
2024 Cost of Production

Beef Cow-Calf

150 Cow Herd - Hay Ration



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

Date: September, 2023

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 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:



[The Farm Machinery Custom and Rental Rate Guide](#) is also available to help determine machinery costs.

Contact Us

For more information, contact a Farm Management Specialist.

- manitoba.ca/agriculture
- mbfarmbusiness@gov.mb.ca
- 1-844-769-6224

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 a Farm Management Specialist.

Cow-Calf Production Costs - September, 2023			
Based on a 150 Cow Herd			
A. Operating Costs	Cost/Cow	Total Cost	Your Cost
1. Feed Costs			
Grain and Concentrates	\$36.16	\$5,424	_____
Forages	\$426.12	\$63,918	_____
Salt & Minerals	\$45.99	\$6,899	_____
Extended Grazing Forages	\$41.65	\$6,248	_____
Total Feed Cost	\$549.92	\$82,489	_____
2. Other Operating Costs			
Straw	\$70.00	\$10,500	_____
Veterinary Medicine & Supplies	\$25.32	\$3,797	_____
Breeding Costs	\$46.88	\$7,032	_____
Fuel, Maintenance & Repairs	\$51.01	\$7,651	_____
Utilities	\$11.48	\$1,722	_____
Marketing & Transportation	\$39.60	\$5,940	_____
Death Loss	\$27.50	\$4,125	_____
Manure Removal	\$10.84	\$1,626	_____
Insurance	\$16.98	\$2,547	_____
Herd Replacement	\$209.40	\$31,410	_____
Pasture Rental	\$56.25	\$8,438	_____
Pasture Operating	\$35.03	\$5,254	_____
Labour - Hired	\$0.00	\$0	_____
Miscellaneous	\$6.67	\$1,001	_____
Subtotal Operating Costs	\$1,156.87	\$173,532	_____
Operating Interest	\$52.06	\$7,809	_____
Total Operating Costs	\$1,208.93	\$181,341	_____
B. Fixed Costs			
Livestock	\$64.47	\$9,671	_____
Buildings	\$34.93	\$5,239	_____
Machinery & Equipment	\$140.86	\$21,130	_____
Pasture Land & Fencing	\$64.56	\$9,684	_____
Total Fixed Costs	\$304.83	\$45,724	_____
C. Owners - Labour & Living	\$208.00	\$31,200	_____
Total Cost of Production	\$1,721.76	\$258,265.00	_____
Profitability and Breakeven Analysis			
Estimated Farmgate	Per Cow	Total	Per Acre
Price (\$ per cwt)	\$356.09		
Calf weight (lbs)	575		
Gross Revenue / cow	\$1,945.14	\$291,771	\$203
Operating Expense Ratio	62.2%		
Marginal Returns			
Over Feed Costs	\$1,395	\$209,283	\$146
Over Operating Costs	\$736	\$110,432	\$77
Over Operating & Fixed Costs	\$431	\$64,708	\$45
Over Total Costs (Net Profit)	\$223	\$33,508	\$23
Breakeven (Lb. weaned calf)	Price (\$/cwt)		
Over Feed & Operating Costs	\$221		
Over Feed, Operating & Fixed Costs	\$277		
Over Total Costs	\$315		
Estimated Return on Investment (ROI)	13.0%		
Estimated Return on Asset (ROA)	6.5%		

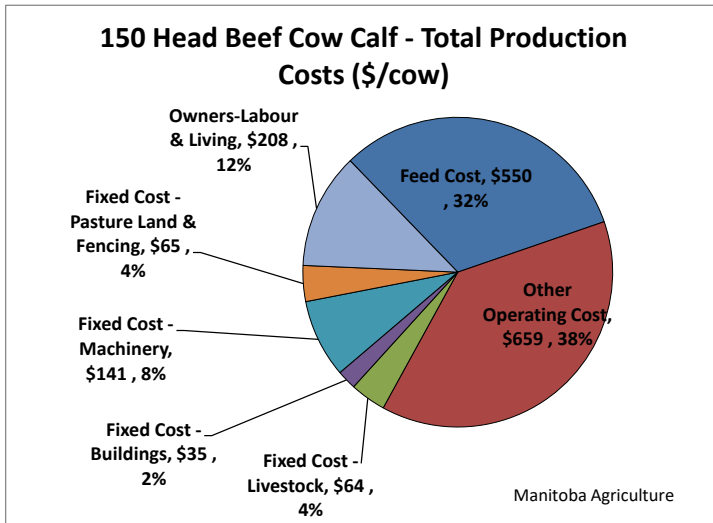
Cost Summary Per Cow Per Day	
Summer grazing (based on 135 days)	\$1.154
Extended grazing (based on 35 days)	\$1.190
Winter feed (based on 195 days)	\$2.603
Yardage (based on 230 days)	\$2.151
Total Overwinter Costs (based on 230 days)	\$4.539

Note: This budget is only a guide and is not intended to be an in-depth study of the cost of production of this industry. Interpretation and utilization of this information is the responsibility of the user. No liability for decisions based on this publication is assumed.

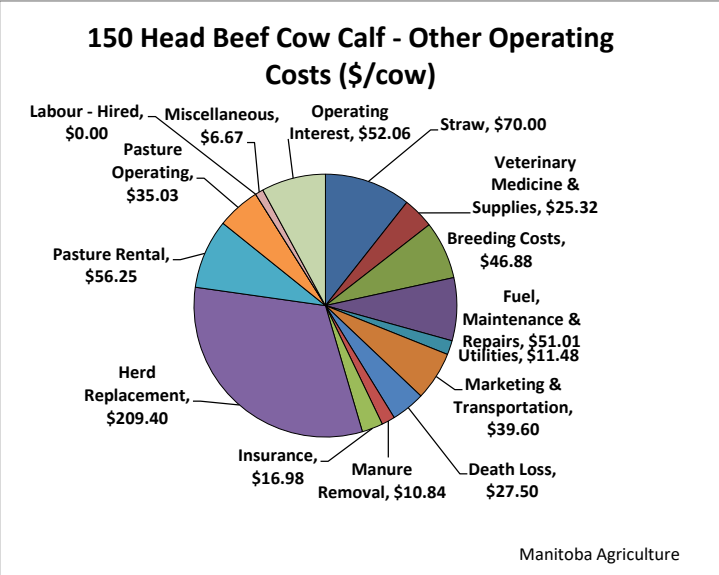
Cow-Calf Standardized Operating Statement - September, 2023
Based on a 150 Cow Herd

