



Beef Tips

November 2009

Department of Animal Sciences & Industry

www.asi.ksu.edu/beeftips

Upcoming Events

Range Beef Cow Symposium

Dec. 1-3, 2009
Casper, WY

www.rangebeefcow.com

K-State Winter Ranch Management Seminar

Jan 11, 2010
Manhattan, KS

www.KSUBeef.com

Applied Reproductive Strategies in Beef Cattle

Jan. 28 -29, 2010

San Antonio, TX
www.beefrepro.info

KSU Cattlemen's Day

March 5, 2010

Manhattan, KS
www.KSUBeef.com

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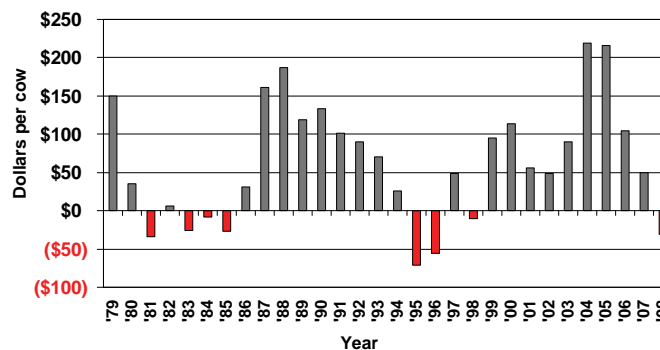
Beef Cow Enterprise Profits Highly Variable

Kevin Dhuyvetter and Michael Langemeier, Agriculture Economics

It is well known that economic returns to cow-calf producers fluctuate widely over time. Figure 1 shows return over variable costs, on a per cow basis, for Kansas Farm Management Association (KFMA) members that kept beef cow enterprise records from 1979 to 2008. The number of KFMA members that kept beef cow enterprise records varied from 93 to 258 over the 30-year period.

The variability in returns over time is due to many factors, but one of the largest drivers is the cattle cycle. During "poor" return years, producers tend to reduce the size of the herd which then leads to shorter supplies in the future. These shorter supplies lead to higher prices, which lead to producers expanding their herds creating a larger supply resulting in lower prices (and the process starts over again). Cattle cycles are not perfectly predictable because factors other than price, such as forage availability, input costs, and operator age, also influence producers' decisions to expand or contract their herds. Thus, it is difficult for producers to manage the variability depicted in Figure 1. Given this difficulty, it stands to reason that variability of returns over time is inherent to the industry.

Figure 1. Return over variable costs



Average annual return over variable costs ranged from a low of -\$71.52 per cow in 1995 to a high of \$218.55 per cow in 2004, and averaged \$63.06 over the entire time period. If the annual return over variable costs in Figure 1 are sorted into thirds, the average returns for the 10-year periods would be \$150.65, \$61.52, and -\$22.99, for the top-, middle-, and bottom-periods, respectively. In other words, there is almost a \$175 difference in the average return over variable costs per cow in the "good" years compared to the "bad" years.

Figure 2 (page 3) shows similar data as figure 1 only it reflects return over total costs rather than return over variable costs. In addition to variable costs such as feed, fuel, repairs, and veterinarian expense; depreciation, real estate taxes, unpaid family and operator labor, and interest charge on assets have been included in the total cost. The average return over total costs was -\$94.41 and ranged from -\$239.75 to \$68.21. Only four of the years exhibited a positive return over the 30-year period. Sorting the annual returns into thirds results in the following 10-year averages: -\$3.35, -\$88.31, and -\$191.57, for the top-, middle-, and bottom-periods, respectively. There is

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“You can’t manage what you don’t measure.”

Tally Time – 2009 SPA Performance Measures
Sandy Johnson, livestock specialist



Weaning time and the collection of weaning weight is the last piece of data needed to complete 2009 SPA (standardized performance analysis) production measures. Data in Table 1 below is an example of the primary information and calculations needed. Percent calf crop or weaning percentage is a function of the number of cows exposed for breeding so for a spring 2009 calf crop, this would be cows exposed in 2008. Weaning weight per cow exposed adjusts weaning weight for all the reproductive and management losses that occur from breeding one season to weaning the next.

