AG FACTS

KSU
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Cooperative Extension Service

Beef Records
The Key to Profitability

Records—The Key to Profitability

Before deciding what type of records a cow/calf producer should keep, one must analyze the factors influencing profitability in the cowherd enterprise.

There are four factors that influence the profitability of a cow/calf operation.

- **1. Percent cows weaning a calf**
- **2. Weaning weight of calves**
- **3. Price received per pound for the calves**
- **4. Cost of owning and maintaining cows**

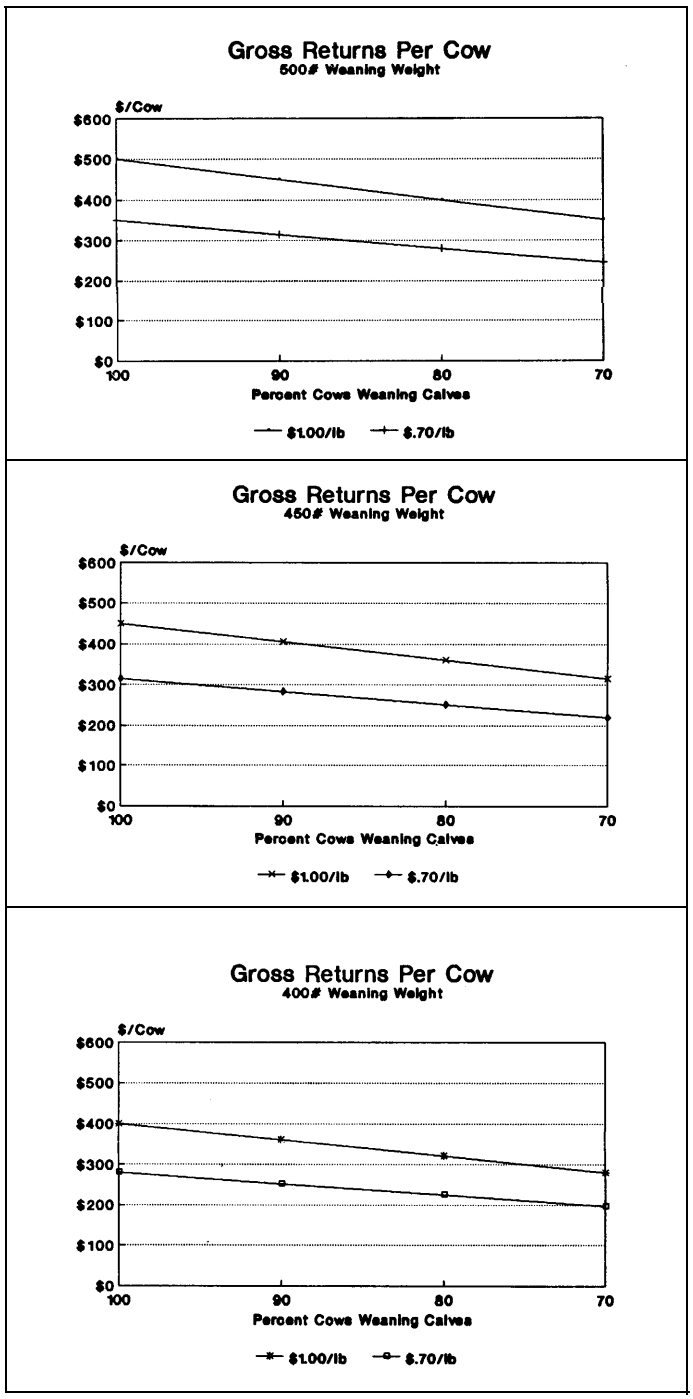
To increase net returns from a cowherd, one or more of the first three factors must be increased or the cost decreased. Because these four factors are closely related to each other, changing one of them may require or result in an offsetting change in one of the other factors. For example, increasing the weaning weight of calves may increase costs and/or lower the price per pound received for the calves.

Table 1 illustrates the relationship between the percentage calf crop and weaning weight and their influence on the pounds of calf produced per cow.

Table 1. Lbs of Calf-Cow in the Herd

		% Weaning Calves			
Weaning	Weight	100%	90%	80%	70%
	400	400	360	320	280
	450	450	405	360	315
	500	500	450	400	350
	550	550	495	440	385

The figures in the next column show the relationship of percent calf crop and selling price to gross returns per cow for three different weaning weights. Obviously, as one evaluates these graphs, the important point in determining profitability is the annual cost of owning and maintaining a cow.



Records Key to Analyzing Percentage Calf Crop

Unfortunately, percentage calf crop doesn't have the same meaning to all cattlemen. For example, to many it is the percentage of cows in the herd at calving that actually calve. To others, it refers to the percentage of cows exposed to the bull that actually wean a calf. While to other cattlemen it refers to the percentage of cows at weaning with a calf. The goal is to collect information that will help identify problem areas and improve profitability, which means that the following records are essential:

- The number of cows and heifers exposed to the bulls for each calf crop.
- The number of cows and heifers open at pregnancy testing or failing to calve.
- The time and cause of death of each calf lost.
- The number of cows actually weaning a calf.

