



Guidelines for Estimating Beef Cow-Calf Production Costs 2015

in Manitoba



Guidelines For Estimating
Beef Cow-Calf Production Costs
Based on a 150 Head Cow Herd

Date: September, 2015

(**revised market prices November 6th**)

This guide is designed to provide you with planning information and a format for calculating costs of production of a cow calf enterprise in Manitoba. General Manitoba Agriculture, Food and Rural Development (MAFRD) recommendations are assumed in using feed and veterinary inputs. These figures provide an economic evaluation of the livestock and estimated prices required to cover all costs. Costs include labour, investment and depreciation, but do not include management costs, nor do they necessarily represent the average cost of production in Manitoba.

These budgets may be adjusted by putting in your own figures. As a producer you are encouraged to calculate your own costs of production. Good management is assumed in that a balanced ration is being fed, livestock are on a herd health program and handling facilities are included.

This tool is available as an Excel worksheet at: www.manitoba.ca/agriculture or at your local [MAFRD GO Office](#). [The Farm Machinery Custom and Rental Rate Guide](#) is also available to help determine machinery costs.

Note: This budget is only a guide and is not intended as an in-depth study of the cost of production of this industry. Interpretation and use of this information is the responsibility of the user. If you need help with a budget, contact your local MAFRD GO Office.

Cow-Calf Production Costs - September, 2015 Based on a 150 Cow Herd

A. Operating Costs	<u>Cost/Cow</u>	<u>Total Cost</u>	<u>Your Cost</u>
1. Feed Costs			
1.01 Grain and Concentrates	\$25.61	\$3,842	_____
1.02 Forages	\$295.51	\$44,327	_____
1.03 Salt & Minerals	\$25.37	\$3,806	_____
1.04 Extended Grazing Forages	<u>\$18.46</u>	<u>\$2,768</u>	_____
Total Feed Cost	\$364.95	\$54,743	_____
2. Other Operating Costs			
2.01 Straw	\$30.00	\$4,500	_____
2.02 Veterinary Medicine & Supplies	\$15.89	\$2,384	_____
2.03 Breeding Costs	\$40.73	\$6,110	_____
2.04 Fuel, Maintenance & Repairs	\$33.13	\$4,969	_____
2.05 Utilities	\$11.17	\$1,676	_____
2.06 Marketing & Transportation	\$36.15	\$5,423	_____
2.07 Death Loss	\$28.75	\$4,313	_____
2.08 Manure Removal	\$6.67	\$1,001	_____
2.09 Insurance	\$15.85	\$2,378	_____
2.10 Herd Replacement	\$135.90	\$20,385	_____
2.11 Pasture Rental	\$54.45	\$8,168	_____
2.12 Miscellaneous	<u>\$6.67</u>	<u>\$1,001</u>	_____
Subtotal Operating Costs	\$780.30	\$117,051	_____
2.13 Operating Interest	<u>\$21.46</u>	<u>\$3,219</u>	_____
Total Operating Costs	\$801.76	\$120,270	_____
B. Fixed Costs			
3. Depreciation			
3.01 Buildings	\$21.25	\$3,188	_____
3.02 Machinery & Equipment	\$65.60	\$9,840	_____
4. Investment			
4.01 Buildings	\$5.31	\$797	_____
4.02 Machinery & Equipment	\$12.30	\$1,845	_____
4.03 Livestock	\$57.50	\$8,625	_____
4.04 Pasture Land & Fencing	<u>\$55.69</u>	<u>\$8,354</u>	_____
Total Fixed Costs	\$217.65	\$32,649	_____
Total Operating and Fixed Costs	\$1,019.42	\$152,919	_____
C. Labour	<u>\$160.00</u>	<u>\$24,000</u>	_____
Total Cost of Production	\$1,179.42	\$176,919	_____

Profitability and Breakeven Analysis

Estimated Farmgate	<u>Per Cow</u>	<u>Total</u>	
Price (\$ per cwt)	\$265.43		_____
Calf weight (lbs)	575		_____
Gross Revenue / cow	\$1,449.91	\$217,487	_____
Marginal Returns			
Over Operating Costs	\$648.15	\$97,222	_____
Over Operating & Labour Costs	\$488.15	\$73,222	_____
Over Operating & Fixed Costs	\$430.50	\$64,574	_____
Over Total Costs (Net Profit)	\$270.50	\$40,574	_____
Operating Expense Ratio	55.3%		_____
Breakeven Selling Price (\$/cwt)			
Operating Costs	\$146.78		_____
Operating & Labour Costs	\$176.07		_____
Operating & Fixed Costs	\$186.62		_____
Operating, Fixed & Labour Costs	\$215.91		_____

Cost Summary Per Cow Per Day

Summer grazing (based on 145 days)	\$0.760
Extended grazing (based on 30 days)	\$0.615
Winter feed (based on 190 days)	\$1.900
Yardage (based on 220 days)	\$1.402
Total Overwinter Costs (based on 220 days)	\$3.127

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Risk & Sensitivity Analysis

	Per Cow
A. Operating Costs	\$801.76
B. Fixed Costs	\$217.65
C. Labour	\$160.00
Total Costs	\$1,179.42

Estimated Farmgate	
Price (\$ per cwt)	\$265.43
Calf Crop %	95.00
Calf weight (lbs)	575

	Up	Down
Percent Price Variation	5%	15%
Percent Calf Crop Variation	1.0%	5.0%
Percent Calf Weight Variation	5%	5%

Higher Price (\$ per cwt)	\$278.70
Lower Price (\$ per cwt)	\$225.62
Higher Calf Crop %	96.0
Lower Calf crop %	90.0
Higher Calf Weight	603.8
Lower Calf Weight	546.3

Higher Margin Scenario - Price Up 5%, Calf Crop Up 1% and Calf Weight Up 5%

Gross Revenue per Cow	\$1,615.35
Marginal Returns	
Over Operating Costs	\$813.59
Over Operating & Labour Costs	\$653.59
Over Operating & Fixed Costs	\$595.94
Over Total Costs (Net Profit)	\$435.94
Operating Expense Ratio	49.6%

Lower Margin Scenario - Price Down 15%, Calf Crop Down 5% and Calf Weight Down 5%

Gross Revenue per Cow	\$1,109.18
Marginal Returns	
Over Operating Costs	\$307.42
Over Operating & Labour Costs	\$147.42
Over Operating & Fixed Costs	\$89.77
Over Total Costs (Net Profit)	(\$70.23)
Operating Expense Ratio	72.3%

