Forage Economics

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Partial Budgeting-A useful tool for examining economic decisions

- Additional revenue
- Reduced cost
- Additional expense
- Reduced income

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Partial Budgeting Form for Analyzing Grazing Profitability

Additional Costs	**Additional Revenue**
Additional fencing costs	Increased conception
Increased fertilizer costs	Increased weaning weights
Increased labor costs	Higher stocking rate
Additional Cow investment	EQIP/CSP???
Reduced Revenue	**Reduced Costs**
Reduced stocking rate	Lower fertilizer costs
Reduced weaning weights	Reduced equipment costs
	Reduced feed needs
Total additional costs +reduced revenue = A	**Total additional revenue +reduced costs = B**

Total Profit = B-A

Two Examples

1. Incorporating clovers
2. Fertilizing when prices are high

Replace 100 Acres of Commercial N with Clover

Current Situation

- 120# N/acre
- N cost $0.70/lbs.
- 2 acres/cow
- 90% calf crop with 500# calf @$125/Cwt.

Clover

- 3#/acre of Durana @ $5.25/# - good for 3 years
- Additional 10# P/acre required @ $.60/#
- Additional 10# K/acre required @ $0.55/#
- 2.13 acres per cow
- Weaning weights increased 20#

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100 Acres in Clover

Additional Costs

3#/acre of Durana or Patriot @$5.25/pound good for 3 years = $525/year
Additional 10# phosphorous/acre per year @$0.60/# = $600
Additional 10# potash/acre per year @$0.55/# = $550

Total additional costs = $1,675

Additional Revenue

Additional 20 pounds on calves from 43 cows @ 90% calf crop sold for $125/cwt. = $968

Reduced Revenue

Stocking rate reduced by 15% → 7 cows@ 90% calf crop, 500 pound calf @ $125/Cwt. = $3,938

Total additional costs +reduced revenue =$5,613

Reduced Costs

Savings on 2 applications of 60#/acre of commercial nitrogen @ $0.70/pound = $8,400
7 fewer cows @ $400/cow = $2,800

Total additional revenue +reduced costs = $12,168

Total Profit = $6,555

Impacts of Fertilizer Cost & Usage on Profitability

	Price per Pound for Nitrogen			
Lbs. of N/acre	**$ 0.35**	**$ 0.50**	**$ 0.75**	**$ 1.00**
80	$ 530.00	$ 1,730.00	$ 3,730.00	$ 5,730.00
100	$ 1,230.00	$ 2,730.00	$ 5,230.00	$ 7,730.00
120	$ 1,930.00	$ 3,730.00	$ 6,730.00	$ 9,730.00
150	$ 2,980.00	$ 5,230.00	$ 8,980.00	$ 12,730.00

What if Pounds Weaned do Not Increase?

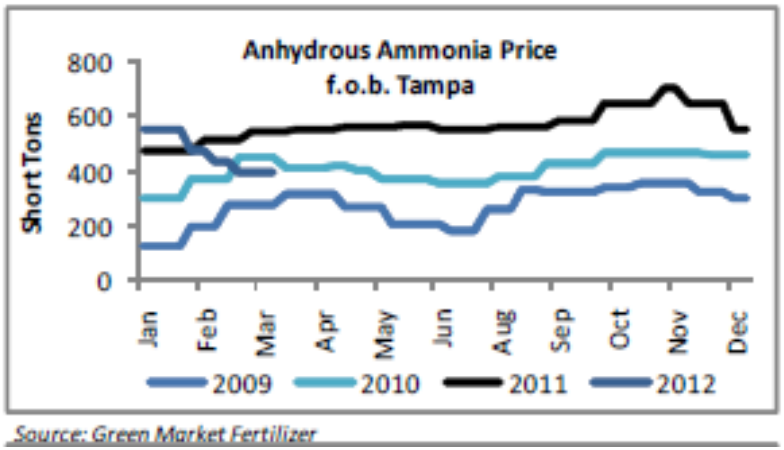
	Price per Pound for Nitrogen			
Lbs. of N/acre	**$ 0.35**	**$ 0.50**	**$ 0.75**	**$ 1.00**
80	$ (468.75)	$ 731.25	$ 2,731.25	$ 4,731.25
100	$ 231.25	$ 1,731.25	$ 4,231.25	$ 6,731.25
120	$ 931.25	$ 2,731.25	$ 5,731.25	$ 8,731.25
150	$ 1,981.25	$ 4,231.25	$ 7,981.25	$ 11,731.25

