x	0	=	0	gallons											
0	x	0	=	0	gallons											
Step 2 Total =										11,834	gallons					
3. Water Added by Wastage or Cleaning																
Gallons/Day x No. of Head x Time Between Applications = Volume of Water (gallons)																
5	x	35	x	182.5	=	31,338										
FALSE	x	0	x	182.5	=	0										
FALSE	x	0	x	182.5	=	0										
Step 3 Total =										31,338	gallons					
4. Water Added by Feedlot Runoff																
Width (feet) x Length (feet) x Frequency of Pumps x Conversion = Feedlot Runoff (gallons)																
Impervious Surfaces	50	x	80	x	0.5	x	18.75	=	37,500							
							(days before pump / 365)									
Pervious Surfaces		x		x		x	11.25	=	0							
							(days before pump / 365)									
Step 4 Total =										37,500	gallons					
5. Water Added from Rainfall minus Evaporation on Storage Pond																
Width (feet) x Length (feet) x Frequency of Pumps x Conversion = Net Rainfall on Storage Pond (gallons)																
Lagoon/Pond Surface Area	50	x	70	x	0.5	x	11.25	=	19,688							
							(days before pump / 365)									
Step 5 Total =										19,688	gallons					
Step 6 Total =										100,959	gallons					
7. Weighted Nutrient Values Before Nutrient Losses																
Step 7 Totals =										N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O				
										5.0	2.3	3.9				
												(lbs/1,000 gallons)				

The milking cows milk twice a day for 1.5 hrs. Each. 2 X 1.5= 3 hrs. Per day. Worksheet 1 is made for six months because they spread liquid manure spring & fall. To find confinement period in 6 months. 3hrs. X 182 (days)= 546 hrs./24 (hrs.)= 22.75 hrs. You can round up if you wish, but it will not change the amount of manure. So the first worksheet is only for 6 months because they spread manure two times per year.

## LIQUIDS WORKSHEET 2 - NUTRIENT BALANCE

Tract	Field No.	Acres
	H1	20

Soil Test P Value (Mehlich 3)

1. Crop or Crop Sequence/Rotation	<input type="text" value="Corn Silage (Ton)"/>		
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	<input type="text" value="20.0"/>		
3. Plant Nutrients Needed or Allowed (lbs/ac)	<b>N</b>	<b>P<sub>2</sub>O<sub>5</sub></b>	<b>K<sub>2</sub>O</b>
	194	72	160
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	<input type="text" value="0"/>		
5. Fertilizer Credits (lbs/ac)	<input type="text"/>		
6. Plant Nutrients Needed Minus Credits (lbs/ac)	194	72	160
7. Nutrients in Manure (lbs/1,000 gallons) Enter lab results in box on right to override Worksheet 1 values	5.0	2.3	3.9
8. Percent Nutrients Retained in System <input type="text" value="Table 1"/> Enter Table 1 values or Enter zero if lab results are used in Step 7	35%	50%	65%
9. Net Retained Nutrients in Manure (lbs/1,000 gallons)	1.8	1.2	2.5
10. Percent of Available Nutrients Enter Table 2 value for N <input type="text" value="Table 2"/>	45%	80%	100%
11. Net Available Nutrients (lbs/1,000 gallons)	0.8	0.9	2.5
12. Application Rate (1,000 gallons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	2	2	2
13. Net Application Amount for All Nutrients (lbs/ac)	2	2	5
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	-192	-70	-155

Gallons Available 100,959 - Gallons Applied in Field 40,000 = Balance 60,959

Enter Lab Results Here to Override Calculations From Worksheet 1 on Step 7		
N	P205	K20
<input type="text"/>	<input type="text"/>	<input type="text"/>

Chosen Application Rate MUST ENTER
<input type="text" value="2"/>

Go to Worksheet 3 Liquids



## LIQUIDS WORKSHEET 2 - NUTRIENT BALANCE

Tract	Field No.	Acres
	H2	10

Soil Test P Value (Mehlich 3)

