



Western Beef Development Centre

Division of PAMI

What Does it Cost to Raise Replacement Heifers?

Kathy Larson, Beef Economist, Western Beef Development Centre

Introduction

Replacement females are a necessary part of the cow-calf business. Incorporating homegrown replacement females into the herd is common practice; producers retaining heifers know about temperament and productivity of a heifer's dam and any sisters. The question arises, however, what is the cost of raising replacements? The answer depends on a number of assumptions, including the going market price for heifer calves at weaning time (i.e. starting value of the replacement heifer). The purpose of this article is to provide information regarding a cost per head for raising replacement heifers, from the time they are weaned until first pregnancy check.

Example:

We will start with a producer retaining fifty (50) heifers from his 2009 calf crop, and assume they average 550 lbs when weaned in mid-November. The going market price for 550 lb heifers October through December 2009 averaged **\$0.89/lb**, or just under **\$490/head**. The heifers are placed on a backgrounding ration from mid-November until pasture turnout in early May 2011 – a total of 180 days (6 months)¹. We will assume the heifers gain 260 lb (1.4 lb/day) over the winter at a cost of **\$1.26/day**, which covers feed and yardage (total cost, **\$234/head**).

The heifers are exposed to natural breeding with bulls during the grazing season, lasting 180 days - from early May to mid-November – at a cost of **\$180/head**. Grazing costs are estimated to be **\$1.00/day** to cover the cost of grazing, overhead, and bull service (Highmoor, 2003; Canfax 2011).

The heifers are pregnancy checked in mid-November. We will assume there is a 90% conception rate – 45 bred and 5 open out of the 50 replacement heifers started with. The five open heifers will sell at the local auction mart shortly after preg check, for **\$1026/head** (Dec 2010 fed heifers went for \$0.96/lb x 1100 lb/head. Bred heifers averaged **\$1100/head** in Fall 2010 (Canfax)).

Summary and Conclusions

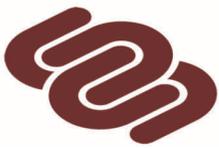
Table 1 shows breakdowns of costs to raise replacement females. Costs for raising bred heifers have been separated from costs to raise open heifers. The bred heifer cost is **\$913/head** and the open heifer cost is **\$943/head**—the difference being the trucking & marketing fees on the sale of open culls, estimated at \$30/head.

If the **open heifers** netted **\$1026/head** (1100 lb x \$0.96/lb less \$30/head trucking & marketing), they generated a **net gain of \$114/head**. If the **bred heifers** are valued at **\$1100/head** they generated a **net gain of \$188/head**. Note that bred heifers were averaging \$1400/head in the first quarter of 2011 (Canfax), which is essentially the cost of winter feed added to the Fall 2010 price.

The starting value of the heifer calves is the single largest cost of raising replacement heifers, accounting for 53% of the total costs in this example. If we adjust the costing for producers who kept replacement heifers in Fall 2010 we need to consider that 550 lb heifers averaged \$1.15/lb last fall. This potential market value has to be included as an expense for raising replacements, therefore, the cost to raise bred heifers that will calve in 2012 is estimated at **\$1056/head**².

¹In the 2010 Cost of Production study, the average pasture turnout date was May 10th.

²Estimation assumes *ceteris paribus*—that the starting value of the heifer calves changes but all other costs stay the same.



The next logical question is: What will bred heifers be worth in the Fall of 2011? Canfax tracks the price of bred heifers in relation to the Alberta 550 lb steer price. On average, steer prices have been 76.4% of the bred heifer price (i.e., the price of a 550 lb steer is 76.4% of the bred heifer price). This ratio changes from year to year, so using it to project bred heifers prices from projected feeder calf prices is not recommended. For example, the average price for 550 lb steers in Nov/Dec 2010 was \$1.32/lb, which would imply a bred heifer price of \$950/head (550 lb x \$1.32/lb = \$726 / 76.4% = \$950), but bred heifers averaged \$1100/head last fall (66% ratio).

Table 1. Summary of Costs to Raise Replacement Heifers

# of Head	50	# Bred	45
Conception Rate	90%	# Open	5
Income/Value of Production	\$ Total	Breds \$/Head	Opens \$/Head
Bred Heifers	\$ 49,500	\$ 1,100.00	
Open Culls	\$ 5,280		\$ 1,056.00
Total Income	\$ 54,780	\$ 1,100.00	\$ 1,056.00
Expenses	\$ Total	\$/Head	\$/Head
Starting Value	\$ 24,475	\$ 489.50	\$ 489.50
Backgrounding	\$ 11,700	\$ 234.00	\$ 234.00
Grazing	\$ 9,450	\$ 189.00	\$ 189.00
Trucking & Marketing	\$ 150		\$ 30.00
Total Expenses	\$ 45,775	\$ 913	\$ 943
Net Gain/Loss	\$ 9,005	\$ 188	\$ 114

One must consider that we recently went through a downturn in the cattle cycle and some industry analysts predict 2011 to be a “stabilization year.” Bred heifer inventories are at a 20-year low. In the US, beef replacement heifers were down 4.5% (July 1, 2011 inventories) suggesting no herd expansion in the near future for our southern trading partner. Some are predicting the next five years (2012-15) will be the “expansion phase” of the cattle cycle. According to Canfax (2011), “raising heifers usually pays when entering an expansion phase” due to the strong demand for females. Over the next few years, it will be important to know your costs and to monitor the markets as there may be money to be made from keeping additional females and selling them as bred heifers.

The numbers and costs in this fact sheet are based on assumptions and industry averages. Whenever possible producers should use homegrown production and financial information to determine their cost of raising homegrown replacement females. For example, producers should use their actual heifer weights and estimated market value based on going market prices at time of weaning to establish a starting value for their replacement heifers; producers should also use their actual conception rate, actual gain during the backgrounding phase, and actual days grazing rather than the estimates of 1.4 lb/day gain and six months grazing used in this Fact Sheet.

References

Canfax Research Services. 2011. “Cycle Indicators & Heifer Retention.” CRS Cow/Calf Special Edition Fact Sheet. May 2011. pp.8.

Highmoor, T. 2003. “Thinking of Selling Bred Heifers in 2003?” Western Beef Development Centre Fact Sheet. Online: http://www.wbdc.sk.ca/pdfs/fact_sheets/2002/thinking_of_selling_bred_heifers_in_2003.pdf

