

2010 Idaho Livestock Costs and Returns Estimate

EBB-D1-10

Holstein Dairy Enterprise Annual 210-Cow Budget

Small Idaho herd Open lots, no housing 21,741 pounds milk per cow Barn-fed concentrates

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Agricultural Economics & Rural Sociology

Daily and Annual Labor Requirements

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 the state average of 21,741 pounds. The herd is milked two times daily in a double 6 herringbone parlor. Cows are grouped in three production strings, barn-fed 10 pounds of concentrate, and top-dressed the balance outside.

No outside housing is provided 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.

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 33% annually (cull loss and mortality) with ready-to-calve heifers used as replacement (\$1,800 per head). The herd has a 5% mortality rate on mature cows and an average 13month calving interval.

	Daily (hr/herd)		Annual labor (hr/cow)				
	Hired	Owner	Hired	Owner	Total		
Milking	13.5	0	23.5	0	23.5		
Feeding	3	3	5.2	5.2	10.4		
Facility mgmt.	3	0	5.2	0	5.2		
Herd mgmt.	0	4	0	7	7		
Manure mgmt.	0	0	0	0	0		
Total	19.5	7	33.9	12.2	46.1		

Labor

All milking labor is hired (13.5 hr/day includes all cleanup). Feeding labor is split between the owner and hired labor (3 hours/day each). Facility management labor is hired (3 hours/day). Herd management labor is provided totally by the herd owner (4 hours/day). Manure is managed in open lots and removed twice a year by a custom operator. Feed lanes are scraped three times a week.

Feeds

The ration consists of alfalfa hay and corn silage plus a commercially prepared (16% protein) and purchased dairy mixture (see below). Ten pounds of this mix is fed in the barn to all cows. The balance for each group is topdressed on the silage feeding. Alfalfa hay is fed long. A feed company representative balances the rations to meet the

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

Cow Ration Quantity (lb/day as fed) Cost per Corn Mix head by Price Alfalfa hay silage outside Mineral Oat hay Barn grain pen (\$/cwt) \$7.65 \$1.75 \$5.60 \$6.75 \$25.70 \$5.75 Pen 1 16 28 23 0.2 \$3.88 10 0 2 16 37 10 11 0.2 0 \$3.23 3 10 0 16 50 4 0.2 \$2.98 4 0 0.2 12 6 30 0 \$1.73

Note: Average days in milk by pen are 56, 167, and 279 for pens 1, 2 & 3. Average milk production by pen is 93, 63, and 52 lb/day for pens 1, 2 & 3. requirements of each group of cows at no cost.

Table1: Holstein Dairy Enterprise Annual Cow Budget Small-sized Idaho herd, 21,740 pounds per milk cow Open lots, no housing, barn fed concentrates

	Total Number						
	Weight Each	Unit	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	28,080.00	1.75	49,140.00	234.00	
Barn grain, 16%		cwt	6480.00	5.60	36,288.00	172.80	
Outside mix		cwt	8208.00	6.75	55,404.00	263.83	
Mineral		cwt	151.20	25.70	3885.84	18.50	
Feeder hay		cwt	1296.00	5.75	7452.00	35.49	
Alfalfa hay		cwt	11,016.00	7.65	84,272.40	401.30	
Marketing		head	210.00	144.53	30,351.30	144.53	
Barn Supplies		head	210.00	163.37	34,307.70	163.37	
Utilities		head	210.00	66.00	13,860.00	66.00	
Records		head	210.00	19.80	4158.00	19.80	
Bedding		head	210.00	50.28	10,558.80	50.28	
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	70.00	1225.00	85,749.51	408.33	
Interest		head	216.00	15.42	3329.94	15.86	
Veterinary Medicine	`	\$	18,270.00	1.00	18,270.00	87.00	
Machinery (fuel, lubrication, repair))	\$	5243.90	1.00	5243.90	24.97	
Vehicles (fuel, repair)		\$	3159.38	1.00	3159.38	15.04	
Equipment (repair)	、 、	\$	4375.94	1.00	4375.94	20.84	
Housing and Improvements (repair	r)	\$	3335.87	1.00	3335.87	15.89	
Hired Labor		hour	7119.00	9.26	65,921.94	313.91	
Owner Labor		hour	2562.00	10.95	28,053.90	133.59	
Interest on Operating Capital		\$	0.00	0.07	0.00	0.00	
Total Operating Costs					\$555,092.12	\$2643.30	
3. Income Above Operating Costs					\$164,356.95	\$782.65	
4. Ownership Costs							
Capital Recovery:							
Purchased Livestock		\$	0.00	1.00	0.00	0.00	
Housing and Improvements		\$ \$	20,130.05	1.00	20,130.05	95.86	
Machinery		\$	5081.30	1.00	5081.30	24.20	
Equipment		φ \$	12,170.70	1.00	12,170.70	57.96	
Vehicles		φ Φ	2358.32	1.00	2358.32	11.23	
Interest on Retained Livestock		\$ \$				52.50	
			183,750.00 1647.03	0.06	11,025.00		
Taxes and Insurance		\$ \$		1.00	1647.03	7.84	
Overhead		Ф	11,100.00	1.00	11,100.00	52.86	
Total Ownership Costs					\$63,512.39	\$302.44	
5. Total Costs					\$618,604.51	\$2945.74	
6. Returns to Risk and Management					\$100,844.56	\$480.21	

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Table 4: Investment Summary.						
	Purchase Price	Salvage/Cull Value	Livestock Share	Useful Life	Annual Taxes and Insurance	Annual Capital ¹ Recovery
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
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	\$21,672.00	\$2167.20	100	15	\$71.52	\$2138.30
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	\$392,957.00				\$1322.50	\$32,300.75
Purchased Livestock						
Total	\$0.00					\$0.00
Retained Livestock						2
Cows	\$257,250.00	\$110,250.00	100			\$11,025.00 ²
Total	\$257,250.00					\$11,025.00 ²
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
Farm pickup	\$18,000.00	\$3600.00	75	6	\$121.50	\$2358.32
Total	\$98,567.00				\$324.53	\$7439.61

¹Annual capital recovery is the method of calculating depreciation and interest recommended by the National Task Force on

Commodity Costs and Returns Measurement Methods.

²Interest on average investment.

Table 4: Investment Summary.

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