1. Crop or Crop Sequence/Rotation	<input type="text" value="Corn Silage (Ton)"/>		
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	<input type="text" value="20.0"/>		
3. Plant Nutrients Needed or Allowed (lbs/ac)	<b>N</b>	<b>P<sub>2</sub>O<sub>5</sub></b>	<b>K<sub>2</sub>O</b>
	194	72	160
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	<input type="text" value="0"/>		
5. Fertilizer Credits (lbs/ac)	<input type="text"/>		
6. Plant Nutrients Needed Minus Credits (lbs/ac)	194	72	160
7. Nutrients in Manure (lbs/1,000 gallons) Enter lab results in box on right to override Worksheet 1 values	5.0	2.3	3.9
8. Percent Nutrients Retained in System First Worksheet 2 values used or zero if lab results are used	35%	50%	65%
9. Net Retained Nutrients in Manure (lbs/1,000 gallons)	1.8	1.2	2.5
10. Percent of Available Nutrients Enter Table 2 value for N <input type="text" value="Table 2"/>	45%	80%	100%
11. Net Available Nutrients (lbs/1,000 gallons)	0.8	0.9	2.5
12. Application Rate (1,000 gallons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	2	2	2
13. Net Application Amount for All Nutrients (1,000 gallons/ac)	2	2	5
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	-192	-70	-155

Gallons Available 60,959 - Gallons Applied in Field 20,000 = Balance 40,959

Enter Lab Results Here to Override Calculations From Worksheet 1 on Step 7		
N	P205	K20
<input type="text"/>	<input type="text"/>	<input type="text"/>

Chosen Application Rate MUST ENTER
<input type="text" value="2"/>

Go to Worksheet 3 Liquids

## LIQUIDS WORKSHEET 2 - NUTRIENT BALANCE

Tract	Field No.	Acres	Soil Test P Value (Mehlich 3)		
	H5	19	36		
1. Crop or Crop Sequence/Rotation	Corn Silage (Ton)				
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	20.0				
3. Plant Nutrients Needed or Allowed (lbs/ac)	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O		
	194	72	160		
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	0				
5. Fertilizer Credits (lbs/ac)	11	12	20		
6. Plant Nutrients Needed Minus Credits (lbs/ac)	183	60	140		
7. Nutrients in Manure (lbs./1,000 gallons) Enter lab results in box on right to override Worksheet 1 values	5.0	2.3	3.9		
8. Percent Nutrients Retained in System First Worksheet 2 values used or zero if lab results are used	35%	50%	65%		
9. Net Retained Nutrients in Manure (lbs./1,000 gallons)	1.8	1.2	2.5		
10. Percent of Available Nutrients Enter Table 2 value for N	45%	80%	100%		
	Table 2				
11. Net Available Nutrients (lbs./1,000 gallons)	0.8	0.9	2.5		
12. Application Rate (1,000 gallons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	2	2	2		
13. Net Application Amount for All Nutrients (1,000 gallons/ac)	2	2	5		
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	-181	-58	-135		
Gallons Available	40,959	-	Gallons Applied in Field	38,000	= Balance
					2,959

Enter Lab Results Here to Override Calculations From Worksheet 1 on Step 7		
N	P205	K20

Chosen Application Rate MUST ENTER
2

Please note the fertilizer credit. We use the credit because we are applying solid & liquid manure to one crop in the same season. The numbers used came from solids worksheet 2 step 13.

**LIQUIDS WORKSHEET 3 - APPLICATION RATES AND LAND REQUIREMENTS <sup>1</sup>**

Tract No.										
Field No.	Acres	Soil Test Phosphorus (STP)	Crop Rotation / Sequence	Planned Application Date or Timing	Planned Application Rate <sup>2</sup> (1,000 gal/ac)	Liquid or Commercial Fertilizer (L or C)	Actual Application Date	Actual Application Rate <sup>2</sup> (1,000 gal/ac)	Weather at Time of Application <sup>3</sup> (Cloudy, Raining, Sunny)	
									24 Hours Before	24 Hours After
									H1	20
H2	10	120	Corn Silage (Ton)	Spring 2016	2					
H5	19	36	Corn Silage (Ton)	Spring 2016	2					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					

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 is 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.

Please remember: when making a KYNMP it is a balance of where the nutrients will be best utilized and working with the farmer to make a plan that he will utilize.

We can use the same worksheet 1 for spring & fall manure applications because the heifers stay in confinement and the milking cows are grazing/on pasture (except for milking) all year. Now, for example, if the dairy cows only grazed six months out of the year then you would need to make two of worksheet (1) because the amount of manure would change from the time they graze in comparison to the time in confinement.