Conclusions

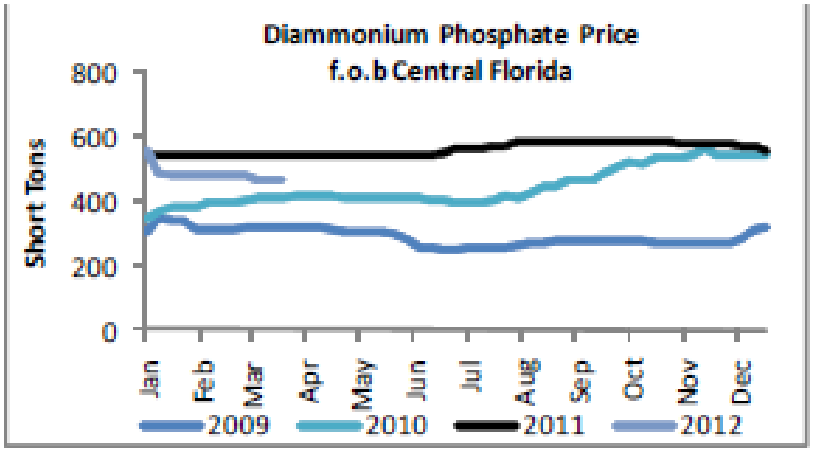
- Clovers in pastures are economical.
- The higher N prices, the more economical they are.

CAN I AFFORD TO FERTILIZE PASTURES?

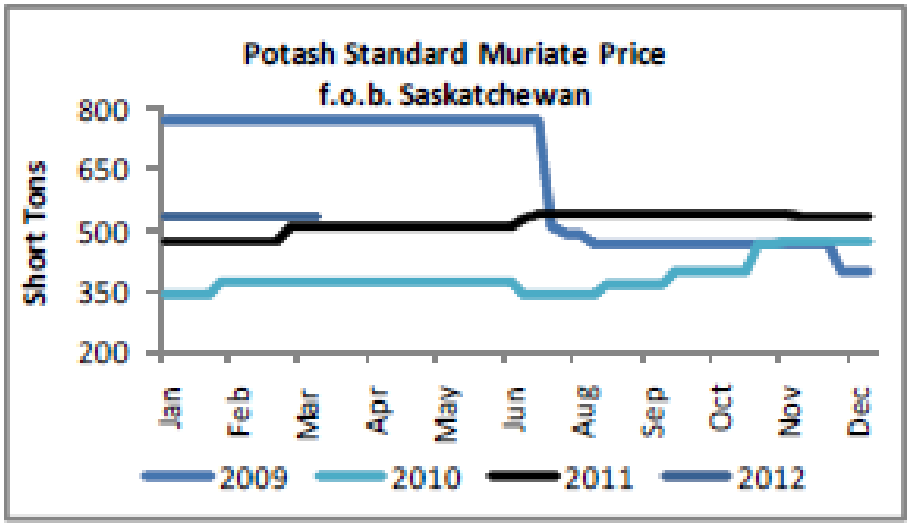
Fertilizer prices are expected to remain firm



