

A RANCHER'S FOCUS ON COST EFFECTIVE MANAGEMENT

Connee R. Quinn

Elanco Animal Health

Quinn Cow Company

Chadron, Nebraska

INTRODUCTION

This paper focuses on profitability points which apply to the cow/calf producer. This is a challenging task and, at best, will be a restatement of the practices that are employed by any good beef producer. In today's environment, if one has the boldness to put these points in print, it is only to reinforce the good management already being implemented and to offer ideas for other management practices that could also be employed. The merit of this exercise is to exchange ideas that can be mixed and matched with what is already being done on the ranch. The result will hopefully increase the efficiency and effectiveness of the operation, and thus, help the profitability picture of the business. This will become increasingly more important in the current cattle cycle. Paul Genho, manager of Deseret Ranches, stated in a recent meeting at Texas A & M, "The industry that emerges from this down phase will be leaner, smaller and more competitive."

The following profitability focus points are management ideas that may effect profitability in a cow/calf operation. Most of these ideas have been gathered from other producers across the country and from programs such as the Range Beef Cow Symposium. The points are arbitrarily listed and the sequence is not necessarily indicative of importance. Certain guidelines and examples will be given which specifically apply to Quinn Cow Company. Whether or not they will lead to profitability in the last half of the nineties, for ourselves or others, remains to be seen. Cost effective management, however, will be key for survival. Dr. Robert Taylor, Colorado State University Animal Scientist, at the 1995 mid-summer NCA meeting in Denver, estimated that after the current cattle cycle, 30% of today's beef producers will not be in business.

PROFITABILITY FOCUS POINT: KNOW, UNDERSTAND, AND UTILIZE THE UNIQUE SET OF RESOURCES THAT MAKE UP THE RANCH

Every ranch is backed by a unique set of resources. The rancher of the 90's, according to Jim Gosey, University of Nebraska Animal Scientist, must define optimum levels of performance within the limit of his own resources. The levels of performance must be defined within the restriction of not only the available resources, but input costs as well. Harlan Ritchie, University of Michigan Animal Scientist, feels that lowering production costs will become more important than improving biological efficiency. Most certainly, every producer is challenged daily to balance the two.

Quinn Cow Company, as with any ranch, is backed by a unique set of resources. The most unique resource is the land base. In order to understand the choice of management practices, which are described later, it is important to discuss this issue first. The cow herd is ranged on short to mid-grass prairie, on both sides of the Nebraska-South Dakota line in the northwest and southwest corners, respectively, of each state. Most land, including the headquarters, is leased. The leases involve both private land and land owned by the Ogalala Sioux Tribe, Pine Ridge Indian Reservation. The Tribal Land is administered through the Department of Interior, Bureau of Indian Affairs. The leases are signed for a five year term but can be terminated at the Tribe's request at any time during this period. This rental situation requires creative management of facilities, including headquarters improvement, water development, and any additional fencing. It also limits long range planning and goals that involve land utilization. The leasing arrangement is different, in administration and cost, from any other federal types of land.

The major utilization of the forage resource is to graze the cow year round, except for 30-45 days at calving. The nature of the tribal lease, and the economics of improving leased land, fairly well restrict the grazing pattern to a twelve month period at a traditional stocking rate. The pastures are divided into winter and summer range, with some winter pastures used for a short period during breeding season. The quality and quantity of available pasture are matched to the nutritional requirements of the cow.

Water is a weak link in the set of resources. Stock dams and a few wells with pipelines to tanks are used for summer water. Due to the economical constraints of improving lease land, it is difficult to develop adequate water for winter use. When available, the majority of the cows are wintered on snow---a unique resource. According to research done in both Canada and the United States, this is a viable management practice and formed the basis for choosing this water management alternative.

Young and Degen, in studies conducted in Canada, indicated that adult cattle, sheep and horses are able to use snow as their primary source of water. They stated that the heat produced from feeding and normal body metabolism is apparently more than adequate to melt the ingested snow and bring it to body temperature. There were no metabolic differences observed between animals given snow or water, and there is apparently no additional metabolic energy required for cattle wintered in this manner. The Canadians concluded that snow provided producers with an additional option as a water source for livestock during the Alberta winter.

