

Economics of producing forage on cropland

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What Does Not Growing Corn Get You?

- Reduced costs
 - You don't have to pay the cost of growing corn
- Reduced revenue
 - You don't get to sell corn grain
 - You don't get to rent out corn stalks (or graze them yourself)



What Does Growing Forage Get You?

- Increased costs
 - You have to pay to establish and use the forage
- Increased revenue
 - You can reap the benefits of having the forage available



Partial Budget Analysis

Positive things	Negative things
Increased revenues Reaping the benefits of the forage available	Increased costs You have to pay to establish and use the forage
Decreased costs You don't have to pay the cost of growing corn	Decreased revenues You don't get to sell corn grain You don't get to rent out corn stalks (or graze)



What Does Not Growing Corn Get You?

- Reduced costs
 - You don't have to pay the cost of growing corn

<http://cropwatch.unl.edu/budgets>



Partial Budget Analysis

- Risk Scenario Planning tool from the RightRisk Education Team

<http://rightrisk.org/tools/rsptool>



Pasture rental rates

<http://agecon.unl.edu/realestate>



Example annual forage system

<http://beef.unl.edu/cropland>

Annual forage system A

- East-central Nebraska (irrigated land)
- 100 cow/calf pairs on 140 acres
- Grazing Mid-May through Mid-November
 - 183 days of grazing (6 months)



Assumptions

	Spring cool-season	Summer warm-season	Fall cool-season
	Field 1	Field 2	Field 1
Forage (seeding rate, lb/ac)	Oats (100)	Sudangrass (20)	Oats (60) and Turnip (3)
Acres/pair	0.6	0.8	0.6
Plant date	Mid-March	Mid-May	Mid-July
Grazing start date	Mid-May	Mid-July	Late September
Tons of forage	3.0	4.0	3.0
Grazing efficiency, %	50	40	50
Days of grazing	50	83	50
Nitrogen, lbs/ac	40	80	40
Irrigation, inch/ac	1	5	2

Estimated costs

	Spring	Summer	Fall
Seed, \$/ac	\$22.00	\$16.00	\$18.00
Seeding, \$/ac	\$15.00	\$15.00	\$15.00
Fertilizer (N @ \$0.32/lb), \$/ac	\$12.80	\$25.60	\$12.80
Irrigation (pivot \$9.63/inch), \$/ac	\$9.63	\$48.15	\$19.26
Fencing (at \$10/ac), \$/ac	\$5.00	\$10.00	\$5.00
Forage cost, \$/ac	\$64.43	\$114.75	\$70.06
Forage cost, \$/pair/month	\$25.13	\$41.48	\$27.32
Total cost, \$/ac		\$123.21	
Interest on operating capital, \$/ac		\$3.39	
System forage cost, \$/pair		\$177.24	
System forage cost, \$/pair/month		\$28.75	



Can I afford to pay cash rent? (don't normally farm)

Cost, \$/ac	\$123.21
Interest on operating capital, \$/ac	\$3.39
Cash rent	\$245.00
Total cost, \$/ac	\$371.60
Cost per pair (@1.4 ac/pair)	\$520.24
System forage cost, \$/pair/month	\$86.71

Establishment Cost for Irrigated, Perennial Pasture

<i>Establishment cost item</i>	<i>\$/acre</i>
Grass seed mixture	\$70
Burn-down herbicide (glyphosate + application)	\$10
No-till drill seeding	\$14
Starter fertilizer (20-20-0)	\$18
Fall irrigation (3 inches @ \$6/inch)	\$18
TOTAL	\$130

2018 Budget 47-Grass, Fall established (No-till)



Establishment Cost for Irrigated, Perennial Pasture

<i>Fencing/water development cost item (5 paddocks)</i>	<i>\$/acre</i>
Perimeter fencing (2-wire HTE & energizer)	\$60
Cross-fencing (1-wire HTE)	\$30
Livestock water (tank, hydrant & underground)	\$26
TOTAL	\$116



