

2006 Idaho Livestock Costs and Returns Estimate

EBB-D3-06

Jersey Dairy 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 120-cow dairy operation. The 365-day milk average is 16,940 pounds. The herd is milked twice daily in a double 4 herringbone parlor with automatic detachers. Lactating cows are grouped in two production strings, barn fed concentrates, and top dressed commodity feeds outside. All pens have lock-type stanchions for herd management.

Free-stall housing is provided for the two lactating groups with loose housing provided for the dry cows. The \$3,551 per cow facility investment is based on the best estimate of current cost and average value of each component over its useful life. Operating input costs are based on survey data, DHI Jersey summary data, data generated from this base information, or all three.

Dairy Overview

Herd Information

The herd consists of 120 cows with approximately 84 percent in milk (100 milking and 20 dry). The herd replacement rate is 30 percent annually (culling plus 3 percent herd mortality) with ready-to-calve heifers as replacements (\$1,700 per head). The herd consists of 31 percent first lactation cows, 23 percent second lactation cows, and 46 percent third and greater lactation cows. The calving interval is 12.5 months.

Cow Labor

	Daily labor		Annual labor (hr/cow)		
	(hr/herd)		Hired	Owner	Total
Milking	3.5	3.5	10.6	10.6	21.3
Feeding	0.0	3.0	0	9.1	9.1
Facility mgmt.	2.5	0.0	7.6	0	7.6
Herd mgmt.	0.0	2.0	0	6.1	6.1
Manure mgmt.	<u>0.4</u>	<u>0.0</u>	<u>1.2</u>	<u>0</u>	<u>1.2</u>
Total	6.4	8.5	19.4	25.8	45.3

Labor

Labor requirements are divided between hired and owner labor. Milking labor is split between the owner and hired labor (7 hours total, 3.5 hours each shift). All

the feeding labor (3 hours) is provided by the owner. Facility management labor of 2.5 hours is hired. The owner spends 2 hours each day managing the herd. Manure removal is required 12 times each year and requires 12.4 hours per removal.

Feeds

The ration consists of alfalfa hay, corn silage, a commercially prepared (14 percent protein) and purchased dairy mixture, whole cottonseed, and beet pulp. The 14 percent dairy mixture is fed in the barn to all cows. Beet pulp and whole cottonseed are added to the silage of the high-producing group of cows. Alfalfa hay is fed long. A feed company representative balances the rations to meet the requirements of each group of cows at no cost.

Rations are based on the following averages:

	Average Days in Milk	Average lb/cow/day
Pen 1	80	66
Pen 2	240	48
Pen 3	Dry cows	

Cow Rations

Feed	Cost \$/100 lb.	-----lbs per head daily-----		
		Pen 1	Pen 2	Pen 3
alfalfa hay	\$6.50	16	15	5
corn silage	\$1.35	6	18	30
barn grain	\$4.60	16	11	0
beet pulp	\$6.25	6	5	0
mineral	\$22.80	0.3	0.2	1
w. cottonseed	\$10.00	6	4	0
Dry cow hay	\$4.75	0	0	7
Daily Feed Cost per Head		\$2.90	\$2.48	\$1.29

Feeds are converted to a 90 percent dry matter basis and grouped into roughage and concentrate equivalents. Annual roughage and concentrate requirements are reported in the feed section of the enterprise budget.