Source: Green Market Fertilizer

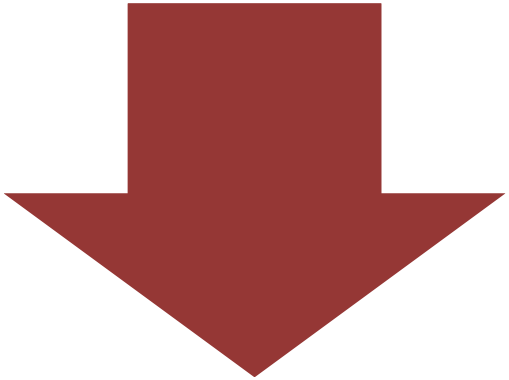


Source: Green Market Fertilizer



Source: Green Market Fertilizer

To Fertilize or Not to Fertilize



Higher stocking rates

Heavier weaning weights

Higher Prices

Less available capital

Weather risk

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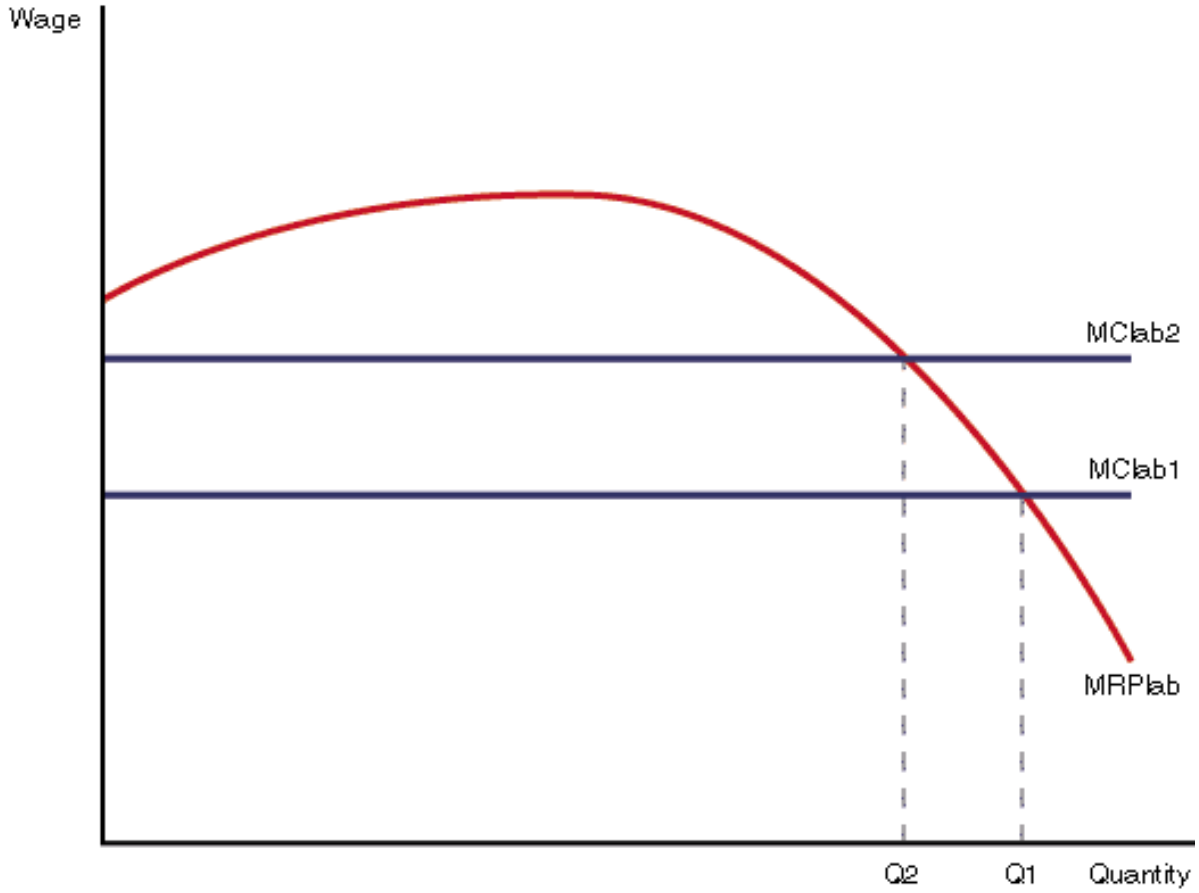
Decision Model