Annual Operating Cost for Irrigated, Perennial Pasture

<i>Fertilization/irrigation cost item</i>	<i>\$/acre</i>
Fertilizer (160 lb N/acre)	\$72
Irrigation (12 inches)	\$72
Maintenance	\$20
TOTAL	\$164

2018 Budget 52-Pasture, Grazing (11 AUM)



Cost for Irrigated, Perennial Pasture

<i>Annual operating + amortized establishment costs</i>	<i>\$</i>
1 year	\$426.40
2 years	\$300.40
3 years	\$258.43
5 years	\$224.92
10 years	\$199.96
15 years	\$191.80



Irrigated pasture annual returns

<i>Returns (grazing @ \$55/pair/month)</i>	<i>\$/acre</i>
1.25 pair/acre, 6 months (11.25 AUM/acre)	\$412
1 pair/acre, 6 months (9 AUM/acre)	\$330
0.75 pair/acre, 6 months (6.75 AUM/acre)	\$247
 	
<i>Returns (grazing @ \$45/pair/month)</i>	<i>\$/acre</i>
1.25 pair/acre, 6 months (11.25 AUM/acre)	\$337
1 pair/acre, 6 months (9 AUM/acre)	\$270
0.75 pair/acre, 6 months (6.75 AUM/acre)	\$202





Oats/brassica after corn silage

Forage (seeding rate, lb/ac)	Oats (60) and Turnip (3)
Acres/pair	0.50
Plant date	Mid-August-Early Sept
Grazing start date	Late October
Tons of forage produced	1 to 2
Grazing efficiency, %	50
Days of grazing	50
Nitrogen, lbs/ac	40
Irrigation, inch/ac	2
Costs	
Seed, \$/ac	\$18.00
Seeding, \$/ac	\$15.00
Fertilizer (N @ \$0.32/lb), \$/ac	\$12.80
Irrigation (pivot \$9.63/inch), \$/ac	\$19.26
Fencing (at \$10/ac), \$/ac	\$5.00
Forage cost, \$/ac	\$70.06
Forage cost, \$/pair/month	\$21.02

Rye in corn/bean systems

Forage (seeding rate, lb/ac)	Rye (70)
Acres/pair	1.00
Plant date	Late-October (previous fall)
Grazing start date	Early-April
Tons of forage produced	2.0
Grazing efficiency, %	50
Days of grazing	35
Nitrogen, lbs/ac	40
Irrigation, inch/ac	1
Costs	
Seed, \$/ac	\$18.20
Seeding, \$/ac	\$15.00
Fertilizer (N @ \$0.32/lb), \$/ac	\$12.80
Irrigation (pivot \$9.63/inch), \$/ac	\$9.63
Fencing (at \$10/ac), \$/ac	\$5.00
Forage cost, \$/ac	\$60.63
Forage cost, \$/pair/month	\$51.97

More Information

The screenshot shows a website header with a red navigation bar containing the following items: a hamburger menu icon, 'HOME', 'CATTLE PRODUCTION', 'LEARNING MODULES, VIDEOS AND APPS', 'REPORTS, NEBGUIDES AND PROCEEDINGS', 'BEEFWATCH NEWSLETTER & PODCAST', 'BEEF PRODUCTION CALENDAR', and a share icon. Below the header is the article title 'Beef Forage Crops Systems'. The article preview includes the sub-headline 'Down Corn: Problem or Opportunity for Cattle Producers?' and a paragraph starting with '(November 2017) With the delayed harvest and the wind over the last few weeks a lot of corn ears are on the ground in the state. This means a lot of energy remains in corn fields.' To the right of the text is a red box containing the 'CROP RESIDUE EXCHANGE' logo and the text 'Connecting Farmers & Livestock Producers' and 'cropresidueexchange.unl.edu'. At the bottom right of the screenshot is an 'EMAIL US' button.

Beef.unl.edu/cropland

