

References

Timber Ridge Pork

Manure Sample Analysis

(#/1000 gal or #/ton basis)

	N	NH4	OrgN	1st Year AvN	P2O5	K2O
Stage 2	8.4	3	5.4	4.56	1.2	7.6
Stage 1	20.25	12.4	7.85	14.507	36.975	7.4

The lagoon has 2 stages (Stage 1 & 2). Stage 1 is expected to be higher in nutrient levels than Stage 2, due to accumulated solids. It would be expected to haul Stage 2 to nearby fields and Stage 1 to farther away fields.

Application Method N retention % N retention, from MWPS

SURFACE, SOLID	0.75
SURFACE, LIQUID	0.8
AERWAY	0.9
SURFACE, INCORP	0.95
INJECT	0.98
IRRIGATE	0.7
NONE	0

Organic N Mineralization

% of OrgN LMFA Regulations

Year of App	0.3
Year 1 after App	0.3
Year 2 after App	0.15
Year 3 after App	0.0875
Year 4 after App	0.04375

N, P, & K Requirements

lbs/bu or t, from IL Agronomy Handbook

Crop	N	P	K
Corn	1.2	0.43	0.28
Soybeans	0	0.85	1.3
Corn Silage	1.2	2.6	7
Wheat	1	0.9	0.3
Grass Hay	150	12	50
Alfalfa Hay	0	12	50

Timber Ridge Pork
Recommended Application Rates

Application Method				N rate		P rate	
Crop	Yield	Crop Rotation	Method	lbs N/1000 gal	gal/acre	gal/acre	gal/acre
CORN	200	After Corn	Inject	Stage 2	15	16,000	n/a
					20	12,000	
				Stage 1	25	10,000	2,300
				30	8,000		
		After Beans		Stage 2	15	13,000	n/a
					20	10,000	
CORN	180	After Corn	Inject	Stage 1	25	8,000	2,300
					30	6,700	
				Stage 2	15	14,400	n/a
					20	10,800	
				Stage 1	25	8,600	2,000
				30	7,200		
		After Beans		Stage 2	15	11,700	n/a
					20	8,800	
				Stage 1	25	7,000	2,000
					30	5,900	

<u>Application</u>			<u>Method</u>			<u>lbs N/1000 gal</u>	<u>gal/acre</u>	<u>gal/acre</u>
<u>Crop</u>	<u>Yield</u>	<u>Crop Rotation</u>						
CORN	160	After Corn	Inject		Stage 2	15	12,800	n/a
					20	9,600		
					Stage 1	25	7,700	1,900
		30			6,400			
		Stage 2			15	10,100	n/a	
		20			7,600			
					Stage 1	25	6,000	1,900
					30	5,000		
					Stage 2	15	10,000	n/a
		20			7,500			
		Stage 1			25	6,000	1,300	
		30			5,000			
BEANS	55	--	Inject					

These recommended rates are based on the stated yields and crops, and assumes fields have NO recent manure applications (no N credits from manure application). These are estimates only, and can be used as guides when climate or other factors exist that require deviations from planned manure applications. Previous applications would require that these application rates be decreased from present estimates.

Also, these recommendations are based on an actual facility analyses. HOWEVER, analyses can fluctuate from year to year, so annual manure testing is important to determine actual nutrient loading rates.

"n/a" is listed for the P rate from Stage 2 manure, as the P rate would be so high, as to be higher than the N rate, and is therefore, not applicable

$N \text{ available 1st year} = (Am-N * App \text{ Method Efficiency}) + (OrgN * .35)$

Previous manure applications should be given N credits =

$(App \text{ rate (in 1,000 gal)} * Org \text{ N (per 1,000 gal)} * Mineralization \text{ Factor}) / 2$

Mineralization Factors: Year 1 = .3, Year 2 = .15, Year 3 = .075, Year 4 = 0.04

Efficiency of Application = Liquid, Broadcast = 0.80, Solid, Broadcast = 0.75, Aerway = 0.90, Liquid Inject = 0.98