Jersey Dairy Enterprise Milking 16,940 pounds

	Unit	Price or \$ per unit	Number of units/cow	Value/Cost 100 lbs milk	Value/Cost per cow
1. Gross Receipts					
Milk	Cwt	\$15.21	168.55	\$15.21	\$2,563.69
Bull Calves	Head	\$90.00	0.57	\$0.30	\$51.00
Heifer Calves	Head	\$150.00	0.57	\$0.50	\$85.00
Cull Cows	Head	\$510.00	0.31	\$0.93	\$157.25
Manure Credit	Head		1.00	\$0.05	\$8.50
Total Receipts:				\$17.00	\$2,865.44
2. Operating Costs					
Feeds:					
Roughages	\$/lb	0.06	7203.80	\$2.48	\$417.82
Concentrates	\$/lb	0.07	7467.00	\$2.87	\$484.56
Hired Labor:					
Milking	\$/hr	10.00	10.65	\$0.63	\$106.46
Feeding	\$/hr	10.00	0.00	\$0.00	\$0.00
Facility Mgmt.	\$/hr	10.00	7.60	\$0.45	\$76.04
Herd Mgmt.	\$/hr	10.00	0.00	\$0.00	\$0.00
Manure Mgmt. (Custom Haul)	\$/hr	8.50	1.00	\$0.05	\$8.50
Herd Health:					
Breeding	Head		1.00	\$0.21	\$36.00
Veterinary	Head		1.00	\$0.20	\$33.10
Drugs	Head		1.00	\$0.20	\$33.10
Marketing:					
Hauling & Pickup	\$/cwt	0.40	168.55	\$0.40	\$67.42
Promotion/Charge/CWT Prog	\$/cwt	0.25	168.55	\$0.25	\$42.14
Supplies, etc.:					
Barn Supplies	Head		1.00	\$0.22	\$36.70
Other Supplies	Head		1.00	\$0.92	\$155.40
Utilities	Head		1.00	\$0.36	\$60.40
Records	Head		1.00	\$0.14	\$23.10
Bedding	Head		1.00	\$0.20	\$33.73
Repairs	Head		1.00	\$0.63	\$106.16
Professional Servi	Head		1.00	\$0.07	\$11.85
Custom Hire	Head		1.00	\$0.00	\$0.00
Fuel	Head		1.00	\$0.56	\$94.67
Replacement Cost	\$/hd	1700.00	0.30	\$3.03	\$510.00
Interest on Cattle	\$/hd	1105.00	0.09	\$0.57	\$96.69
Interest on Oper. Cap. (1/12 ann. Total)	\$/hd	1717.60	0.10	\$0.08	\$13.60
Total Operating Cost				\$14.52	\$2,447.43
3. Income above operating costs					\$418.01
4. Ownership Costs					
Int. on Avg. Invest.	Dol.	\$2,446	0.087	\$1.27	\$214.00
Depreciation on All	Head	\$224.86	1	\$1.42	\$238.89
Insurance	Head	\$15.19	1	\$0.09	\$15.47
Total Ownership Cost:				2.78	468.36
5. Total Operating and Ownership Cost				\$ 17.30	\$ 2,915.79
6. Returns to Operator labor, management & risk				(\$0.30)	(\$50.35)

Jersey Dairy Enterprise Milking 16,940 pounds

Dairy Herd Enterprise Summary of Costs:

	Percent total cost %	Annual per Cow \$	100 lbs Milk \$
1. Operating Cost:			
Feed	30.9	\$ 902.38	\$ 5.35
Hired Labor	6.6	\$ 191.00	\$ 1.13
Herd Health	3.5	\$ 102.20	\$ 0.61
Marketing	3.8	\$ 109.56	\$ 0.65
Supplies	10.6	\$ 309.33	\$ 1.84
Replacements	17.5	\$ 510.00	\$ 3.03
Interest	3.8	\$ 110.29	\$ 0.65
Others	7.3	\$ 212.68	\$ 1.26
 Total Operating	 83.9	 \$ 2,447.43	 \$ 14.52
 2. Ownership Cost:	 16.1	 \$ 468.36	 \$ 2.78
 3. Total Cost:	 100.0	 \$ 2,915.79	 \$ 17.30

4. Dairy Herd Enterprise Summary of Returns:

Returns Over Feed Cost (milk sales only)		\$ 1,661.32	\$ 9.86
Returns to Operator Labor Mgmt. and Risk		\$ (50.35)	\$ (0.30)
Rate of Return to \$3551 Average Capital Invest. per Cow (cows, bldgs., equip., and land)		-7%	-7%

5. Dairy Herd Enterprise Liquidity:

Returns Above Cash Expense for Family Living, Income Tax, Soc. Sec., Cap. Debt (P&I) Cap. Replace. & Expan.		\$ 512.83	\$ 3.04
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Annual Herd Feed Summary Data

Based on 120 Cows

Feed	Cost \$	Tons as fed	Tons 90% dm	Feed Summary
				Roughage Equivalents:
				Cost \$ 418.00
alfalfa hay	\$39,075	301	301	Pounds 7,204
corn silage	\$8,515	315	105	Cost per Cwt. \$ 5.80
barn grain	\$23,069	251	248	Concentrates:
beet pulp	\$12,593	101	100	Cost \$ 485.00
mineral	\$3,870	8	8	Pounds 7,467
w. cottonseed	\$18,615	93	92	Cost per Cwt. \$ 6.49
Dry cow hay	\$2,549	27	27	Total Feed:
				Cost \$ 902.00
Total Cost	\$108,285			Pounds 14,671
				Cost per Cwt. \$ 6.15

Summary of Generated Investment and Cost

	Average	<-----Annual----->			
Cows:	Investment	Deprec.	Repair	Insur.	Fuel-Lube
Housing	107,276	10,852	5,466	644	
Facilities	95,788	5,432	1,439	575	
Equipment	66,477	8,205	3,822	399	
Machinery	13,332	1,818	1,163	80	7,544
Vehicles	<u>10,616</u>	<u>2,359</u>	<u>849</u>	<u>159</u>	<u>3,817</u>
Total	\$293,490	\$28,666	\$12,740	\$1,856	\$11,361

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