A good way to use this information is to compare to previous years data for the same herd or to some benchmark data set. The 2009 CHAPS™ database average shows a percent calf crop of 91, where as the Southwest database (2003-2007 summary; NM, OK, TX) has a value of 78 percent. Weaning weight per cow exposed for the example herd is 378 pounds compared to the benchmark values of 500 and 390 pounds for CHAPS and Southwest, respectively. The example herd has a higher calf death loss than either database and a higher pregnancy loss than the CHAPS average. The percentage values in the top part of Table 2 and calving distribution information are all useful for comparison for the sample herd. Because weaning age is not provided, comparison of data that include weaning weight with the database is of less value.

Data shown here can be used in a number of ways. If the example herd wanted to improve calf crop percentage, emphasis could be placed on un-

Table 1. 2009 production summary for example herd

1 – Breeding—2008		
Cows exposed	246	hd
2 – Preg Check—2008		
Diagnosed Pregnant	215	hd
3 – Calving—2009		
Total calves born live	204	hd
4 – Calves weaned—2009		
	190	hd
5—Average weaning weight		
	490	lbs
<u>Calculations -</u>		
6- Pregnancy Percentage		
(line 2/line 1) x 100	87.4	%
7- Calving Percentage		
(line 3 / line 1) x 100	82.9	%
8- Percent calf crop		
(line 4/line 1) x 100	77.2	%
9—Pounds weaned/cow exposed		
(line 5 x line 8)/100	378	lb

Table 2. SPA performance measures from CHAPS™ (74,421 cows) and SW Cow-Calf SPA (62,423) databases and example herd for 2009

Item	CHAPS	SW	2009
Pregnancy percentage	93.5	88.0	87.4
Pregnancy loss	0.7	7.5	4.5
Calving percentage	92.8	80.5	82.9
Calf death loss, %	3.0	2.3	5.7
Calf crop percentage	90.8	78.3	77.2
<u>Calving Distribution</u>			
% calves born d 1 - 21	64.3		62.4
% calves born d 1 – 42	89.2		92.6
% calves born d 1 – 63	95.7		100
% calves born d 63+	4.3		0
<u>Weaning Data</u>			
Avg. weaning weight	560	494	490
Pounds weaned/ exposed female	500	390	378

CHAPS™ <http://www.chaps2000.com/benchmarks.htm>
 SW Cow-calf SPA summary <http://agrisk.tamu.edu/information.htm>

derstanding why cows failed to conceive and/or causes for calf death loss. Information on pregnancy rate, pregnancy loss and calf death loss pin point the timing of losses so that producers know where to consider changes.

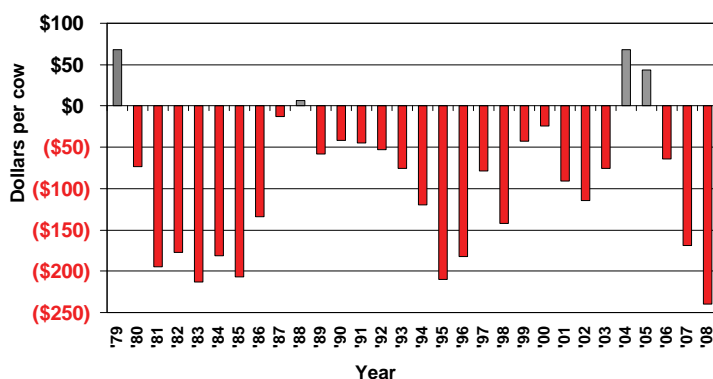
Another use of this data would be to estimate the change in management needed to improve pregnancy rate say 3% (i.e. more feed pre-calving). Then determine if the increase in pounds weaned per cow exposed would be sufficient to pay for the management change.

Measuring and monitoring reproductive losses over time is key to finding and correcting problems before they become even bigger problems. The example shown in Table 1 is simplified as many herds would need to adjust the cows exposed number based on females that move in or out of the herd. There are SPA guidelines for doing so and there is a spreadsheet available to help. See the Cow-Calf SPA Worksheets at : <http://agrisk.tamu.edu/information.htm> or contact sandyj@ksu.edu or 785-462-6281.