Fall 2016

**SOLIDS WORKSHEET 2 - NUTRIENT BALANCE**

Tract	Field No.	Acres
	H5	19

Soil Test P Value (Mehlich 3)

1. Crop or Crop Sequence/Rotation	<input type="text" value="Wheat Silage (Ton)"/>		
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	<input type="text" value="6.0"/>		
3. Plant Nutrients Needed or Allowed (lbs/ac)	<b>N</b>	<b>P<sub>2</sub>O<sub>5</sub></b>	<b>K<sub>2</sub>O</b>
	264	24	120
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	<input type="text" value="0"/>		
5. Fertilizer Credits (lbs/ac)	<input type="text"/>		
6. Plant Nutrients Needed Minus Credits (lbs/ac)	264	24	120
7. Nutrients in Manure (lbs/ton) Enter lab results in box on right to override Worksheet 1 values	9.9	4.0	5.1
8. Percent Nutrients Retained in System <input type="text" value="Table 1"/> Enter Table 1 values or Enter zero if lab results are used in Step 7	80%	95%	95%
9. Net Retained Nutrients in Manure (lbs./ton)	7.9	3.8	4.9
10. Percent of Available Nutrients <input type="text" value="Table 2"/> Enter Table 2 value for N	40%	80%	100%
11. Net Available Nutrients (lbs./ton)	3.2	3.1	4.9
12. Application Rate (tons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	4	4	4
13. Net Application Amount for All Nutrients (lbs/ac)	13	12	20
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	-251	-12	-100
Tons Available <input type="text" value="73"/> - Tons Applied in Field <input type="text" value="76"/> = Balance <input type="text" value="Applied more than Available"/>			

Enter Lab Results Here to Override Calculations From Worksheet 1 on Step 7		
N	P205	K20
<input type="text"/>	<input type="text"/>	<input type="text"/>

<i>Chosen Application Rate MUST ENTER</i>
<input type="text" value="4"/>

[Go to Worksheet 3 Solids](#)

**SOLIDS WORKSHEET 3 - APPLICATION RATES AND LAND REQUIREMENTS <sup>1</sup>**

Tract No.										
Field No.	Acres	Soil Test Phosphorus (STP)	Crop Rotation / Sequence	Planned Application Date or Timing	Planned Application Rate <sup>2</sup> (tons/ac)	Solid or Commercial Fertilizer (S or C)	Actual Application Date	Actual Application Rate <sup>2</sup> (tons/ac)	Weather at Time of Application <sup>3</sup> (Cloudy, Raining, Sunny)	
									24 Hours Before	24 Hours After
H5	19	36	Wheat Silage (Ton)	Fall 2016	4					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					

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.

## LIQUIDS WORKSHEET 2 - NUTRIENT BALANCE

Tract	Field No.	Acres
	H1	20

Soil Test P Value (Mehlich 3)

1. Crop or Crop Sequence/Rotation	<input type="text" value="Barley Grain (Bushel)"/>		
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	<input type="text" value="70.0"/>		
3. Plant Nutrients Needed or Allowed (lbs/ac)	<b>N</b>	<b>P<sub>2</sub>O<sub>5</sub></b>	<b>K<sub>2</sub>O</b>
	69	29	22
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	<input type="text" value="0"/>		
5. Fertilizer Credits (lbs/ac)	<input type="text"/>		
6. Plant Nutrients Needed Minus Credits (lbs/ac)	69	29	22
7. Nutrients in Manure (lbs/1,000 gallons) Enter lab results in box on right to override Worksheet 1 values	5.0	2.3	3.9
8. Percent Nutrients Retained in System <input type="text" value="Table 1"/> Enter Table 1 values or Enter zero if lab results are used in Step 7	35%	50%	65%
9. Net Retained Nutrients in Manure (lbs/1,000 gallons)	1.8	1.2	2.5
10. Percent of Available Nutrients <input type="text" value="Table 2"/> Enter Table 2 value for N	50%	80%	100%
11. Net Available Nutrients (lbs/1,000 gallons)	0.9	0.9	2.5
12. Application Rate (1,000 gallons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	2	2	2
13. Net Application Amount for All Nutrients (lbs/ac)	2	2	5
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	-68	-27	-17

Gallons Available 100,959 - Gallons Applied in Field 40,000 = Balance 60,959

Enter Lab Results Here to Override Calculations From Worksheet 1 on Step 7		
N	P205	K20
<input type="text"/>	<input type="text"/>	<input type="text"/>

Chosen Application Rate MUST ENTER
<input type="text" value="2"/>

Go to Worksheet 3 Liquids

## LIQUIDS WORKSHEET 2 - NUTRIENT BALANCE

Tract	Field No.	Acres
	H2	10

Soil Test P Value (Mehlich 3)

