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## Managing for Today's Cattle Market and Beyond

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### *Benchmarking Your Herd's Economic Facts*

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#### **Introduction**

Benchmarking is the process of conducting a *comparative analysis* of your beef cow profit center with the averages of a set of benchmark herds and is the single most powerful farm and ranch management tool available. Benchmarking gets its management power from its identification of a herd's business strengths and weaknesses in the beef cow business. Capitalizing on the business strengths identified and correcting some or all of the business weaknesses identified is a sure recipe for increasing profits from the beef cow profit center.

Economic areas *where the producer's herd beats* the benchmark averages suggest areas of strength in his beef cowherd. Economic areas *where the producer's herd is beat by* the benchmark averages suggest areas of weakness in his beef cowherd. North Dakota's Integrated Resource Management (IRM) educational program has demonstrated that profits can be enhanced when a beef cow producers capitalizes on his herd's business strengths and removes some or all of his herd's business weaknesses. This fact sheet takes a beef farmer or rancher step-by-step through the recommended benchmarking process.<sup>1</sup>

#### **Benchmark Herds**

The reason that benchmark herds are not used

more is the fact that farmers and ranchers generally do not have access to other beef producers' herd data. With this limitation in mind, North Dakota State University designed its IRM educational program in the early 1990s so that each IRM Cooperator's herd production and economic data was recorded in an annual *Northern Plains IRM Benchmark Database*. These databases were used in benchmarking each IRM Cooperator's herd annually. Selected years of this database have been published for use by all beef cow producers.

We now have a decade of benchmarking experience and have proved databasing's potential for improving beef cow profits.<sup>2</sup> Our assessment of this benchmarking process is that it *has made money for the participating beef farmers and ranchers* and substantial money for some producers. Even if your herd is not located in the Northern Plains, you should still find it useful to benchmark your beef cow profit center's economic facts against the averages of these benchmark herds.

Two different Northern Plains benchmark summaries are recommended for benchmarking and these two sets of benchmark numbers are provided in this fact sheet. First, you should benchmark your herd with the individual high and low values in the database along with the database averages. Now you know where your herd ranks with the other herds.

Second, you should benchmark your herd with the average of the low-cost one-third herds, the middle-cost one-third herds and the high-cost one-

third herds grouped by their unit costs of producing a hundredweight of calves. Now you will know if you are a low-cost or a high-cost producer.

There are two key points that you need to be remember when benchmarking your beef cow profit center. First, you should identify your herd's *potential economic strengths* and your herd's *potential economic weaknesses* to guide your future management actions. Second, you should remember, that while benchmark comparisons can help you identify weaknesses, benchmark comparisons do not tell you *how* to reduce the weaknesses. You, as the manager, have to determine how to reduce or remove your herd's potential weaknesses. If you follow these two key points, profits will increase in your beef cow herd.

***Favorable Net-Value-Added Benchmarks  
Are Projected Through Year 2004***

*Net-value-added* is one of the key business management benchmarks used to measure profitability in the beef cowherd.<sup>3</sup> Specifically, net-value-added is the net dollars earned by the farm or ranch family's three resources – unpaid family and operator labor, management, and the family's equity capital – contributed to the beef cow herd. It is the bottom-line business benchmark used to answer the question: "How much added economic value did my family generate by running the beef cow herd this year?" Net-value-added is one of the primary "green-flags/red-flags" used to signal the economic performance of the beef cow profit center.

