

## **Beef Production Incomes and Expenses for South Central North Dakota 2008-2012**

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**O**ver the past five years expenses have increased steadily for beef cattle producers. During the same time period the net returns have increased as well due to escalating prices for feeder calves. It is important for producers to not only compare their income and expense records each year to look for ways to improve their profitability, but also to look at their production records as well for areas of concern.

Data for this study was gathered directly from producers enrolled in the North Dakota Farm Business Management Program in Region 3 at Bismarck, Casselton, Carrington, Jamestown, Napoleon, and Wahpeton. Each of these sites collected and summarized the data for its own area using the FINPACK farm analysis program. After summarization, the data was combined into an annual regional report. Ranches located within the Red River Valley or west of Bismarck were typically deleted from the regional report and included with other regional reports that were more reflective of the area where the producers were located.

From 2008 to 2012, the gross margin on a per cow basis increased from \$475.31 to \$742.52, with the average of the 5 years coming to \$588.86. Most of this increase can be explained by looking at the average price per cwt at the very bottom of the chart, which shows an increase from \$94.32 to \$151.01 over the same time period. Other factors that increased the gross margin is increased cull sales due to higher sale prices for culled breeding stock and the trend to a positive value of inventory change as the value of breeding stock purchased or transferred into to the herd has also increased.

While the income side has been increasing, expenses for the beef herds have been climbing for beef herds as well. Total direct and overhead expenses grew from \$437.56 per cow in 2008 up to \$554.37 per cow in 2012. Rising feed costs explain \$54 of that increase, which were \$286.50 per cow in 2008 and escalated to \$340.87 per cow in 2012. Increased crop prices were the driving factor for that increase, both directly through feed raised and purchased, as well as indirectly, as the average rental value of pasture land has increased along with that of cropland. Other areas of increased cost to beef producers came through the rising cost of hired labor, and additional depreciation due to increasing purchase prices of equipment and buildings.

When looking at the production data many of the numbers have stayed steady from 2008 to 2012, with many of the reproduction numbers remaining in a very narrow range. During these years, a decreasing trend does show up in the categories of average weaning weight and pounds weaned per exposed female. The average weaning weight for 2008 was 570 pounds and dropped to 547 pounds in 2012. The pounds weaned per exposed female is directly related to the average weaning weight of the herd, but also takes into account cows that were exposed to the bull but for any number of reasons didn't have a calf at weaning time. Those cows still created expense for the herd, but didn't contribute to the gross margin that year. In 2008 the pounds weaned per exposed female was 519 and it fell below the 500 pound mark to 492 in 2012.

As producers look forward to the end of the 2013 production year and beginning of 2014, it appears that cattle prices are at a steady level while feed prices have come significantly off of their highs. However it is important to still look for ways to reduce the cost of production while increasing the pounds weaned per exposed female for each herd. Keeping financial and production records and comparing them to benchmarks such as those found in Chart 1 can aid a producer in making management decisions that will affect their profitability.

**Chart 1 - Annual Beef Incomes and Expenses Per Cow**

	2008	2009	2010	2011	2012	AVERAGE
Farms	31	26	35	41	29	32
Beef Calves Sold	162.64	136.81	246.31	239.16	226.92	\$202.37
Transferred Out	371.05	382.01	381.53	505.26	571.36	\$442.24
Cull Sales	94.96	100.15	111.68	112.95	150.47	\$114.04
Other Income	9.94	15.52	8.19	8.39	13.38	\$11.08
Purchased	-77.91	-74.86	-124.37	-137.33	-154.92	-\$113.88
Transferred In	-82.04	-66.76	-93.68	-91.73	-96.20	-\$86.08
Inventory Change	-3.34	-28.04	52.46	42.86	31.51	\$19.09
Gross Margin	\$475.31	\$464.84	\$582.13	\$679.56	\$742.52	\$588.86
Protein	15.92	15.91	16.14	22.22	19.55	\$17.95
Silage	15.28	16.72	17.00	25.50	14.05	\$17.71
Alfalfa Hay	13.06	11.91	9.75	25.95	18.43	\$15.82
Grass Hay	116.29	128.50	122.04	100.86	114.71	\$116.48
Pasture	93.21	103.39	106.65	115.11	118.03	\$107.28
Other Feedstuffs	32.73	41.58	29.29	32.81	56.10	\$38.50
Vet	20.70	20.84	20.66	23.68	28.80	\$22.94
Supplies	8.27	10.48	13.92	13.11	18.25	\$12.81
Fuel	21.12	14.15	21.36	26.43	23.32	\$21.28
Repairs	17.97	20.39	27.32	25.17	28.48	\$23.87
Custom Hire	4.64	9.25	6.34	9.69	11.59	\$8.30
Operating Interest	9.62	8.51	7.29	6.76	9.91	\$8.42
Total Direct Expenses	\$377.99	\$406.83	\$400.37	\$433.04	\$467.58	\$411.36
Return Over Direct Expenses	\$97.32	\$58.01	\$181.77	\$246.52	\$274.94	\$177.50
Hired Labor	5.41	8.68	9.96	13.11	15.08	\$10.45
Farm Insurance	7.45	8.39	8.39	9.01	8.64	\$8.38
Utilities	6.61	7.17	8.17	8.14	6.04	\$7.23
Interest	9.06	7.98	12.72	12.08	10.13	\$10.39
Depreciation	21.14	23.98	22.98	33.12	31.25	\$26.49
Miscellaneous	19.08	18.35	19.27	22.19	22.75	\$20.33
Total Overhead Expenses	\$59.57	\$69.36	\$78.90	\$91.90	\$86.79	\$83.27
Total Direct and Overhead	\$437.56	\$476.19	\$479.27	\$524.94	\$554.37	\$494.63
Net Return	\$37.75	-\$11.35	\$102.87	\$154.62	\$188.15	\$94.23
Average Number of Cows	177.7	189.8	170.5	156.7	164.1	171.8
Pregnancy Percentage	97.5	97.8	97.4	96.9	96.7	97.3
Pregnancy Loss Percentage	1.0	1.6	2.3	1.1	1.2	1.4
Culling Percentage	14.2	16.8	15.4	13	15.6	15.0
Calving Percentage	96.5	96.3	95.2	95.9	95.5	95.9
Weaning Percentage	91.2	90.0	91.2	86.8	89.9	89.8
Calves Sold Per Cow	0.95	0.93	0.92	0.90	0.92	0.92
Calf Death Loss Percentage	5.7	7.3	5.2	9.7	5.5	6.7
Cow Death Loss Percentage	1.4	2.4	1.0	2.4	2.2	1.9
Average Weaning Weight	570	568	548	548	547	556
Lbs. Weaned per Exposed Female	519	511	500	476	492	500
Feed Cost Per Cow	286.50	318.02	300.88	322.46	340.87	313.75
Average Weight of Calves Sold	638	638	587	579	601	609
Average Price Per CWT.	94.32	95.77	119.13	147.9	151.01	121.63

\* Data Source, Region 3 Reports, 2008-2012, North Dakota Farm Business Management Program