



# Fact Sheet

Data, Information & Economic Analysis  
*Livestock Marketing Information Center*

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## Know your Cost of Production: A Review for the Cow-Calf Operation

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Record keeping and planning is an important management function for any business, particularly for one as unpredictable as the cow-calf business. However, good record keeping and planning will not lead to improved profits unless the records are used to identify management opportunities, and cost savings. Knowing cost of production is a critical aspect of a marketing plan.

Drought is a periodic reality for many cow-calf operations and having a clear understanding of the reality of drought related costs is essential to making informed production and marketing decisions. Most cow-calf operations are range forage based operations. When drought adversely impacts this forage base, the entire cost structure is typically, negatively impacted, as additional resources are needed to offset the loss in the range forage base, current and into the future. Production and marketing decisions must be evaluated with a fresh and often innovative set of production and marketing assumptions. Enterprise budget analysis can help identify opportunities and aid in costs savings in normal market conditions as well as drought conditions.

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### Background on Cost of Production

A good way to start looking for production, marketing and other management opportunities and improvements is by taking a hard look at production costs, such as cow costs. Analysis of production costs provides important benchmark data for planning and insights into being "a low-cost producer," even during a drought. To avoid unintended consequences, cutting cow costs must be examined carefully.

According to Integrated Resource Management (IRM) data, low-cost producers have lower annual cow-carrying costs, lower winter feed, and total supplement cost, and lower interest on debt. In addition, low-cost producers have higher reproductive rates and heavier weaning weights than high-cost producers. IRM data also identified a few cost areas such as pasture, bulls and herd health where low-cost producers spend just as much as high-cost producers. These are areas where spending less often causes a potentially larger drop in herd productivity and ultimately raises all costs.

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One of the best tools for evaluating cow costs is the enterprise budget. The enterprise budget can be thought of as an expanded version of the cow-calf profit formula, where:

$$\text{Profit or loss} = [((\% \text{calf crop} \times \text{weaning weight}) \times \text{price}) + ((\% \text{cull livestock sales} \times \text{weight}) \times \text{price})] - \text{costs per cow}$$

Many beef cattle enterprise budget formats are available; web links to several cow-calf enterprise budget formats are provided at the end of this article, including the sample budgeted presented in Table 1, located at the end of the publication.

In this sample cow-calf enterprise budget, (Table 1) a net profit or returns above total operating costs is estimated for a 200 head cow-calf, spring-calving enterprise. Assumptions such as herd size, death loss, replacement rate, weaned calf crop, weights and price of market livestock are shown at the bottom of the budget. Values and costs are reported on a per cow and a total value basis. To create a similar set of estimates, use values from your record system, farm loan application or Schedule F (Profit or Loss Form Farming) tax form or both. Adjust these figures from your records or Schedule F to reflect costs for the cow-calf enterprise only.

Initially, identify all possible cost categories for your cow-calf enterprise and report a value. Adjustments can then be made to initial cost allocations. For example, if fuel and oil costs are reported for cattle and crops, then a portion that reflects the approximate fuel and oil costs for the cow-calf enterprise should be allocated to cattle. If costs for hay and cattle production are combined, and all or a portion of the hay is fed to the cows, then an equivalent portion of hay production costs should be charged to the cow-calf enterprise.

Lines 6 through 31 report the cost categories for our budget example in Table 1. Feed, the first major item is reported in lines 6 through 10 (also reported on line 18 of your Sch F). Total feed costs for our example are \$37,920 or \$189.60/cow (line 11, \$37,920/200 cows) and accounts for 41% of the total operating costs reported, \$93,486 (line 33),

Depending on the year and the individual ranch forage and management situation, feed costs typically will account for 25-50 percent of total cash operating costs, often the difference between a low cost and high cost producer. In drought years it is not uncommon for feed and pasture cost to exceed 50 percent of total operating cost for many producers. However, drought or no drought, if feed and pasture costs exceed 60 percent of total cash operating costs, an in-depth analysis of feed production, purchasing and management should be made.