**Figure 1: Beef Cow Profits: Net-Value-Added (North Dakota Farm Business Management Herds)**

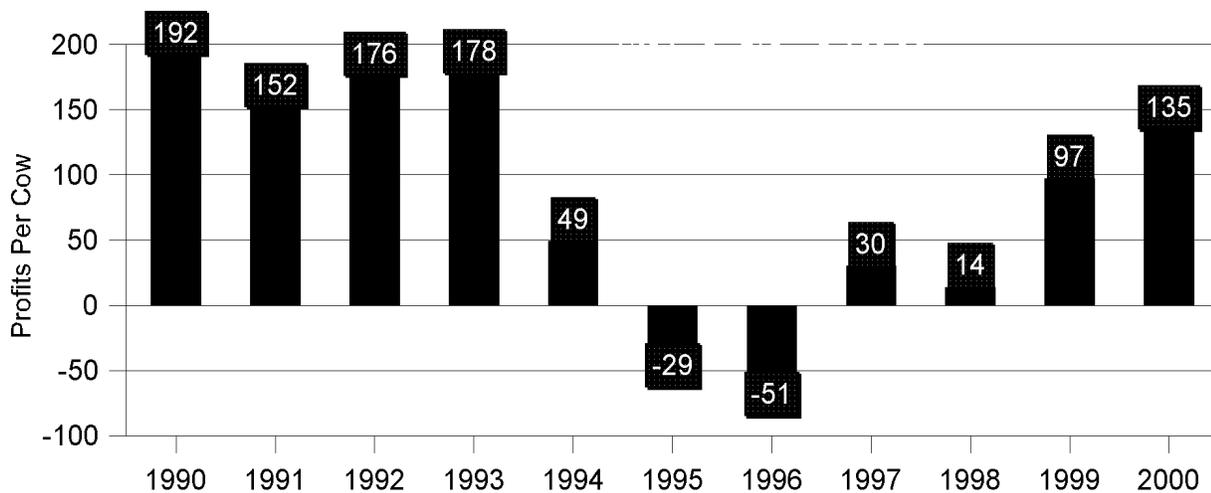


Figure 1 presents the historical net-value-added benchmarks generated by North Dakota's Farm Business Management herds during the decade of the 1990s. After several favorable (green-flag) years in early 1990s, the first "yellow-flag" came in 1994 and the first of two "red-flags" came in 1995. The second "red-flag" came in 1996. "Green-flags" came in 1997 and again in 1999. Today, we are again getting "green-flag" signals from typical ranchers' net-value-added benchmarks.

Projections are for two or three more "green-flag" net-value-added years (2002 - 2004). We recommend that producers use this projected "favorable times" to build a financial reserve in anticipation of the cattle cycle's next cyclical

downturn. A typical cattle cycle repeats approximately every 10 years; therefore, the next cyclical downturn is projected for 2005 through 2007 time period.

History suggests that the current good times are not times for management as usual. Beef farmers and ranchers should use these good times to increase economic efficiency and to build a financial reserve. We think the best way to do this is to develop, utilize and perfect a set of benchmark measures for your herd during the good years. Then, use these benchmark measures to identify early "red-flags" in your beef cow profit center during the next cyclical downturn.

## The Recommended Benchmarks

Listed below are our recommended benchmarks for managing a beef cowherd. Beef farmers and ranchers are strongly encouraged to utilize all of these benchmarks to identify their herd's strengths and then capitalize on these strengths. Producers can use these same benchmarks to identify their herd's weaknesses and then try to remove or minimize these weaknesses from the beef cowherd.

### Net-Valued-Added

As discussed above, net-value-added is a key benchmark measure of a beef cow herd's business performance. Remember, earned net-value-added is the earned payments to the farm or ranch family for its unpaid family and operator labor, management, and equity capital contributed to the beef cow herd. It is important to know what your family earned from running beef cows last year. Another Fact Sheet in this series provides a step-by-step procedure for calculating your herd's net-value-added.<sup>4</sup> Use this

other fact sheet to calculate your net-value-added and then use this fact sheet to benchmark your earned economic returns.

Use Table 1a to compare your herd to the total Northern Plains Benchmark herds and use Table 1b to compare your herd to the Benchmark Herds grouped by unit costs of producing a hundredweight of calves. Calculate your herd's net-value-added as a percentage of the benchmark averages. How does your herd compare to these benchmark herds? Did you beat these benchmark herds or did the benchmark herds beat your herd?

