Section 4 Example: Manure Nutrient Production and Land Needs

from Nutrient Inventory *software*

		Units
Live Weight of Cattle….		
Entering Feedlot (lbs.):	745	lb
Exiting Feedlot (lbs.):	1,250	lb
Targeted Grade for Marketed Beef:	Choice	
Number of Cattle (Single Turn):	2,500	beef feeder
Number of Cattle Finished per Year:	5,000	beef feeder
Average Days on Feed	163	days
Average Daily Gain	3.1	lb gain/day
Feed Use Efficiency	7.1	lb feed / lb gain

Animal Performance Inputs

Animal Ration Inputs

Days on Feed	Feed Intake (lb dry wt./head/day)	Dry Matter Digestibility (% DB)	Organic Matter Digestibility (% DB)	Ash[2] (% Dry Basis)	Dietary Crude Protein (% Dry Basis)	Dietary Phosphorus (% Dry Basis)
163	22.00	80.0%	83.0%	4.0%	18.7%	0.49%

Nutrient Excretion by Livestock Summary

Feedlot	488,874	lbs. N/yr	76,256	lbs. P/yr	

Nutrients Remaining After Storage Losses

	Amount Retained		% Retained	Amount Retained		% Retained
Feedlot	244,437	lbs. N/yr	50%	72,444	lbs. P/yr	95%
Collected Runoff	24,444	lbs. N/yr	5%	3,813	lbs. P/yr	5%

Nutrients Remaining After Field Application Losses

	Amount Retained		% Retained Org -N	% Retained NH_4-N	Amount Retained		% Retained
Feedlot	100,281	lbs. N/yr	50%	5%	72,444	lbs. P/yr	100%
Collected Runoff	12,711	lbs. N/yr	70%	50%	3,813	lbs. P/yr	100%

Crop Land Requirements if Manure Nutrients are Distributed According to Crop Nutrient Removal Rates

Land Base Identified	Nitrogen Available	Utilized	Remaining	P_2O_5 Available	Utilized	Remaining
3,670 ac	100,281 lb	100,281 lb	0 lb	165,896 lb	165,896 lb	0 lb
	850	acres to utilize N		3,670	acres to utilize P	

Crop Land Requirements if Runoff Nutrients are Distributed According to Crop Nutrient Removal Rates

Land Base Identified	Nitrogen Available	Utilized	Remaining	P_2O_5 Available	Utilized	Remaining
111 ac	12,711 lb	12,711 lb	0 lb	8,731 lb	8,731 lb	0 lb
	111	acres to utilize N		161	acres to utilize P	

Conclusion: Farm currently owns/manages 400 acres of crop land and will need to identify at least 560 acres in manage manure nitrogen immediately and an up to 3400 acres to manage manure phosphorus.