	<u>Per Cow</u>		<u>Total</u>	<u>Your Farm</u>
= Revenue	\$1,945.14		\$291,771	
- Cost of Goods Sold (CoGS)				
Grain and Concentrates	\$36.16	1.9%	\$5,424	
Forages	\$426.12	21.9%	\$63,918	
Salt & Minerals	\$45.99	2.4%	\$6,899	
Extended Grazing Forages	\$41.65	2.1%	\$6,248	
Pasture Operating	\$35.03	1.8%	\$5,254	
Straw	\$70.00	3.6%	\$10,500	
Veterinary Medicine & Supplies	\$25.32	1.3%	\$3,797	
Death Loss	\$27.50	1.4%	\$4,125	
Herd Replacement	\$209.40	10.8%	\$31,410	
Breeding Costs	\$46.88	2.4%	\$7,032	
Manure Removal	\$10.84	0.6%	\$1,626	
	\$974.89	50.1%	\$146,233	
= Gross Margin (GM)	\$970.26	49.9%	\$145,538	
- Direct Operating Expenses (DOE)				
Labour - Hired	\$0.00	0.0%	\$0	
Owners - Labour & Living	\$208.00	10.7%	\$31,200	
Fuel, Maintenance & Repairs	\$51.01	2.6%	\$7,651	
Utilities	\$11.48	0.6%	\$1,722	
Marketing & Transportation	\$39.60	2.0%	\$5,940	
	\$310.08	15.9%	\$46,513	
= Contribution Margin (CM)	\$660.17	33.9%	\$99,025	
- Operating Overheads (OH)				
Insurance	\$16.98	0.9%	\$2,547	
Miscellaneous	\$6.67	0.3%	\$1,001	
	\$23.65	1.2%	\$3,548	
= Earnings Before Interest Taxes Depreciation Amortization Rent (EBITDAR) or Operating Income				
EBITDAR	\$636.52	32.7%	\$95,477	
- Cost of Capital (CoC) or Depreciation/Amortization/Lease/Rent				
Owned Cows Amortization Costs	\$47.14	2.4%	\$7,071	
Owned Cows Opportunity Cost	\$0.00	0.0%	\$0	
Pasture & Fencing Depreciation Costs	\$9.38	0.5%	\$1,407	
Pasture & Fencing Amortization Costs	\$26.73	1.4%	\$4,010	
Pasture & Fencing Opportunity Costs	\$0.00	0.0%	\$0	
Pasture Rental	\$56.25	2.9%	\$8,438	
Building Depreciation Cost	\$20.16	1.0%	\$3,024	
Building Amortization Costs	\$10.80	0.6%	\$1,620	
Building Opportunity Costs	\$0.00	0.0%	\$0	
Machinery & Eq. Depreciation Costs	\$94.64	4.9%	\$14,196	
Machinery & Eq. Amortization Costs	\$33.80	1.7%	\$5,070	
Machinery & Eq. Opportunity Costs	\$0.00	0.0%	\$0	
	\$298.91	15.4%	\$44,836	
= Earnings Before Interest Taxes (EBIT)	\$337.62	17.4%	\$50,641	
- Interest Expenses				
Operating Interest	\$52.06	2.7%	\$7,809	
Owned Cows Interest Cost	\$17.33	0.9%	\$2,599	
Pasture & Fencing Interest Costs	\$28.45	1.5%	\$4,267	
Building Interest Cost	\$3.97	0.2%	\$595	
Machinery & Equipment Interest Costs	\$12.42	0.6%	\$1,864	
	\$114.23	5.9%	\$17,134	
= Earnings Before Taxes (EBT)	\$223.39	11.5%	\$33,507	

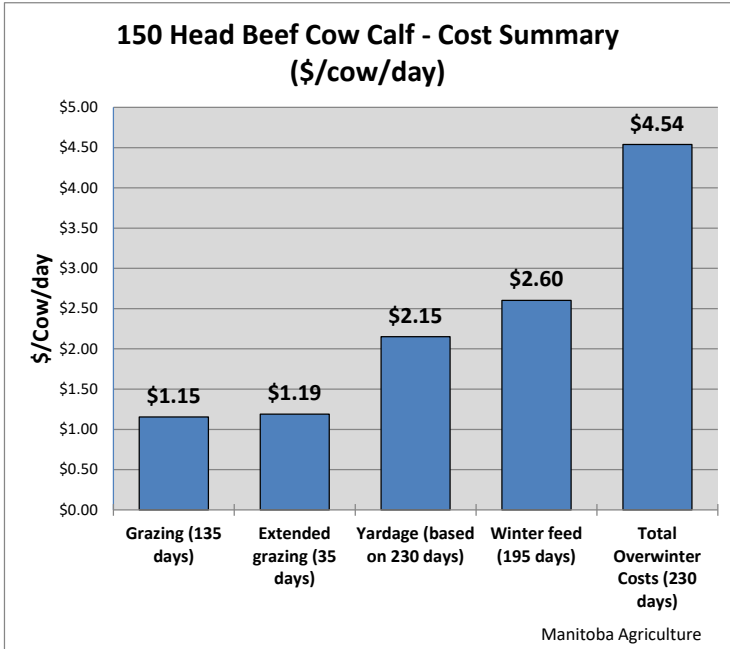
Note: This budget is only a guide and is not intended to be an in-depth study of the cost of production of this industry. Interpretation and utilization of this information is the responsibility of the user. No liability for decisions based on this publication is assumed.



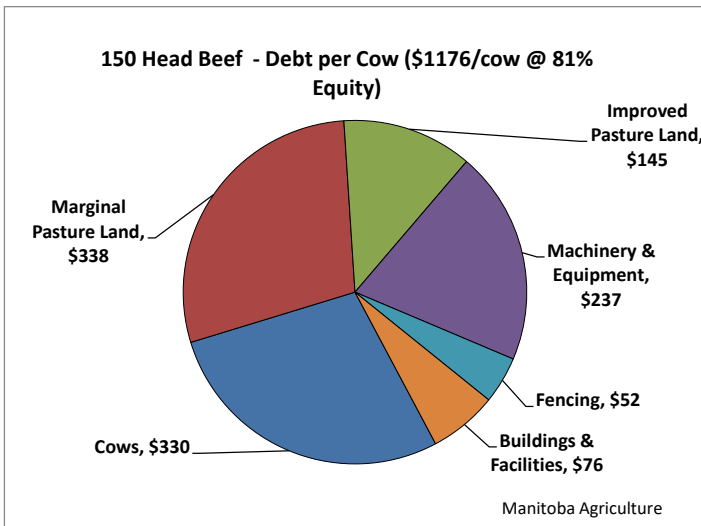
Winter feed is a significant cost for cow calf production. A balanced ration to minimize cost per head per day is an important step in Risk Management Planning.



Herd replacement / breeding and summer pasture are the most significant other cow calf production costs.