**Table 1a: Net-Value-Added From Northern Plains Benchmark Herds (1999 Calves)**

\$-7	\$129	\$281	Your Herd
Low	Average	High	\$ _____

**Table 1b: Net-Value-Added Based On Average of Low-Cost 1/3, Middle-Cost 1/3 and High Cost 1/3 Of Northern Plains Benchmark Herds**

\$145	\$61	\$64	Your Herd
Low Cost 1/3	High Cost 1/3	Middle Cost 1/3	\$ _____

**Table 2. Total Capital Invested In Breeding Herd**

a.	Capital invested in the breeding herd	\$ _____
b.	Beef cow equipment investment (do not include haying machinery)	\$ _____
c.	Beef cow facility investment	\$ _____
d.	Pasture land investment – Use only land grazed by beef cows	\$ _____
e.	Total capital investment in your beef cow profit center	\$ _____
f.	Number of beef cows in beginning inventory (mature cows + bred heifer)	_____ /Head
g.	Capital investment per cow (e divided by f)	\$ _____ /Cow

### Total Capital Invested Per Beef Cow Profit Center<sup>5</sup>

Capital investment in the beef cow profit center can be an important determinant of overall production costs associated with running a beef cowherd. In this comparative economic analysis of the beef cow profit center, capital investment should be limited to the market value of (1) the breeding herd, (2) beef cow equipment and facilities, and (3) the pasture land used by the cow herd only. The beef cow profit center investment does not include farmland or farming machinery as these are part of another profit center. *Note, the capital investment in the baler and the tractor used to pull the baler are not included in the beef cow profit center.* They are part of the forage

profit center. This is somewhat contrary to what many beef farmers or ranchers typically think.

Use Table 2 to calculate your total investment in your beef cow herd profit center and then divide by the number of cows in your January 1 inventory.<sup>6</sup>

Take your capital investment per cow (Item g, Table 2) and post it to the barometers presented in Tables 3a and 3b. Table 3a compares your herd to the total Northern Plains Benchmark herds and Table 3b compares your herd to the same Benchmark Herds grouped by unit costs of producing a hundredweight of calves. Calculate the percent your herd is of the benchmark average. Is your capital investment per cow high or low? Remember, some producers lease

pastures while other producers lease cows – both reducing the capital investment needed to operate a beef cow herd. Table 3b suggests that the average capital investment per cow was not generally much different between cost groups.

### Debt Per Cow

Debt per cow should include only that debt directly associated with the beef cowherd profit center. Debt per cow should be limited to (1) breeding herd debt, (2) beef cow equipment and facility debt, and (3) pasture land debt.<sup>7</sup> Farm machinery debt should not be included. Use Table 4 to calculate your

**Table 4. Total Capital Invested In Breeding Herd**

a. Beef cow debt	\$ _____	/Herd
b. Heifer debt	\$ _____	/Herd
c. Bull debt	\$ _____	/Herd
d. Beef cow facility and equipment debt	\$ _____	/Head
e. Pasture land debt	\$ _____	/Head
f. Total beef cow profit center debt	\$ _____	/Herd
g. Number of beef cows in beginning inventory	_____	Head
h. Total beef cow debt per cow	\$ _____	/Head

**Table 5a. Range in Debt per Cow for Northern Plains Herds)**

\$0.00	\$276	\$1089	Your Herd
Low	Average	High	\$ _____

**Table 5b. Range in Debt per Cow by Cost Group**

\$383	\$392	\$294	Your Herd
Low Cost 1/3	Middle Cost 1/3	High Cost 1/3	\$ _____

### Debt Service per Cow

Debt service per cow covers both the interest and principal payment associated with the beef cow profit center debt. There is no charge for equity capital as it is treated as one of the residual claimants in the bottom line net-value-added calculated for the beef cow profit center. This suggests that debt-servicing costs are part of unit cash costs of production while the cost of equity capital is not part of the unit cash costs of production. Our management recommendation is for beef cow producers to pay down as much of debt as possible over the 2002-2004

debt per cow and then post your per cow debt on the barometers in Table 5a and 5b.

