

2010 Idaho Livestock Costs and Returns Estimate



EBB-D1-10

Holstein Dairy Enterprise Annual 210-Cow Budget

Small Idaho herd 21,741 pounds milk per cow
 Open lots, no housing Barn-fed concentrates
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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 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 13-month calving interval.

Daily and Annual Labor Requirements

| | 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)

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

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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 | 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) | \$ | | 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 | \$ | | 12,170.70 | 1.00 | 12,170.70 | 57.96 | _____ |
| Vehicles | \$ | | 2358.32 | 1.00 | 2358.32 | 11.23 | _____ |
| Interest on Retained Livestock | \$ | | 183,750.00 | 0.06 | 11,025.00 | 52.50 | _____ |
| Taxes and Insurance | \$ | | 1647.03 | 1.00 | 1647.03 | 7.84 | _____ |
| Overhead | \$ | | 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 | _____ |

Table 4: Investment Summary.**EBB-D1-10**

| | 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 | | | | | | |
| 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 |
| Farm pickup | \$18,000.00 | \$3600.00 | 75 | 6 | \$121.50 | \$2358.32 |
| Total | \$98,567.00 | | | | \$324.53 | \$7439.61 |

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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