1. Crop or Crop Sequence/Rotation	<input type="text" value="Wheat Silage (Ton)"/>		
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	<input type="text" value="6.0"/>		
3. Plant Nutrients Needed or Allowed (lbs/ac)	<b>N</b>	<b>P<sub>2</sub>O<sub>5</sub></b>	<b>K<sub>2</sub>O</b>
	<input type="text" value="264"/>	<input type="text" value="24"/>	<input type="text" value="120"/>
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	<input type="text" value="0"/>		
5. Fertilizer Credits (lbs/ac)	<input type="text"/>		
6. Plant Nutrients Needed Minus Credits (lbs/ac)	<input type="text" value="264"/>	<input type="text" value="24"/>	<input type="text" value="120"/>
7. Nutrients in Manure (lbs/1,000 gallons) Enter lab results in box on right to override Worksheet 1 values	<input type="text" value="5.0"/>	<input type="text" value="2.3"/>	<input type="text" value="3.9"/>
8. Percent Nutrients Retained in System First Worksheet 2 values used or zero if lab results are used	<input type="text" value="35%"/>	<input type="text" value="50%"/>	<input type="text" value="65%"/>
9. Net Retained Nutrients in Manure (lbs/1,000 gallons)	<input type="text" value="1.8"/>	<input type="text" value="1.2"/>	<input type="text" value="2.5"/>
10. Percent of Available Nutrients Enter Table 2 value for N <input type="text" value="Table 2"/>	<input type="text" value="50%"/>	<input type="text" value="80%"/>	<input type="text" value="100%"/>
11. Net Available Nutrients (lbs/1,000 gallons)	<input type="text" value="0.9"/>	<input type="text" value="0.9"/>	<input type="text" value="2.5"/>
12. Application Rate (1,000 gallons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="2"/>
13. Net Application Amount for All Nutrients (1,000 gallons/ac)	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="5"/>
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	<input type="text" value="-262"/>	<input type="text" value="-22"/>	<input type="text" value="-115"/>

Gallons Available 60,959 - Gallons Applied in Field 20,000 = Balance 40,959

Enter Lab Results Here to Override Calculations From Worksheet 1 on Step 7		
N	P205	K20
<input type="text"/>	<input type="text"/>	<input type="text"/>

Chosen Application Rate MUST ENTER
<input type="text" value="2"/>

Go to Worksheet 3 Liquids

## LIQUIDS WORKSHEET 2 - NUTRIENT BALANCE

Tract	Field No.	Acres
	H5	19

Soil Test P Value (Mehlich 3)

1. Crop or Crop Sequence/Rotation	Wheat Silage (Ton)		
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	6.0		
3. Plant Nutrients Needed or Allowed (lbs/ac)	<b>N</b>	<b>P<sub>2</sub>O<sub>5</sub></b>	<b>K<sub>2</sub>O</b>
	264	24	120
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	0		
5. Fertilizer Credits (lbs/ac)	13	12	20
6. Plant Nutrients Needed Minus Credits (lbs/ac)	251	12	100
7. Nutrients in Manure (lbs./1,000 gallons) Enter lab results in box on right to override Worksheet 1 values	5.0	2.3	3.9
8. Percent Nutrients Retained in System First Worksheet 2 values used or zero if lab results are used	35%	50%	65%
9. Net Retained Nutrients in Manure (lbs./1,000 gallons)	1.8	1.2	2.5
10. Percent of Available Nutrients Enter Table 2 value for N	50%	80%	100%
11. Net Available Nutrients (lbs./1,000 gallons)	0.9	0.9	2.5
12. Application Rate (1,000 gallons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	2	2	2
13. Net Application Amount for All Nutrients (1,000 gallons/ac)	2	2	5
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	-249	-10	-95

**Table 2**

Gallons Available 40,959 - Gallons Applied in Field 38,000 = Balance 2,959

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

N	P205	K20

Chosen Application Rate MUST ENTER

2
---

Go to Worksheet 3 Liquids

Please note the fertilizer credit. We use the credit because we are applying solid & liquid manure to one crop in the same season. The numbers used came from solids worksheet 2 step 13.



**LIQUIDS WORKSHEET 3 - APPLICATION RATES AND LAND REQUIREMENTS <sup>1</sup>**

Tract No.										
Field No.	Acres	Soil Test Phosphorus (STP)	Crop Rotation / Sequence	Planned Application Date or Timing	Planned Application Rate <sup>2</sup> (1,000 gal/ac)	Liquid or Commercial Fertilizer (L or C)	Actual Application Date	Actual Application Rate <sup>2</sup> (1,000 gal/ac)	Weather at Time of Application <sup>3</sup> (Cloudy, Raining, Sunny)	
									24 Hours Before	24 Hours After
H1	20	75	Barley Grain (Bushel)	Fall 2016	2					
H2	10	120	Wheat Silage (Ton)	Fall 2016	2					
H5	19	36	Wheat Silage (Ton)	Fall 2016	2					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					

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 is 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.