**Table 3a. Per Cow Capital Investment Range of the Benchmark Herds. (Investment In Breeding Herd, Beef Cow Equipment, Facilities and Pasture Land)**

\$885	\$2018	\$3691	Your Herd
Low	Average	High	\$ _____

**Table 3b. Capital Investment Based on Average of Low Cost 1/3, Middle Cost 1/3 and High Cost 1/3 of the Herds in the Database**

\$1861	\$2244	\$1952	Your Herd
Low Cost 1/3	Middle Cost 1/3	High Cost 1/3	\$ _____

time period.

Calculate your debt service per cow and post it to the barometers in Tables 6a and 6b. Remember that farm land debt and machinery debt are not to be included. Note from Table 6b that the low-costs and high-cost herds have very similar debt service per cow. This has not been true for all years. In some other years, the high-cost herds frequently have had a higher average debt service per cow.<sup>8</sup> Since beef prices go in cycles, debts set up in the good times are extremely difficult to service in the tough times. One needs to continually keep beef price cycles in mind when considering additional debts for the beef cow profit center.

**Table 6a. Average Debt Service Per Cow<sup>9</sup>**

\$0	\$29	\$113	Your Herd
Low	Average	High	\$ _____

**Table 6b. Average Debt Service Per Cow by Cost Group<sup>10</sup>**

\$40	\$40	\$31	Your Herd
Low Cost 1/3	Middle Cost 1/3	High Cost 1/3	\$ _____

## Accrual Adjusted Income per Cow

A beef cow profit center generates both cash and non-cash income and both have to be taken into account when preparing the accrual-adjusted income for the beef cow profit center. The cash income is most readily identifiable as it relates to the cash generated at sale time. Calf sales reflect the cash income generated from calf sales. If you did not actually sell the calves, value the steers, and all heifers not held back for breeding, as if they had actually been sold at weaning. Remember, backgrounding is a different profit center.

Economic value of the cull cows is the capital gains rather than the income from cash sales. A capital gain is the difference between the book value (purchase price minus depreciation taken to date) and the selling value of the cull cow.<sup>11</sup> Capital gains can be positive or negative. Cull bulls are also accounted for through capital gains and not cash income. The capital gains for all bulls sold are the difference between the book value (purchase price minus depreciation taken to date) and the cash value when sold. Again, capital gains can be positive or negative.

The final component of the beef cow profit center's accrual adjusted income is inventory change. You must first calculate a beginning inventory dollar value for the beef cow herd along with an ending inventory dollar value.<sup>12</sup> Inventory change is calculated by subtracting beginning inventory value from the ending inventory value. Remember that inventory change can be positive or negative.

Adding up the six components of income generates the accrual-adjusted income for the beef cow profit center. You should have already calculated gross income for your beef cow herd in a previous fact sheet. Post your gross income per cow to the barometers in Table 7a and 7b. The benchmark data presented in Tables 7a and 7b are for 1999 calves. Year 2000 and 2001 benchmark data is not available.

**Table 7a. Accrual Adjusted Income Per Cow (1999)**

\$325	\$451	\$633	Your Herd
Low	Average	High	\$ _____

**Table 7b. Accrual Adjusted Income Per Cow by Cost Group (1994)**

\$456	\$397	\$402	Your Herd
Low Cost 1/3	Middle Cost 1/3	High Cost 1/3	\$ _____

## Summer Grazing Costs Per Cow

Use local pasture rental rates to calculate your pasture economic costs. Note that rented and deeded lands are both accounted for by rental rates. Actual dollars of public land payments are used for the cost of public lands. Then, take your total pasture costs and divide by the number of cows in your herd at the beginning of the business year (normally this is the January 1 inventory number). Post your herd's total pasture cost (summer and winter pastures) per cow on the barometers in Tables 8a and 8b.