Working with Don Adams, Animal Scientist, University of Nebraska, we applied this research to our ranch with excellent results. For the past five years, we have wintered our adult cows from 45 to 70 days with snow as their major source of water. Dr. Adams stressed the importance of cattle knowing how to eat snow because it is a learned behavior. It is also critical adequate snow is available, and it does not form a

hard crust, preventing them from obtaining enough snow to meet their needs.

The unique sets of resources on a ranch are generally the forage base, the genetic base, and the management capability of the producer. The key to utilizing the resources available is to be aware of new ideas and new combinations of old ideas that will make us more effective. It is important to think “outside the box” of the pattern of management with which we are comfortable and familiar. Involving everyone concerned with the ranch, and soliciting ideas and information, can result in different and innovative ways to increase our profitability. Investigating management practices in other related and unrelated businesses can also be a good source of ideas. Good ideas can come from anywhere if we are alert to the possibilities. The important point is to be willing to change.

PROFITABILITY FOCUS POINT: UNDERSTAND AND ASSESS AVAILABLE TECHNOLOGY AND INFORMATION—USE EXPERTS IN THE FIELD AS INFORMATION RESOURCES

According to futurist David Zack, there has been more information processed in the last 30 years than during the previous 5,000 years of recorded history. It has also been stated that the rate of change in agricultural technology will increase 500 times during the next 20 years. These statements necessitate we become skilled in the ability to evaluate information. It does not necessarily mean we embrace everything that is new. Nor does it mean that all technology will increase profitability. It does mean, however, we must be aware of, and understand, what is new and what application it might have for our operations. New technology is a tool that should be investigated, studied, and understood before it is adopted. Technology is not a substitute for good management.

Kurt Wohlegemuth, Extension Veterinarian, North Dakota State University, in Integrated Resource Management NEWS, Summer, 1990 states:

We live in time when one of the most important skills that ranchers can develop is the ability to stay abreast of change. Trend watching, information gathering, looking ahead, formal forward planning, etc., are all important survival skills in this new era. Those of you that have the insights about change will thrive and prosper. Those of you who have an obsolete knowledge base will suffer the consequences.

It is nearly impossible for any one individual to keep up with the technology and information being generated in our business. We use people from allied industry such as veterinarians, feed suppliers, and AI service representatives to supply and interpret information. However, on our ranch, we predominantly utilize the expertise of the university and extension animal scientist. They not only serve as a source of information, but are an introduction to other experts in the field. They provide us with written and verbal data and, very important, serve as a sounding board for “what about”

ideas that may or may not improve our operation. We utilize their ability to analyze and interpret research data and put it into a practical context relative to our ranch. They are an important part of our decision making process. When debating an issue and finding ourselves in a dead lock decision, we use the beef extension specialist, expert in the field, as the tie-breaker. This is usually Ivan Rush, Don Boggs, or Jim Gosey.

Nearly all management decisions are made based on valid research results and an analysis of the interaction of production and production costs. Some management practices that have been implemented which are based on using research results and technology are: using snow for water, calving intervention, neonatal calf care, feeding cows by condition score, forage analysis and ration balancing, feeding Rumensin to cows and heifers, using EPD's for sire selection, using crossbred bulls, synchronization and AI for replacement heifers, IRM involvement, limited retained ownership, and developing relationships with feeders.

PROFITABILITY FOCUS POINT: USE FINANCIAL AND PRODUCTION RECORDS TO MAKE MANAGEMENT DECISIONS

The IRM-SPA Handbook of the Texas Agricultural Extension Service, stated "All producers can improve their competitiveness and reduce cost of production by focusing on measuring and managing for production and financial performance." It is imperative we operate our ranches as a business, and this is virtually impossible without a good record keeping system. However, Shawn Walter, Cattle Fax analyst, estimates that less than 10% of today's beef producers know their cost of production. The record keeping system does not need to be complicated or complex, and while many of today's operations utilize a computer, it is not a requirement.

