

# FARM MANAGEMENT GUIDE

## KSU Dairy Replacement Heifer Budget

Current Prices (as of Dec. 4th, 2017)

### Production Efficiency Information

Cull Replacements Sold	5.0%	Death Loss	9.0%
Cull Yearlings Sold	2.0%		

Returns	Price	Unit	Qty	Unit	%	Total per Heifer
Springer Heifer Sales	\$ 1,450.00	per head	x		0.84	\$ 1,218.00
Cull Replacements Sold	\$ 107.00	per cwt	x	1250 lbs	0.05	\$ 66.88
Cull Yearlings Sold	\$ 142.00	per cwt	x	725 lbs	0.02	\$ 20.59
Manure Credit						\$ 40.00
Other Income						
Purchase of Heifer Calf	\$ 200.00	per head				\$ (200.00)
<b>Total Gross Return</b>						<b>\$ 1,145.47</b>

### Variable Costs

Feed Costs						\$ 800.00
Daily Labor	\$ 13.50	per hour	x	10.5 hours		\$ 141.75
Management Labor	\$ 25.00	per hour	x	3.5 hours		\$ 87.50
Breeding Fees						\$ 36.00
Veterinary						\$ 43.00
Fuel & Oil						\$ 25.00
Utilities						\$ 24.00
Machinery, Facility/Equip. Repairs						\$ 64.00
Bedding						\$ 38.00
Custom Hire						\$ 10.00
Cash Interest Paid						\$ 34.00
Other Variable Costs						\$ 43.00
<b>Total Variable Costs</b>						<b>\$ 1,346.25</b>

### Fixed Costs

Depreciation						\$ 66.00
Insurance						\$ 17.00
Opportunity Cost of Investment						\$ 83.05
Other fixed costs						\$ 43.00
<b>Total Fixed Costs</b>						<b>\$ 209.05</b>

### Total Costs

<b>Total Costs</b>						<b>\$ 1,555.30</b>
Income Over Variable Costs						\$ (200.79)
<b>Income Over Total Costs</b>						<b>\$ (409.84)</b>

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## KSU Dairy Replacement Heifer Budget

K-State's Agricultural Economics Department annually publishes *Farm Management Guides* to estimate the current profitability of different agricultural enterprises. The format for these livestock budgets allows the user to change certain key inputs to cater the budget to their production situation. Environmental factors, management, operation size, local cash prices, and a variety of other situations makes budgeting to the entire state of Kansas difficult. While defaults in the spreadsheet are research-based estimates, users should enter their own prices and costs using the cells in blue. Base input and output prices populate each budget without reference to any specific time period or specific production period. Users are encouraged to update prices to best reflect their specific situation.

Three different sets of price forecasts are available in the spreadsheet. By clicking the dropdown menu at the top of the budget, a user can select "Current Prices", "One Year Out Prices", or "Five Year Out Prices". All price assumptions can be viewed in the *Prices* tab and be adjusted according to the user's own expectations and local market conditions. Only default milk, cattle, and feed prices differ when looking at different time horizons. Other costs will remain fixed.

The source of default estimates are noted in the explanations to follow, but most of the production costs are taken from The Center for Farm Financial Management "FINBIN" database ([www.finbin.umn.edu](http://www.finbin.umn.edu)). Values for the previous 10 years are regressed to predict a current year value using a time trend, also smoothing out year-to-year variation. Values that did not display a time trend were computed as an average over this time period.

This budget assumes all heifers are raised as a separate enterprise from milking cows. See the "Cow Milking-Purchased Replacement" budget or "Cow Milking-Raised Replacement" budget to evaluate other scenarios.

This is a two year budget, assuming it will take two full years to fully develop a heifer and prepare her to enter the milking herd.

### Production Efficiency Measures

**Cull Replacements Sold:** Cull replacements sold as non-breeders.

**Cull Yearlings Sold:** Cull replacements sold as yearlings.

**Replacement Heifer Death Loss:** Percentage of calves/heifers normally lost.

### Returns

**Springer Heifer Sales:** Replacement Heifer price multiplied by 100% minus cull replacements sold, cull yearlings sold, and death loss.

**Cull Replacements Sold:** Discounted fed heifer price multiplied by heifer average weight and cull percentage.

**Cull Yearlings Sold:** Discounted feeder heifer price multiplied by heifer average weight and cull percentage.

**Other Income:** Placeholder for any other income received by the heifer enterprise.

**Purchase of Heifer Calf:** Price per head to purchase baby heifer calves. This way a gross income can be calculated.

### Variable Costs

**Feed Costs:** Enter total dollar feed cost for the entire development of the heifer. Default is a regression of total feed cost per head in the FINBIN database in relation to corn, soybean, alfalfa, and milk price.

**Labor:** FINBIN average labor is near 14 hours per heifer with a total paid labor cost near \$140 per heifer. Unpaid Labor and Management is near \$87 per heifer, which makes up the other portion of the 14 hours. These values will vary tremendously depending on the efficiency and level of technology in the operation.

**Breeding Fees:** Default is FINBIN value.

**Veterinary:** Default is FINBIN value.

**Fuel & Oil:** Default is FINBIN value.

**Utilities:** Default is FINBIN value.

**Machinery, Facility/Equip. Repairs:** Default is FINBIN value.

**Bedding:** Default is FINBIN value.

**Custom Hire:** Default is FINBIN value for expenses related to manure hauling, hoof trimming, and other hired expenses.

**Cash Interest Paid:** Default is FINBIN value.

**Other Variable Costs:** FINBIN value for any "Dairy Supplies", Operating Interest, and Marketing. Enter other misc. items as needed.

### Fixed Costs

**Depreciation:** Default is based on FINBIN values for buildings and machinery.

**Farm/Livestock Insurance:** Default is FINBIN value.

**Opportunity Cost of Investment:** This is not a cost listed in the FINBIN database, but typically the Kansas Farm Management Association (KFMA) has this near 5.5% of total costs for Kansas dairies.

**Other Fixed Costs:** Default is FINBIN value for building and equipment leases, and other fixed overhead. Add other fixed costs as needed.

*\*Note: FINBIN defaults are based on an average of 451 farms with a current average inventory of 146 heifers.*

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### Budget Assumptions

#### Default Dairy Prices

	Current	One Year Out	Five Years Out
Corn (\$/bu)	\$ 3.30	\$ 3.75	\$ 3.40
Soybeans (\$/bu)	\$ 9.50	\$ 9.71	\$ 9.50
Dairy Alfalfa (\$/ton)	\$ 160.00	\$ 181.82	\$ 164.85
16% 100 pounds of feed (\$)	\$ 7.55	\$ 8.44	\$ 7.74
Milk:Feed Ratio	\$ 2.29	\$ 2.13	\$ 2.20
Heifer Total Feed Cost (\$)	\$ 800.00	\$ 860.00	\$ 813.00
Milk (\$/cwt)	\$ 17.30	\$ 18.00	\$ 17.05
Replacement Heifers (per hd)	\$ 1,450.00	\$ 1,550.00	\$ 1,342.00
Dairy Bull Calves (per hd)	\$ 140.00	\$ 181.00	\$ 123.00
Dairy Heifer Calves (per hd)	\$ 200.00	\$ 258.00	\$ 229.00
Dairy Cull cow (per cwt)	\$ 49.25	\$ 49.00	\$ 44.00
Cull Replacement Heifer (per cwt)	\$ 107.00	\$ 104.00	\$ 92.00
Cull Yearling Heifer (per cwt)	\$ 142.00	\$ 136.00	\$ 116.00

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