**Table 8a. Summer Grazing Costs Per Cow**

\$38	\$73	\$115	Your Herd
Low	Average	High	\$ _____

**Table 8b. Summer Grazing Costs by Cost Group**

\$1861	\$2244	\$1952	Your Herd
Low Cost 1/3	Middle Cost 1/3	High Cost 1/3	\$ _____

## Winter Feed Costs Per Cow

Winter feed costs cover those feed costs from the time that the cows are moved off pasture grazing until grass turnout in the next spring. Feeds should be valued at local market prices – not costs of production. Producers with extensive winter pastures may want to think of this as the stored feeding program as winter grazing costs are part of the summer pasture costs. You should post your winter (stored) feed costs to the barometers in Tables 9a and 9b to see how your winter (stored) feed cost compares to the benchmark herds.

**Table 9a. Winter Feed Costs Per Cow (Feeds Value at Market Value)**

\$57	\$123	\$196	Your Herd
Low	Average	High	\$ _____

**Table 9b. Winter Feed Costs Per Cow by Cost Group (Feeds Value at Market Value)**

\$129	\$140	\$138	Your Herd
Low Cost 1/3	Middle Cost 1/3	High Cost 1/3	\$ _____

## Total Feed Cost Per Cow

Total feed costs, summer plus winter, account for 50 to 60 percent of total costs of running beef cows; therefore, feed costs should get more management attention than any other single cost

category. We find, however, that beef farmers and ranchers spend hours and hours feeding cows but they spend very little, or no time at all, managing the feeding program. Take your total feed cost calculated in another fact sheet and enter your total feed costs on the barometers in Tables 10a and 10b.

**Table 10a. Total Feed Cost Per Cow (Feeds Value at Market Value)**

\$119	\$198	\$287	Your Herd
Low	Average	High	\$

**Table 10b. Total Feed Cost Per Cow (Feeds Value at Market Value)**

\$195	\$212	\$216	Your Herd
Low Cost 1/3	Middle Cost 1/3	High Cost 1/3	\$

### Vet and Medicine Cost Per Cow

Veterinarian and medicine costs for the benchmark herds range from \$6 per cow to \$33 per cow with an average of \$17 per cow. Post your vet and medicine cost to the barometers in Tables 9a and 9b.

**Table 11a. Veterinarian and Medicine Costs Per Cow**

\$6	\$17	\$33	Your Herd
Low	Average	High	\$

**Table 11b. Veterinarian and Medicine Cost Per Cow by Cost Group**

\$14	\$20	\$21	Your Herd
Low Cost 1/3	Middle Cost 1/3	High Cost 1/3	\$

### Total Livestock Costs and Cow Lease Payments

Take your previously calculated livestock's cost and post it to the barometers in Tables 12a and 12b. If you also are running leased cows, you should also include a lease payment here equal to the market value of the calves and cull cow income allocated to the cow owner. There are several leased herds in the Benchmark Herds.

**Table 12a. Total Livestock and Lease Payment Costs**

\$32	\$68	\$94	Your Herd
Low	Average	High	\$

**Table 12b. Total Livestock and Lease Payment Costs**

\$68	\$68	\$73	Your Herd
Low Cost 1/3	Middle Cost 1/3	High Cost 1/3	\$

### Overhead Costs

You should take the overhead costs that you calculated in another fact sheet and post that value to the barometers in Tables 13a and 13b.

**Table 13a. Overhead Costs for Buildings, Equipment, and Breeding Herd**

\$10	\$40	\$104	Your Herd
Low	Average	High	\$

**Table 13b. Overhead Costs for Buildings, Equipment, and Breeding Herd**

\$34	\$37	\$42	Your Herd
Low Cost 1/3	Middle Cost 1/3	High Cost 1/3	\$

### Total Costs of Production Per Cow

Take your total cost per cow and post it to the barometers in Table 14a and 14b. Remember that the benchmark costs do not include the costs of backgrounding or finishing calves; nor should your costs include backgrounding or finishing costs. These are separate profit centers.