Estimated Breakeven Replacement Purchase Values¹ - Number of Years Before Culling

	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years
Operating Expense (per Cow)								
Feed Cost	\$364.95	\$364.95	\$364.95	\$364.95	\$364.95	\$364.95	\$364.95	\$364.95
Other Operating Cost ²	\$279.46	\$282.95	\$286.49	\$290.07	\$293.70	\$297.37	\$301.08	\$304.85
Operating Interest	\$17.72	\$17.82	\$17.91	\$18.01	\$18.11	\$18.21	\$18.32	\$18.42
Total Operating Cost	\$662.13	\$665.72	\$669.35	\$673.03	\$676.75	\$680.53	\$684.35	\$688.21
Total Fixed Cost²	\$217.65	\$220.37	\$223.13	\$225.92	\$228.74	\$231.60	\$234.50	\$237.43
Total Operating and Fixed Cost	\$879.78	\$886.09	\$892.48	\$898.95	\$905.50	\$912.13	\$918.84	\$925.64
Total Labour (Living) Cost²	\$160.00	\$162.00	\$164.03	\$166.08	\$168.15	\$170.25	\$172.38	\$174.54
Total Cost Per Cow	\$1,039.78	\$1,048.09	\$1,056.50	\$1,065.02	\$1,073.65	\$1,082.38	\$1,091.22	\$1,100.18

Income (per Cow)								
Calf Market Price (\$/cwt)	\$265.43	\$265.00	\$240.00	\$215.00	\$190.00	\$190.00	\$190.00	\$190.00
Calf Revenue	\$1,449.91	\$1,447.56	\$1,311.00	\$1,174.44	\$1,037.88	\$1,037.88	\$1,037.88	\$1,037.88
Cull Cow Market Price (\$/cwt)	\$105.00	\$105.00	\$100.00	\$90.00	\$85.00	\$85.00	\$85.00	\$85.00
Cull Cow Revenue	\$1,417.50	\$1,417.50	\$1,350.00	\$1,215.00	\$1,147.50	\$1,147.50	\$1,147.50	\$1,147.50

Breakeven Replacement Purchase Value (@ 2.5% annual investment cost)								
Over Operating Costs	\$2,151.50	\$2,861.94	\$3,362.19	\$3,663.56	\$3,896.23	\$4,179.64	\$4,452.91	\$4,716.35
Over Operating & Labour Costs	\$1,995.40	\$2,551.65	\$2,899.58	\$3,050.50	\$3,134.55	\$3,271.14	\$3,399.40	\$3,519.59
Over Operating & Fixed Costs	\$1,939.15	\$2,439.84	\$2,732.90	\$2,829.60	\$2,860.09	\$2,943.79	\$3,019.79	\$3,088.37
Over Total Costs (Net Profit)	\$1,783.06	\$2,129.55	\$2,270.29	\$2,216.54	\$2,098.41	\$2,035.30	\$1,966.28	\$1,891.61

¹ Yearly replacement value is calculated by adding the marginal returns from the current and each of the previous years and cull cow revenue in the current year at net present value (based on 2.5% annual investment cost)

² Costs estimates are increased annually by 1.25% inflation rate

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Cow-Calf Production Costs - Input

Assumptions

1. This budget outlines the cost of production for a cow-calf operation.
2. Buildings and equipment are valued at new cost.
3. All feed is purchased.
4. Manure removal is contracted out.
5. Replacement heifers are valued at fair market value
6. This budget assumes an average weaning weight of 575 lbs. (steer calves 600 lbs and heifer calves 550 lbs.)

Herd Profile	<u>Total</u>
Number of Cows	150 head
Average Cow Weight	1,350 lbs
Number of Bulls	5 bulls
Calf Crop	95.00 %
Steer Calf Weight	600 lbs
Steer Calf Market Price	\$275.00 /cwt
Heifer Calf Weight	550 lbs
Heifer Calf Market Price	\$255.00 /cwt
WLPPI Insurance Premium	\$0.00 /cwt
Average Calf Weight	575 lbs
Weighted Average Calf Market Price	\$265.43 /cwt

Herd Replacement (Cows)	
Cow Mortality Rate	1.25 %
Cow Replacement Rate	12.0 %
Average Value/Cow	\$2,300.00
Cull Cow Market Price	\$105.00 /cwt
Cull Cow Market Value	\$1,417.50
Replacement Cost/Heifer	\$2,550.00

Herd Replacement (Bulls)	
Bull Replacement Rate	25.0 %
Original Cost	\$4,500.00 /bull
Price Received/Cull Bull	\$2,500.00 /bull
Pasture Cost	\$110.14 /bull

Annual Days on Pasture and Winter Feeding		
Pasture Grazing		145 days
Extended Grazing		30 days
Total Winter Feeding		190 days
Non-confined winter feeding - feed delivered	130 days	
Non-confined winter feeding - bale grazing	0 days	
Confined winter feeding - feed delivered	60 days	
		365 Total Days

Other Operating Costs	
Straw	
Number of Tons/Cow/Year	1.0
Number of Tons/Bull/Year	1.0
Cost/Ton	\$30.00

Feed Requirement Per Bull

Barley	7.00 lbs/day
Days/Year on Barley	120 days
Hay (Good Quality)	4.00 tons/yr

Veterinary Medicine & Supplies

Calf Medication

Blackleg (8 way vaccine)	\$0.61 /head
Tags (CCIA & ID)	\$4.40 /head

Cow Medication

4-Way/Haemophilus	\$2.90 /head
Scourguard	\$4.25 /head
Internal/external parasite control antibiotics, etc.	\$1.75 /head
Vitamin A & D	\$0.56 /head

Herd Health Program

Professional Services

Total Yearly Hours	5 hours
Rate	\$150.00 /hour

Transportation

Total Kilometers (round trip)	80 km
Rate	\$0.80 /km
Number of yearly visits	2

Breeding Costs

Health Management Costs	\$10.00 /bull
Semen Test	\$50.00 /bull

Other Breeding Alternatives

a) Artificial Insemination	
Cost/Cow or Heifer	\$0.00
Number Inseminated	0
b) Community Pasture	
Cost/Cow or Heifer	\$0.00
Number of Cows placed in Pasture	0