Spring 2017

**SOLIDS WORKSHEET 2 - NUTRIENT BALANCE**

Tract	Field No.	Acres
	H5	19

Soil Test P Value (Mehlich 3)

1. Crop or Crop Sequence/Rotation	<input type="text" value="Corn Silage (Ton)"/>		
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	<input type="text" value="20.0"/>		
3. Plant Nutrients Needed or Allowed (lbs/ac)	<b>N</b>	<b>P<sub>2</sub>O<sub>5</sub></b>	<b>K<sub>2</sub>O</b>
	194	72	160
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	<input type="text" value="0"/>		
5. Fertilizer Credits (lbs/ac)	<input type="text"/>		
6. Plant Nutrients Needed Minus Credits (lbs/ac)	194	72	160
7. Nutrients in Manure (lbs/ton) Enter lab results in box on right to override Worksheet 1 values	<input type="text" value="9.9"/>	<input type="text" value="4.0"/>	<input type="text" value="5.1"/>
8. Percent Nutrients Retained in System <input type="text" value="Table 1"/> Enter Table 1 values or Enter zero if lab results are used in Step 7	<input type="text" value="80%"/>	<input type="text" value="95%"/>	<input type="text" value="95%"/>
9. Net Retained Nutrients in Manure (lbs/ton)	<input type="text" value="7.9"/>	<input type="text" value="3.8"/>	<input type="text" value="4.9"/>
10. Percent of Available Nutrients <input type="text" value="Table 2"/> Enter Table 2 value for N	<input type="text" value="35%"/>	<input type="text" value="80%"/>	<input type="text" value="100%"/>
11. Net Available Nutrients (lbs/ton)	<input type="text" value="2.8"/>	<input type="text" value="3.1"/>	<input type="text" value="4.9"/>
12. Application Rate (tons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	<input type="text" value="4"/>	<input type="text" value="4"/>	<input type="text" value="4"/>
13. Net Application Amount for All Nutrients (lbs/ac)	<input type="text" value="11"/>	<input type="text" value="12"/>	<input type="text" value="20"/>
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	<input type="text" value="-183"/>	<input type="text" value="-60"/>	<input type="text" value="-140"/>

Tons Available  - Tons Applied in Field  = Balance

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

N	P205	K20
<input type="text"/>	<input type="text"/>	<input type="text"/>

Chosen Application Rate **MUST ENTER**

Go to Worksheet 3 Solids

**SOLIDS WORKSHEET 3 - APPLICATION RATES AND LAND REQUIREMENTS <sup>1</sup>**

Tract No.										
Field No.	Acres	Soil Test Phosphorus (STP)	Crop Rotation / Sequence	Planned Application Date or Timing	Planned Application Rate <sup>2</sup> (tons/ac)	Solid or Commercial Fertilizer (S or C)	Actual Application Date	Actual Application Rate <sup>2</sup> (tons/ac)	Weather at Time of Application <sup>3</sup> (Cloudy, Raining, Sunny)	
									24 Hours Before	24 Hours After
									H5	19
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					

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 is 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

Tract	Field No.	Acres
	H1	20

Soil Test P Value (Mehlich 3)

If applying to a legume, apply based on phosphorus. (Unless STP exceeds 600)