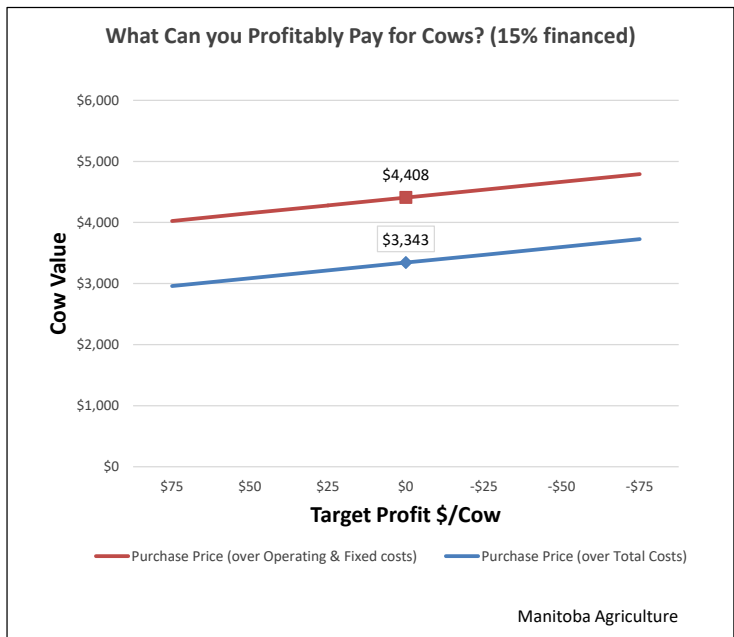
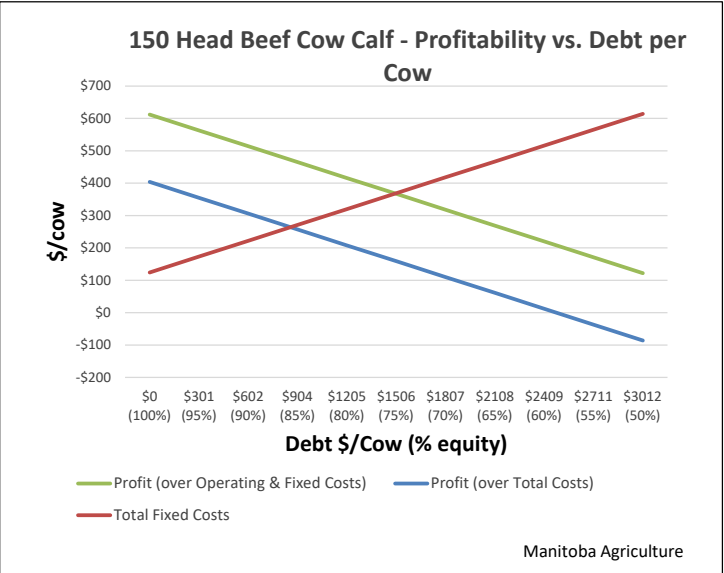


Knowing your total overwinter, winter feed and yardage costs are important in making pasture and extended grazing decisions or determining fair custom feeding rates and are an important step in Risk Management Planning.



Managing total debt per cow is an important step to maintain profitability in a cow calf production enterprise. Total P & I Cost = \$191/cow.

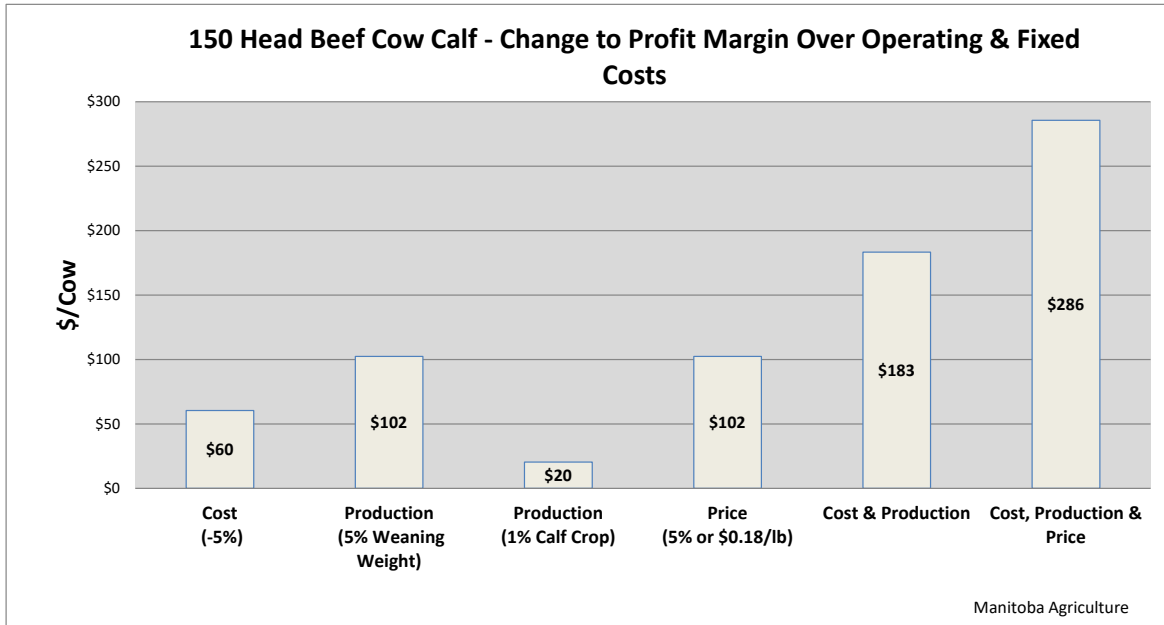
Cow calf profitability is significantly affected by both operating and fixed production costs.



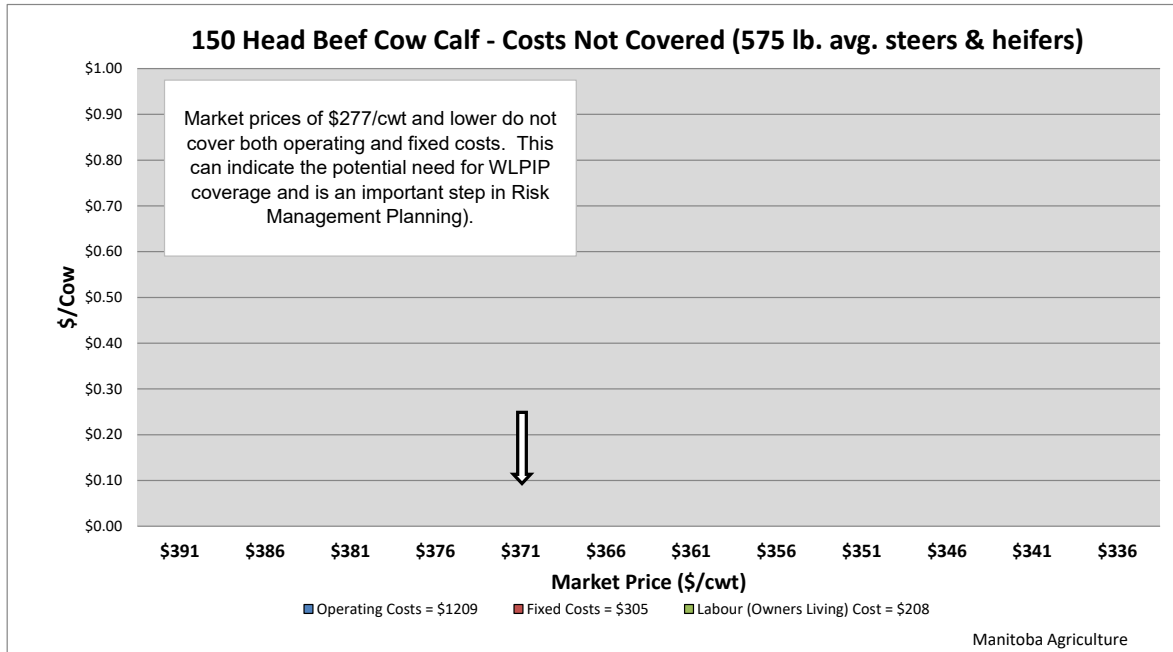
Knowing what you can pay for replacements to maintain your target profitability is an important step in managing beef cow enterprises.