Note the \$221 dollar difference between the low-cost and the high-cost herds. Yes, management does make a difference.

**Table 14a. Total Production Costs Per Cow (Excluding Unpaid Family and Operator Labor, Management, and Equity Capital) (1994)**

\$181	\$322	\$402	Your Herd
Low	Average	High	\$

**Table 14b. Total Production Costs Per Cow by Cost Group (Excluding Unpaid Family and Operator Labor, Management, and Equity Capital) (1994)**

\$311	\$333	\$340	Your Herd
Low Cost 1/3	Middle Cost 1/3	High Cost 1/3	\$

Beef cow producers should always express their costs of production in the same unit that they sell their production. If we tell you that it cost Northern Plains beef cow producers \$322 per cow, on average, to run a cow in 1999, what would you know about these Northern Plains' herds? Not much -- as we have told you nothing about their level of production. A herd with the highest per cow costs may, due to its higher production, have the highest profits. This is why we do not favor reporting costs on a per cow basis. Unit cost of producing a hundredweight of calf is much more useful.

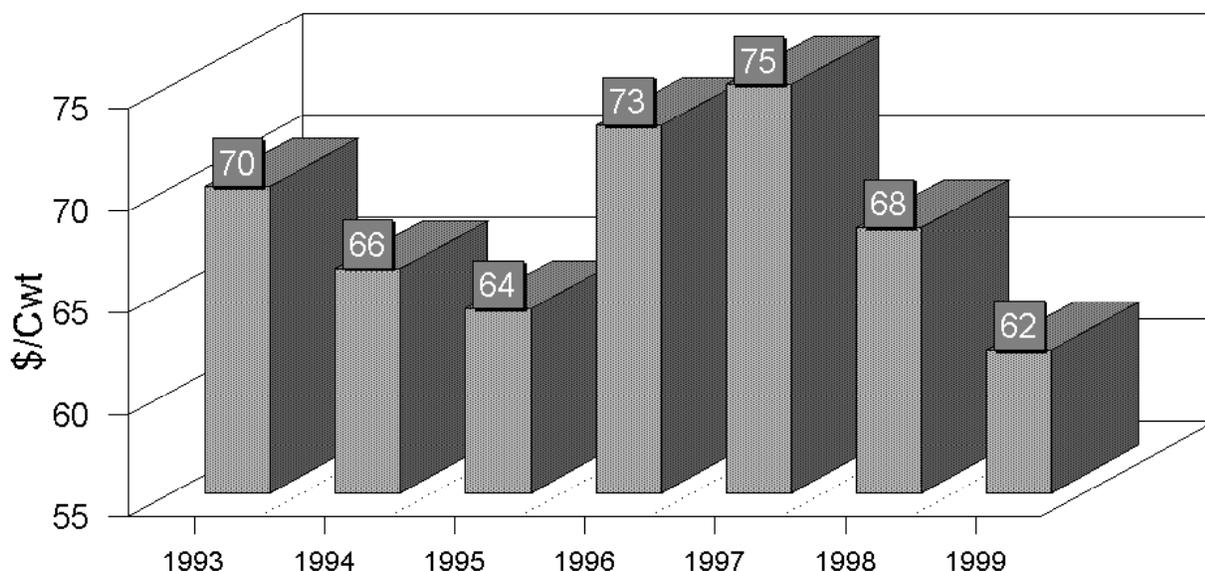
## Unit Cost of Producing A Hundred Weight of Calf (UCOP)

What is UCOP? UCOP is a ratio of all production costs associated with operating a beef cow herd placed in the numerator and the total pounds of calf produced placed in the denominator (see Figure 1).<sup>13</sup> This ratio gives the unit dollar cost of producing a hundredweight of calf.

