Costs and Returns for Cow-Calf Producers

Steve Metzger
Carrington Area Farm Business Management Program

Introduction

The current level of high prices within the beef industry and the current position of cow-calf producers within the cattle cycle has given rise to renewed interest in the management of beef cow herds to produce the greatest level of profitability possible. Beef producers need to maximize their profits at all levels of the cattle cycle may generate the profits needed to operate and grow their businesses throughout the cycle. Producers need to know and understand their own levels of production and expenses. A better understanding of how an individual producer's cow herd compares to others in both production and profitability is critical to the sustained operation and growth of their beef cow-calf business. One way to better understand production and profitability numbers is to review the production, income and expense numbers for average-and high-profit beef cow-calf producers within the same geographic area.

Procedure

Data for this study was compiled through the Carrington Area Farm Business Management Program in conjunction with the North Dakota Farm Business Management Program. The Carrington program is one of 13 programs in the statewide North Dakota system. The data of producers enrolled in the program from 1994 through 2004 was summarized using the FINPACK farm analysis software program. In some very limited instances where particular high-profit group numbers were unavailable in the database, the average of the annual figures present was used after careful consideration and correlation with the high-profit data in both the local and regional reports.

The minimum number of producers involved in the study in any one year was 18 with a maximum of 27. A total of 245 herds was involved with a total of 27,752 cows. The 20% high-profit herds numbered 51 with a total of 5,488 cows. The high-profit herds are included as part of the total herd group. The base of herds was quite consistent over the 11 years with several herds being involved for the entire 11-year period.

While all costs were gathered on a 12-month basis, the income side of the enterprise, except for the sale of cull breeding stock, was terminated at weaning when the calves were physically separated and sold or transferred to a separate feeding enterprise. While producers were encouraged to weigh all calves, it must be acknowledged that some producers did not weigh all calves at the time of weaning and transfer out of the herd. For these calves, weights were estimated using the sale weights of herd mates and similar type calves. All replacement breeding stock was held in separate enterprises and its costs and returns are not included with the beef cow-calf data contained within this study.

Results and Discussion

The cows in the high-profit herd group weaned calves that weighed an average of 590 pounds as shown in Table 1, for an advantage of 42 pounds over the whole herd group. This more importantly translated into an average of 552 pounds weaned per exposed female for a 54-pound and $44.65 advantage over the total group. The average annual net cost of replacing the breeding stock within the herd was calculated to be $24.88 for the high-profit group, an advantage of $16.67 per cow over the total herd group which averaged $41.55 per cow.

Total direct costs showed an advantage of $29.33 for the high-profit herd group. The high-profit group had a $13.52 lower feed cost, while the veterinary expenses and livestock supplies showed only a $2.57 difference between the two herd groups. All non-grazing feed costs were listed at market value, while grazing costs were listed at the actual cost of production for the various range and pasture lands. Operating interest costs were slightly over one-half as much for the high-profit group, perhaps reflecting the need for less borrowed operating money. The high-profit group showed a $5.86 advantage when

all overhead costs were totaled. The high-profit and average groups were quite close with totals of $58.19 and $64.05 respectively. Overhead interest was substantially lower for the high-profit herds as they recorded $9.64 per cow as opposed to $17.37 for the total group.

Over the 11-year period the high-profit herd group achieved an annual total cost of $330.46 as compared to the average of $382.32 for the total herd group. The average net return favored the high-profit group as they exceeded the overall average by $96.51 per cow to finish the 11-year period with an annual profit of $152.42 per cow. When calculated over the 11 years, this amounts to an additional $1,061.61 of profit per cow. The cost of production per cwt. including the cost of inventory change was calculated to be $74.24 and $58.28 respectively for the average-and the high-profit groups. The annual operator labor charge was very similar for both groups, being calculated at $45.44 and $47.36 per cow or at $8.82 and $8.35 per cwt. of production.

Table 1. Eleven-year analysis for beef cows (per cow basis)*.