✓ **Number Exposed.** An accurate record of females exposed allows a producer to calculate the percentage of females exposed that wean a calf and more important, to check for problem areas in the operation. For example, a recent survey conducted in Kansas indicated that approximately 86 percent of females exposed actually weaned a calf. A producer with a calf crop lower than this average should closely examine the reasons for reduced reproduction.

One should calculate the percentage of yearling heifers, first-calf heifers, and mature cows weaning a calf, since a low percentage in a specific age group may indicate problem areas and suggest management changes. It is important to analyze this information by age group, considering the results of Kansas surveys indicating that the highest incidence of open females occurs in two-year-old heifers.

Failing to record the number of females exposed to bulls keeps many Kansas cattlemen from recognizing a major management problem—poor reproduction. The economic importance of this information is clear when one considers that the investment in a calf crop begins when the cows are exposed to bulls and poor reproduction increases costs on a per-cow basis.

✓ **Number Open.** A record of the number of females open at pregnancy testing or failing to calve, compared to the number exposed, gives a good measure of reproductive performance. For example, if over 4 percent of mature cows fail to get pregnant during the breeding season, it may indicate inadequate nutrition, disease problems, or bull infertility problems. Correspondingly, if over 20 percent of yearling heifers are open after a 45-day breeding season or over 10 percent after a 60-day breeding season, the heifer development program should be evaluated.

Unfortunately, only 30 to 40 percent of cow/calf producers routinely pregnancy test. This is unacceptable when one considers that if wintering feed costs are $100, feeding the 4 percent open cows increases the break-even point on the entire calf crop by almost $1.00/cwt.

✓ **Calf Death Loss.** A record of the time and reason for calf losses allows a producer to determine if losses are the result of things that can be changed, such as calving difficulty, calf scours, or other health problems. As with other pertinent information, cow/calf operators often fail to develop an accurate picture of the problem when they rely on memory.

✓ **Number Weaned.** An accurate record of the number of calves actually weaned is useful in determining the percentage calf crop (calves weaned/cows exposed)—a good measure of reproductive efficiency and management. Additionally, this information may be important in identifying calf losses occurring after the herd is put out to grass.

Other Records Useful in Evaluating Percent Calf Crop

■ Record of Calving Difficulty

One factor that will influence percent calf crop greatly is the degree of calving difficulty, particularly among heifers. Research clearly shows that the death loss for assisted calves is 4 to 5 times higher than for those calves born unassisted.

Once records are kept on the degree of calving difficulty, then the producer can start making decisions as to why the difficulty occurred. Were poor choices made in sire selection or were the heifers poorly developed? Only by keeping accurate records can one make sound decisions regarding future direction in sires selected for heifers and heifer development programs.

■ Bull Records

One of the often overlooked aspects of many cow/calf operations is the bull. This is unfortunate considering that approximately 90 percent of the genetic change in most commercial operations occurs through sire selection. Thus, the use of performance records in sire selection is essential. Some of the newer information available on bulls, such as estimated breeding values, expected progeny differences and scrotal circumference can be useful in sire selection.

Often, these values will give a better indication of what traits a bull will pass on to his offspring than the actual appearance of the bull. A commercial cattleman simply can't afford not to use these records.

Additionally, a record of which bulls were used with which group of cows may be very useful in assessing fertility or libido problems. In some cases these records may also indicate bulls that are siring poor performing progeny.

■ **Health Records**

Another factor that can influence percent calf crop is health problems. Accurate health records on vaccinations, etc., can be of great value to a producer or veterinarian trying to identify a health problem. A good set of health records may increase the value of breeding stock that might be sold.

Records for Analyzing Weaning Weights

Essential records for analyzing weaning weights include:

- Individual weaning weights or group averages.
- Identification of calves.
- Birth date of calves.
- Number of calves born after 21, 42, and 63 days of calving.

✓ **Weaning Weights.** Somehow, a producer must determine the pounds of calf being produced by the cowherd, since the primary source of income is calf production. The only way to make a sound production and economic evaluation is to have some measure of calf weaning weights.

Admittedly, it's time-consuming to weigh each calf individually. Fortunately, an assessment of weaning weights can be based on group weights or sale weights if the calves are sold shortly after weaning.

The important thing is that some measure of weaning weight is taken to allow assessment of management changes. For example, weaning weights may be used to determine the impact of a new breed in a crossbreeding program or the impact of performance-tested sires.

✓ **Identify Cows and Calves.** Having the cows and calves identified will help determine those cows producing poor calves. Notes made of those cows with runt or "knot head" calves will be of great value at culling time.

Many producers feel that they can remember those cows, but they often fail to accurately identify the poor-producing cows at weaning. Obviously, if the calves and cows are identified, accurately culling the "freeloader cows" is easy.

Furthermore, a calf and cow identification system can be of great value during periods of bad weather since it aids in determining if all pairs are "mothered up." Additionally, an ID system will assist in finding a calf that is being treated or in giving information to a veterinarian or hired help. It can also allow more accurate record-keeping on health problems.

