

2006 Idaho Livestock Costs and Returns Estimate

EBB-DR1-06

Holstein Replacement Enterprise Budget

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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 costs and returns associated with a Holstein replacement enterprise. Replacement calves are purchased at 3 days of age at the current market price. The heifers remain in the replacement program until calving. Heifers are reared in a drylot facility. Calves are fed a liquid diet for the first 60 days and housed in individual pens. Group pens are used thereafter. Housing is provided in the pens for calves from weaning to 400 pounds. Heifers enter breeding groups at 800 pounds and are bred by artificial insemination. Rations are designed to produce a 1,250- pound heifer in 24 months.

Enterprise Overview

Replacement Information

The total number of replacements of all ages is equal to 210 head. Each year 110 females enter the replacement program from the dairy cow enterprise. Heifers in this program are bred to calve at 24 months of age at about 1,250 pounds. The number on hand is based on the number entering the replacement enterprise per year minus death losses.

Mortality Estimates and Market Value

Time period	Mortality (%)	Market value end of period (\$)
Birth to 3 days	5.0	150
3 days to weaning	3.0	250
Weaning to 400 lb	0.7	450
400 lb to breeding	0.3	940
Breeding to calving	0.1	1,900

Distribution by Ages

The replacements in this enterprise are assumed to be evenly distributed over the time period from 3 days to just before calving at 24 months of age. The following distribution was used for ration formulation and facility requirements.

Distribution by Age

Feed period	% of total	Number of heifers
Liquid feeding	8.2	17
Weaning to 400 lb	17.8	37
400 lb to breeding	36.5	77
Breeding to calving	37.5	79

Labor

Calves are fed liquid diets for 60 days and this requires 2.5 hours of labor per day. The balance of the replacements require 3.0 hours daily for all types of labor requirements (feeding, management, cleaning, etc.).

Feeds

Liquid diets consist of herd waste milk and saleable herd milk. A \$2.50 value is placed on waste milk. Feeds consist of concentrates, alfalfa hay, and corn silage. Rations are based on computer formulation to provide the following rates of gain:

Rates of Gain

Group	Period	Rate of gain (lb/day)
1	Liquid feeding	0.8
2	Weaning to 400 lb	1.6
3	400 lb to breeding	1.8
4	Breeding to calving	1.6
1.60 lb/day gain from 3 days to calving		

Heifer Rations

Feed	Cost \$/100 lb.	-----lbs per head daily-----			
		Group 1	Group 2	Group 3	Group 4
waste milk	\$2.60	3.6	0	0	0
sale milk	\$12.71	3.6	0	0	0
starter	\$9.75	1.3	0	0	0
grower	\$9.75	0	4	0	0
barley	\$4.93	0	0	4.2	3.4
mineral	\$22.80	0	0	0.2	0.2
alfalfa hay	\$4.75	0.7	3.4	6.2	9.6
corn silage	\$1.35	0	0	18.6	28.7
<u>Daily Feed Cost/head</u>		\$0.71	\$0.55	\$0.80	\$1.06

Holstein Replacement Heifer Enterprise Budget
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	Unit	Price or \$ per unit	Number of units/cow	Value/Cost per cow
1. Gross Receipts				
Replacement Heifer	Head	\$1,900.00	0.00	\$1,900.00
Manure Credit	Head	\$0.00	1.00	\$0.00
Total Receipts:				\$1,900.00
2. Operating Costs				
Initial Heifer Value	Head	115	1	115.00
Feeds:	\$/lb			
Roughages	\$/lb	0.04	8843.30	391.09
Concentrates		0.07	2750.10	187.16
Liquids	\$/hr	0.08	432.00	33.07
Hired Labor:	\$/hr			
Calf Stage	\$/hr	10.00	9.20	91.76
Heifer Stage	\$/hr	10.00	10.40	103.92
Drugs & Veterinary	\$/hr		1.00	31.10
Bedding			1.00	23.80
Repairs	Head		1.00	28.73
Professional Service	Head		1.00	0.00
Custom Hire	Head		1.00	0.00
Fuel			1.00	45.52
Operating Rent	\$/cwt		1.00	0.00
Utilities	\$/cwt		1.00	0.00
Breeding				22.50
Death Loss	Head			11.90
Interest on Heifer	Head	115.00	0.09	20.13
Interest on Oper. Capital	Head	959.00	0.10	91.32
				\$1,197.00
3. Income above operating costs				\$703.00
4. Ownership Costs				
Int. on Avg. Invest.	Dol.	\$336	0.09	58.84
Depreciation on All	Head			70.12
Insurance	Head			4.56
Total Ownership Cost:				\$133.52
5. Total Operating and Ownership Cost				\$1,330.52
6. Returns to Operator labor, management & risk				\$569.48