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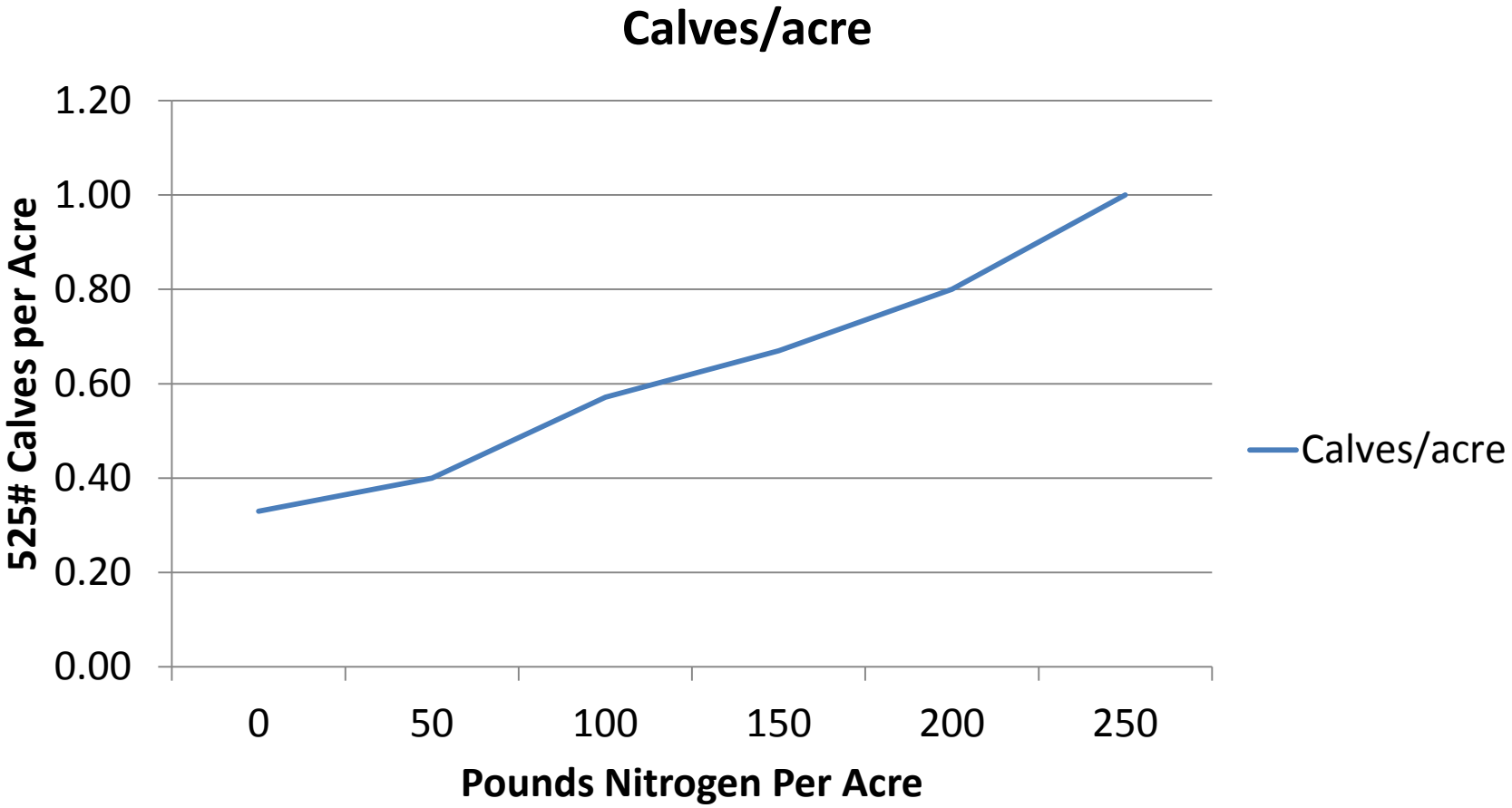
