LIQUIDS WORKSHEET 2 - NUTRIENT BALANCE

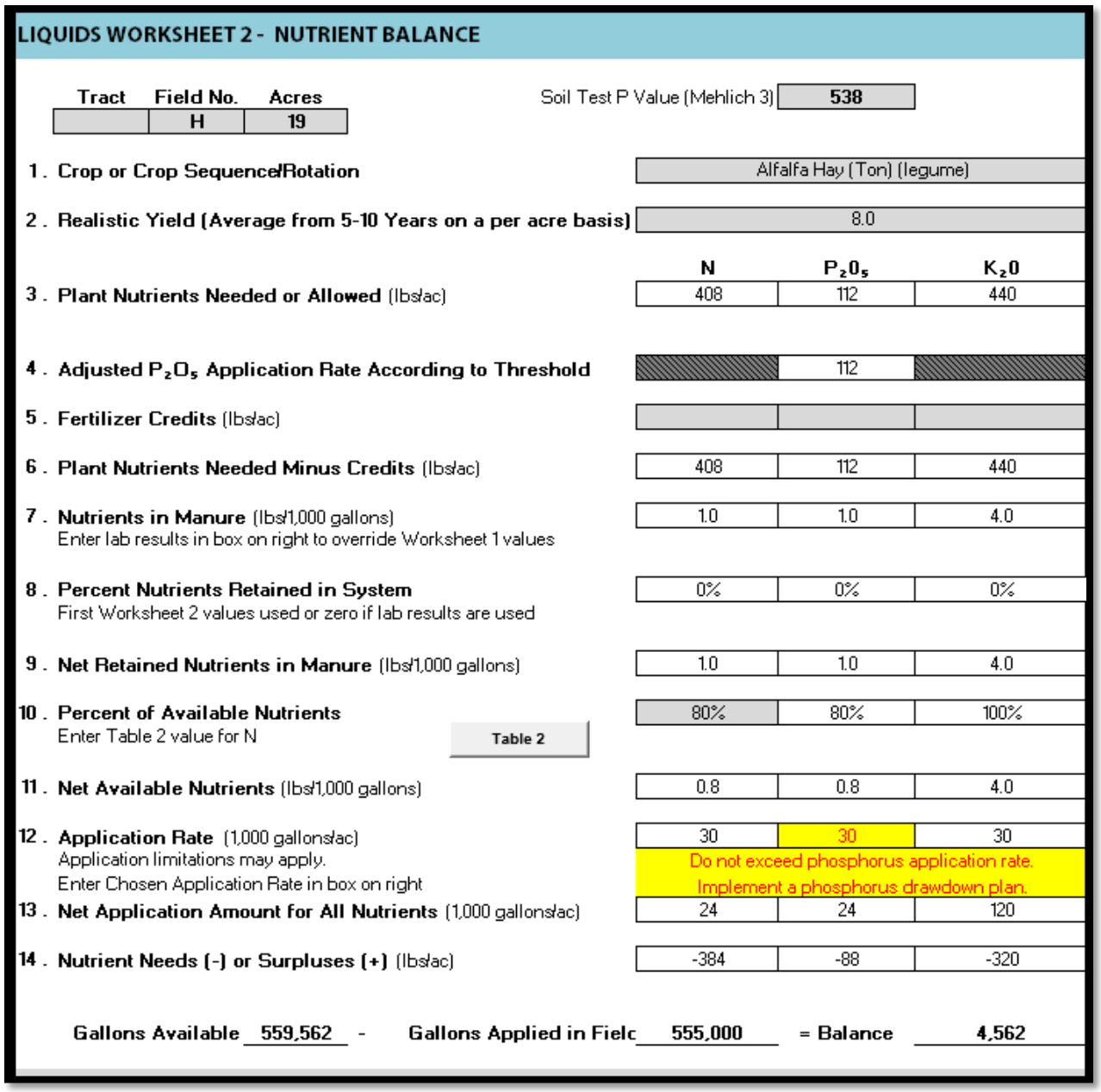
Tract	Field No.	Acres
	K-Lake	20

Soil Test P Value (Mehlich 3): **644**

		N	P_2O_5	K_2O
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/ac)	75	30	17
4.	**Adjusted P_2O_5 Application Rate According to Threshold**		15	
5.	**Fertilizer Credits** (lbs/ac)			
6.	**Plant Nutrients Needed Minus Credits** (lbs/ac)	75	15	17
7.	**Nutrients in Manure** (lbs/1,000 gallons) Enter lab results in box on right to override Worksheet 1 values	1.0	1.0	4.0
8.	**Percent Nutrients Retained in System** [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)	1.0	1.0	4.0
10.	**Percent of Available Nutrients** Enter Table 2 value for N [Table 2]	50%	80%	100%
11.	**Net Available Nutrients** (lbs/1,000 gallons)	0.5	0.8	4.0
12.	**Application Rate** (1,000 gallons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	19	19	19
		Do not exceed phosphorus application rate. Implement a phosphorus drawdown plan.		
13.	**Net Application Amount for All Nutrients** (lbs/ac)	10	15	76
14.	**Nutrient Needs (-) or Surpluses (+)** (lbs/ac)	-66	0	59

Gallons Available 939,562 - **Gallons Applied in Fielc** 380,000 = **Balance** 559,562

A split application is required.



LIQUIDS WORKSHEET 2 - NUTRIENT BALANCE

Tract	Field No.	Acres
	H	19

Soil Test P Value (Mehlich 3): 538

		N	P_2O_5	K_2O
1.	**Crop or Crop Sequence/Rotation**	Alfalfa Hay (Ton) (legume)		
2.	**Realistic Yield (Average from 5-10 Years on a per acre basis)**	8.0		
3.	**Plant Nutrients Needed or Allowed** (lbs/ac)	408	112	440
4.	**Adjusted P_2O_5 Application Rate According to Threshold**		112	
5.	**Fertilizer Credits** (lbs/ac)			
6.	**Plant Nutrients Needed Minus Credits** (lbs/ac)	408	112	440
7.	**Nutrients in Manure** (lbs/1,000 gallons) Enter lab results in box on right to override Worksheet 1 values	1.0	1.0	4.0
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)	1.0	1.0	4.0
10.	**Percent of Available Nutrients** Enter Table 2 value for N — Table 2	80%	80%	100%
11.	**Net Available Nutrients** (lbs/1,000 gallons)	0.8	0.8	4.0