Fuel, Oil, Repairs & Maintenance

a) Machinery Fuel Costs - Winter Feeding	
Tractor with Loader PTO hp	120
Diesel Fuel Cost	\$0.85 /litre
Tractor Hours Per Day (average)	1.5 hours
b) Machinery Repair (% of investment cost)	1.2 %
c) Building maintenance (% of investment cost)	2.2 %

Other Operating Costs

Utilities

Hydro	\$875.00
Telephone	\$800.00

Marketing & Transportation (Culls)

a) Trucking:	
Number of Cull Cows	18 cows
Average Weight/Cow	1,350 lbs
Trucking Cost	\$1.70 /cwt
b) Selling Commission:	
MBP/CCA Levy \$/Head	\$4.00 /head
Insurance per Head	\$1.00 /head
Commission on Cows	\$18.00 /cow
Commission on Calves	\$16.00 /calf

Manure Removal

Manure volume produced	0.034 m ³ /cow/day
Manure volume shrinkage	75 %
Cost for manure removal & application	\$10.00 /cubic yard

Operating Interest Rate	5.50 %
Investment Rate	2.50 %

Insurance

Cost per \$100 Capital Invested in	
a) Livestock	\$0.45
b) Building & Equipment	\$0.40
Additional coverage for liability	\$49.00 /year

Miscellaneous

Total Yearly Expense	\$1,000.00
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Capital Costs

Buildings & Water System	<u>Original Value</u>	<u>Salvage Value</u>	<u>Useful Life</u>
Windbreak Fence	\$4,000	0 %	20 years
Feedlot Fence	\$4,000	0 %	20 years
Calf Shelters	\$8,000	0 %	20 years
Handling Facilities	\$10,000	0 %	20 years
Calving Facility	\$12,500	0 %	20 years
Waterers	\$6,000	0 %	20 years
Pasture Watering System	\$4,000	0 %	20 years
Pasture Water Source	\$3,000	0 %	20 years
Gates	\$1,450	0 %	20 years
Round Bale Feeders	\$2,400	0 %	20 years
Well & Pressure System	\$8,000	0 %	20 years
Hydro (6 poles @ \$400)	\$2,400	0 %	20 years
Storage Bins	\$5,000	0 %	20 years
Total	\$70,750	0 %	20 years

Machinery & Equipment

Miscellaneous Machinery	\$10,000	20 %	10 years
Tractor & Loader (\$120,000@30%)	\$36,000	20 %	10 years
Bale Shredder	\$22,000	20 %	10 years
Tractor & Feed Wagon (silage rations)	\$0	20 %	10 years
Stock Trailer	\$25,000	20 %	10 years
Truck (\$60,000@ 50%)	\$30,000	10 %	10 years
Total	\$123,000		

Total Building, Machinery & Equipment	\$193,750
Total Breeding Herd Value	<u>\$345,000</u>
Total Capital Investment	\$538,750

Pasture Costs

<u>Pasture Type</u>	<u>Number of Cows</u>	<u>Usage</u>
Marginal Pasture	30	20 %
Improved Pasture	30	20 %
Crown Lands	30	20 %
Rented Pasture	30	20 %
<u>Community Pasture</u>	<u>30</u>	<u>20 %</u>
	150	100 %

	<u>Marginal Pasture</u>	<u>Improved Pasture</u>	<u>Crown Lands</u>
Cows on Pasture	30 cows	30 cows	30 cows
Length of Fence	7.000 miles	4.500 miles	9.375 miles
Fence Price	\$4,000 /mile	\$1,000 /mile	\$4,000 /mile
Fence Useful Life	20 years	20 years	20 years
Fence Salvage Value	\$0.00	\$0.00	10 %
Number of acres/cow	7.0 acre/cow	4.0 acre/cow	13.3 acre/cow
Number of cows/quarter	22.9 cows	40.0 cows	12 cows
Value	\$550 /acre	\$1,100 /acre	
Taxes	\$2.00 /acre	\$5.30 /acre	
Total Fertilizer, Chemical, Seed & Miscellaneous	\$0.00 /acre	\$0.00 /acre	\$0.00 /acre
Rental Rate			\$275.00 /quarter
Cost per cow (145 days pasture)	\$124.83 /cow	\$135.99 /cow	\$40.52 /cow
Cost per cow per day (145 days pasture)	\$0.86 /day	\$0.94 /day	\$0.28 /day

Cows

	<u>Community Pasture</u>	<u>Rented Pasture</u>
Cows on Pasture	30 cows	30 cows
Cost per cow	\$0.65 /cow/day	
Rental Rate		\$3,750 /quarter
Number of quarters		1 quarters
Number of cows/quarter		30.0 cows
Number of acres/cow		5.3 acre/cow
Annual Fence Repair Cost		\$0 /quarter (average cost)
Pasture Grazing Days	140 days/year	145 days/year

Calves

Calves on Pasture	143 calves
Cost	\$35.00 /calf/season
Cost per cow	\$124.37 /cow
Cost per cow per day	\$0.89 /day
	\$125.00 /cow
	\$0.86 /day

Labour Costs

Hours/Cow/Year	8.00 hours
Labour Rate	\$20.00 /hour

Winter Feed Costs & Requirements Worksheet

Total Winter Feeding = 190 days

Enter your days on feed for each selected ration number in the "blue" numbers in the "gray" shaded area

Pre Calving - Cows														
	Ration Number			#1	#2	#3	#4	#5	#6	#7	#8	#9	Total lbs /cow	Total Cost /cow ²
	Days on Feed			130	0	0	0	0	0	0	0	0		
Feed Type	\$/unit	lbs/unit	\$/lb	Ration - Feed Per Day (lbs based on 1400 lb cow)										
Alfalfa Hay	\$110.00	2,000	0.055	0	0	0	0	0	0	0	0	0	0	\$0.00
Alfalfa Grass Hay	\$90.00	2,000	0.045	33	0	0	0	15	0	10	0	0	4,137	\$186.16
Grass Hay	\$80.00	2,000	0.040	0	0	0	0	0	0	0	0	0	0	\$0.00
Barley Straw	\$30.00	2,000	0.015	0	17	19	23	0	23	12	23	0	0	\$0.00
Barley Greenfeed	\$80.00	2,000	0.040	0	0	0	0	19	0	0	0	0	0	\$0.00
Corn Silage	\$30.00	2,000	0.015	0	0	40	0	0	0	32	0	0	0	\$0.00
Barley Silage	\$39.00	2,000	0.020	0	45	0	0	0	0	0	0	0	0	\$0.00
Barley Grain	\$4.25	48	0.089	0	0	0	10	0	8	0	0	0	0	\$0.00
32% Feedlot Suppl.	\$500	2,205	0.227	0	0	0	1	0	0	0	0	0	0	\$0.00
32% Liquid Suppl.	\$405	2,205	0.184	0	0	0	0	0	2.9	0	0	0	0	\$0.00
20% Grain Pellets	\$350	2,205	0.159	0	0	0	0	0	0	0	14.5	0	0	\$0.00
1:1 Mineral	\$35.00	55	0.636	0.2	0	0	0	0	0	0	0	0	25	\$15.95
2:1 Mineral	\$35.00	55	0.636	0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0	0	\$0.00
Limestone	\$5.50	55	0.100	0	0	0	0	0	0.2	0	0.5	0	0	\$0.00
Blue Salt	\$7.75	55	0.141	0.07	0.07	0.07	0.07	0.07	0.1	0.1	0.1	0	9	\$1.24
\$/head/day				\$1.62	\$1.27	\$1.02	\$1.59	\$1.57	\$1.75	\$1.25	\$2.84	\$0.00		\$203.35

