

## **Fundamentals of Managing Market Risk**

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### **1. First Things First: Know your Cost of Production**

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 managing market risk. 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.

#### **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.

Table 1 reports Key Standardized Performance Analysis (SPA) measures for New Mexico, 2006-2010. Recent SPA analysis for 2011 and 2012, not reported here, suggests significant increase in purchased feed expense and ranch “drought maintenance” expenses related to water, fencing, etc.

Depending on the year and the individual ranch forage and management situation, feed costs typically will account for 20-40 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.

Table 1: New Mexico Cow-Calf SPA Key Measures Summary, 2006-2010

New Cattle Growers Association Mid-Year, June 16-18, 2013  
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**New Mexico Cow-Calf SPA Key Measures Summary (Last 6 Years)**

States: NM; Regions: all regions; Years: 2005 2006 2007 2008 2009 2010  
 Producers: all producers; Enterprises: all enterprises; Number of Herds: 16; Herd Sizes: from 197 to 1,136; Total Cows: 8,009

<b>Herd Related Measures</b>	<b>Production Measures</b>			
	<b>Average</b>	<b>**Weighted Average</b>	<b>***Standard Deviation (+/-)</b>	<b>****Coef. of Variation(%)</b>
Pregnancy percentage*	90.1	89.6	5.5	6
Calving percentage	85.6	85.5	8.2	10
Calving death loss based on exposed females	2.7	2.3	2.5	91
Calf crop or weaning percentage	82.8	83.0	7.3	9
Actual weaning weight, steers and bulls	531.3	540.9	78.2	16
Actual weaning weight, heifers	501.3	510.4	73.9	15
Average weaning weight	516.8	525.9	75.7	15
Pounds weaned per exposed female	424.1	434.5	78.9	19
<b>Other Physical Performance Measures</b>				
Raised feed acres per exposed female	0.0	0.0	0.0	400
Grazing feed acres per exposed female	75.4	83.8	63.9	85
Pounds weaned per acre utilized by the cow-calf enterprise	7.6	7.5	3.8	49
<b>Pay Weight Prices Per Cwt.</b>				
Weaned calf pay weight price - steers/bulls	\$119.10	\$117.82	\$9.44	8
Weaned calf pay weight price - heifers	114.94	114.79	10.30	9
Weaned calf pay weight price - weighted average	117.17	116.38	8.10	7
<b>Financial Measures*****</b>				
<b>Investment and Returns (ROA)</b>				
Total Investment Per Breeding Cow - cost basis	\$4,174	\$3,774	\$1,653	40
Percent Return on Assets - cost basis	-0.66 %	-1.58 %	4.68 %	711
Total Investment Per Breeding Cow - market value	\$8,229	\$7,781	\$4,025	49
Percent Return on Assets - market value	0.14 %	-0.61 %	2.98 %	2,092
<b>Financial Performance</b>				
Raised/Purchased Feed Cost per cow	\$84.35	\$98.49	\$41.98	50
Grazing Cost per cow	76.21	82.05	67.37	88
Total Cost Before Noncalf Revenue Adjustment per cow	612.10	635.94	128.60	21
Total Cost Before Noncalf Revenue Adjustment per cwt	143.27	144.44	41.89	29
Total Cost Noncalf Revenue Adjusted per cow	557.30	589.91	159.64	29
<b>Total Cost Noncalf Revenue Adjusted per cwt - Unit Cost</b>	<b>131.49</b>	<b>134.96</b>	<b>49.76</b>	<b>38</b>
Net Income After Withdrawals per cow	-51.09	-72.98	174.62	342
Net Income After Withdrawals per cwt	-15.94	-19.85	46.53	292
<b>Economic Performance</b>				
Total Cost Noncalf Revenue Adjusted per cow	\$704.90	\$729.35	\$158.01	22
<b>Total Cost Noncalf Revenue Adjusted per cwt - Unit Cost</b>	<b>167.35</b>	<b>168.63</b>	<b>58.78</b>	<b>35</b>
Net Income After Withdrawals per cow	-198.69	-212.42	187.49	94
Net Income After Withdrawals per cwt	-51.80	-53.52	55.19	107

\*Based on pregnancy tested herds. \*\* Weighted averages are calculated on number of breeding cows.  
 \*\*\*Standard deviation measures variability; 68% of the herds fall within one standard deviation (+/-) of the average.  
 \*\*\*\*Coefficient of Variation is the standard deviation expressed as a % of the average.  
 \*\*\*\*\*Measures are calculated on a pretax basis.

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One of the best tools for evaluating cow costs is the SPA Cow-Calf enterprise analysis. The SPA enterprise analysis can be thought of as an expanded version of the cow-calf profit formula, where: **Profit or loss = [((%calf crop x weaning weight) x price) + ((%cull livestock sales x weight) x price)] – costs per cow**

Initially, as you work on your individual enterprise analysis, 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.

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, and as we all know to well, a certain amount of timely precipitation is required to assist with the forage production process.

The SPA Cow-Calf enterprise analysis 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. 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%202022/cocalc.html>