Risk & Sensivity Analysis (Stress Test)

	Percent Change	Per Head	Change from Baseline Value	Change in Profit/Cow	Change in Total Profit
Operating Costs	(5.0%)	\$1,148	(\$60)	\$60	\$9,067
Sale Price (\$ per cwt)	5.0%	\$374	\$18	\$102	\$15,356
Calf Weaning Weight (lbs)	5.0%	604	29	\$102	\$15,356
Calf Crop %	1.0%	96	1	\$20	\$3,071
				\$286	\$42,851



Risk Management Analysis



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.

Cow-Calf Production Costs - Herd 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.)

Cow-Calf Production Costs - Herd Profile

	<u>Total</u>
Number of Cows	150 head
Average Cow Weight	1,350 lbs
Number of Bulls	5 bulls
Calf Crop	95 %
Steer Calf Weight	600 lbs
Steer Calf Market Price	\$380 /cwt
Heifer Calf Weight	550 lbs
Heifer Calf Market Price	\$330 /cwt
Average Calf Weight	575 lbs
Weighted Average Calf Market Price	\$356.09 /cwt

Cow-Calf Production Costs - Herd Replacement

Herd Replacement (Cows)

Average Value/Cow	\$2,200 (bred cow to steer calf price ratio = .96)
	(bred cow to steer calf price ratio range is often 1.1 to 1.5 = estimated cow value range of \$2,508 to \$3,420)
Cull Cow Market Price	\$130 /cwt
Cow Mortality Rate	1.25 %

Herd Replacement (Cows)

Replacement Cost/Heifer	\$3,500
Cull Cow Market Value	- \$1,755.00
	(1350lb cow / 100 x \$130/cwt cull price = \$1755.00)
Cow replacement rate (%)	x 12.0
	= \$209.40 /cow

Cow-Calf Production Costs - Breeding

Breeding Costs

Cost Per Cow

Feed for Bulls

Hay	Good Quality (tons/yr)		4.00	
	Hay Price (\$/ton)	x	120	
	Number of Bulls	x	5	
		÷	150	cows = \$16.00

Barley	Per Bull (lbs/day)		7.00	
	Days/Year on Barley	x	120	
	Pounds per bushel	÷	48	
	Barley Price (\$/bu)	x	\$6.00	
	Number of Bulls	x	5	
		÷	150	cows = \$3.50
				= Total \$19.50

Straw for Bulls

Number of Tons/Bull/Year		1.0 tons/bull/year	
Hay Price (\$/ton)	x	70 /ton	
Number of Bulls	x	5 bulls	
	÷	150 cows =	\$2.33

Vet & Medicine for Bulls

Semen Test		\$60.00	
Health Management Costs	+	\$10.00	
Number of Bulls	x	5 bulls	
	÷	150 cows =	\$2.33

Herd Replacement (Bulls)

Original Cost/Bull		\$4,500	
Price Received/Cull Bull	-	\$3,000	
Bull Replacement Rate (%)	x	25	
Number of Bulls	x	5 bulls	
	÷	150 cows =	\$12.50

Investment in Bulls

Original Cost/Bull		\$4,500	
Price Received/Cull Bull	+	\$3,000	
Average - charged on 1/2	÷	2	
Investment Rate	x	4.00	
Number of Bulls	x	5	
	÷	150 cows =	\$5.00

Pasture Costs for Bulls

Pasture Cost (\$/season)		\$156.59 /bull pasture cost	
Number of Bulls	x	5 bulls	
	÷	150 cows =	\$5.22

Other Breeding Alternatives

Artificial Insemination

Cost/Cow or Heifer Exposed		\$0.00	
Number Inseminated	x	0	
	÷	150 cows =	\$0.00

Community Pasture

Cost/Cow or Heifer Exposed		\$0.00	
Number of Cows placed in Pasture		0	
	÷	150 cows =	\$0.00
		= Total	\$46.88

Cow-Calf Production Costs - Facilities

Waterers	Cows per waterer	100	
	Cost per waterer	\$2,000	= Total \$4,000
Windbreak Fence	Feet per Cow	1.5	
	Cost per Foot	\$20	= Total \$4,650
Feedlot Fence/Bunk	Feet per Cow	2.0	
	Cost per Foot	\$15	= Total \$4,650
Calf Shelters	Calves per shelter	50	
	Cost per shelter	\$2,750	= Total \$8,525

Cow-Calf Production Costs - Operating

Veterinary Medicine & Supplies

		<u>Cost Per Cow</u>	
Calf Medication			
Blackleg (8 way vaccine)		\$0.83 /head x 95% calf crop =	\$0.79
Tags (CCIA & ID)		\$4.80 /head x 95% calf crop =	\$4.56
Cow Medication			
5-Way fetal protection			\$4.00
Scourguard			\$4.75
Internal/external parasite control, antibiotics, etc.			\$3.25
Vitamin A & D			\$0.50
Herd Health Program			
Professional Services			
		6 hours @	
Rate	x	\$160.00 /hour	
	÷	150 cows =	\$6.40
Transportation			
Total Kilometers (round trip)		80 km	
Rate	x	\$1.00 /km	
Number of yearly visits		2	
	÷	150 cows =	\$1.07
		= Total	\$25.32

Other Operating Costs

Straw	
Cost (\$/Ton)	\$70.00
Number of Tons/Cow/Year	1.0

Fuel, Oil, Repairs & Maintenance

		<u>Cost Per Cow</u>	
Machinery Fuel Cost			
Tractor with Loader PTO hp		120	
Average HP required	÷	2.5	
Litres fuel / Hour / HP	x	0.1665576	
Tractor Hours Per Day (avg)	x	1.5	
Diesel Fuel Cost / litre	x	\$1.65	
Days on feed	x	195	
Annual fuel cost		\$3,858.47	
	÷	150 cows =	\$25.72
Machinery repair & maintenance			
Machinery capital cost		\$177,500	
Machinery Repair (% of investment cost)	x	1.20 %	
Oil, repairs & maintenance	=	\$2,130.00	
	÷	150 cows =	\$14.20
Building repair & maintenance			
Building capital cost		\$75,575	
Building maintenance (% of inv.cost)	x	2.20	
Repairs & maintenance	=	\$1,662.65	
	÷	150 cows =	\$11.08
		= Total	\$51.01

