



Jersey Replacement Enterprise Budget

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Background and Assumptions

Heifer calves are transferred into the replacement enterprise at the current market price at 3 days of age. These heifers remain in the replacement program until calving. Heifers are raised 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 300 pounds. Heifers enter breeding groups at 450 pounds and are bred by artificial insemination. Rations are designed to produce an 850-pound heifer in 23 months.

Enterprise Overview

Replacement Information

The enterprise consists of 127 heifers of all ages. Each year 66 heifer calves enter the program from the dairy cow enterprise. The number on hand in each age category is based on the number entering the enterprise per year minus the death loss.

Mortality Estimates and Market Value

Time period	Mortality (%)	Market value end of period (\$)
Birth to 3 days	3.0	130
3 days to weaning	4.0	200
Weaning to 300 lb	1.0	350
300 lb to breeding	0.5	750
Breeding to calving	0.5	1,150

Distribution by Ages

The replacements in this enterprise are evenly distributed over the time periods from 3 days to just before calving at 23 months. The following distribution was used for ration formulation and facility requirements.

Distribution by Age

Feed period	% of total	Number of heifers
Liquid feeding	9	11
Weaning to 300 lb	22	28
300 lb to breeding	27	34
Breeding to calving	42	53

Labor

Calves are fed milk and managed for 60 days in individual pens. This requires 9.8 hours per calf for the 60 days or 1.8 hours per day for the milk-fed calves.

The balance of the replacements require 1.75 hours daily for all types of labor requirements (feeding, management, cleaning).

Feeds

Calves are fed herd waste milk plus saleable herd milk in a 50:50 ratio. Rations after weaning are based on a least-cost 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 300 lb	1.3
3	300 lb to breeding	1.1
4	Breeding to calving	1.0

Heifer Rations

Feed	Cost (\$/100 lb)	Quantity (lb/day)			
		Group 1	Group 2	Group 3	Group 4
Waste milk	\$ 2.50	3.3	0	0	0
Sale milk	14.75	3.3	0	0	0
Starter	9.50	1.0	0	0	0
Grower	9.50	0	3.5	0	0
Alfalfa hay	3.55	.5	5.0	6.0	6.0
Corn silage	1.25	0	0	17.0	30.0
Mineral	21.00	0	0	.2	.2
Cost per head per day		\$.68	\$.51	\$.47	.63

**Dairy Heifer Replacement Budget
Jersey Replacement Heifer Calving
At 22 Months of Age**

1. Gross Receipts	Unit	Price or Cost/unit	Number of Units/Head	Value or Cost/Head	Your Value
Replacement Heifer ¹	Head	1,150.00	1.00	<u>\$1,150.00</u>	_____
Total Receipts				\$1,150.00	_____
2. Variable Costs					
Initial Heifer Value	Head	100.00	1.00	\$100.00	_____
Feeds:					
Roughages	Cwt	1.79	151.00	\$269.98	_____
Concentrates	Cwt	11.11	6.61	73.47	_____
Liquids	Cwt	8.62	3.96	34.15	_____
Hired Labor:					
Calf Stage	\$/hr	10.00	9.82	98.18	_____
Heifer Stage	\$/hr	10.00	10.09	100.90	_____
Drugs/Veterinary	Head	42.35	1.00	42.35	_____
Bedding	Head	27.73	1.00	27.73	_____
Repairs - All	Head	22.62	1.00	22.62	_____
Fuel	Head	11.08	1.00	11.08	_____
Breeding	Head	19.50	1.00	19.50	_____
Death Loss	Head	15.00	1.00	15.00	_____
Interest on Heifer ²	Dol	0.068	100.00	12.38	_____
Interest on Operating Capital ³	Dol	0.063	700.00	<u>40.21</u>	_____
Total Variable Cost				\$867.56	_____
3. Income Above Variable Costs				\$282.44	_____
4. Fixed Costs					
Interest on Avg. Investment	Dol	0.068	404.00	\$50.03	_____
Depreciation on All	Head	66.95	1.00	66.95	_____
Insurance	Head	3.28	1.00	<u>3.28</u>	_____
Total Fixed Cost				\$120.26	_____
5. Total Cost				\$987.82	_____
6. Returns to Operator Labor, Mgmt and Risk				\$162.18	_____

¹Total weight gain by heifer from weaning to calving = 850 lbs.

²Interest on heifer and on average investment is based on the age of the heifer at first calving (e.g. .0675 x \$100 x 1.833 years = \$12.38).

³Interest on operating capital is based on 1/2 of total operating capital for 22 months (e.g. .0625 x \$700 x .5 x 22 months)

Dairy Heifer Enterprise Summary

Labor Summary:

	Hired (Hours)	Owner (Hours)	Total (Hours)
Calf stage	4.9	4.9	9.8
Heifer stage	5.0	5.0	10.1

Cost Summary:

	Total Cost Percent (%)	Expense Total (\$)	Gain 100 LBS. (\$)
1. Variable Cost			
Initial Value of Heifer	10.1	100.00	12.50
Feeds	38.2	378.00	47.20
Labor (hired only)	20.2	199.00	24.89
Drug, Vet., Breeding	6.3	62.00	7.73
Repairs, Fuel and Utilities	3.4	34.00	4.21
Custom Hire, Prof. Service, Bedding	2.8	28.00	3.47
Interest on Operating & Livestock	5.3	53.00	6.57
Death loss	<u>1.5</u>	<u>15.00</u>	<u>1.88</u>
Total Variable Cost	87.8%	\$868.00	\$108.44
2. Fixed Costs	12.2%	\$120.00	\$15.03
3. Total Variable and Fixed Cost	100.00%	\$988.00	\$123.48

Sensitivity Analysis

Returns over variable costs when the price of replacement heifers ranges from \$975 to \$1,325 and the price of roughages ranges from \$.80 To \$2.80

Replacement Heifer Price per Head

		\$975	\$1,150	\$1,325
Roughage Price/cwt.	\$.80	258	433	608
	\$1.80	107	282	457
	\$2.80	-44	131	306

Returns to labor, management and risk when the price of replacement heifers ranges from \$975 to \$1,325 and the price of roughages ranges from \$.80 to \$2.80

Replacement heifer price per head

		\$975	\$1,150	\$1,325
Roughage Price/cwt.	\$0.80	138	313	488
	\$1.80	-13	162	337
	\$2.80	-164	11	186

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