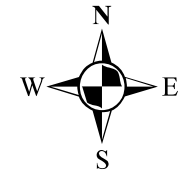


# Logeman Brothers

## Individual Fields

### Soil Map



#### Legend

- Fields
- Water
- Water Buffer
- Wells
- Well Buffer
- Finisher Buildings
- Existing Land Treatment
- Waste Holding Pond

1,000

Feet

 **Frank & West**  
Environmental Engineers, Inc.  
7226 N. State Route 29 Phone: 217/487-7686  
Springfield, IL 62707 Fax: 217/487-7687

**Individual Field Information****Logeman Brothers Farm**

<b>Field Name:</b>	<u>North End 3 Acres</u>	<b>Total Acres</b>	4.6
		<b>Non-Spreadable Acres</b>	1.4
<b>Township</b>	T14S-R4E	<b>Total Spreadable Acres</b>	3.2
<b>Section</b>	26		
			8382A Bilknap silt loam, 0-2% slopes, occasionally flooded
<b>FSA Farm #</b>	1988	<b>Predominant Soil Type:</b>	
<b>FSA Tract #</b>	6185	<b>P test</b>	--
<b>FSA Field #'s</b>	1	<b>K test</b>	--

**Individual Field Application & Nutrients**

<b>Crop needs</b>	<b>Year</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Crop		Grass	Grass	Grass	Grass	Grass	Grass
Yield	(bu/acre OR ton/acre)		7	7	7	7	7
N needed (lbs/ac)	lbs/ac		150	150	150	150	150
- Legume N credits	(lb/acre)		0	0	0	0	0
- Commercial fertilizer N credits	(lb/acre)						
- Manure N carryover credit **	(lb/acre)		25.7	38.6	37.9	37.6	35.9
Total N Credits	(lb/acre)		25.704	38.6	37.9	37.6	35.9
Crop N Need Minus Credits	(lb/acre)		124	111	112	112	114
Maintenance P needed *	(lb/acre)		84	84	84	84	84
Maintenance K needed *	(lb/acre)		350	350	350	350	350

\* Maintenance P & K needed are listed for calculation & uptake purposes only

\*\* Manure N carryover credit = Previous years' apps \* Org N \* Mineralization factor

<b>Logeman Brothers Farm</b>							
<b>North End 3 Acres</b>		<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>Manure Application</b>		Grass	Grass	Grass	Grass	Grass	Grass
Storage		Nursery	Nursery	Nursery	Nursery	Nursery	Nursery
Application Method		Irrigate	Irrigate	Irrigate	Irrigate	Irrigate	Irrigate
Storage/Application Method			LINE1	LINE1	LINE1	LINE1	LINE1
1st Year Available N ( $Am-N * N$ <i>retention due to app method</i> ) + ( $OrgN$ $* .35$ )	(lb/1000 gal)		1.89	1.89	1.89	1.89	1.89
N App Rate ( $Crop\ N\ Need / 1st\ Yr\ Av\ N$ )	(1000 gal/acre)		65.8	59.0	59.3	59.5	60.3
P App Rate ( $Maintenance\ P / P\ in\ analysis$ )	(1000 gal/acre)		105.00	105.00	105.00	105.00	105.00
Apply at Prate or Nrate?			Prate	Prate	Prate	Prate	Prate
<b>Application Rate to Use</b>	<b>(1000 gal)</b>	<b>81.6</b>	<b>81.6</b>	<b>59.0</b>	<b>59.3</b>	<b>59.5</b>	<b>60.3</b>
Total application ( $App\ Rate * Spreadable\ Acres$ )	(gallons)		261,120	188,800	189,760	190,400	192,960
N applied ( $1st\ Year\ AvN * App\ rate$ )	(lb/acre)		154	112	112	112	114
P applied ( $P\ in\ manure * App\ rate$ )	(lb/acre)		65	47	47	48	48
K applied ( $K\ in\ manure * App\ rate$ )	(lb/acre)		604	437	439	440	446
<b>Additional N Needed</b>	<b>(lb/acre)</b>		<b>-30</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Acres Covered	(acres)		3.2	3.2	3.2	3.2	3.2

Manure applications via irrigation are made at least 3 times per year. Application rate is based on the annual amount of manure applied

**Individual Field Information****Logeman Brothers Farm**

<b>Field Name:</b>	<u>Around Buildings</u>	<b>Total Acres</b>	54.4
		<b>Non-Spreadable Acres</b>	5.5
<b>Township</b>	T14S-R4E	<b>Total Spreadable Acres</b>	48.9
<b>Section</b>	26		
			8108A Bonnie silt loam, 0-2% slopes, occasionally flooded
<b>FSA Farm #</b>	119	<b>Predominant Soil Type:</b>	
<b>FSA Tract #</b>	1547	<b>P test</b>	--
	2,3,7,10,6,5,		
<b>FSA Field #'s</b>	9	<b>K test</b>	--

