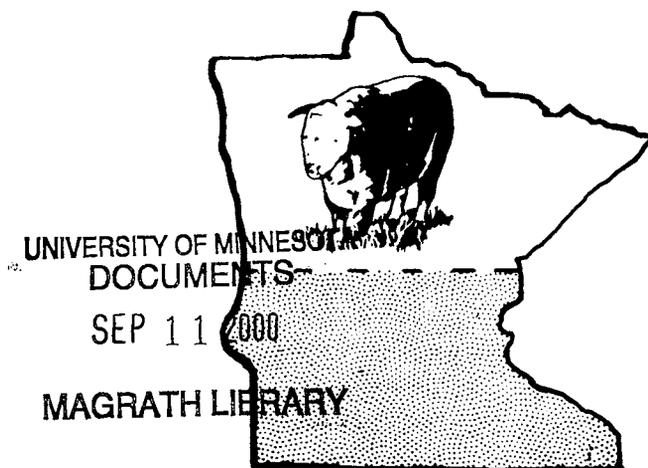


# Beef Cow Herd Planning Guide



## Should I Produce Feeder Cattle in Northern Minnesota

The beef cow enterprise was profitable in the early seventies, but lost money from 1974 through 1977. It was profitable again in 1979 and 1980, but showed large losses from 1981 through 1984 due to high interest rates and weak demand for beef. We suggest a planning price of \$75 to \$80 per cwt for choice steer calves.

Can beef cows compete with other enterprises in northern Minnesota? The beef cow enterprise is a low return enterprise that requires a large amount of capital. Therefore, it can be competitive with other enterprises for the use of resources on northern Minnesota farms **only** under the following location, resource and management conditions:

- LOCATION** - Where large acreages of forage land not well suited to crop production are available
- RESOURCES** - Where labor is too limited relative to forage supplies to permit more labor intensive livestock enterprises. For example:
- where off-farm employment limits the labor supply
  - where the older farmer wishes to reduce his labor load
  - on a large acreage of non-tillable pasture and hay land
- MANAGEMENT** - Able to limit winter feed costs to less than \$140 per cow
- Able to obtain a 95 percent calf crop with at least a 450 pound average weaning weight
  - Able to carry calves over winter at gains of 1.5 pounds per day in most years

Paul Hasbargen  
Extension Economist - Farm Management  
Department of Ag & Applied Economics

William Penning  
Area Extension Agent  
Farm Management

Agricultural Extension Service  
UNIVERSITY OF MINNESOTA  
St. Paul, Minnesota 55108

This archival publication may not reflect current scientific knowledge or recommendations.  
Current information available from University of Minnesota Extension: <http://www.extension.umn.edu>

## PLANNING INFORMATION

### WINTER FEED REQUIREMENTS FOR 1000 POUND MATURE COWS AND NORMAL REPLACEMENTS

Period 1 (92 days) October 15 - January 15 <u>2nd Trimester:</u>	Daily Rations <sup>a/</sup> (as fed - lbs.)			Winter Feed Disappearance (tons or cwt.)		
	<u>A*</u>	<u>B**</u>	<u>C***</u>	<u>A</u>	<u>B</u>	<u>C</u>
Good quality alfalfa grass	20.5	12.7	--	.99 tons	.613 tons	-- tons
Poor hay, residue or straw	--	10.7	23.5	-- tons	.642 tons	1.10 tons
Corn grain	--	--	--	-- cwt.	-- cwt.	-- cwt.
Soy solvent	--	--	2.0	-- cwt.	-- cwt.	1.84 cwt.
Period 2 (90 days) January 15 - April Calving <u>3rd Trimester:</u>						
Good quality alfalfa grass	24.0	15.0	--	1.13 tons	.709 tons	-- tons
Poor hay, residue or straw	--	12.0	20.5	-- tons	.594 tons	1.02 tons
Corn grain	--	--	4.0	-- cwt.	-- cwt.	3.78 cwt.
Soy solvent	--	--	1.0	-- cwt.	-- cwt.	.90 cwt.
Period 3 (40 days) April 1 - May 25 <u>Early Lactation:</u>						
Good quality alfalfa grass	29.0	22.5	--	.61 tons	.47 tons	-- tons
Poor hay, residue or straw	--	9.0	26.0	-- tons	.20 tons	.57 tons
Corn grain	--	--	3.0	-- cwt.	-- cwt.	1.26 cwt.
Soy solvent	--	--	2.7	-- cwt.	-- cwt.	1.08 cwt.

<sup>a/</sup> All rations need a balanced mineral-salt pre-mix fed free choice. The per cow unit requirements used above include an added 20% feed for normal replacement heifers and bulls. A 20% waste factor is included for low quality forages or straw and a 10% waste factor is used for high quality hay and 5% for corn.

\* Ration A will meet TDN needs but will contain excess protein.

\*\* Ration B is balanced to meet both protein and TDN requirements without the addition of a protein supplement.

\*\*\* Ration C is based on the assumption that low quality forage or straw is in excess and is being fed free choice and supplemented with protein and corn grain or an equivalent amount of another grain.

**CASH INCOME PER COW** - The important variables here that the manager can control are percent of calf crop and weaning weights. The percent of calf crop is based on the number of cows and bred heifers overwintered. Non-bred females should be culled in early winter.

Feeder prices will likely move up as cow herds are cut back, since average cow herds will lose money at less than 80¢ steer calves.

