

A Sensitivity Analysis of the Total Cost of Raising a Beef Replacement Heifer

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The total cost of a raised beef replacement heifer is very sensitive to the production cost level (variable and fixed costs per heifer) and the percent of exposed heifers confirmed pregnant. Table 1 shows the estimated total cost of a raised replacement heifer based on various production cost levels and percent of exposed heifers confirmed pregnant. The production cost levels in Table 1 range from \$1,800 to \$2,600 per heifer and the percent of exposed heifers confirmed pregnant ranges from 60 to 90 percent. The estimated total cost of raising a pregnant replacement heifer ranged from \$1,850 (associated with a production cost level of \$1,800 and 90 percent of exposed heifers confirmed pregnant) to \$3,106 (associated with a production cost level of \$2,600 and 60 percent of exposed heifers confirmed pregnant).

Table 1. Estimated Total Cost of a Raised Replacement Heifer Based on Various Cost Levels and Percent of Heifers Confirmed as Bred							
<i>Variable and Fixed Costs of Raised Repl. Hfr.</i>	Percent of Exposed Heifers Confirmed as Bred						
	90%	85%	80%	75%	70%	65%	60%
(Estimated Total Cost of a Raised Replacement Heifer, \$/hd.)							
\$2,600	\$2,739	\$2,800	\$2,861	\$2,922	\$2,983	\$3,044	\$3,106
\$2,500	\$2,628	\$2,683	\$2,739	\$2,794	\$2,850	\$2,906	\$2,961
\$2,400	\$2,517	\$2,567	\$2,617	\$2,667	\$2,717	\$2,767	\$2,817
\$2,300	\$2,406	\$2,450	\$2,494	\$2,539	\$2,583	\$2,628	\$2,672
\$2,200	\$2,294	\$2,333	\$2,372	\$2,411	\$2,450	\$2,489	\$2,528
\$2,100	\$2,183	\$2,217	\$2,250	\$2,283	\$2,317	\$2,350	\$2,383
\$2,000	\$2,072	\$2,100	\$2,128	\$2,156	\$2,183	\$2,211	\$2,239
\$1,900	\$1,961	\$1,983	\$2,006	\$2,028	\$2,050	\$2,072	\$2,094
\$1,800	\$1,850	\$1,867	\$1,883	\$1,900	\$1,917	\$1,933	\$1,950

*Assumes 1% death loss and a market value of \$1,500 per head for culled open heifers.

In Table 1, a \$100 increase in the production cost level increases the total cost of a raised replacement heifer between \$111 (assumes 90% confirmed pregnant) and \$145 per heifer (assumes 60% pregnant). A 5% increase in the percent of exposed heifers confirmed pregnant decreases the total cost of a raised replacement heifer between \$17 (assumes a production cost level of \$1,800 per heifer) and \$61 per heifer (assumes a production cost level of \$2,600 per heifer).

Producers should use their own variable and fixed costs and their projected average conception rate when looking to calculate their total cost of a raised pregnant replacement heifer. These two variables have a large impact on the total cost of a raised pregnant beef replacement heifer. Additional attention to management has been shown to improve the percent of heifers confirmed pregnant as well as lower production costs which can result in a significantly lower cost of a raised beef replacement heifer.

Summary

Beef replacement heifers are a necessary, but costly part of every cow-calf operation. The cost of raising replacement heifer is highly influenced by the value of the heifer calf entering the replacement heifer program, development cost, and pregnancy rate. There are an infinite number of replacement heifer development programs and levels of management which all have different associated costs and success of getting a non-pregnant heifer pregnant. Producers are encouraged to make adjustments and use their own production and financial information to determine their cost of raising replacement heifers.

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