Post Calving - Cows														
	Ration Number			#1	#2	#3	#4	#5	#6	#7	#8	#9	Total lbs /cow	Total Cost /cow ²
	Days on Feed			60	0	0	0	0	0	0	0	0		
Feed Type	\$/unit	lbs/unit	\$/lb	Ration - Feed Per Day (lbs based on 1400 lb cow)										
Alfalfa Hay	\$110.00	2,000	0.055	0	0	0	0	0	0	0	0	0	0	\$0.00
Alfalfa Grass Hay	\$90.00	2,000	0.045	42	0	0	0	20	0	20	15	0	2,430	\$109.35
Grass Hay	\$80.00	2,000	0.040	0	0	0	0	0	0	0	0	0	0	\$0.00
Barley Straw	\$30.00	2,000	0.015	0	12	12	23	0	23	8	11	0	0	\$0.00
Barley Greenfeed	\$80.00	2,000	0.040	0	0	0	0	19	0	0	0	0	0	\$0.00
Corn Silage	\$30.00	2,000	0.015	0	0	45	0	0	0	32	0	0	0	\$0.00
Barley Silage	\$39.00	2,000	0.020	0	45	0	0	0	0	0	0	0	0	\$0.00
Barley Grain	\$4.25	48	0.089	5	12	12	15	5	12	0	0	0	289	\$25.61
32% Feedlot Suppl.	\$500	2,205	0.227	0	0	0	2	0	0	0	0	0	0	\$0.00
32% Liquid Suppl.	\$405	2,205	0.184	0	0	0	0	0	3.5	0	0	0	0	\$0.00
20% Grain Pellets	\$350	2,205	0.159	0	0	0	0	0	0	0	15	0	0	\$0.00
1:1 Mineral	\$35.00	55	0.636	0.2	0	0	0	0	0	0	0	0	12	\$7.36
2:1 Mineral	\$35.00	55	0.636	0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0	0	\$0.00
Limestone	\$5.50	55	0.100	0	0	0.3	0.2	0	0.3	0	0.5	0	0	\$0.00
Blue Salt	\$7.75	55	0.141	0.1	0.09	0.1	0.07	0.1	0.1	0.1	0.1	0	6	\$0.82
\$/head/day				\$2.47	\$2.26	\$2.09	\$2.28	\$2.24	\$2.22	\$1.64	\$3.41	\$0.00		\$143.14

Winter Feed Summary			
	<u>Total Days on Feed¹</u>	<u>Average Cost/Day</u>	<u>Feed Cost per Cow²</u>
Pre Calving - Cows	130	\$1.56	\$203.35
Post Calving - Cows	60	\$2.39	\$143.14
	190	\$1.82	\$346.49

1. Total Days on Feed Must = 190 Days (as calculated on Input worksheet)
2. Feed Cost Per Cow Based on 1350 lb Cow

Note: The suggested feed rations above were formulated using Cowbytes Beef Ration Balancer software with no included allowance for wastage during feeding. Feed ration quantity and costs should be adjusted accordingly. If you need help with a budget, contact your local MAFRD GO Office.

Extended Grazing Costs & Requirements Worksheet

Extended Grazing Days	30
Number of Cows	150
Number of Cow Grazing Days	4,500

	Corn Grazing	Stockpiled Forage	Swath Grazing	Crop Residue	Total
Extended Grazing usage - %	0	50	0	50	100
	(total must = 100%)				

Grazing Yield (wet tons/acre)	12.00	1.00	6.00	0.25
% moisture	65	10	65	8
Yield (tons dry matter/acre)	4.2	0.9	2.1	0.23
Total # cow grazing days/acre	207.4	44.4	103.7	11.4
Acres Req'd (@ 100% each)	22	101	43	396

Planned extended grazing acres	0	51	0	198
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<u>Extended Grazing Costs</u>	<u>\$/acre</u>	<u>\$/pound</u>	<u>\$/acre</u>	<u>\$/pound</u>
Standing Forage Cost	n/a	\$0.020	n/a	\$0.005
Input Costs				
Seed	\$65.00		\$20.25	
Fertilizer	\$94.21		\$56.68	
Herbicide	\$12.00		\$12.00	
Custom tillage	\$8.00		\$8.00	
Custom seeding	\$15.00		\$15.00	
Custom spraying	\$8.00		\$8.00	
Miscellaneous	\$7.75		\$7.75	
Land taxes	\$5.50		\$5.50	
Land Investment Costs	\$55.00		\$55.00	
<u>Labour</u>	<u>\$10.00</u>		<u>\$10.00</u>	
Subtotal	\$280.46	n/a	\$198.18	n/a
Fencing Costs				
Estimated miles of fence required	0.000	0.638	0.000	2.475
Fence Investment Cost/acre	\$0.00	\$0.31	\$0.00	\$0.31
Fence Depreciation Cost/acre	\$0.00	\$0.63	\$0.00	\$0.63
Total cost per acre	\$0.00	\$40.94	\$0.00	\$3.44

Total Extended Grazing Cost	\$0.00	\$2,087.81	\$0.00	\$680.63
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Cost Summary

	<u>Corn Grazing</u>	<u>Stockpiled Forage</u>	<u>Swath Grazing</u>	<u>Crop Residue</u>	<u>Total Cost</u>
Cost per cow	\$0.00	\$13.92	\$0.00	\$4.54	\$18.46
Number of Days		15		15	
Cost / cow / day		\$0.93		\$0.30	\$0.62

Note: This budget is only a guide and is not intended as an in-depth study of the cost of production of this industry. Interpretation and utilization of this information is the responsibility of the user.

