

2010 Idaho Livestock Costs and Returns Estimate



EBB-D2-10

Holstein Dairy Enterprise Annual 210-Cow Budget

Small Idaho herd 22,828 lb milk per cow
Free stall housing Total mixed rations

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Background and Assumptions

Economic costs are used in the University of Idaho costs and returns estimates. All resources are valued based on market price or opportunity cost. This budget represents the average costs and returns per cow associated with a 210-cow dairy herd. The rolling 365-day 3.5% fat-corrected milk for the year is 22,828 lb per cow, which is 5% higher than the state average of 21,741 pounds. The herd is milked two times daily in a double 6 her-ringbone parlor. Cows are grouped in three production strings and fed a total mixed ration.

Free stalls provide housing for the milking cows. Loose housing is provided for dry cows. All pens have lock-type stanchions for herd management. The owner contributes to the daily labor requirement. The \$2,303 per cow facility investment is based on the best estimate of current cost and the average value of each component over its useful life.

Dairy Overview

Herd Information

The herd consists of 210 cows total with 85 percent of cows in milk (180 milking + 30 dry). The herd replacement rate is 34% annually (cull loss and mortality) with ready-to-calve heifers used as

Daily (hr/herd) and Annual (hr/cow) Labor Requirements

	Daily labor (hr/herd)		Annual labor (hr/cow)		
	Hired	Owner	Hired	Owner	Total
Milking	9.5	0.0	16.5	0.0	16.5
Feeding	2.0	2.0	3.5	3.5	7.0
Facility mgmt.	4.0	0.0	7.0	0.0	7.0
Herd mgmt.	0.0	4.0	0.0	7.0	7.0
Manure mgmt.	0.0	0.0	0.0	0.0	0.0
Total	15.5	6.0	27.0	10.5	37.5

replacement (\$1,800 per head). The herd has a 9% mortality rate on mature cows and an average 13-month calving interval.

Labor

All milking labor is hired (9.5 hr/day includes all cleanup). Feeding labor is split between the owner and hired labor (2 hours/day each). Facility management labor is hired (4 hours/day). Herd management labor is provided totally by the herd owner (4 hours/day).

Feeds

The total ration consists of alfalfa hay and corn silage blended with grain and commodity feeds. A blend of protein feeds provides additional bypass protein in the rations. A hired nutritionist balances the rations to meet the requirements of each group of cows.

Daily Feed Ration Quantities (lb/cow) and Cost by Pen (\$/day)

Price (\$/cwt)	Cow Ration Quantity (lb/day as fed)									Cost by pen
	Alfalfa hay	Corn silage	Barley	Corn	Beet pulp	Cotton-seed meal	Protein blend	Feeder hay	Mineral	
	\$7.65	\$1.75	\$8.65	\$9.60	\$6.50	\$13.00	\$13.40	\$5.75	\$25.70	
Pen 1	16	16	10	10	6	10	3	0	0.2	\$4.13
Pen 2	16	24	8	8	6	7	3	0	0.2	\$2.91
Pen 3	16	34	6	6	6	5	3	0	0.2	\$1.68
Pen 4	6	30	0	0	0	0	0	12	0.2	\$0.46

Table1: Holstein Dairy Enterprise Annual Cow Budget
Small-sized Idaho herd, 22,828 pounds per milk cow
Free stall housing, total mixed rations