**Individual Field Application & Nutrients**

<b>Crop needs</b>	<b>Year</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Crop		Grass	Grass	Grass	Grass	Grass	Grass
Yield	(bu/acre OR ton/acre)		7	7	7	7	7
N needed (lbs/ac)	lbs/ac		150	150	150	150	150
- Legume N credits	(lb/acre)		0	0	0	0	0
- Commercial fertilizer N credits	(lb/acre)						
- Manure N carryover credit **	(lb/acre)		21.0	30.3	33.6	34.7	33.8
Total N Credits	(lb/acre)		21	30.3	33.6	34.7	33.8
Crop N Need Minus Credits	(lb/acre)		129	120	116	115	116
Maintenance P needed *	(lb/acre)		84	84	84	84	84
Maintenance K needed *	(lb/acre)		350	350	350	350	350

\* Maintenance P & K needed are listed for calculation & uptake purposes only

\*\* Manure N carryover credit = Previous years' apps \* Org N \* Mineralization factor

<b>Logeman Brothers Farm</b>							
<b>Around Buildings</b>		<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>Manure Application</b>		Grass	Grass	Grass	Grass	Grass	Grass
Storage		East Finisher	East Finisher	East Finisher	East Finisher	East Finisher	East Finisher
Application Method		Irrigate	Irrigate	Irrigate	Irrigate	Irrigate	Irrigate
Storage/Application Method			LINE3	LINE3	LINE3	LINE3	LINE3
1st Year Available N ( $Am-N * N$ <i>retention due to app method</i> ) + ( $OrgN$ $* .35$ )	(lb/1000 gal)		2.73	2.73	2.73	2.73	2.73
N App Rate ( $Crop\ N\ Need / 1st\ Yr\ Av\ N$ )	(1000 gal/acre)		47.3	43.8	42.6	42.2	42.6
P App Rate ( $Maintenance\ P / P\ in\ analysis$ )	(1000 gal/acre)		52.50	52.50	52.50	52.50	52.50
Apply at Prate or Nrate?			Nrate	Nrate	Nrate	Nrate	Nrate
<b>Application Rate to Use</b>	<b>(1000 gal)</b>	<b>50.0</b>	<b>47.3</b>	<b>43.8</b>	<b>42.6</b>	<b>42.2</b>	<b>42.6</b>
Total application ( $App\ Rate * Spreadable\ Acres$ )	(gallons)		1,401,269	1,401,269	1,401,269	1,401,269	1,401,269
N applied ( $1st\ Year\ AvN * App\ rate$ )	(lb/acre)		129	120	116	115	116
P applied ( $P\ in\ manure * App\ rate$ )	(lb/acre)		76	70	68	68	68
K applied ( $K\ in\ manure * App\ rate$ )	(lb/acre)		572	530	516	511	515
<b>Additional N Needed</b>	<b>(lb/acre)</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Acres Covered	(acres)		29.7	32.0	32.9	33.2	32.9

Manure applications via irrigation are made at least 3 times per year. Application rate is based on the annual amount of manure applied

<b>Logeman Brothers Farm</b>							
<b>Around Buildings</b>		<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>Manure Application</b>		Grass	Grass	Grass	Grass	Grass	Grass
Storage			Nursery	Nursery	Nursery	Nursery	Nursery
Application Method			Irrigate	Irrigate	Irrigate	Irrigate	Irrigate
Storage/Application Method			LINE1	LINE1	LINE1	LINE1	LINE1
1st Year Available N ( $Am-N * N$ <i>retention due to app method</i> ) + ( $OrgN$ $* .35$ )	(lb/1000 gal)		1.89	1.89	1.89	1.89	1.89
N App Rate ( $Crop\ N\ Need / 1st\ Yr\ Av\ N$ )	(1000 gal/acre)		68.3	63.3	61.6	61.0	61.5
P App Rate ( $Maintenance\ P / P\ in\ analysis$ )	(1000 gal/acre)		105.00	105.00	105.00	105.00	105.00
Apply at Prate or Nrate?			Nrate	Nrate	Nrate	Nrate	Nrate
<b>Application Rate to Use</b>	<b>(1000 gal)</b>	<b>0.0</b>	<b>68.3</b>	<b>63.3</b>	<b>61.6</b>	<b>61.0</b>	<b>61.5</b>
Total application ( $App\ Rate * Spreadable\ Acres$ )	(gallons)		197,001	269,321	268,361	267,721	265,161
Total loads ( $Total\ gal/gal\ per\ load$ )	loads		56	77	77	76	76
N applied ( $1st\ Year\ AvN * App\ rate$ )	(lb/acre)		129	120	116	115	116
P applied ( $P\ in\ manure * App\ rate$ )	(lb/acre)		55	51	49	49	49
K applied ( $K\ in\ manure * App\ rate$ )	(lb/acre)		505	468	456	451	455
<b>Additional N Needed</b>	<b>(lb/acre)</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Acres Covered	(acres)		2.9	4.3	4.4	4.4	4.3

Manure applications via irrigation are made at least 3 times per year. Application rate is based on the annual amount of manure applied