Assumptions

1. This budget outlines the cost of production for a cow-calf operation with 150 cows, 5 bulls and 95% calf crop weaned.
2. Building and equipment are valued at new cost.
3. All feed is valued at market value.
4. Manure removal is contracted out.
5. Replacement heifers are valued at fair market value.
6. This budget assumes an average weaning weight of 575 lbs. (steer calves 600 lbs and heifer calves 550 lbs.)

Cow-Calf Production Worksheet

A. Operating Costs

1. Feed Costs

1.01 Grain and Concentrates (for cows)

				<u>Your Cost</u>
Barley Grain		6	units/cow	_____
	<u>x</u>	<u>\$4.25</u>	<u>/unit</u>	_____
	=	\$25.61	/cow	_____
 32% Feedlot Suppl.		 0	 units/cow	 _____
	<u>x</u>	<u>\$500.00</u>	<u>/unit</u>	_____
	=	\$0.00	/cow	_____
 32% Liquid Suppl.		 0	 units/cow	 _____
	<u>x</u>	<u>\$405.00</u>	<u>/unit</u>	_____
	=	\$0.00	/cow	_____
 20% Grain Pellets		 0	 units/cow	 _____
	<u>x</u>	<u>\$350.00</u>	<u>/unit</u>	_____
	=	\$0.00	/cow	_____
 Total	=	\$25.61	/cow	_____

1.02 Forages (for cows)

Alfalfa Hay		0	units/cow	_____
	<u>x</u>	<u>\$110.00</u>	<u>/unit</u>	_____
	=	\$0.00	/cow	_____
 Alfalfa Grass Hay		 3	 units/cow	 _____
	<u>x</u>	<u>\$90.00</u>	<u>/unit</u>	_____
	=	\$295.51	/cow	_____
 Grass Hay		 0	 units/cow	 _____
	<u>x</u>	<u>\$80.00</u>	<u>/unit</u>	_____
	=	\$0.00	/cow	_____
 Barley Straw		 0	 units/cow	 _____
	<u>x</u>	<u>\$30.00</u>	<u>/unit</u>	_____
	=	\$0.00	/cow	_____
 Barley Greenfeed		 0	 units/cow	 _____
	<u>x</u>	<u>\$80.00</u>	<u>/unit</u>	_____
	=	\$0.00	/cow	_____
 Corn Silage		 0	 units/cow	 _____
	<u>x</u>	<u>\$30.00</u>	<u>/unit</u>	_____
	=	\$0.00	/cow	_____
 Barley Silage		 0	 units/cow	 _____
	<u>x</u>	<u>\$39.00</u>	<u>/unit</u>	_____
	=	\$0.00	/cow	_____

Total	=	\$295.51	/cow	_____
1.03 Salt and Minerals				
1:1 Mineral		1	units/cow	_____
	\times	<u>\$35.00</u>	<u>/unit</u>	_____
	=	\$23.32	/cow	_____
2:1 Mineral		0	units/cow	_____
	\times	<u>\$35.00</u>	<u>/unit</u>	_____
	=	\$0.00	/cow	_____
Limestone		0	units/cow	_____
	\times	<u>\$5.50</u>	<u>/unit</u>	_____
	=	\$0.00	/cow	_____
Blue Salt		0	units/cow	_____
	\times	<u>\$7.75</u>	<u>/unit</u>	_____
	=	\$2.05	/cow	_____
Total	=	\$25.37	/cow	_____
1.04 Extended Grazing Forages				
Corn Grazing		\$0.00	/cow	_____
Stockpiled Forage		\$13.92	/cow	_____
Swath Grazing		\$0.00	/cow	_____
Crop Residue		\$4.54	/cow	_____
Total	=	\$18.46	/cow	_____
2. Other Operating Costs				
2.01 Straw				
		1.00	tons/cow/year	_____
	\times	<u>\$30.00</u>	<u>/ton</u>	_____
	=	\$30.00	/cow	_____
2.02 Veterinary Medicine & Supplies				
Calf Medication				
		\$0.61	/calf blackleg	_____
	\times	<u>95.00</u>	<u>% calf crop</u>	_____
	=	\$0.58	/cow	_____
Cow Medication				
		\$2.90	/cow IBR	_____
	+	\$4.25	/cow scourguard	_____
	+	\$1.75	/cow parasite control	_____
	\pm	<u>\$0.56</u>	<u>/cow AD</u>	_____
	=	\$9.46	/cow	_____
Herd Health Program				
		\$150.00	/hour charge	_____
	\times	5.00	hours	_____
	\div	<u>150.00</u>	<u>cows</u>	_____
	=	\$5.00	/cow	_____
Mileage				
		\$0.80	/km charge	_____
	\times	80.00	kilometres	_____

	x	2.00	visits	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$0.85	/cow	_____
Total	=	\$15.89	/cow	_____
2.03 Breeding Costs				
Feed for Bulls				
Hay				
		4.00	tons good quality	_____
	x	\$90.00	/ton	_____
	x	5.00	bulls	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$12.00	/cow	_____
Barley				
		7.00	lbs barley/bull/day	_____
	x	120.00	days	_____
	÷	48.00	lbs/bu	_____
	x	\$4.25	/bushel	_____
	x	5.00	bulls	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$2.48	/cow	_____
Total	=	\$14.48	/cow	_____
Straw for Bulls				
		1.00	tons/bull/year	_____
	x	\$30.00	/ton	_____
	x	5.00	bulls	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$1.00	/cow	_____
Vet & Medicine for Bulls				
		\$50.00	semen test	_____
	+	\$10.00	total vet cost/bull	_____
	x	5.00	bulls	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$2.00	/cow	_____
Replacement of Bulls				
		\$4,500	bull cost	_____
	-	\$2,500	bull salvage value	_____
	x	25.00	% replacement rate	_____
	x	5.00	bulls	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$16.67	/cow	_____
Investment in Bulls				
		\$4,500	bull cost	_____
	+	\$2,500	bull salvage value	_____
	÷	2.00	average	_____
	x	2.50	% investment rate	_____
	x	5.00	bulls	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$2.92	/cow	_____
Pasture Costs for Bulls				
		\$110.14	/bull pasture cost	_____
	x	5.00	bulls	_____
	÷	<u>150.00</u>	<u>cows</u>	_____