**VARIABLE CASH COSTS PER COW** - These costs can be estimated from past income tax returns. Allocate the total cost items on each line shown between crop and livestock enterprises. The breeding cost can be obtained by averaging annual bull replacement costs, subtracting out cull bull sales, and dividing by cow numbers.

**RETURN TO LABOR AND FACILITIES** over direct operating costs can be used to make cash flow projections. Returns over the market value of feed show how much farm earnings would decline if the beef cow herd were sold and the home produced feed could be sold at the market price used.

COSTS AND RETURNS PER COW - LONG RANGE

	<u>Average Management</u>	<u>Good Management</u>
CASH INCOME PER COW		
Percent calf crop weaned	90%	96%
Average farm weaning weight - steers	440	500
Average terminal weight (4% shrink)	422	480
Steer calf sales @ 76¢; 80¢	(190 lbs) \$144	(230 lbs) \$184
Heifer calf sales @ 68¢; 72¢	(99 lbs) 67	(125 lbs) 90
Cull heifer sales	24	24
Cull cows	<u>55</u>	<u>72</u>
TOTAL INCOME PER COW	290	370

VARIABLE CASH COSTS PER COW - Number in ( )  
is the line number, Schedule F, IRS form 1040 (1984)  
(allocate your costs among enterprises)

Labor hired (32, 51, 52)	\$ 5	\$ 5
Repairs, maintenance (33)	12	6
Interest - on operating (34)	7	6
- on cattle (34)	70	78
Feed purchased - protein (36)	13	--
- salt & mineral (36)	7	7
Machine hire and supplies (39, 40)	2	7
Breeding fees or bull (41 & bull cost - bull sales)	5	8
Veterinary and medicine (42)	7	4
Fuel and oil (43)	8	7
Insurance (46)	3	2
Utilities (47)	6	4
Freight and trucking (48)	8	9
Other (54)	<u>2</u>	<u>2</u>
Total cash costs	155	145

SALES VALUE (Or Production Costs) OF  
HOME PRODUCED FEED

Good hay (\$45/ton)	(.3) \$13	(1.8) \$81
Poor hay (\$30/ton)	(3.0) 90	(1.4) 42
Grain (\$5/cwt.)	(3.8) 19	(1.5) 7
Pasture (\$5/month rental value)	(5.5) <u>28</u>	(6.0) <u>30</u>
Total value based on sales value	150	160
Total value based on variable production costs*	91	85

RETURN TO LABOR AND FACILITIES PER COW

Over variable crop and livestock costs	\$44	\$140
Over variable livestock costs and sales value of crop	-15	65
Fixed costs - depreciation and interest on investment		
Buildings and fences \$60 @ 12%	7	7
Livestock equipment \$60 @ 18%	11	11
Power and machinery \$80 @ 18%	14	14
Property taxes	<u>3</u>	<u>3</u>
Total fixed costs	35	35

\* Determine variable crop production costs from farm and tax records (exclude depreciation, debt repayment and land taxes). Current average variable costs are about \$2.25 per cwt of grain, \$20 per ton of hay and \$3 per cow month of pasture.



## DECISION MAKING AIDS

Beef cow operators must decide whether to: (1) sell their feeders in the fall as weaning calves, (2) winter them and sell in the spring, or (3) after wintering them, pasture them and sell in the fall as yearlings. Alternatively, they can feed to slaughter weights (see Cattle Feeder's Planning Guide).

To compare the profitability of these alternatives they can: (1) estimate probable increase in value of the feeder, (2) estimate the likely additional costs of wintering and pasturing a feeder, and (3) compare the expected added income with the added costs to help determine whether the difference is worth the risk of holding.

**ADDED RETURNS:** Estimate probable increase in value of feeder. In projecting future sales value of heavier feeders, remember that feeder prices are usually lowest in the fall and highest in the spring. But, heavier feeders bring fewer dollars per hundred-weight. The examples use typical price relationships and weight gains.

**ADDED COSTS:** Estimate added cash costs first. The return over cash costs figure can be useful in making cash flow projections. Then place a value on home produced resources and estimate what returns you expect to your labor and management.

**ODDS FAVOR THE YEARLING PROGRAM:** Historically, it has paid to overwinter feeders at a gain of 1.5 pounds per day in 8 out of 10 years rather than to sell calves in the fall.

	WINTERING A CALF (425# - 625#)		PASTURING A YEARLING (625# - 750#)	
	Typical	Estimate	Typical	Estimate
<b>ADDED RETURNS PER HEAD</b>				
Sales value at end of period	(77¢) \$481	_____	(72¢) \$540	_____
Minus beginning value of feeder	(80¢) 340	_____	(77¢) 481	_____
Added Returns	141	_____	59	_____
<b>ADDED CASH COSTS</b>				
Mineral and salt	2	_____	2	_____
Health and death loss	5	_____	3	_____
Repairs, fuel and electricity	6	_____	3	_____
Interest paid	20	_____	20	_____
Marketing	3	_____	2	_____
Total Cash Costs	37	_____	30	_____
RETURN OVER CASH COSTS	100	_____	24	_____
<b>COST OF HOME PRODUCED RESOURCES</b>				
Bedding versus manure value	--	_____	--	_____
Grain (450 lbs. @ 5¢)	22	_____	--	_____
Hay (3,000 lbs. @ 2.25¢)	67	_____	--	_____
Pasture (\$3/head/month for 4 months)	--	_____	12	_____
Total Feed And Bedding Costs	89	_____	12	_____
RETURN TO LABOR AND SHELTER PER HEAD	16	_____	16	_____