		Average of All Herds	Average of 20% High-profit Herds	Numbers for Your Herd
Number of Herds		245	51	
Average Number of Cows per Herd		113	108	
Total Number of Cows		27,752	5,488	
Calving Percentage	%	96.4	98.0	
Weaning Percentage	%	90.9	94.2	
Calf Death Loss Percentage	%	6.5	4.5	
Culling Percentage	%	15.2	12.9	
Average Weaning Weight	lbs.	548	590	
Pounds Weaned per Exposed Female	lbs.	498	552	
Pounds Produced per Cow	lbs.	515	567	
Gross Value Produced	$	438.23	482.88	
Net Inventory Change**	$	(41.55)	(24.88)	
Gross Return after Inventory Change	$	396.68	458.00	
Feed Costs including Range or Pasture	$	201.84	188.32	
Veterinary & Livestock Supplies	$	20.84	18.27	
Interest on Borrowed Operating	$	9.15	4.89	
Other Direct Costs (Fuel, Repairs, etc.)	$	44.89	35.91	
Total Direct Costs	$	276.72	247.39	
Return Over Direct Costs	$	119.96	210.61	
Non-Operating Interest Costs	$	17.37	9.64	
Depreciation of Machinery & Buildings	$	17.79	21.00	
Other Overhead (Labor,Insur.Util.Misc.)	$	28.89	27.55	
Total Overhead Costs	$	64.05	58.19	
Total Direct & Overhead Costs	$	340.77	305.58	
Net Return/Cow before Oper. Labor	$	55.91	152.42	
Total All Costs/Cow Including Inv.Chg.	$	382.32	330.46	
Total Direct & Overhead Costs/Cwt.	$	66.17	53.89	
Net Return/Cwt. Over Direct & Ovhd.	$	10.86	26.88	
Total All Costs/Cwt. Including Inv.Chg.	$	74.24	58.28	
Operator Labor & Management Charge	$	45.44	47.36	
Operator Labor & Mgmt. Charge/Cwt.	$	8.82	8.35	
Net Return minus Oper. Labor Charge	$	10.47	105.06	

***Source: Carrington Area Farm Financial and Enterprise Analysis Reports, 1994-2004 and North Dakota Region 3 Farm Business Management Reports, 1994-2004**

**** Net change in herd value due to culling, death loss or other removal of breeding stock**

Summary

This 11-year period gives producers a very good look at how the beef-cow business functions through the entire cattle cycle. While some producers do raise livestock feeds for less than market value, there are those that may be higher-cost-feed producers and the market values assigned to these feeds may not cover the cost of production. It is important that producers also know and understand the true cost

of production for the feeds they raise and feed to livestock. Some livestock operations may benefit more from purchased feeds if they have high costs of production for their own home-grown feeds. It should also be noted that beef-cow herds provide an excellent home market for such things as damaged grains and the by-products of many cash grain crops.

Setting both production and economic goals is important for livestock producers. Producers should consider striving for the higher number of pounds weaned per exposed female, such as the 552 pounds listed for the high-profit group. Producers also need to know what their annual cost is to maintain their breeding herd, whether it is by purchasing or raising replacement animals. Producers should aim for $30.00 to $35.00 per cow as an annual net cost of replacing animals. This cost or value of the net inventory change will be greatly affected by such things as the cost of replacement animals, the number of productive years spent within the herd, and the cull value of these animals when sold.

The other major item for consideration is that of total costs. Even with the difference in feed costs considered, producers should aim for total direct costs of approximately $260.00 per cow. Overhead costs which are typically in the range of $58.00 to $64.00 per head should also be reviewed. Approximately one-half of all overhead costs are made up of interest and the depreciation value of equipment and building that are tied to the livestock enterprise. With all costs, including net inventory change, considered producers should aim for a total in the range of $330.00 to $350.00 per cow, keeping in mind that $25.00 to $35.00 of that amount is the annual cost per cow for breeding herd replacements. By working towards these production and economic goals producers can better position themselves for higher returns today and a stronger future in the livestock industry.

References

Metzger, S.S. Carrington Area Farm Financial and Enterprise Analysis Reports, 1994-2004. Carrington Area Farm Business Management Program, Carrington, ND and Carrington Research Extension Center, NDSU.

North Dakota Farm and Ranch Business Management Annual Reports for Region 3, 1994-2004. North Dakota Department for Career and Technical Education, Bismarck, ND.