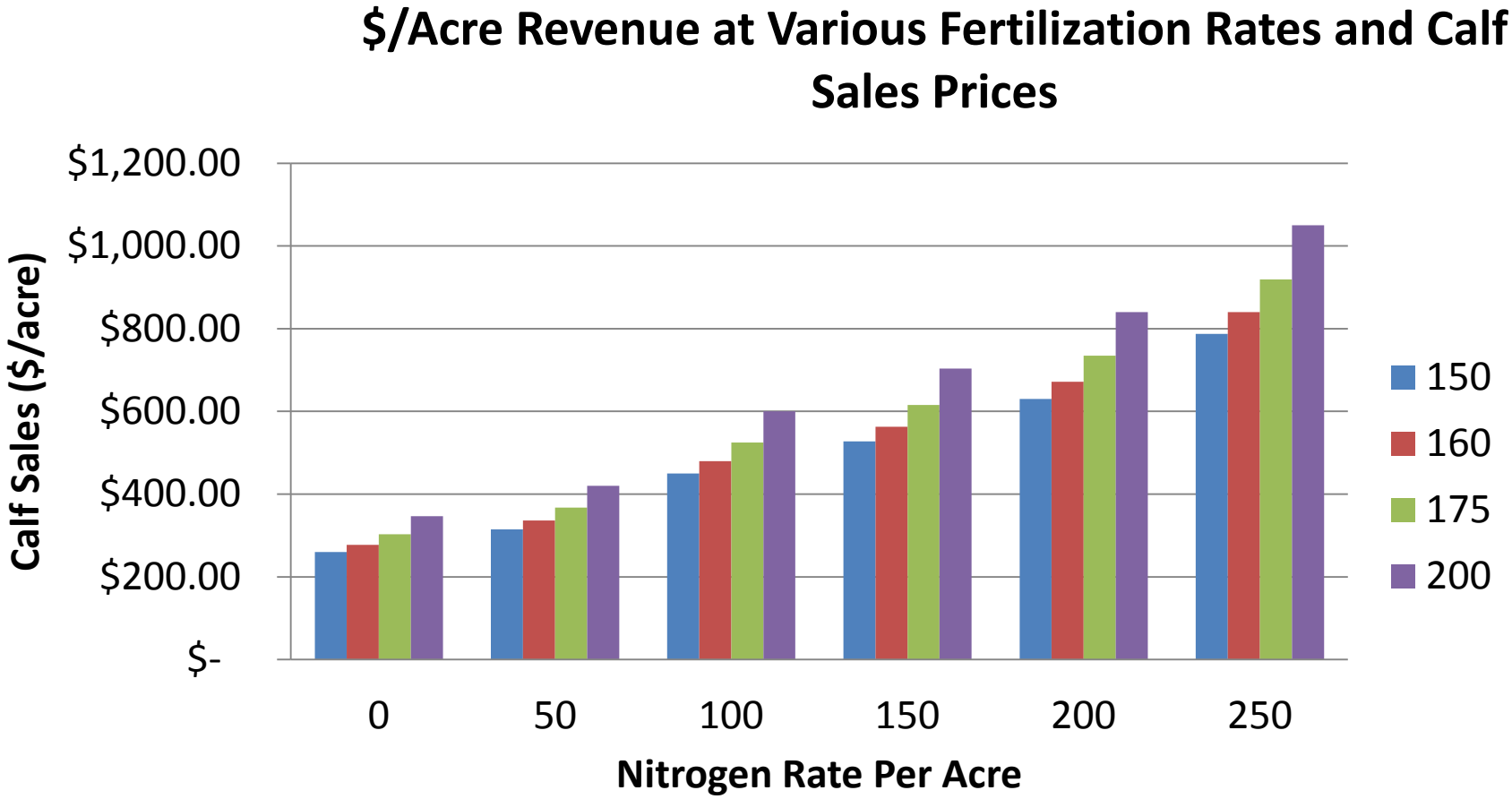
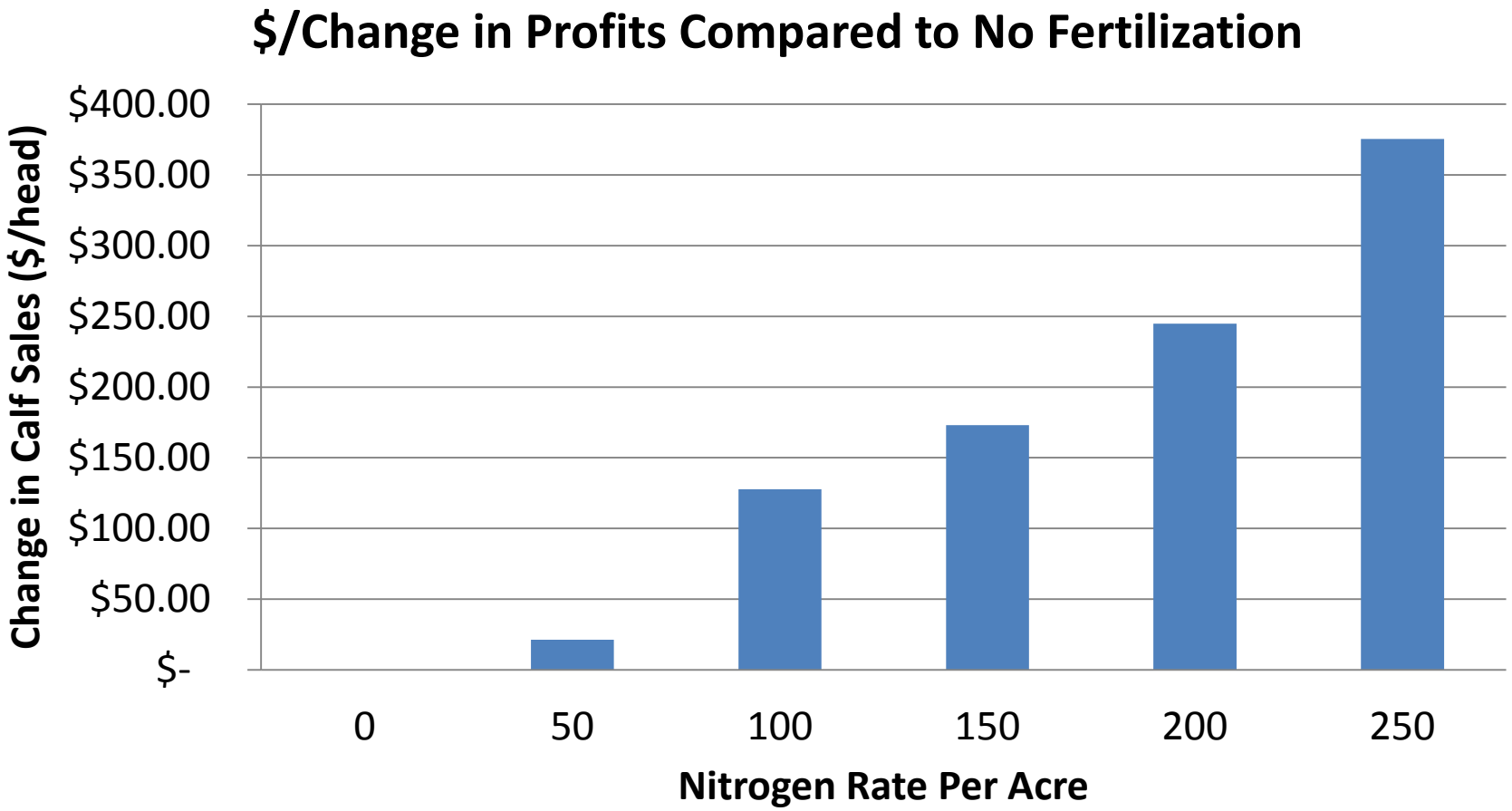
Basic Assumptions