Other Operating Costs

		<u>Cost Per Cow</u>	
Utilities			
Hydro	Rate (\$/kWh)	\$0.09324	
	25 kWh per cow	=	\$349.65
	2 1000 watt waterer	=	\$772.03
	Total Hydro	=	\$1,121.68
		÷	150 cows =
			\$7.48
Telephone		\$600.00	
		÷	150 cows =
			\$4.00
		= Total	\$11.48

Marketing & Transportation

		<u>Cost Per Cow</u>	
Trucking			
Calves: Number marketed per year		143	
Truck Capacity (lbs/load)		54,000	
Number of head per load - calves		94	
Loads	=	2.00	
Distance (miles)	x	75	
Rate / Loaded Mile	x	\$7.00	
	÷	150 cows =	\$7.00

Cull cows:	Number per year		18.00		
	Number cows died	-	2.00		
	Number of head per load - cull cows		40		
	Loads	=	1.00		
	Distance (miles)	x	75.00		
	Rate / Loaded Mile	x	\$7.00		
		÷	150.00	cows =	\$3.50
MBP Levy, selling commission & insurance					
Calves	MBP/NCO Levy (\$/Head)	+	\$5.50		
	WLPIP Insurance Premium (\$/cwt)		\$0.00		
	Average Calf Weight (cwt)	x	5.75		
+	WLPIP Insurance Premium	=	\$0.00		
	Insurance per Head	+	\$1.75		
	Commission on Calves		\$20.00		
	Number marketed per year	x	143		
		÷	150.00	cows =	\$25.98
Cull Cows	MBP/NCO Levy (\$/Head)		\$5.50		
	Insurance per Head	+	\$1.75		
	Commission on Cows		\$22.00		
	Number marketed per year	x	16		
		±	150.00	cows =	\$3.12
				= Total	\$39.60
Death Loss					
					<u>Cost Per Cow</u>
	Cow investment (\$/Head)	x	\$2,200		
	Cow Mortality Rate (%)	x	1.25	=	\$27.50
Manure Removal					
					<u>Cost Per Cow</u>
	Number winter feeding days		195		
	Non-confined winter feeding - feed delivered	-	130		
	Non-confined winter feeding - bale grazing	=	0		
	Days confined winter feeding	=	65		
	Manure volume produced (m ³ /cow/day)	x	0.034		
	Manure volume (m ³)	=	2.21		
	Manure volume shrinkage (%)	x	75		
	Conversion - yd ³ per m ³	x	1.30795		
	Manure removal & application (\$/yd ³)	x	\$15.00	=	\$10.84
Insurance					
					<u>Cost Per Cow</u>
	Cow Investment (\$/Head)		\$2,200		
	Cost per \$100 Livestock	x	\$0.45		
		÷	100.00	=	\$9.90
	Buildings & Equipment Investment		\$253,075		
	Cost per \$100 Buildings	x	\$0.40		
		÷	100.00		
		÷	150.00	cows =	\$6.75
	Additional coverage for liability		\$49.00		
		÷	150.00	cows =	\$0.33
				= Total	\$16.98
Miscellaneous					
					<u>Cost Per Cow</u>
	Total office expenses		\$1,000		
		÷	150.00	cows =	\$6.67
Operating Interest					
	Subtotal operating costs		\$1,156.87		
	Average - charged on 1/2	÷	2.00		
	Operating Interest Rate	x	9.00		
				= Total	\$52.06
Labour Costs					
					<u>Cost Per Cow</u>
	Labour Rate (\$/hour)		\$26.00		
	Hired - Labour Hours/Cow/Year		0.00	=	\$0.00
	Owner - Labour Hours/Cow/Year		8.00	=	\$208.00
				= Total	\$208.00

Total Fence Cost		\$69,788	\$16,722	\$93,050
Total Fence Investment (\$/acre)		\$93.00	\$66.00	\$47.00
Residual Value (End of Useful Life)		10%	10%	10%
Useful Life (years)	20			
Owned Fence Equity	75%			
Fence Financed	25%			
Fencing Cost (\$/acre)				
Finance Rate & Term	8.000%	7 years		
Principle & Interest Cost		\$4.47	\$3.17	\$2.26
Fencing Depreciation Cost		\$4.19	\$2.97	\$2.12
Owned Fence Opportunity Cost		\$0.00	\$0.00	\$0.00
Total Cost		\$8.65	\$6.14	\$4.37

Fence Maintenance (% of investment cost) **2.00%**

Pasture Options - Cost Summary

	Marginal Pasture	Improved Pasture	Crown Lands	Community Pasture	Rented Pasture
A. Operating Costs					
Land Development (\$/acre)	\$0.00	\$18.74	-	-	-
Fertilizer - Annual (\$/acre)	\$0.00	\$33.53	-	-	-
Herbicide (\$/acre)	\$1.00	\$1.00	\$0.00	-	\$0.00
Fence Maintenance (\$/acre)	\$1.86	\$1.32	\$0.94	-	\$0.00
Pasture Rental	-	-	\$4.14	-	\$28.13
Taxes (\$/acre)	\$4.00	\$8.00	-	-	-
Miscellaneous (\$/acre)	\$0.00	\$0.00	\$0.00	-	\$0.00
Total Operating Costs (\$/acre)	\$6.86	\$62.59	\$5.08	-	\$28.13
B. Fixed Costs					
Land (\$/acre)	\$15.81	\$39.81	-	-	-
Fencing (\$/acre)	\$8.65	\$6.14	\$4.37	-	-
Total Total Fixed Costs (\$/acre)	\$24.46	\$45.95	\$4.37	-	\$0.00
Total Operating and Fixed (\$/acre)	\$31.32	\$108.54	\$9.45	-	\$28.13
Total Operating and Fixed (\$/year)	\$23,489	\$27,678	\$18,899	\$24,363	\$21,094
Cost per cow (135 days pasture)	\$156.59	\$184.75	\$125.99	\$162.42	\$140.63
Cost per cow per day (135 days pasture)	\$1.16	\$1.37	\$0.93	\$1.20	\$1.04

Pasture Options - Carrying Capacity and AUM Analysis

Carrying Capacity					
Number of head pastured/acre	0.200	0.588	0.08	-	0.20
Metabolic Animal Unit Value	1.25	1.25	1.25	1.25	1.25
AUM Analysis					
Total Animal Unit Months (AUM's)	844	844	844	844	844
Total AUM's - Available Per Acre	1.13	3.31	0.42	-	1.13
Pasture Investment per AUM	\$600	\$514	-	-	-
Total Pasture Cost Per AUM	\$27.83	\$32.79	\$22.39	\$28.87	\$24.99
Pasture Efficiency Analysis					
Pounds liveweight per acre	270	794	108	-	270
Pasture Investment per Cow on Pasture	\$3,375	\$2,890	-	-	-