Holstein Replacement Heifer Enterprise Budget

Dairy Herd Enterprise Summary of Costs:

	Percent total cost %	Annual per Heifer \$	100 lbs Gain* \$
1. Operating Cost:			
Initial Value of Heifer	8.6	\$ 115.00	\$ 9.91
Feeds	45.9	\$ 611.00	\$ 52.70
Labor (hired only)	14.7	\$ 196.00	\$ 16.87
Drug, Vet., and Breeding	4.0	\$ 54.00	\$ 4.62
Repairs, Fuel and Utilities	5.6	\$ 74.00	\$ 6.40
Custom Hire, Prof. Serv., Bedding	1.8	\$ 24.00	\$ 2.05
Interest on Operating and Lvst.	8.4	\$ 111.00	\$ 9.61
Death Loss	0.9	\$ 12.00	\$ 1.03
Total Operating	90.0	\$ 1,197.00	\$103.19
2. Ownership Cost	10.0	\$ 134.00	\$11.51
3. Total Operating and Ownership	100.0	\$ 1,331.00	\$114.70

*Total lbs gain to calving :	1,160
Average daily gain lbs/day:	1.6

Annual labor (hr/heifer)

	Hired	Owner	Total
Calf Stage	9.2	0	9.2
Heifer Stage	10.4	0	10.4

Heifer Enterprise Summary Status:

Estimated:	Number of Females
Entering the Enterprise Yearly	110
Mortality Loss 3 days to Calving	9
Total All Ages	212
To Calve Each Year (% of herd = 50.4)	106
+ or - from current replacement rate (annual number)	34

Holstein Replacement Heifer Enterprise Budget

Replacements Feed Summary Data

Based on 211 Heifers

Feed	Cost \$	Tons as fed	Tons 90% dm	Feed Summary
				Roughage Equivalents:
				Cost \$ 196.00
waste milk	\$581	11	2	Pounds 4,422
sale milk	\$2,839	11	2	Cost per Cwt. \$ 4.42
starter	\$786	4	4	Liquids:
grower	\$6,263	32	32	Cost per Calf \$ 33.00
barley	\$10,199	103	103	Pounds 432
mineral	\$2,497	5	5	Cost per Cwt. \$ 7.66
alfalfa hay	\$23,581	248	248	Concentrates:
corn silage	\$17,679	655	218	Cost \$ 94.00
				Pounds 1,375
Total Cost	\$64,426			Cost per Cwt. \$ 6.81
				Total Feed:
				Cost \$ 322.00
				Pounds 5,797
				Cost per Cwt. \$ 5.56

Summary of Generated Investment and Cost

	Average	<-----Annual----->			
Heifers:	Investment	Deprec.	Repair	Insur.	Fuel-Lube
Housing	8,233	1,048	349	49	
Facilities	41,312	2,954	843	248	
Machinery	15,201	2,073	1,327	91	3,191
Vehicles	<u>6,193</u>	<u>1,324</u>	<u>512</u>	<u>93</u>	<u>1,611</u>
Total	\$70,939	\$7,398	\$3,031	\$481	\$4,803

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