Optimal Hay Feeding Days Cow-Calf Farm

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Extended Season
Grazing

Low Hanging Fruit?

High Hanging Fruit?

Final Option to Reduce Hay Feeding?

Reduce Stocking Rate

	High Hay Cost	**Low Hay Cost**
Low Profit	*#1*	*#2*
High Profit	*#3*	*#4*

Stocking Scenario #1

Hay Feeding and Stocking Rate Details

Hay Feeding Days	Stocking Rate (Cows per 100 Acres)	Hay Fed (tons)
150	57.0	163.0
120	49.8	114.5
90	41.5	71.5
60	33.7	38.5
30	28.0	16.1
0	23.6	0.0

Note: 1300 lb cows spring calving; 2.5% as-fed feed intake and 15% waste rate

Hay Feeding and Stocking Rate Details

Hay Feeding Days	Stocking Rate (Cows per 100 Acres)	Forage Utilization
150	57.0	69%
120	49.8	67%
90	41.5	61%
60	33.7	54%
30	28.0	50%
0	23.6	46%

Note: 1300 lb cows spring calving; 2.5% as-fed feed intake and 15% waste rate

Stocking Scenario #2
Better Case
No Hay Feeding

Hay Feeding and Stocking Rate Details

Hay Feeding Days	Stocking Rate (Cows per 100 Acres)	Hay Fed (tons)
150	57.0	163.0
120	49.8	114.5
90	44.1	76.1
60	38.1	43.7
30	32.6	18.8
0	28.5	0.0

Note: 1300 lb cows spring calving; 2.5% as-fed feed intake and 15% waste rate

Hay Feeding and Stocking Rate Details

Hay Feeding Days	Stocking Rate (Cows per 100 Acres)	Forage Utilization
150	57.0	69%
120	49.8	67%
90	44.1	65%
60	38.1	61%
30	32.6	58%
0	28.5	56%

Note: 1300 lb cows spring calving; 2.5% as-fed feed intake and 15% waste rate

Net Hay Cost

Cost of hay less net nutrient value

→ $40/ton

→ $60/ton

→ $80/ton

Net Hay Cost Example

Cost of hay	$70/ton
Net nutrient value	–$10/ton
Net Hay Cost	$60/ton


Net Nutrient Value?


Net Nutrient Value?

Additional Costs per Cow per Year

Hay (net fertilizer)	**2.86**	ton	**$60.00**	**$172**
Mach/Labor (feeding)	**2.86**	ton	**$5.60**	**$16**
Labor (variable/cow)	**1.0**	hours	**$15.00**	**$15**
Mineral			**$30.00**	**$30**
Vet			**$20.00**	**$20**
Breeding			**$40.00**	**$40**
Marketing/Trucking			**$30.00**	**$30**
Other			**$17.00**	**$17**
Cow Depr/Interest			**$110.00**	**$110**
Total Specified Costs				***$450***

Cow Depreciation and Interest

Example:

Purchase price	$1600
Avg. years in herd	8 yrs
Cull value	$800
Interest rate	4%

Cow Depreciation/Interest

Depreciation:

Purchase price	$1600
Cull value	$800
Loss in Value	$800

Depreciation/year = $800/8 = $100/year

Cow Depreciation/Interest

Interest:	
Avg. Value (8 yrs)	$1200
Interest rate	.04
Interest charge (year)	*$48*

Cow Depreciation/Interest

Combined Depreciation/Interest:

Depreciation	$100
Interest	$48
Total	*$148/ year*

Gross Return per Cow
$100

Total Specified Costs $450

Total Revenue = 525 lb calf x $1.23/lb = $646

Adjusted for 85% weaning rate = $550

Gross Return = $550 – $450

= $100 per cow

Note: Does not account for fixed costs

Calf Price and Gross Return

Gross Return 150 Hay Feeding Days	Calf Price (525 lb)	Prob-ability
-$100	$.78	5%
$0	$1.01	15%
$100	$1.23	30%
$200	$1.46	30%
$400	$1.90	15%
$600	$2.35	5%

Note: $60/ton net hay scenario; 150 days hay feeding

Avg. Price
Steer/Heifer
525 lbs
$1.40 / lb

Profit Change Compared to 150 Hay Feeding Days
Weighted Avg. Price Scenarios

Hay Feeding Days	Stocking Rate	$40/ton Net Hay	$60/ton Net Hay	$80/ton Net Hay
150	57.0	-	-	-
120	49.8	*-$176*	*$794*	*$1,764*
90	44.1	*-$315*	*$1,423*	*$3,161*
60	38.1	*-$827*	*$1,559*	*$3,945*
30	32.6	*-$1,515*	*$1,369*	*$4,253*
0	*28.5*	*-$2,017*	*$1,243*	*$4,503*

Note: Based on $.95/lb 20%, $1.23/lb 30%, $1.46/lb 30%, $2.01/lb 20% price distribution; mix steer/heifer 525 lbs

Profit Change Compared to 150 Hay Feeding Days
Weighted Avg. Price Scenarios

Hay Feeding Days	Stocking Rate	$40/ton Net Hay	$60/ton Net Hay	$80/ton Net Hay
150	57.0	-	-	-
120	49.8	*-$176*	*$794*	*$1,764*
90	41.5	*-$967*	*$863*	*$2,693*
60	33.7	*-$2,049*	*$441*	*$2,931*
30	28.0	*-$2,917*	*$21*	*$2,959*
0	23.6	*-$3,642*	*-$382*	*$2,878*

Note: Based on $.95/lb 20%, $1.23/lb 30%, $1.46/lb 30%, $2.01/lb 20% price distribution; mix steer/heifer 525 lbs

Recommended Stocking Rates

Net Hay Price	Hay Feeding Days
$40/ton	90-120
$60/ton	60-90
$80/ton	0-60

Note: Net hay = hay price less net nutrient value. Assumes you can adjust stocking rate slightly based on general profitability.

Caveats

- Forage quality
- Possibility of using spring surplus
  - → Weaned Calves, etc. (grazing)
  - → Hay
- Drought - Risk
- Pasture health
- Results for Eastern US

Base Profitability Increases

Calf Price Increases $.11/lb

or

Cow Costs Decrease by $50

Increase Hay Feeding Days:

≈ One Month

Base Profitability Decreases

Calf Price Decreases $.11/lb

or

Cow Costs Increase by $50

Decrease Hay Feeding Days:

≈ One Month

Appropriate Stocking Rate on Most Farms?

Recommended Stocking Rates

Net Hay Price	Hay Feeding Days
$40/ton	90-120
$60/ton	60-90
$80/ton	0-60

Note: Net hay = hay price less net nutrient value. Assumes you can adjust stocking rate slightly based on general profitability.


Questions?
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