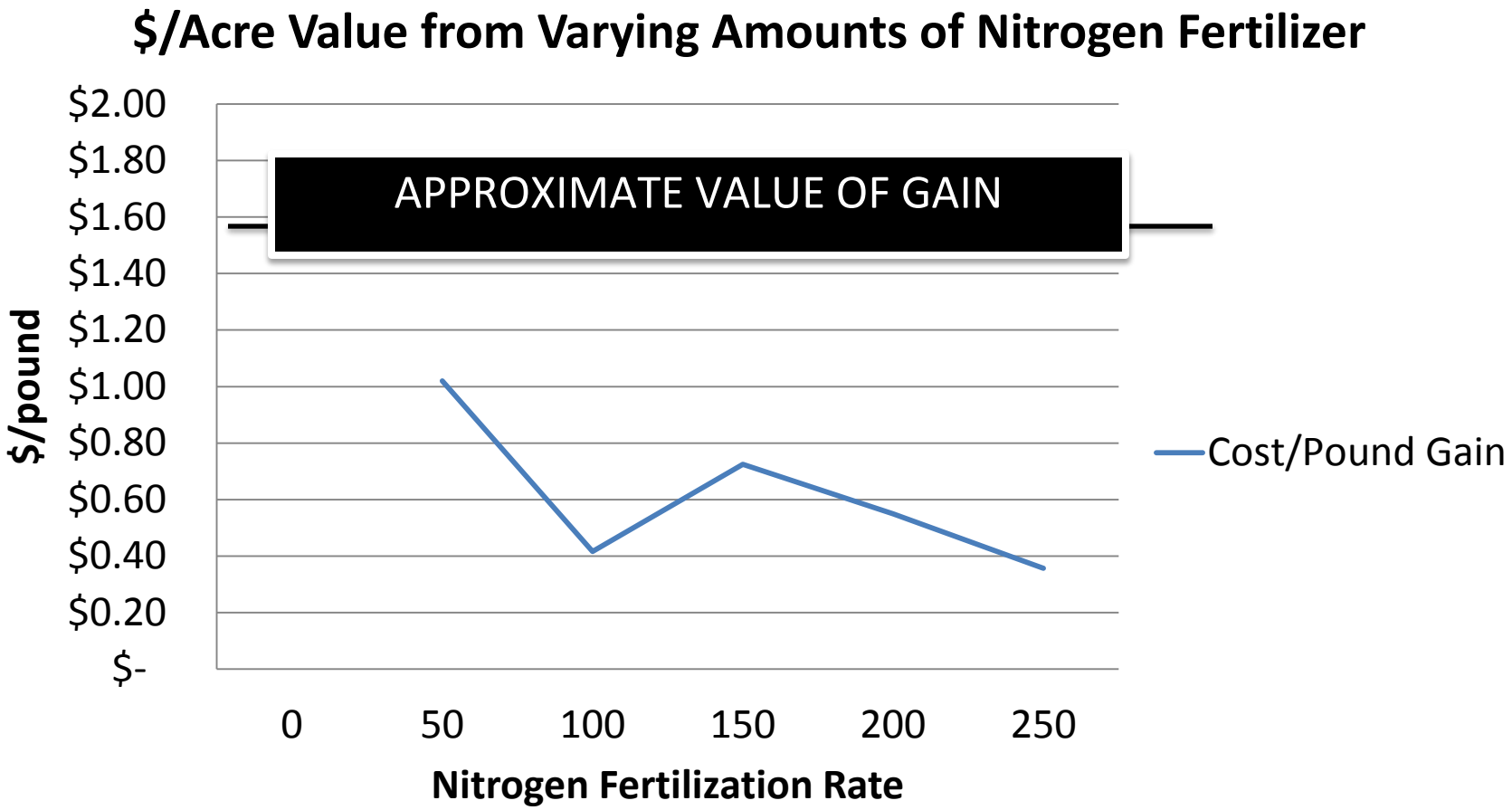
So what is the production worth?