Cowherd productivity goals (i.e. weaning weight, cow size, milk production) should be synchronized with the ability to maintain least-cost supplement and rations as well as sufficient forage availability. The primary physiological value of cattle is their ability to utilize forages. Therefore, to lower and efficiently "manage" feed costs, the focus should be on the amount of supplemental feed beyond the nutrient value provided by grazed forages, which typically determine the competitiveness of cow-calf enterprises. The most profitable cow-calf producers have the lowest feed costs relative to their less profitable contemporaries.

Lower cost producers achieve better-feed conversion by using the least costly feed resources. They focus on grazed, renewable forage resources instead of expensive purchased or mechanically harvested feeds. Grazing management is the most important factor for successful and sustained range livestock production in any economic or environmental climate. Ultimately, livestock producers are in the business of forage production. A management plan or strategy is intended to keep producers in business.

Labor is a high cost category in larger operations and should be evaluated on a hired labor basis. Because of the nature of cow-calf operations, ranch owners can inflate labor costs because they

often account for three to four times that of hired labor. Hired labor (line 12) costs exceeding \$55 per cow could be costs saving opportunity to those looking for improve efficiency.

Other cost categories that can be problem areas are repairs and maintenance (line 13), supplies, purchased (line 15) and Fuel, Oil and Lubricants (line 17). These three categories are often used as a “catch all” for the many different trips to town for a \$20 part. A penny here, a few dollars there—it all adds up. In the example budget, total other operating expenses were \$32,866 or \$164.33 per cow (line 23).

Indirect or overhead costs are those that must be paid whether or not a calf is produced. These costs include real estate taxes, insurance, utilities, interest and depreciation. In some operations, interest can be a significant part of indirect costs. Depreciation, although noncash cost, is a good indicator of the level of capital investment. A very high depreciation figure per cow would indicate lots of new paint or expensive purchased breeding stock.

It is important to examine the level of return being received relative to the dollar amount invested. Total indirect cost for this example was \$22,700 or \$113.50 per cow (line 29). Total direct costs and indirect operation cost were \$467.43 per cow (line33). This \$467.43 per cow is our estimate of our annual cost to maintain a cow and is very useful information as we evaluate production and marketing and related drought management strategies. You are encouraged to determine your annual cow cost.

### Adapting In Drought

Drought conditions greatly reduce the available forage for livestock. Dealing with these dry periods and decreased feed supplies needs to be part of the overall management plan. In many cases, the best solution for cow/calf producers is to utilize a limit-fed, high grain diet fed in dry lot or semi-confinement. When deciding on an alternative feeding program, there are several options to consider. The goal is to re-breed cows while maintaining calving intervals, maintain pounds of calf produced per cow, and minimize feed cost per pound of calf sold. When considering feed options, think about the following:

- Design a feeding program to fully utilize local feeds,
- Supplement low-quality feeds correctly,
- Analyze forages and feed precisely,
- Substitute 1 pound of grain or other concentrate feed for 2 pounds of alfalfa hay or 3 pounds of grass hay,
- Carefully balance every ration against the animal’s requirements,
- Make every effort to reduce feed losses,
- Feed the highest quality feeds to animals that have higher feed requirements (i.e., growing replacement heifers or growing calves),
- Feed the lower quality roughages to cows in the middle-third stage of pregnancy,
- Save the better quality feeds for periods before and after calving, and
- Treat low-quality roughages with various feed additives. Additives can improve palatability and feeding quality.

Relocating the cowherd into dry lot is a management alternative that may allow producers to take advantage of grains and byproduct feeds. Diets for dry lot cows are formulated to meet the nutrient requirements of the cows while minimizing feed costs. As a result, intake is generally limited and more concentrate feeds are included to cheapen the diets. The challenge in today’s feedstuff market, is being able to source “cheap” concentrates.

Drought management strategies can help take the guesswork out of decision making. Decisions must be made in a proactive, rather than a reactive manner to minimize negative effects on rangeland and or livestock production during prolonged periods of drought. The cow-calf enterprise budget is a good management tool for evaluating the production and financial implications of various drought management strategies.