	=	\$3.67	/cow	_____
Total	=	\$40.73	/cow	_____
2.04 Fuel, Oil, Repairs & Maintenance				
Machinery fuel cost				
		120	PTO hp	_____
÷		2.5	avg HP required	_____
x		0.1665576	litres fuel/hour/hp	_____
x		1.5	hours per day	_____
x		\$0.85	diesel / litre	_____
x		190	days on feed	_____
		\$1,936.73	annual fuel cost	_____
÷		150.00	cows	_____
=		\$12.91	/cow	_____
Machinery repair & maintenance				
		\$123,000	machinery capital cost	_____
x		1.20	% repair rate	_____
=		\$1,476.00	oil, repairs & maintenance	_____
÷		150.00	cows	_____
=		\$9.84	/cow	_____
Building repair & maintenance				
		\$70,750	building capital cost	_____
x		2.20	% repair rate	_____
=		\$1,556.50	oil, repairs & maintenance	_____
÷		150.00	cows	_____
=		\$10.38	/cow	_____
Total	=	\$33.13	/cow	_____
2.05 Utilities				
		\$1,675	annual cost	_____
÷		150.00	cows	_____
=		\$11.17	/cow	_____
2.06 Marketing & Transportation				
Trucking				
Calves				
		143	calves	_____
x		575.00	lbs/calf	_____
x		\$1.70	/cwt (trucking cost)	_____
÷		100.00	lbs/cwt	_____
÷		150.00	cows	_____
=		\$9.32	/cow	_____
Cull Cows				
		18.00	cull cows	_____
-		2.00	cows died	_____
x		1,350.00	lbs/cow	_____
x		\$1.70	/cwt (trucking cost)	_____
÷		100.00	lbs/cwt	_____
÷		150.00	cows	_____
=		\$2.45	/cow	_____
MBP Levy, selling commission & insurance				
Calves				
+		\$4.00	MBP Levy	_____
+		\$0.00	WLPPI Insurance Premium	_____
+		\$19.00	Commission, Insurance	_____
x		143	calves	_____
÷		150.00	cows	_____
=		\$21.93	/cow	_____

Cull Cows		\$4.00	MBP Levy	_____
	+	\$19.00	Commission, Insurance	_____
	x	16	cull cows	_____
	±	<u>150.00</u>	<u>cows</u>	_____
	=	\$2.45	/cow	_____
Total	=	\$36.15	/cow	_____
2.07 Death Loss				
	x	\$2,300	/cow investment	_____
	x	<u>1.25</u>	<u>% mortality rate</u>	_____
	=	\$28.75	/cow	_____
2.08 Manure Removal				
	-	190	winter feeding days	
	-	130	Non-confined winter feeding - feed delivered	
	-	<u>0</u>	<u>Non-confined winter feeding - bale grazing</u>	
	=	60	days confined winter feeding	
	x	0.034	m ³ /cow/day	
	=	2.04	m ³ manure volume	
	x	75	% volume shrink	
	x	1.30795	yd ³ per m ³	
	x	<u>\$10.00</u>	<u>yd³ manure removal cost</u>	
	=	\$6.67	/cow	
2.09 Insurance				
		\$2,300	\$/cow investment	_____
	x	\$0.45	/\$100 capital	_____
	±	<u>100.00</u>	<u>/100</u>	_____
	=	\$10.35	/cow	_____
		\$193,750	building and equipment investment	_____
	x	\$0.40	/\$100 capital	_____
	÷	100.00	/100	_____
	±	<u>150.00</u>	<u>cows</u>	_____
	=	\$5.17	/cow	_____
		\$49.00	liability	_____
	±	<u>150.00</u>	<u>cows</u>	_____
	=	\$0.33	/cow	_____
Total	=	\$15.85	/cow	_____
2.10 Herd Replacement				
		\$2,550	/replacement heifer	_____
	-	\$1,418	/cull cow	_____
	x	<u>12.00</u>	<u>% replacement rate</u>	_____
	=	\$135.90	/cow	_____
2.11 Pasture Rental				
A. Crown Land Rental (includes taxes)				
		\$275	/quarter, rental rate	_____
	±	<u>12.00</u>	<u>cows/quarter</u>	_____
	=	\$22.92	/cow	_____
	x	<u>20</u>	<u>% pasture usage</u>	_____
Total	=	\$4.58	/cow	_____

B. Community Pasture Grazing:

Cows				
		\$0.65	cost/cow/day	_____
	x	<u>140.00</u>	<u>days</u>	_____
	=	\$91.00	/cow	_____
 Calves				
	x	\$35.00	/calf/season	_____
	x	143.00	calves on pasture	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$33.37	/cow	_____
	=	\$124.37	/cow	_____
	x	<u>20</u>	% pasture usage	_____
Total	=	\$24.87	/cow	_____

C. Rented Pasture:

		\$3,750	/quarter, rental rate	_____
	+	\$0	/quarter, fence repair	_____
	x	1	quarters	_____
	÷	<u>30</u>	<u>cows</u>	_____
	=	\$125.00	/cow	_____
	x	<u>20</u>	% pasture usage	_____
Total	=	\$25.00	/cow	_____
 Subtotal (A,B,C)				
	x	145	days on pasture	_____
	÷	145	benchmark grazing days	_____
Total (A,B,C)	=	\$54.45	/cow	_____

2.12 Miscellaneous

		\$1,000	total office expenses	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$6.67	/cow	_____

2.13 Operating Interest

(Operating interest is charged on one half of the subtotal operating costs)

		\$780.30	subtotal operating costs	_____
	÷	2.00	average	_____
	x	<u>5.50</u>	<u>% operating interest</u>	_____
	=	\$21.46	/cow	_____

Capital Costs

Buildings & Water System

Windbreak Fence	\$4,000	_____
Feedlot Fence	\$4,000	_____
Calf Shelters	\$8,000	_____
Handling Facilities	\$10,000	_____
Calving Facilities	\$12,500	_____
Waterers (3 @ \$ 1000)	\$6,000	_____
Pasture watering system	\$4,000	_____
Pasture water source	\$3,000	_____
Gates	\$1,450	_____
Round Bale Feeders	\$2,400	_____
Well & Pressure System	\$8,000	_____
Hydro (6 poles @ \$400)	\$2,400	_____
Storage Bins	<u>\$5,000</u>	_____