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	Weight Each	Unit	Total Number of Head or Units	Price or Cost/Unit	Total Value	Value or Cost/Head	Your Value
1. Gross Receipts							
Milk	217.40	cwt	210	14.50	661,983.00	3152.30	_____
Bull Calves	1.00	head	110	35.00	3850.01	18.33	_____
Heifer Calves	1.00	head	110	135.00	14,850.05	70.71	_____
Cull cows	1.00	head	63	497.00	31,311.00	149.10	_____
Manure Credit	1.00	head	210	35.50	7455.00	35.50	_____
Total Receipts					\$719,449.07	\$3425.95	_____
2. Operating Costs							
Corn silage		cwt	22,464.00	1.75	39,312.00	187.20	_____
Mineral		cwt	172.80	25.70	4440.96	21.15	_____
Feeder hay		cwt	2592.00	5.75	14,904.00	70.97	_____
Alfalfa hay		cwt	11,664.00	7.65	89,229.60	424.90	_____
Barley		cwt	5184.00	8.65	44,841.60	213.53	_____
Corn		cwt	5184.00	9.60	49,766.40	236.98	_____
Beet pulp		cwt	3888.00	6.50	25,272.00	120.34	_____
Cottonseed meal		cwt	4752.00	13.00	61,776.00	294.17	_____
Protein blend		cwt	1944.00	13.40	26,049.60	124.05	_____
Marketing		head	210.00	151.76	31,868.86	151.76	_____
Barn Supplies		head	210.00	40.00	8400.00	40.00	_____
Utilities		head	210.00	136.00	28,560.00	136.00	_____
Records		head	210.00	19.80	4158.00	19.80	_____
Bedding		head	210.00	71.73	15,063.30	71.73	_____
Professional service		head	210.00	10.47	2198.70	10.47	_____
Custom hire		head	210.00	27.50	5775.00	27.50	_____
Replacement heifers		head	71.40	1800.00	128,520.00	612.00	_____
Interest		head	210.00	20.59	4324.47	20.59	_____
Veterinary Medicine	\$		18,270.00	1.00	18,270.00	87.00	_____
Machinery (fuel, lubrication, repair)	\$		8428.24	1.00	8428.24	40.13	_____
Vehicles (fuel, repair)	\$		6793.13	1.00	6793.13	32.35	_____
Equipment (repair)	\$		4375.94	1.00	4375.94	20.84	_____
Housing and Improvements (repair)	\$		8887.79	1.00	8887.79	42.32	_____
Hired Labor		hour	5670.00	9.26	52,504.20	250.02	_____
Owner Labor		hour	2205.00	10.95	24,144.75	114.97	_____
Interest on Operating Capital	\$		0.00	0.07	0.00	0.00	_____
Total Operating Costs					\$707,864.54	\$3370.78	_____
3. Income Above Operating Costs					\$11,584.53	\$55.16	_____
4. Ownership Costs							
Capital Recovery:							
Purchased Livestock	\$		0.00	1.00	0.00	0.00	_____
Housing and Improvements	\$		44,039.27	1.00	44,039.27	209.71	_____
Machinery	\$		8070.04	1.00	8070.04	38.43	_____
Equipment	\$		12,170.70	1.00	12,170.70	57.96	_____
Vehicles	\$		4930.91	1.00	4930.91	23.48	_____
Interest on Retained Livestock	\$		183,750.00	0.06	11,025.00	52.50	_____
Taxes and Insurance	\$		3065.25	1.00	3065.25	14.60	_____
Overhead	\$		11,000.00	1.00	11,000.00	52.38	_____
Total Ownership Costs					\$94,301.17	\$449.05	_____
5. Total Costs					\$802,165.70	\$3819.84	_____
6. Returns to Risk and Management					-\$82,716.63	-\$393.89	_____

Table 4: Investment Summary.

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	Purchase Price	Salvage/Cull Value	Livestock Share	Useful Life	Annual Taxes and Insurance	Annual Capital Recovery ¹
Buildings, Improvements and Equipment						
Land for dairy	\$60,000.00	\$60,000.00	80	100	\$288.00	\$2880.00
D-6 herringbone	\$75,000.00	\$7500.00	100	20	\$247.50	\$6334.96
Free stalls	\$214,968.00	\$21,498.60	100	20	\$709.40	\$18,157.46
Commodity shed	\$30,106.00	\$3011.00	100	20	\$99.35	\$2542.93
Dry cow shed	\$18,065.00	\$1806.50	100	15	\$59.61	\$1782.41
Maternity pens	\$12,043.00	\$1204.30	100	15	\$39.74	\$1188.24
Waste lagoon	\$18,065.00	\$0.00	80	15	\$43.36	\$1488.02
Cow pens	\$54,194.00	\$5419.40	100	15	\$178.84	\$5347.13
Silo	\$39,742.00	\$3974.20	65	20	\$85.25	\$2181.95
Hay storage	\$36,129.00	\$3612.90	70	20	\$83.46	\$2136.17
Parlor equipment	\$24,086.00	\$4817.00	100	10	\$86.71	\$2907.06
Bulk tank	\$42,151.00	\$8430.00	100	20	\$151.74	\$3445.75
Mechanization	\$9875.00	\$1975.00	100	8	\$35.55	\$1457.33
Milking equipment	\$36,129.00	\$7226.00	100	10	\$130.07	\$4360.55
Total	\$670,553.00				\$2238.57	\$56,209.97
Purchased Livestock						
Total	\$0.00					\$0.00
Retained Livestock						
Cows	\$257,250.00	\$110,250.00	100			\$11,025.00 ²
Total	\$257,250.00					\$11,025.00²
Machinery and Vehicles						
Tractor - 50hp	\$29,941.00	\$5988.00	70	16	\$75.45	\$1888.36
Tractor - 75hp	\$50,626.00	\$10,125.00	70	16	\$127.58	\$3192.94
Tractor - 150hp	\$89,596.00	\$17,919.00	50	36	\$161.27	\$2988.74
Feed truck	\$26,000.00	\$6500.00	90	30	\$219.38	\$1625.99
Farm pickup	\$18,000.00	\$3600.00	75	6	\$121.50	\$2358.32
Manure truck	\$15,000.00	\$3000.00	90	30	\$121.50	\$946.61
Total	\$229,163.00				\$826.68	\$13,000.95

¹ Annual capital recovery is the method of calculating depreciation and interest recommended by the National Task Force on Commodity Costs and Returns Measurement Methods.

² Interest on average investment.

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