12.	**Application Rate** (1,000 gallons/ac) Application limitations may apply. Enter Chosen Application Rate in box on right	30	30	30
		Do not exceed phosphorus application rate. Implement a phosphorus drawdown plan.		
13.	**Net Application Amount for All Nutrients** (1,000 gallons/ac)	24	24	120
14.	**Nutrient Needs (-) or Surpluses (+)** (lbs/ac)	-384	-88	-320

Gallons Available 559,562 - **Gallons Applied in Field** 555,000 = **Balance** 4,562

A split application is required. Applying manure to a legume is a waste disposal because they create their own N. It is best to apply the manure to a plant that is not a legume with low soil test P levels, if possible.

LIQUIDS WORKSHEET 3 - APPLICATION RATES AND LAND REQUIREMENTS [1]

Tract No.

Field No.	Acres	Soil Test Phosphorus (STP)	Crop Rotation / Sequence	Planned Application Date or Timing	Planned Application Rate[2] (1,000 gal/ac)	Liquid or Commercial Fertilizer (L or C)	Actual Application Date	Actual Application Rate[2] (1,000 gal/ac)	Weather at Time of Application[3] (Cloudy, Raining, Sunny)	
									24 Hours Before	24 Hours After
K-Lake	20	644	Wheat Grain (Bushel)	Fall 2016	19					
H	19	538	Alfalfa Hay (Ton) (legume)	Fall 2016	30					
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.

We cannot apply to field I- Tunnel Pasture because the soil test P is over 800. I applied the maximum amount of manure to the wheat based on the Phosphorus take-up. The rest of the manure was put on the Alfalfa field where the plant will take up the N,P, &K but the N in the manure is wasted because alfalfa is a legume and creates its own N. Based upon the soil test Phosphorus levels, neither of these fields need manure but this is all the available land. At this point it is a waste disposal instead of properly utilizing the manure.

We could apply more manure to the wheat field, but if we apply based upon the N needed by the plant we will over apply on P and see soil test phosphorus levels increase. By applying the rest of the manure to the alfalfa field the wheat will take up the N, P, K, when you look at the soil test if more nutrients is needed commercial fertilizer can be brought in.