Marginal Profits from Fertilizing Pastures



What is my cost of gain?



Yeah, but what if N goes up?

		Profits from Fertilizing at different N and Calf Prices					
		$/Cwt. for 525 Pound Calf					
		$ 125.00	**$ 140.00**	**$ 150.00**	**$ 160.00**	**$ 175.00**	**$ 200.00**
$/ Lb. of N	**$ 0.60**	$ 90.00	$ 108.00	$ 120.00	$ 132.00	$ 150.00	$ 180.00
	$ 0.70	$ 80.00	$ 98.00	$ 110.00	$ 122.00	$ 140.00	$ 170.00
	$ 0.80	$ 70.00	$ 88.00	$ 100.00	$ 112.00	$ 130.00	$ 160.00
	$ 0.90	$ 60.00	$ 78.00	$ 90.00	$ 102.00	$ 120.00	$ 150.00
	$ 1.00	$ 50.00	$ 68.00	$ 80.00	$ 92.00	$ 110.00	$ 140.00
	$ 1.25	$ 25.00	$ 43.00	$ 55.00	$ 67.00	$ 85.00	$ 115.00

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Summary on Fertilizing Pastures*

- At current prices you can't afford NOT to fertilize.
- The more valuable the calf the more the fertilizer is worth.
- You can pay more than you think you can.

* Assuming it rains

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