Beef Cow Profits continued from page 1

almost a \$190 difference in the average return over total costs per cow from the “good” years to the “bad” years. At first glance one might ask why anybody would remain in the cow-calf business if return over total cost is almost always negative. It is important to note that the value assigned to unpaid family and operator labor, and assets used in the total cost estimates reflect opportunity costs which vary significantly among operations.

Figure 2. Return over total costs



Rather than trying to control the variability in Figures 1 and 2, many producers try to either receive a higher price through a quality enhancement strategy and/or minimize cost per pound of beef produced through a cost leadership strategy. To be successful in any business, it is extremely important for producers to benchmark their gross returns and costs with producers with similar operations. A quality enhancement strategy should lead to relatively higher gross returns while a cost leadership strategy should lead to a relatively lower cost structure.

To examine the competitiveness of individual producers, beef cow enterprises from KFMA members were divided into three profitability groups: high, middle, and low, based on the per cow return to management (return over total costs). To alleviate the problem of random differences in returns among producers in a given year, a multi-year average is used for each producer. Specifically, we examined the returns for any producer that had a minimum of three years of data over the 2004-2008 time period. Operations with an average selling weight of 700 pounds or greater were excluded from the analysis as this likely would represent operations that backgrounded their calves.

In addition to being excluded from the analysis because of insufficient data (i.e., less than three years of data), operations were also excluded if they had less than 10 cows, if they had no recorded production, if their cattle purchases were greater than 20 percent of their herd in any one year, or if their net sales (sales less purchases) of breeding stock were greater than 20 percent in any one year. After these “filters” were applied, there were 65 operations with multi-year average returns to analyze. These multi-year averages of individual producers’ returns should do a better job of characterizing profitability differences due to managerial abilities than looking at returns in a single year.

Returns and costs for the 65 operations sorted into the three profit categories are reported in Table 1 (page 4). Also reported are the differences between the high- and low-third groups both in absolute and percentages. The top return group had a gross income per cow that was 17 percent higher than that of the bottom return group.

Though calf price was similar, the top return group devoted more of their labor to livestock production, had a larger herd size, and produced slightly larger calves. In addition to having a higher gross return per cow, the top return group had a total cost per cow that was 34 percent lower than that of the bottom return group.

With the exception of veterinarian expense, there were large differences in per cow costs between the top and bottom return groups. The largest cost differences, in absolute dollars, were for feed (\$71.47 difference), labor (\$54.41 difference), and interest (\$45.81 difference). It is important to note that the top return group had a positive net return to management (i.e., return over total costs) of \$15.05 while the bottom return group had a loss of \$345.42 per cow. The results in Table 1 indicate that it was possible for individual producers to have a gross return and cost advantage over their competitors. Furthermore, the results in Table 1 when compared with those in Figures 1 and 2 suggest that profitability differences *between producers at a point in time* are much larger than differences in *average*

continued...see Beef Cow Profits on page 4

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returns across time. Thus, knowing how you stack up against other producers is much more important than worrying about where we are at in the cattle cycle.

As indicated in the introduction of this article, there are many factors that impact the variability of returns for cow-calf producers. A second article, appearing in January, will further examine the factors impacting cost and profit differences among

cow-calf producers. Specific factors examined will include herd size, calf weight, calf price, and the percentage of cost represented by labor and feed.

The complete summary of this data set “Differences between high, medium and low profit cow-calf producers” is available on line at: <http://www.agmanager.info/livestock/budgets/production/default.asp>.