Pasture Options - Usage Planner

	Marginal Pasture	Improved Pasture	Crown Lands	Community Pasture	Rented Pasture	Total
Planned number of cows	60	30	0	0	60	150
Acres Required	300	51	0	-	300	

Winter Feed Costs & Requirements Worksheet

Total Winter Feeding = 195 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			135	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	\$160.00	2,000	0.080	0	0	0	0	0	0	0	0	0	0	\$0.00
Alfalfa Grass Hay	\$120.00	2,000	0.060	35	0	0	0	16	0	10	0	0	4,556	\$273.38
Grass Hay	\$100.00	2,000	0.050	0	0	0	0	0	0	0	0	0	0	\$0.00
Barley Straw	\$70.00	2,000	0.035	0	17	19	23	0	23	15	23	0	0	\$0.00
Barley Greenfeed	\$120.00	2,000	0.060	0	0	0	0	19	0	0	0	0	0	\$0.00
Corn Silage	\$45.00	2,000	0.023	0	0	47	0	0	0	32	0	0	0	\$0.00
Barley Silage	\$55.00	2,000	0.028	0	48	0	0	0	0	0	0	0	0	\$0.00
Barley Grain	\$6.00	48	0.125	0	0	0	11	0	10	0	0	0	0	\$0.00
32% Feedlot Suppl.	\$625	2,205	0.283	0	0.5	0.5	1	0	0	0	0	0	0	\$0.00
32% Liquid Suppl.	\$475	2,205	0.215	0	0	0	0	0	2.9	0	0	0	0	\$0.00
20% Grain Pellets	\$500	2,205	0.227	0	0	0	0	0	0	0	14	0	0	\$0.00
1:1 Mineral	\$50.00	55	0.909	0.12	0	0	0	0	0	0	0	0	16	\$14.20
2:1 Mineral	\$50.00	55	0.909	0.00	0.06	0.06	0.06	0.12	0.2	0.2	0.06	0	0	\$0.00
Limestone	\$5.50	55	0.100	0.00	0	0	0	0	0.2	0	0.2	0	0	\$0.00
Blue Salt	\$7.75	55	0.141	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0	9	\$1.28
\$/head/day				\$2.22	\$2.12	\$1.93	\$2.53	\$2.22	\$2.89	\$2.04	\$4.06	\$0.00		\$288.86

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	\$160.00	2,000	0.080	0	0	0	0	0	0	0	0	0	0	\$0.00
Alfalfa Grass Hay	\$120.00	2,000	0.060	44	0	0	0	20	0	20	15	0	2,546	\$152.74
Grass Hay	\$100.00	2,000	0.050	0	0	0	0	0	0	0	0	0	0	\$0.00
Barley Straw	\$70.00	2,000	0.035	0	12	12	24	0	23	8	11	0	0	\$0.00
Barley Greenfeed	\$120.00	2,000	0.060	0	0	0	0	16	0	0	0	0	0	\$0.00
Corn Silage	\$45.00	2,000	0.023	0	0	48	0	0	0	40	0	0	0	\$0.00
Barley Silage	\$55.00	2,000	0.028	0	45	0	0	0	0	0	0	0	0	\$0.00
Barley Grain	\$6.00	48	0.125	5	12	7	15	5	15	0	0	0	289	\$36.16
32% Feedlot Suppl.	\$625	2,205	0.283	0	0	2	2.5	0	0	0	0	0	0	\$0.00
32% Liquid Suppl.	\$475	2,205	0.215	0	0	0	0	0	3.5	0	0	0	0	\$0.00
20% Grain Pellets	\$500	2,205	0.227	0	0	0	0	0	0	0	15	0	0	\$0.00
1:1 Mineral	\$50.00	55	0.909	0.18	0	0	0	0	0	0	0	0	10	\$9.47
2:1 Mineral	\$50.00	55	0.909	0.00	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0	0	\$0.00
Limestone	\$5.50	55	0.100	0.00	0.1	0.1	0.1	0	0.3	0	0.1	0	0	\$0.00
Blue Salt	\$7.75	55	0.141	0.10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	6	\$0.82
\$/head/day				\$3.44	\$3.35	\$3.13	\$3.61	\$2.96	\$3.64	\$2.56	\$4.87	\$0.00		\$199.19

Winter Feed Summary			
	<u>Total Days on Feed¹</u>	<u>Average Cost/Day</u>	<u>Feed Cost per Cow²</u>
Pre Calving - Cows	135	\$2.14	\$288.86
Post Calving - Cows	60	\$3.32	\$199.19
	195	\$2.50	\$488.05

1. Total Days on Feed Must = 195 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 ration, contact a Manitoba Agriculture Livestock Specialist.

Fixed Costs

Cows			Machinery & Equipment		
Cow value (\$/head)	\$2,200		Total Investment (\$/cow)	\$1,183	
Owned Cow Equity	85%		Residual Value (End of Useful Life)	20%	
Cows Financed (\$330 per head)	15%		Useful Life (years)	10	
Cow Opportunity Cost (Investment Rate)	0.00%		Owned Machinery Equity	80%	
Cow cost (\$/head)			Machinery & Equipment Cost (\$/cow)		
Finance Rate & Term	8.500%	7 Years	Finance Rate & Term	8.500%	7 Years
Principle & Interest Cost	\$64.47		Principle & Interest Cost	\$46.22	
Owned Cows Opportunity Cost	\$0.00		Machinery Depreciation Cost	\$94.64	
Total Cost	\$64.47		Owned Machinery Opportunity Cost	\$0.00	
Marginal Pasture Land			Total Cost		
Average Land value (\$/acre)	\$675			\$140.86	
Pasture acres	300		Buildings & Facilities		
Owned Land Equity	75%		Total Investment (\$/cow)	\$504	
Land Financed (\$169 per acre)	25%		Residual Value (End of Useful Life)	20%	
Land Opportunity Cost (Investment Rate)	0.00%		Useful Life (years)	20	
Land cost (\$/acre)			Owned Building Equity		
Finance Rate & Term	8.000%	25 Years	Owned Building Equity	85%	
Principle & Interest Cost	\$15.81		Building Financed (\$76 per head)	15%	
Owned Land Opportunity Cost	\$0.00		Building Opportunity Cost (Investment Rate)	0.00%	
Total Cost	\$15.81		Building & Water System Cost (\$/cow)		
Improved Pasture Land			Finance Rate & Term		
Average Land value (\$/acre)	\$1,700		8.500%	7 Years	
Pasture acres	51		Principle & Interest Cost	\$14.77	
Owned Land Equity	75%		Building Depreciation Cost	\$20.16	
Land Financed (\$425 per acre)	25%		Owned Building Opportunity Cost	\$0.00	
Land Opportunity Cost (Investment Rate)	0.00%		Total Cost	\$34.93	
Land cost (\$/acre)			Fencing		
Finance Rate & Term	8.000%	25 Years	Total Investment (\$/cow)	\$208	
Principle & Interest Cost	\$39.81		Residual Value (End of Useful Life)	10%	
Owned Land Opportunity Cost	\$0.00		Useful Life (years)	20	
Total Cost	\$39.81		Owned Fence Equity	75%	
Total Principle & Interest Cost (\$/cow)			Fence Financed (\$52 per head)		
	\$191.09		25%		
Total Principle & Interest Cost (150 cows)			Fence Opportunity Cost (Investment Rate)		
	\$28,664		0.00%		
			Fencing Cost (\$/cow)		
			Finance Rate & Term		
			8.000%	7	
			Principle & Interest Cost		
			\$10.01		
			Fence Depreciation Cost		
			\$9.38		
			Owned Fence Opportunity Cost		
			\$0.00		
			Total Cost		
			\$19.38		