✓ **Record Birth Dates.** A record of birth dates allows a producer to calculate the percentage of calves born after 21, 42, and 63 days of calving—useful measures of reproductive efficiency. Weaning weights are greatly influenced by reproductive efficiency, as shown in Table 3.

Table 3. Calving Time and Pregnancy—90-Day Season

		Calving next Year			
Calving time this year	Preg. this year	1st month %	2nd month %	3rd month %	Est lbs of calf next year
1st month	96	72	18	6	416
2nd month	90	54	27	9	382
3rd month	83	20	46	17	332

Wiltbank, Texas

Top cattle producers in Kansas are calving 50-60 percent by 21 days, 80-90 percent by 42 days, and 90-100 percent by 60 days. While these are difficult levels to reach, the impact of calving period on weaning weight is so significant that a record of this information is an important tool.

Additionally, an analysis of this information over several years may indicate problems in the breeding program. For instance, if the percentage calving early in the calving season declines, it may indicate that the cows are becoming too large or too heavy milking for the resources. This would necessitate either a change in the breeding program or an adjustment in the nutrition provided.

Record Information That Influences Price Received for Calves

It is important to record the price per pound received for calves and compare it to the prices other producers receive for their calves.

Examine the monthly and quarterly average prices for calves by weight and sex at your local cash market and compare them with the prices you received for your calves. Were you above or below the average price level? If your prices were below average, try to determine why.

Did you evaluate various marketing alternatives such as forward contracting or hedging the sale of your calves using the feeder cattle futures or options markets? Perhaps you should consider using a marketing alternative that allows you to separate the pricing of your calves from the date of delivery.

Remember, if you are receiving below average prices for your cattle, it means your costs must be below average simply to achieve average profitability.

In addition to comparing prices for different weight groups, keep records on what types of calves are bringing the highest prices. Are crossbred calves topping the market? Specifically, what type of cross is bringing a premium? What frame type is topping the market? Answers to these questions will be helpful in planning the breeding program.

Do management practices influence the sale price of the calves? For example, are they dehorned? Are

they castrated? Are pre-conditioned calves bringing enough premium to warrant implementing a pre-conditioning program.

Other management and marketing practices also need to be evaluated. Do the calves have adequate uniformity of size, weight, shape, and color to maximize returns. Are calves being marketed at a time conducive to bringing a premium? Would retained ownership through the growing or possibly the finishing phase offer greater profitability.

The Extension bulletin, "Factors affecting Auction Prices of Feeder Cattle," (C-697), shows the premiums and discounts that were paid for the different types of feeder cattle as well as management practices in Kansas, giving a good idea of what buyers do and don't want in feeder cattle.

Record the Annual Cost of Maintaining the Cowherd

One of the most important pieces of information that cow-calf producers need to have at their fingertips is the annual cost of maintaining their cows. In addition, the cost of owning the breeding herd must be known in order to measure the true profitability. These "fixed costs" include depreciation, interest and insurance and they account for about 30 percent of the total cost; therefore, they have a big impact on profitability. However, since there is little flexibility in fixed costs, any reduction in annual costs will likely be the result of reducing maintenance costs. Unfortunately, fewer than 10 percent of Kansas cattlemen keep records that allow them to evaluate their costs. In fact, recent survey data from Kansas cattlemen showed that closer to 5-6 percent of cow/calf producers know their production costs. It is essential, particularly in today's agricultural climate, that producers closely analyze their costs, since until higher beef prices occur, cutting costs is a key to profitability. **Producers need to constantly evaluate ways to reduce the cost of maintaining the herd.**

A six-year summary of the financial records of Iowa cow/calf producers indicates that the most profitable one-third of the producers maintained cows for $117.60 less than the least profitable third.

A record of the various annual costs allows an in-depth evaluation of how the annual production costs might be reduced without reducing percent calf crop or weaning weights. The annual feed bill, which is the major cost, is especially important; moreover, it can be reduced significantly through good management.

Research shows that feed costs should be approximately 50 percent of total revenue in order to cover the variable costs of production. While this is only a rule-of-thumb, it does provide a guideline. For example, grass is a major cost. What type of grazing program is being followed in terms of stocking rate, grazing distribution and range improvement? Could the use of complementary forages or other supplemental forages reduce feed costs? Could greater use of low quality forages such as crop residues help reduce winter costs?

Another cost-cutting practice is more efficient use of dollars spent for protein and mineral supplements. For example, in many cases, alfalfa hay can be substituted for commercial protein sources, with a marked reduction in protein costs. Correspondingly, producers who mix their own mineral supplements often significantly reduce supplemental mineral costs, compared to the use of commercial mineral mixes.

Reducing costs may be one of the best ways for cow/calf producers to increase profitability. However, it is important that reduced costs not result in reduced production.

Producers should consult their lending institution and their county Extension agent for help in developing a budget. The computer program BEEFPRO developed at Kansas State University helps evaluate costs.

In Summary

Keeping records is not particularly enjoyable. However, in today's agricultural climate, survival depends on constantly evaluating all aspects of the operation—and that means keeping and using good records.

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