1. Crop or Crop Sequence/Rotation	<input type="text" value="Alfalfa Hay (Ton) (legume)"/>		
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	<input type="text" value="5.0"/>		
3. Plant Nutrients Needed or Allowed (lbs/ac)	<b>N</b>	<b>P<sub>2</sub>O<sub>5</sub></b>	<b>K<sub>2</sub>O</b>
	<input type="text" value="255"/>	<input type="text" value="70"/>	<input type="text" value="275"/>
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	<input type="text" value="0"/>		
5. Fertilizer Credits (lbs/ac)	<input type="text"/>		
6. Plant Nutrients Needed Minus Credits (lbs/ac)	<input type="text" value="255"/>	<input type="text" value="70"/>	<input type="text" value="275"/>
7. Nutrients in Manure (lbs/1,000 gallons) Enter lab results in box on right to override Worksheet 1 values	<input type="text" value="5.0"/>	<input type="text" value="2.3"/>	<input type="text" value="3.9"/>
8. Percent Nutrients Retained in System <input type="text" value="Table 1"/> Enter Table 1 values or Enter zero if lab results are used in Step 7	<input type="text" value="35%"/>	<input type="text" value="50%"/>	<input type="text" value="65%"/>
9. Net Retained Nutrients in Manure (lbs/1,000 gallons)	<input type="text" value="1.8"/>	<input type="text" value="1.2"/>	<input type="text" value="2.5"/>
10. Percent of Available Nutrients <input type="text" value="Table 2"/> Enter Table 2 value for N	<input type="text" value="80%"/>	<input type="text" value="80%"/>	<input type="text" value="100%"/>
11. Net Available Nutrients (lbs/1,000 gallons)	<input type="text" value="1.4"/>	<input type="text" value="0.9"/>	<input type="text" value="2.5"/>
12. Application Rate (1,000 gallons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	<input type="text" value="4"/>	<input type="text" value="4"/>	<input type="text" value="4"/>
13. Net Application Amount for All Nutrients (lbs/ac)	<input type="text" value="6"/>	<input type="text" value="4"/>	<input type="text" value="10"/>
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	<input type="text" value="-249"/>	<input type="text" value="-66"/>	<input type="text" value="-265"/>

Gallons Available 100,959 - Gallons Applied in Field 80,000 = Balance 20,959

Enter Lab Results Here to Override Calculations From Worksheet 1 on Step 7		
N	P205	K20
<input type="text"/>	<input type="text"/>	<input type="text"/>

Chosen Application Rate MUST ENTER
<input type="text" value="4"/>

Go to Worksheet 3 Liquids

LIQUIDS WORKSHEET 2 - NUTRIENT BALANCE			
Tract	Field No.	Acres	Soil Test P Value (Mehlich 3)
	H2	10	120
1. Crop or Crop Sequence/Rotation	Corn Silage (Ton)		
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	20.0		
3. Plant Nutrients Needed or Allowed (lbs/ac)	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
	194	72	160
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	0		
5. Fertilizer Credits (lbs/ac)			
6. Plant Nutrients Needed Minus Credits (lbs/ac)	194	72	160
7. Nutrients in Manure (lbs/1,000 gallons) Enter lab results in box on right to override Worksheet 1 values	5.0	2.3	3.9
8. Percent Nutrients Retained in System First Worksheet 2 values used or zero if lab results are used	35%	50%	65%
9. Net Retained Nutrients in Manure (lbs/1,000 gallons)	1.8	1.2	2.5
10. Percent of Available Nutrients Enter Table 2 value for N	45%	80%	100%
	Table 2		
11. Net Available Nutrients (lbs/1,000 gallons)	0.8	0.9	2.5
12. Application Rate (1,000 gallons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	2	2	2
13. Net Application Amount for All Nutrients (1,000 gallons/ac)	2	2	5
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	-192	-70	-155
Gallons Available	20,959	-	Gallons Applied in Field
			20,000 = Balance
			959

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

N	P205	K20

Chosen Application Rate MUST ENTER

2

In the notes it indicates the liquid manure is to be spread evenly, but the Alfalfa field must receive 4,000 G/ac. So, in this case there is not enough manure to spread evenly over fields H2 & H5. This would be a discussion with the farmer to determine where he plans for the manure to go. If it is the case of the farmer wanting manure on every field, then H2 would receive the rest of the liquid manure because H7 has solid manure. If you can communicate with the farmer about nutrient needs and P levels, then the best place to put the liquid & solid manure would be H7 because the P soil test indicates 36 lbs/ac which is below the needed amount of 45 lbs/ac.

**LIQUIDS WORKSHEET 3 - APPLICATION RATES AND LAND REQUIREMENTS <sup>1</sup>**

Tract No.										
Field No.	Acres	Soil Test Phosphorus (STP)	Crop Rotation / Sequence	Planned Application Date or Timing	Planned Application Rate <sup>2</sup> (1,000 gal/ac)	Liquid or Commercial Fertilizer (L or C)	Actual Application Date	Actual Application Rate <sup>2</sup> (1,000 gal/ac)	Weather at Time of Application <sup>3</sup> (Cloudy, Raining, Sunny)	
									24 Hours Before	24 Hours After
H1	20	75	Alfalfa Hay (Ton) (legume)	Spring 2017	4					
H2	10	120	Corn Silage (Ton)	Spring 2017	2					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					