Capital Value

	Market			Cow-calf				Market			Cow-calf		
	Value	Usage %	Allocation	Value	Usage %	Allocation		Value	Usage %	Allocation	Value	Usage %	Allocation
Buildings & Facilities							Machinery & Equipment						
Windbreak Fence	\$4,650	100%	\$4,650	Miscellaneous Machinery	\$10,000	100%	\$10,000						
Feedlot Fence	\$4,650	100%	\$4,650	Tractor & Loader	\$175,000	50%	\$87,500						
Calf Shelters	\$8,525	100%	\$8,525	Bale Shredder	\$25,000	100%	\$25,000						
Handling Facilities	\$15,000	100%	\$15,000	Tractor & Feed Wagon (silage)	\$0	100%	\$0						
Calving Facility	\$12,500	100%	\$12,500	Stock Trailer	\$25,000	100%	\$25,000						
Waterers	\$4,000	100%	\$4,000	Truck	\$60,000	50%	\$30,000						
Pasture Watering System	\$4,000	100%	\$4,000		\$0	100%	\$0						
Pasture Water Source	\$3,000	100%	\$3,000		\$0	100%	\$0						
Gates	\$1,450	100%	\$1,450		\$0	100%	\$0						
Feeders	\$2,400	100%	\$2,400		\$0	100%	\$0						
Well & Pressure System	\$8,000	100%	\$8,000		\$0	100%	\$0						
Hydro (6 poles @ \$400)	\$2,400	100%	\$2,400		\$0	100%	\$0						
Storage Bins	\$5,000	100%	\$5,000		\$0	100%	\$0						
	\$0	100%	\$0		\$0	100%	\$0						
	\$0	100%	\$0		\$0	100%	\$0						
	\$0	0%	\$0		\$0	100%	\$0						
Total Inv. = \$75,575 (\$504/cow)				Total Inv. = \$177,500 (\$1183/cow)									

Extended Grazing Costs & Requirements Worksheet

Extended Grazing Days	35
Number of Cows	150
Number of Cow Grazing Days	5,250

Extended Grazing Options - Costs

	<u>Corn</u> <u>Grazing</u>	<u>Stockpiled</u> <u>Forage</u>	<u>Swath</u> <u>Grazing</u>	<u>Crop</u> <u>Residue</u>
Standing Forage Cost (\$/lb)	n/a	\$0.025	n/a	\$0.015
Input Costs (\$/acre)				
Seed	\$96.00		\$32.00	
Fertilizer (incl. applic.)	\$209.00		\$114.00	
Herbicide	\$16.00		\$16.00	
Custom tillage	\$12.00		\$12.00	
Custom seeding	\$25.00		\$25.00	
Custom spraying	\$9.00		\$9.00	
Miscellaneous	\$7.75		\$7.75	
Land taxes	\$10.00		\$10.00	
Land Costs	\$71.26		\$71.26	
<u>Labour</u>	\$19.50		\$19.50	
Subtotal	\$475.51	\$50.00	\$316.51	\$7.50
Fencing Costs				
Estimated miles of fence required	0.175	1.475	0.300	5.775
Fence Investment Cost/acre	\$1.31	\$1.31	\$1.31	\$1.31
Fence Depreciation Cost/acre	\$1.64	\$1.64	\$1.64	\$1.64
Total cost per acre	\$478.46	\$52.95	\$319.46	\$10.45

Extended Grazing Options - Yields & Cost Comparison

	15.00	1.00	7.50	0.25
Grazing Yield (wet tons/acre)				
% moisture	50	10	40	8
Yield (tons dry matter/acre)	7.5	0.9	4.5	0.23
Total # cow grazing days/acre	370.4	44.4	222.2	11.4
Acres Req'd for Option	14	118	24	462
Total Extended Grazing Cost	\$6,698.45	\$6,248.20	\$7,667.06	\$4,828.30
Cost per cow	\$44.66	\$41.65	\$51.11	\$32.19
Cost/cow/day (based on 35 days)	\$1.28	\$1.19	\$1.46	\$0.92

Extended Grazing - Usage Planner

	<u>Corn</u> <u>Grazing</u>	<u>Stockpiled</u> <u>Forage</u>	<u>Swath</u> <u>Grazing</u>	<u>Crop</u> <u>Residue</u>	<u>Total</u>
Planned extended grazing days	0	35	0	0	35
Cost per cow	\$0.00	\$41.65	\$0.00	\$0.00	\$41.65
Cost/cow/day (based on 35 days)					\$1.19

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. Feed cost is a combined value of market price and on-farm production costs.
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.)

Capital and Debt Summary:

<u>Capital Summary</u>	<u>\$/cow</u>	<u>Total</u>	<u>Debt Summary</u>	<u>\$/cow</u>	<u>Total</u>
Breeding Herd Value	\$2,350	\$352,500	Cows	\$330	\$49,500
Marginal Pasture Land	\$1,350	\$202,500	Marginal Pasture Land	\$338	\$50,625
Improved Pasture Land	\$578	\$86,700	Improved Pasture Land	\$145	\$21,675
Machinery & Equipment	\$1,183	\$177,500	Machinery & Equipment	\$237	\$35,490
Fencing	\$208	\$31,260	Fencing	\$52	\$7,815
Buildings & Facilities	\$504	\$75,575	Buildings & Facilities	\$76	\$11,340
Total Capital Investment	\$6,174	\$926,035	Total Debt	\$1,176	\$176,445
			Debt/EBITDAR ratio = 1.85:1		
			Cow Calf Equity	81%	

Land Use Efficiency and Feed Security Analysis:

			<u>Acres/cow</u>	<u>Total Acres</u>
Pasture (Marginal, Improved, Crown Land and Rented Pasture)	135 Days		4.34	651
Extended Grazing (Corn, Stockpiled, Swath and Crop Residue)	35 Days		0.79	118
Planned forage & feed waste amount	10%	1,500 pound bales		
Alfalfa Hay	0 Total Tons @	3.50 tons/acre (4.7 bales/ac)	0.00	0
Alfalfa Grass Hay	586 Total Tons @	2.79 tons/acre (3.7 bales/ac)	1.40	210
Grass Hay	0 Total Tons @	2.00 tons/acre (2.7 bales/ac)	0.00	0
Barley Greenfeed	0 Total Tons @	2.83 tons/acre (3.8 bales/ac)	0.00	0
Corn Silage	0 Total Tons @	15.0 tons/acre	0.00	0
Barley Silage	0 Total Tons @	7.5 tons/acre	0.00	0
Barley Grain	994 Total bu @	78 bu/acre	0.08	13
			6.61	992