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Table 1. Beef Cow-calf Enterprise, 2004-2008 (min of 3 years)

	Profit Category*			Difference between	
	High 1/3	Mid 1/3	Low 1/3	High 1/3 and Low 1/3	
	Head / \$	Head / \$	Head / \$	Absolute	%
Number of Farms	22	21	22		
Labor allocated to livestock, %	48.0	35.4	30.7		
Number of Cows in Herd	170	137	65	105	161%
Number of Calves Sold	156	129	58	97	168%
Weight of Calves Sold	591	584	573	18	3%
Calf Sales Price / Cwt	\$108.73	\$109.99	\$108.68	\$0.05	0%
Gross Income	\$573.90	\$555.38	\$489.33	\$84.56	17%
Feed	\$274.36	\$316.05	\$345.83	-\$71.47	-21%
Interest	\$94.09	\$117.00	\$139.90	-\$45.81	-33%
Vet Medicine / Drugs	\$15.85	\$15.73	\$15.54	\$0.30	2%
Livestock Marketing / Breeding	\$8.15	\$11.44	\$10.72	-\$2.56	-24%
Depreciation	\$26.36	\$25.28	\$59.51	-\$33.16	-56%
Machinery	\$47.71	\$63.34	\$88.99	-\$41.28	-46%
Labor	\$69.48	\$84.90	\$123.88	-\$54.41	-44%
Other	\$22.85	\$35.10	\$61.38	-\$38.53	-63%
Total Cost	\$558.84	\$668.84	\$845.75	-\$286.91	-34%
Net Return to Management	\$15.05	-\$113.46	-\$356.42	\$371.47	

* Sorted by Net Return to Management (Returns over Total Costs) per Cow

“Knowledge for Life”

Applied Reproductive Strategies in Beef Cattle Workshop

Jan. 28-29, 2010
San Antonio, TX

NCBA is partnering with the Beef Reproduction Task Force to offer *Applied Reproductive Strategies in Beef Cattle*, a workshop at the 2010 Cattle Industry Convention in San Antonio. Registration for the workshop is part of regular convention pre-registration. The workshop is designed to improve understanding and management of the estrous cycle, estrus synchronization protocols, and other approaches to improving the efficiency of reproductive rates; as well as strategies to improve cowherd profitability via enhanced management techniques and strategies. Nutritional influences on reproductive success and the role of male fertility will also be covered. The meeting is for producers, veterinarians and AI (artificial insemination) technicians, as well as anyone interested in beef cattle reproduction. To register for the meeting, go to www.beefrepro.info. For more information contact sandyj@ksu.edu or 785-462-6281.

K-State Winter Ranch Management Seminar

Jan. 11, 2010

Genetics, economics, calving management and bull management will be the emphasis of the K-State Winter Ranch Management Seminar on Jan. 11, 2010. The meeting will feature Harlan Hughes, professor emeritus, North Dakota State University on Cow Economics and Kent Andersen, Pfizer Genetics, Practical Genetics via webinar. The webinar will be available at 4 locations, Manhattan, Phillipsburg, Parsons and Ashland. On site speakers will address calving management and bull management. For more information see www.KSUbeef.com.

Range Beef Cow Symposium XXI

Dec. 1-3, 2009
Casper, WY

The Casper Area Convention and Visitors Bureau is excited to host the Range Beef Cow Symposium XXI. Casper also hosted the event in 2001, where attendance approached 1,200. The Range Beef Cow Symposium is sponsored by the Cooperative Extension Service and animal science departments of the University of Wyoming, South Dakota State University, Colorado State University and the University of Nebraska. The biennial symposium has a reputation of being an excellent educational program, offering practical production management information since the first symposium in Chadron, Neb., in 1969.

The Bull Pen Sessions are said to be the most valuable part of the symposium. This is a time for attendees to have considerable discussion with the speakers and an opportunity to ask specific questions. The majority of symposium speakers on Tuesday and Wednesday will be present in the evening following their presentations.

The website www.rangebeefcow.com developed by Angus Productions Inc., will feature hotel and registration information, a schedule of the symposium and an archive of coverage of the 2003, 2005 and 2007 events. During and after the conference the website will contain summaries of the sessions, along with the PowerPoint presentations and proceedings, if available. For more information contact [Kelly Greenwald](mailto:Kelly.Greenwald@ksu.edu) at 307-837-2000 or [Steve Paisley](mailto:Steve.Paisley@ksu.edu) at 307-760-1561.