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 is 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 2 - NUTRIENT BALANCE

Tract	Field No.	Acres
	H5	19

Soil Test P Value (Mehlich 3)

1. Crop or Crop Sequence/Rotation	<input type="text" value="Wheat Silage (Ton)"/>		
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	<input type="text" value="6.0"/>		
3. Plant Nutrients Needed or Allowed (lbs/ac)	<b>N</b>	<b>P<sub>2</sub>O<sub>5</sub></b>	<b>K<sub>2</sub>O</b>
	264	24	120
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	<input type="text" value="0"/>		
5. Fertilizer Credits (lbs/ac)	<input type="text"/>		
6. Plant Nutrients Needed Minus Credits (lbs/ac)	264	24	120
7. Nutrients in Manure (lbs/ton) Enter lab results in box on right to override Worksheet 1 values	9.9	4.0	5.1
8. Percent Nutrients Retained in System <input type="text" value="Table 1"/> Enter Table 1 values or Enter zero if lab results are used in Step 7	80%	95%	95%
9. Net Retained Nutrients in Manure (lbs./ton)	7.9	3.8	4.9
10. Percent of Available Nutrients Enter Table 2 value for N <input type="text" value="Table 2"/>	40%	80%	100%
11. Net Available Nutrients (lbs./ton)	3.2	3.1	4.9
12. Application Rate (tons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	4	4	4
13. Net Application Amount for All Nutrients (lbs/ac)	13	12	20
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	-251	-12	-100

Tons Available  - Tons Applied in Field  = Balance

Enter Lab Results Here to Override Calculations From Worksheet 1 on Step 7		
N	P2O5	K2O
<input type="text"/>	<input type="text"/>	<input type="text"/>

Chosen Application Rate MUST ENTER
<input type="text" value="4"/>

<a href="#">Go to Worksheet 3 Solids</a>
--

**SOLIDS WORKSHEET 3 - APPLICATION RATES AND LAND REQUIREMENTS <sup>1</sup>**

Tract No.										
Field No.	Acres	Soil Test Phosphorus (STP)	Crop Rotation / Sequence	Planned Application Date or Timing	Planned Application Rate <sup>2</sup> (tons/ac)	Solid or Commercial Fertilizer (S or C)	Actual Application Date	Actual Application Rate <sup>2</sup> (tons/ac)	Weather at Time of Application <sup>3</sup> (Cloudy, Raining, Sunny)	
									24 Hours Before	24 Hours After
									H5	19
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					

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 is 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

Tract	Field No.	Acres
	H1	20

Soil Test P Value (Mehlich 3)

If applying to a legume, apply based on phosphorus. (Unless STP exceeds 600)

1. Crop or Crop Sequence/Rotation	<input type="text" value="Alfalfa Hay (Ton) (legume)"/>		
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	<input type="text" value="5.0"/>		
3. Plant Nutrients Needed or Allowed (lbs/ac)	<b>N</b>	<b>P<sub>2</sub>O<sub>5</sub></b>	<b>K<sub>2</sub>O</b>
	255	70	275
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	<input type="text" value="0"/>		
5. Fertilizer Credits (lbs/ac)	<input type="text"/>		
6. Plant Nutrients Needed Minus Credits (lbs/ac)	255	70	275
7. Nutrients in Manure (lbs/1,000 gallons) Enter lab results in box on right to override Worksheet 1 values	5.0	2.3	3.9
8. Percent Nutrients Retained in System <input type="text" value="Table 1"/> Enter Table 1 values or Enter zero if lab results are used in Step 7	35%	50%	65%
9. Net Retained Nutrients in Manure (lbs/1,000 gallons)	1.8	1.2	2.5
10. Percent of Available Nutrients Enter Table 2 value for N <input type="text" value="Table 2"/>	80%	80%	100%
11. Net Available Nutrients (lbs/1,000 gallons)	1.4	0.9	2.5
12. Application Rate (1,000 gallons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	4	4	4
13. Net Application Amount for All Nutrients (lbs/ac)	6	4	10
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	-249	-66	-265

Gallons Available 100,959 - Gallons Applied in Field 80,000 = Balance 20,959

Enter Lab Results Here to Override Calculations From Worksheet 1 on Step 7		
N	P205	K20
<input type="text"/>	<input type="text"/>	<input type="text"/>