Figure 2 summarizes the annual average UCOP for our Northern Plains IRM Cooperator herds for

years 1993 through 1999. It is clear that average UCOP changed as these Northern Plains beef cow producers went through the last cattle cycle. Remember, as you study figure 2, that calf prices peaked in 1993 and worked dramatically lower into 1996. We can also see in Figure 2 that beef cow producers did reduce costs as times got tough. Many different cost cutting moves were implemented in 1994 and 1995. We had some IRM Cooperators cut out all preventive medicine and we also had IRM Cooperators cut bull expenditures in half during these tough times.

**Figure 2: Unit Cost of Production for Northern Plains Benchmark Herds (1993 - 1999)**



Our biggest worry during this last cycle's price downturn was over the possibility that producers could actually cut cost too much. We worried about the question: "Could a producer cut costs one dollar and reduce income by two dollars with the net result being that of lowering net revenue even more?"

Our IRM data confirmed this worry was "right on" by illustrating the double whammy generated in year 1996. In the year of the lowest calf prices, these IRM Cooperators experienced a UCOP increase! If you want to put a herd under financial stress, just increase UCOP as price goes lower. That is just what happened in our Northern Plains herds in 1996.

You will become a better marketer if you know your actual costs of producing what you are selling. Most producers, however, do not know their breakeven price of the calves that they are selling and

do not know if current market price is above or below breakeven. The key to marketing is to know your unit cost of production.

Take your unit costs of production that you prepared in a previous fact sheet and post it to the barometers in Tables 15a and 15b. The most important question that you need to answer is: "Are you a high cost or low cost producer?"

**Table 15a. Unit Cost of Producing A Hundred Weight of Calf Table**

\$38	\$62	\$81	Your Herd
Low	Average	High	\$ _____

**Table 15b. Unit Cost of Producing a Hundred Weight of Calf**

\$56	\$66	\$70	Your Herd
Low Cost 1/3	Middle Cost 1/3	High Cost 1/3	\$ _____

**Table 16. Strength and Weakness**

	<b>Economic Item</b>	<b>Your Value</b>	<b>Benchmark Value</b>	<b>% of Benchmark</b>
1.	Number of beef cows in the beginning inventory	_____	_____	_____
2.	Total capital invested per beef cow	_____	_____	_____
3.	Debt per cow	_____	_____	_____
4.	Debt service per cow	_____	_____	_____
5.	Accrual adjusted income per cow	_____	_____	_____
6.	Summer grazing costs	_____	_____	_____
7.	Winter feed costs per cow	_____	_____	_____
8.	Total feed cost per cow	_____	_____	_____
9.	Veterinary and medicine cost per cow	_____	_____	_____
10.	Total livestock costs and cow lease payments	_____	_____	_____
11.	Overhead costs	_____	_____	_____
12.	Interest payment on borrowed capital	_____	_____	_____
13.	Total costs of production per cow	_____	_____	_____
14.	Unit cost of producing a hundred weight of calf	_____	_____	_____

***Production Strength and Weakness Summary***

Now that you have completed your *Comparative Economic Analysis* benchmarking your beef cow herd's economic facts to the economic facts of the Northern Plains Benchmark Herds, you are encouraged to complete Table 16 as your Comparative Analysis Summary. Enter in your herd's economic values, the average benchmark values, and calculate your herd's percent of the benchmark values. Those economic items with an index over 100 (i.e., greater than 100%) are prime candidates to be your herd's potential strengths and those items with an index less than 100 are prime candidates to be your herd's potential weaknesses. Now, implement a management program that capitalizes on your strengths and removes some or all of your weaknesses. Our IRM Cooperators have demonstrated that a management plan driven by economic facts from your herd will increase beef cow profits.

***Final Comment***

One final comment is that you, the herd manager, have to be the final decision maker on what is a strength and what is a weakness. Unique circumstances can make your herd's performance logically differ from the benchmark herds. If so, then ignore the benchmark signal and use your own judgment. In most judgment cases, however, comparisons to benchmark herds do identify some strengths and some weaknesses. The informed beef cow manager, that works from his herd's facts rather than from gut feelings and perceptions, will be better able to increase economic efficiency and to build a financial reserve. Both of these actions will allow a producer to better weather the next cyclical downturn projected in 2005 to 2007 time period. When perception is replaced with facts and these facts are analyzed, profits increase.