Profitability and Breakeven Analysis:

Gross Revenue = calf weight (lbs) x \$/lb x % calf crop (eg. 575 x \$3.56/lb x 95% = \$1945.14)
 Return on Investment (ROI) = (Gross Revenue - Total Cost) / Total Cost
 (eg. (\$1,945.14 - \$1,721.76) / \$1721.76 = 13.0%)
 Return on Asset (ROA) = (Margin Over Operating - Owners Labour - Building Depreciation - Machinery Depreciation - Fence Depreciation) / ((Building, Machinery & Equipment Investment + Pasture Investment + Breeding Herd Investment) / Herd Size)
 (eg. (\$736.21 - \$208.00 - \$20.16 - \$94.64 - \$9.38) / ((\$284,335 + \$289,200 + \$352,500) / 150) = 6.5%)
 Operating Expense Ratio = (operating cost ÷ gross revenue) x 100
 (eg. (\$1208.93 ÷ \$1945.14) x 100 = 62%)
 Breakeven Price \$/cwt = Cost ÷ % calf crop ÷ calf weight cwt (eg. \$1721.76 ÷ 95% ÷ 5.75 = \$315)

Cost Summary:

Summer Grazing Cost Per Cow Per Day = pasture cost ÷ days (eg. \$155.84 ÷ 135 = \$1.15)
 Extended Grazing Cost Per Cow Per Day = grazing cost ÷ days (eg. \$41.65 ÷ 35 = \$1.19)
 Winter Feed Cost Per Cow Per Day = feed cost ÷ days (eg. \$507.55 ÷ 195 = \$2.60)
 Yardage Cost Per Cow Per Day = (\$72.33 straw + \$51.01 fuel & repair + \$6.75 building insurance + \$11.48 utilities + \$10.84 manure removal + \$20.16 building depreciation + \$94.64 machinery depreciation + \$14.77 building investment + \$46.22 machinery investment + \$33.84 operating interest + \$4.21 misc. + \$130.00 labour) ÷ 230 days = \$2.151

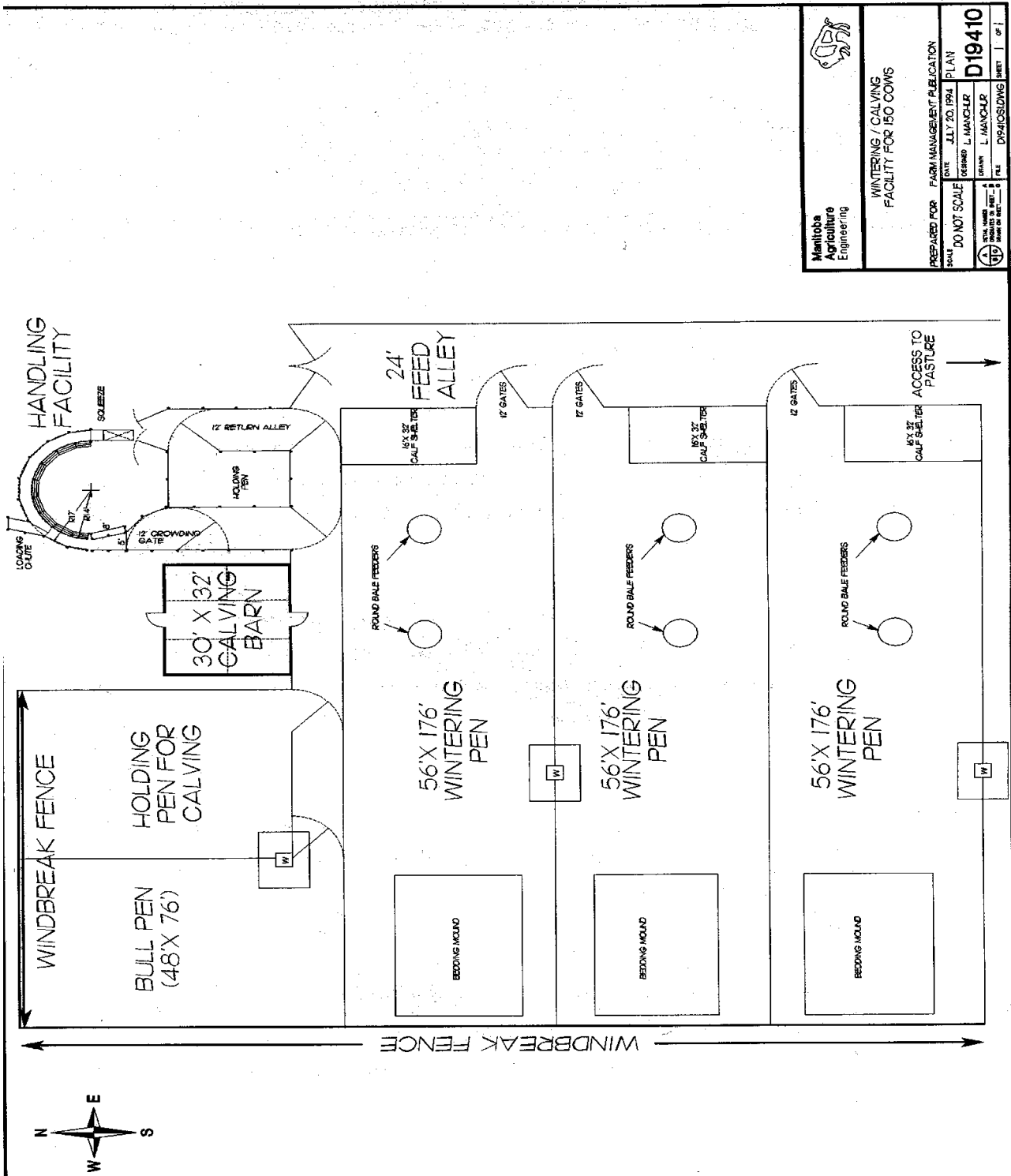
September, 2023

Contact Us

For more information, contact a Farm Management Specialist.

- manitoba.ca/agriculture
- mbfarmbusiness@gov.mb.ca
- 1-844-769-6224

Cow-Calf Operating Facilities



Manitoba Agriculture Engineering

WINTERING / CALVING FACILITY FOR 150 COWS

PREPARED FOR: FARM MANAGEMENT APPLICATION

DATE: JULY 20, 1994

SCALE: DO NOT SCALE

DRAWN BY: L. MANCHUP

CHECKED BY: L. MANCHUP

FILE: D19410

SHEET: 1 OF 1

Contact us

- For more information, contact a Farm Management Specialist
- manitoba.ca/agriculture
- mbfarmbusiness@gov.mb.ca
- 1-844-769-6224