The enterprise budget presented here is one tool for determining cow cost. Being a “low-cost producer” will be critical to survival during this prolonged drought. This will require good management, which is a goal-directed activity. It takes time, energy, and effort to be a good manager. Below is a list of additional cow-calf enterprise budget resources that can be used to determine annual cow costs.

For additional Cow-calf enterprise budget information and methodology visit:

- NMSU Coop Ext. <http://aces.nmsu.edu/drought/index.html>
- Texas A&M Agri-life <http://agecoext.tamu.edu/?id=954>
- Iowa State Extension <http://www.extension.iastate.edu/agdm/livestock/html/b1-21.html>
- Oklahoma State University <http://beefextension.com/new%20site%202/cccalc.html>

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**Table 1: Enterprise Budget Analysis Example for 2011 Spring-Calving Cow-Calf Enterprise (200 Cows)**

Livestock Description	Units	Mkt Weight	Market Date	Number of Head Marketed	Percent of Cash Receipts	Breakeven Price per Market Class of Lvstk
Steers	lbs.	475	November	88	53%	\$1.18
Heifers	lbs.	465	November	60	34%	\$1.14
Cull Cows	lbs.	890	April/Nov.	24	12%	\$0.54
Cull Bulls	lbs.	1275	x	1	1%	\$0.56
Replacement Heifers	lbs.	475	Retained	28		

**Operating Receipts**

Livestock Description	Number Marketed	\$ per lb	Avg. Mkt. Wt. (lbs)	Value per Head (\$)	Value per Cow (\$)	Total Value (\$)
1. Steers	88	1.48	475	703	309.32	61,864.00
2. Heifers	60	1.43	465	664.95	199.485	39,897.00
3. Cull Cows	24	0.68	890	605.2	72.624	14,524.80
4. Cull Bulls	1	0.7	1275	892.5	4.4625	892.50
<b>5. Total Cash Receipts</b>					<b>585.8915</b>	<b>117,178.30</b>

**Direct Operating Costs (repurchased and raised feed)**

Description	Unit	Price	Quantity per Cow	Value per Cow (\$)	Total Value (\$)
6. Alfalfa hay	ton	185	0.75	138.75	27,750.00
7. Protein Supplement	lbs	0.12	180	21.6	4,320.00
8. Salt/Minerals	lbs	0.05	25	1.25	250.00
9. Pasture	AUM	14	2	28	5,600.00
10. Other		0	0	0	-
<b>Total Feed Expenses (6-10)</b>				<b>189.6</b>	<b>37,920.00</b>

**Other Operating Costs**

12. Hired Labor (line 24, Sch.F)				50	10000
13. Repairs/maintenance (line 27, Sch. F)				18.33	3666
14. Car/truck expense (line 12, Sch. F)				12.5	2500
15. Supplies purchased (line 30, Sch. F)				15	3000
16. Vet. Medicine, breeding fees (line 33, Sch. F)				12	2400
17. Fuel, oil, lubricants ( line 21, Sch. F)				25	5000
18. Utilities (line 32, Sch. F)				13	2600
19. Rents, leases (line 26, Sch. F)				0	0
20. Chemicals (line 13, Sch. F)				9	1800
21. Custom Hire (line 15, Sch.F)				4.5	900
22. Miscellaneous				5	1000
<b>23. Total other operating costs</b>				<b>164.33</b>	<b>32866</b>

**Indirect Costs**

24. Depreciation ( line 16, Sch.F)				22.5	4500
25. Taxes, property (line 31, Sch.F)				40	8000
26. Insurance (line 22, Sch. F)				22.5	4500
27. Interest- mortgage and other (line 23, Sch.f)				13.5	2700
28. Employee benefits (line 17, Sch. F)				15	3000
<b>29. Total Indirect Costs</b>				<b>113.5</b>	<b>22700</b>

**30. Total Direct and Indirect Operating Costs**

				<b>467.43</b>	<b>93,486.00</b>
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**31. Returns Above Total Operating Costs**

				<b>118.46</b>	<b>5,923.08</b>
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Assume 1.02% cow death loss, 14% heifer retention rate, 88% weaned calf crop and 12% cow cull rate.