Chosen Application Rate MUST ENTER
<input type="text" value="4"/>

Go to Worksheet 3 Liquids

## LIQUIDS WORKSHEET 2 - NUTRIENT BALANCE

Tract	Field No.	Acres
	H2	10

Soil Test P Value (Mehlich 3)

1. Crop or Crop Sequence/Rotation	<input type="text" value="Wheat Silage (Ton)"/>		
2. Realistic Yield (Average from 5-10 Years on a per acre basis)	<input type="text" value="6.0"/>		
3. Plant Nutrients Needed or Allowed (lbs/ac)	<b>N</b>	<b>P<sub>2</sub>O<sub>5</sub></b>	<b>K<sub>2</sub>O</b>
	<input type="text" value="264"/>	<input type="text" value="24"/>	<input type="text" value="120"/>
4. Adjusted P <sub>2</sub> O <sub>5</sub> Application Rate According to Threshold	<input type="text" value="0"/>		
5. Fertilizer Credits (lbs/ac)	<input type="text"/>		
6. Plant Nutrients Needed Minus Credits (lbs/ac)	<input type="text" value="264"/>	<input type="text" value="24"/>	<input type="text" value="120"/>
7. Nutrients in Manure (lbs/1,000 gallons) Enter lab results in box on right to override Worksheet 1 values	<input type="text" value="5.0"/>	<input type="text" value="2.3"/>	<input type="text" value="3.9"/>
8. Percent Nutrients Retained in System First Worksheet 2 values used or zero if lab results are used	<input type="text" value="35%"/>	<input type="text" value="50%"/>	<input type="text" value="65%"/>
9. Net Retained Nutrients in Manure (lbs/1,000 gallons)	<input type="text" value="1.8"/>	<input type="text" value="1.2"/>	<input type="text" value="2.5"/>
10. Percent of Available Nutrients Enter Table 2 value for N <input type="text" value="Table 2"/>	<input type="text" value="50%"/>	<input type="text" value="80%"/>	<input type="text" value="100%"/>
11. Net Available Nutrients (lbs/1,000 gallons)	<input type="text" value="0.9"/>	<input type="text" value="0.9"/>	<input type="text" value="2.5"/>
12. Application Rate (1,000 gallons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="2"/>
13. Net Application Amount for All Nutrients (1,000 gallons/ac)	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="5"/>
14. Nutrient Needs (-) or Surpluses (+) (lbs/ac)	<input type="text" value="-262"/>	<input type="text" value="-22"/>	<input type="text" value="-115"/>

Gallons Available 20,959 - Gallons Applied in Field 20,000 = Balance 959

Enter Lab Results Here to Override Calculations From Worksheet 1 on Step 7		
N	P205	K20
<input type="text"/>	<input type="text"/>	<input type="text"/>

Chosen Application Rate MUST ENTER
<input type="text" value="2"/>

Go to Worksheet 2 Liquids

**LIQUIDS WORKSHEET 3 - APPLICATION RATES AND LAND REQUIREMENTS <sup>1</sup>**

Tract No.										
Field No.	Acres	Soil Test Phosphorus (STP)	Crop Rotation / Sequence	Planned Application Date or Timing	Planned Application Rate <sup>2</sup> (1,000 gal/ac)	Liquid or Commercial Fertilizer (L or C)	Actual Application Date	Actual Application Rate <sup>2</sup> (1,000 gal/ac)	Weather at Time of Application <sup>3</sup> (Cloudy, Raining, Sunny)	
									24 Hours Before	24 Hours After
H1	20	75	Alfalfa Hay (Ton) (legume)	Fall 2017	4					
H2	10	120	Wheat Silage (Ton)	Fall 2017	2					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					
0	0	0	0		0					

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 is 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.

In the notes it indicates the liquid manure is to be spread evenly, but the Alfalfa field must receive 4,000 G/ac. So in this case there is not enough manure to spread evenly over fields H2 & H5. This would be a discussion with the farmer to determine where he plans for the manure to go. If it is the case of the farmer wanting manure on every field, then H2 would receive the rest of the liquid manure because H7 has solid manure. If you can communicate with the farmer about nutrient needs and P levels, then the best place to put the liquid & solid manure would be H7 because the P soil test indicates 36 lbs/ac which is below the needed amount of 45 lbs/ac.

In general, putting manure on alfalfa is not the best utilization of the manure because alfalfa is a legume. In some cases, farmers like to apply manure before planting the alfalfa so it can get a good start, which is fine. Manure should not be applied to legumes if avoidable and farmers usually do not want to manure applied to an alfalfa crop once or possibility twice within its life span (3-5 year).