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<sup>1</sup> It is recommended that you divide your beef farm or ranch business into profit centers. A typical ranch should be divided into a beef cow profit center, a forage profit center, and a pasture profit center. If calves are backgrounded and or retained, you should also have a backgrounding profit center and retained ownership profit center. The forage fed is charged to the beef cow profit center at fair market value and the forage profit center is credited with the market value of forage produced. The key, here, is to treat each profit center as a standalone business.

<sup>2</sup> To illustrate the potential for improved economic efficiency, consider again the North Dakota IRM database. In 1999, all of the participating Northern Plains IRM Cooperators were operating highly tuned beef cow businesses. Approximately one-half of these cooperators had been specifically working on their economic efficiencies for five plus years. For 1999, these experienced IRM cooperators generated the lowest average annual calf production costs of any year in the Northern Plains IRM Cooperator databank. These low unit costs were the direct result of high economic efficiencies. Even so, thirty-three percent of these IRM herds *still have considerable* room for improving their economic efficiencies if the average of the low-cost one-third of these 1999 Northern Plains IRM Herds is used as the benchmark.

<sup>3</sup> Besides the *net-value-added* being discussed above, two other primary IRM measures are *net-cash-flow* and *net-financial-return*. It turns out that negative net-cash-flow is usually the earliest “red-flag” signal that a manager receives during cyclical downturn. Negative net-value-added is the second red-flag and negative net-financial-return is the third red-flag in a cyclical downturn. On the cyclical upswing, net-financial-return turns positive first, net-value-added turns positive second, and net-cash-flow turns positive thirds. For a detailed discussion on these “red-flag/green-flag” business indicators, see the fact sheet in this series entitled “Taking Your Beef Cow Herd Profitably Through The Cattle Cycle.”

<sup>4</sup> The title of the fact sheet is “Determining Your Economic Unit Costs Of Producing A Hundredweight of Calf” by Harlan Hughes and Dwight Aakre, North Dakota State University.

<sup>5</sup> The IRM-SPA Guidelines suggest than an economic analysis should be based on the number of cows in inventory on the first day of the business year – normally January 1st.

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<sup>6</sup> The IRM-SPA Guidelines suggest than an economic analysis should be based on the number of cows in inventory on the first day of the business year – normally January 1st.

<sup>7</sup> Debt for farmland and farming machinery should not be included even in a total ranch situation. When farm feeds are charged into the cowherd profit center at market value, your farmland and farming machinery debt needs to be charged to the feed profit center.

<sup>8</sup> Ranchers perceive that debt service is what determines high vs. low costs of production. My data does not confirm this. Debt service apparently is not a critical determinant of unit cost of production.

<sup>9</sup> The debt service numbers reported here were calculated as the database for this publication does not pick up the principal payment for each IRM herd. These calculated payments are based on 10-year repayment period and 9 percent annual interest rate.

<sup>10</sup> See footnote 9.

<sup>11</sup> Since raised cow are on the depreciation schedule at zero value, the capital gains of raised cull cows equals the sales barn dollars generated.

<sup>12</sup> We recommend that per animal values be help constant for the total year so that inventory changes reflect changes in animal numbers and/or mix of animal classes rather than changing market value of the animals. We recommend that you change your animal values between years rather than during the year.

<sup>13</sup> Cwts is actually hundredweights of steer equivalent income. Accrual adjusted gross income from selling calves, cull cows, cull bred heifers, and cull bulls are summed and divided by the price of steer calves sold. This process is used to calculate the Cwts of steer calf equivalent in income to the accrual adjusted gross income from the beef cow profit center. In 1999 my IRM Cooperators produced 760 actual Cwts of calves and 847 Cwts of steer equivalent income from their herds when inventory adjustment and cull animal incomes are also taken into account.