Total Building Cost	\$70,750	_____
Machinery & Equipment		
Miscellaneous Machinery	\$10,000	_____
Tractor & Loader (\$120,000@30%)	\$36,000	_____
Bale Shredder	\$22,000	_____
Tractor & Feed Wagon (silage rations)	\$0	_____
Stock Trailer	\$25,000	_____
Truck (\$60,000@ 50%)	<u>\$30,000</u>	_____
Total Machinery & Equipment Cost	\$123,000	_____
Total Bldg., Mach. & Equip.	\$193,750	_____
Total Breeding Herd Value	\$345,000	_____
Total Capital Investment	\$538,750	_____

B. Fixed Costs

3. Depreciation

Original Cost - Salvage Value
Useful Life

3.01 Buildings & Water System (not including pasture water system)

	\$63,750	original cost	_____
-	0.00	salvage value	_____
÷	20.00	years useful life	_____
±	<u>150.00</u>	<u>cows</u>	_____
=	\$21.25	/cow	_____

3.02 Machinery & Equipment

	\$123,000	original cost	_____
-	\$24,600	salvage value	_____
÷	10.00	years useful life	_____
±	<u>150.00</u>	<u>cows</u>	_____
=	\$65.60	/cow	_____

4. Investment

Original Cost + Salvage Value x Investment Rate
2

4.01 Buildings

	\$63,750	original cost	_____
+	\$0.00	salvage value	_____
÷	2.00	average	_____
x	2.50	% investment rate	_____
±	<u>150.00</u>	<u>cows</u>	_____
=	\$5.31	/cow	_____

4.02 Machinery & Equipment

	\$123,000	original cost	_____
+	\$24,600	salvage value	_____
÷	2.00	average	_____
x	2.50	% investment rate	_____
±	<u>150.00</u>	<u>cows</u>	_____
=	\$12.30	/cow	_____

4.03 Livestock

	\$2,300	/cow	_____
x	2.50	% investment rate	_____
=	\$57.50	/cow	_____

4.04 Pasture

A. Marginal Pasture Investment

Land		7.00	acres/cow	_____
	x	\$550.00	/acre	_____
	<u>x</u>	<u>2.50</u>	<u>% investment rate</u>	_____
	=	\$96.25	/cow	_____
Fence		\$28,000	total fence investment	_____
	+	\$0	salvage value	_____
	÷	2.00	average	_____
	x	2.50	% investment rate	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$2.33	/cow	_____
Pasture Water System		\$7,000	system & source	_____
	+	\$0	salvage value	_____
	÷	2.00	average	_____
	x	2.50	% investment rate	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$0.58	/cow	_____
Total Investment	=	\$99.17	/cow	_____

Depreciation

Fence		\$28,000	total fence investment	_____
	-	\$0	salvage value	_____
	÷	20.00	years useful life	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$9.33	/cow	_____
Pasture Water system		\$7,000	system & dugout	_____
	-	\$0	salvage value	_____
	÷	20.00	years useful life	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$2.33	/cow	_____
Total	=	\$11.67	/cow	_____

Taxes		7.00	acres/cow	_____
	x	<u>\$2.00</u>	<u>/acre</u>	_____
	=	\$14.00	/cow	_____
	=	\$124.83	/cow	_____
	<u>x</u>	<u>20</u>	<u>% pasture usage</u>	_____
Total	=	\$24.97	/cow	_____

B. Improved Pasture Investment

Land		4.00	acres/cow	_____
	x	\$1,100	/acre	_____
	<u>x</u>	<u>2.50</u>	<u>% investment rate</u>	_____
	=	\$110.00	/cow	_____
Fence		\$4,500	total fence investment	_____
	+	\$0	salvage value	_____
	÷	2.00	average	_____

	x	2.50	% investment rate	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$0.38	/cow	_____
Pasture Water System		\$7,000	system & source	_____
	+	\$0	salvage value	_____
	÷	2.00	average	_____
	x	2.50	% investment rate	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$0.58	/cow	_____
Total Investment	=	\$110.96	/cow	_____
Depreciation				
Fence		\$4,500	total fence investment	_____
	-	\$0	salvage value	_____
	÷	20.00	years useful life	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$1.50	/cow	_____
Pasture Water system		\$7,000	system & source	_____
	-	\$0	salvage value	_____
	÷	20.00	years useful life	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$2.33	/cow	_____
Total	=	\$3.83	/cow	_____
Taxes		4.00	acres/cow	_____
	x	<u>\$5.30</u>	<u>/acre</u>	_____
	=	\$21.20	/cow	_____
	=	\$135.99	/cow	_____
	x	<u>20</u>	<u>% pasture usage</u>	_____
Total	=	\$27.20	/cow	_____
C. Crown Land:				
Depreciation				
Fence		9.38	miles of fence	_____
	x	\$4,000	/mile	_____
	=	\$37,500	fence cost	_____
	-	\$3,750	salvage value	_____
	÷	20.00	years useful life	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$11.25	/cow	_____
Pasture Water system		\$7,000	system & source	_____
	-	\$0	salvage value	_____
	÷	20.00	years useful life	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$2.33	/cow	_____
Total Depreciation	=	\$13.58	/cow	_____
Investment				
Fence		\$37,500	fence cost	_____
	+	\$3,750	salvage value	_____
	=	\$41,250	total invested	_____

	÷	2.00	average	_____
	x	2.50	% investment rate	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$3.44	/cow	_____
Pasture Water System				
		\$7,000	system & source	_____
	+	\$0	salvage value	_____
	÷	2.00	average	_____
	x	2.50	% investment rate	_____
	÷	<u>150.00</u>	<u>cows</u>	_____
	=	\$0.58	/cow	_____

Total Investment	=	\$4.02	/cow	_____

	=	\$17.60	/cow	_____
	x	<u>20</u>	% pasture usage	_____
Total	=	\$3.52	/cow	_____
Subtotal (A,B,C)		\$55.69		
	x	145	days on pasture	
	÷	145	benchmark grazing days	
Total (A,B,C)	=	\$55.69	/cow	
C. Labour				
		8.00	hours/cow/year	_____
	x	<u>\$20.00</u>	<u>/hour</u>	_____
	=	\$160.00	/cow	_____

Profitability and Breakeven Analysis:

Gross Revenue = calf weight cwt x \$/cwt x % calf crop (eg. 5.75 x \$265.43/cwt x 95% = \$1449.91)
 Operating Expense Ratio = (operating cost ÷ gross revenue) x 100 (eg. (\$801.76 ÷ \$1449.91) x 100 = 55.3%)
 Breakeven Price \$/cwt = Cost ÷ % calf crop ÷ calf weight cwt (eg. \$1179.42 ÷ 95% ÷ 5.75 = \$215.91)

Cost Summary:

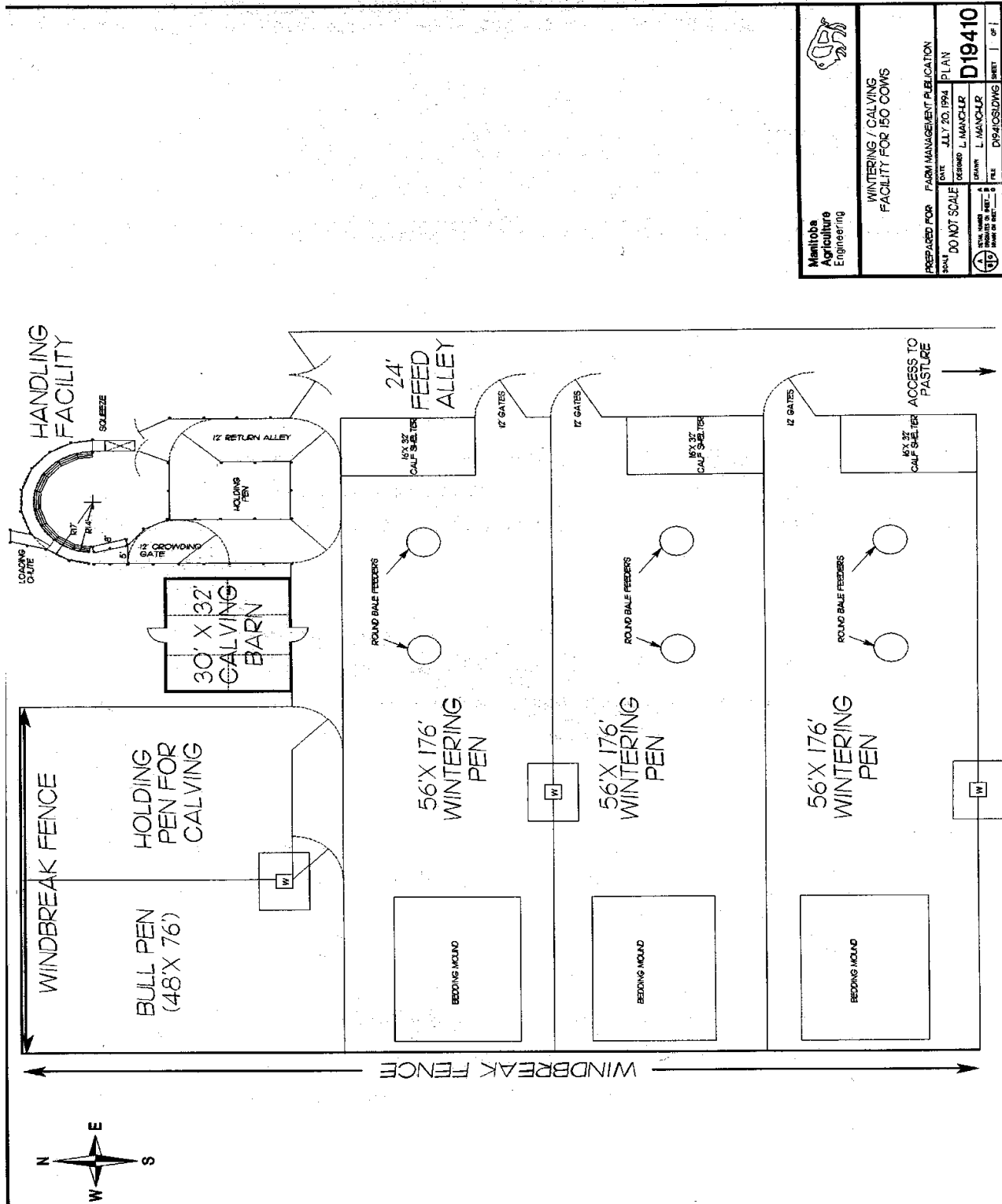
Summer Grazing Cost Per Cow Per Day = pasture cost ÷ days (eg. \$110.14 ÷ 145 = \$0.76)
 Extended Grazing Cost Per Cow Per Day = grazing cost ÷ days (eg. \$18.46 ÷ 30 = \$0.62)
 Winter Feed Cost Per Cow Per Day = feed cost ÷ days (eg. \$346.49 ÷ 190 = \$1.90)
 Yardage Cost Per Cow Per Day = (\$31.00 straw + \$33.13 fuel & repair + \$5.17 building insurance + \$11.17 utilities + \$6.67 manure removal + \$21.25 buiding depreciation+ \$65.60 machinery depreciation + \$5.31 building investment + \$12.30 machinery investment + \$12.88 operating interest + \$4.02 misc. + \$100.00 labour) ÷ 220 days = \$1.402

Created and maintained by [MAFRD Farm Management](#) September, 2015

For more information, contact your local [MAFRD GO Office](#) or:

- | | |
|---|--|
| Bob Gwyer
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| Benjamin Hamm
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Farm Management Specialist |
| Wayne Tomlinson
Extension Veterinarian | |

Cow-Calf Operating Facilities



<p>Manitoba Agriculture Engineering</p>	<p>WINTERING / CALVING FACILITY FOR 150 COWS</p>	
	<p>PREPARED FOR: FARM MANAGEMENT PUBLICATION</p>	<p>DATE: JULY 20, 1994</p>
<p>SCALE: DO NOT SCALE</p>	<p>DESIGNED BY: L. MANICLER</p>	<p>DRAWN BY: L. MANICLER</p>
<p>PROJECT NO.: D19410</p>	<p>FILE: D19410SD1WG</p>	<p>SHEET: 1 OF 1</p>

A decorative graphic at the top of the page features three colored rectangular blocks: a green square on the left, a dark blue rectangle in the center, and an orange rectangle on the right. From the bottom edge of the dark blue rectangle, several thin, dashed orange lines extend downwards and outwards, creating a fan-like pattern across the page.

For more information

- Contact your local Manitoba Agriculture, Food and Rural Development (MAFRD) Growing Opportunities (GO) Office.
- Visit us at manitoba.ca/agriculture.