One of the "weak links" in our operation was the ability to analyze our cost/return from production and financial records. Because of this mind set, we were very interested in the IRM concept and are members of the local IRM group. We also take part in state and national IRM functions. Our financial records were used primarily for tax purposes and not to analyze our production management decisions. Our production measures in the form of production testing were used to track weaning weight, and not to guide us in the selection of better females. As Ivan Rush so succinctly stated, "If this is all you are going to do, use your sale tickets." Probably the number one benefit from our IRM experience was looking at cost/return per cow exposed, and not as total dollars spent. This allowed us to monitor production costs against a historic record, as well as during the current year. Management decisions can then be made based on the impact they have on cost per cow exposed. We also learned to make better use of our balance sheet in order to use accrual accounting. A five year summary of expenses per cow exposed are outlined in Table 1. These cash costs are relative to our ranch and reflect our procedure for expense allocation. For example, feed costs include purchased hay and mineral while forage represents rental expense for pasture and hay ground. The expense chart should be used as a illustration of a concept and not as a direct comparison of expense categories.

Table 1.

Quinn Cow Company
Expenses/Cow Exposed

Year	1990	1991	1992	1993	1994	Average
Feed	\$92.38	\$96.21	\$82.60	\$82.92	\$74.76	\$85.77
Forage	\$105.72	\$133.88	\$126.32	\$134.60	\$124.87	\$125.08
Vet	\$23.57	\$15.13	\$15.66	\$17.75	\$14.40	\$17.30
Labor	\$22.77	\$24.54	\$36.53	\$31.68	\$29.91	\$29.09
Interest	\$22.59	\$20.62	\$19.32	\$20.48	\$24.90	\$21.58
Other	<u>\$88.31</u>	<u>\$58.90</u>	<u>\$87.35</u>	<u>\$91.34</u>	<u>\$62.18</u>	<u>\$77.62</u>
Total	\$355.34	\$349.28	\$367.78	\$378.77	\$331.02	\$356.44

Our financial records are kept on Quicken software. Due to time constraints and wanting to use the time we have available for analysis, we have data input monthly by an accountant's assistant. Our accountant has set up the expense and income categories to correspond with his needs for taxes. We operate from a cash flow and try to compare actual to projected on at least a quarterly basis. Cost analysis by category is also tracked per cow exposed and this is recorded and monitored from year to year. The major expense area is feed, either in the form of forage, which includes land rent and purchased hay, and supplement. Feed, grazing, hay, energy, protein and mineral supplement, account for about sixty percent of the annual cow cost.

Production records are kept with the computer program offered by the University of Nebraska PC Cow Card. PC Cow Card records the usual production records such as sire and dam identity of all cows, birth weights, calving dates, weaning ratios, etc. Cow inventories are updated at least quarterly and remain one of the most challenging records to accurately track. With the two-way rotational backcross, color is a consideration and this program allows us to sort cattle by color.

The records generate production information which is used for replacement heifer selection. We also identify sires for all our cows and have recently started to record maternal grandsires. This information is used when mating replacement heifers for AI breeding and sorting cows to breeding pastures. Other key areas that we track are, production by sire or sire groups, weight breaks for marketing, and age and production of the cows.

**PROFITABILITY FOCUS POINT: BALANCE PRODUCTION
AND PRODUCTION COSTS**

At the 1994 NCA Mid-Summer Meeting in Denver, Tom Brink of Cattle Fax stated, "It is difficult to produce your way out of high costs." Table 2 illustrates lowering annual cow cost has a greater impact on overall profitability than increasing

weaning rate or weaning weight. According to these figures, which were released by CattleFax in January 1994, Quinn Cow Company is on the high side of the range. This means that we need to closely analyze our cost and find ways to decrease our annual cow costs. It is imperative that we continually focus on ways to improve efficiency, particularly economic efficiency, and to do this without affecting important production criteria. Currently, we are focusing on optimum forage utilization and genetically matching the cow to the forage resource. Concurrently, we are decreasing overhead costs and working toward value based marketing.

Table 2. Cow/Calf Focus, Cattle Fax, January 1994, Low-Cost and High-Cost Producer Comparison

Factors	Low	High	Difference	*QCC
Annual cow cost	\$270	\$375	\$105	\$363
Calves weaned	86.9%	82.5%	\$21	90.0%
Weaning weight	521 lb	490 lb	\$16	524lb

*Average figures for Quinn Cow Company

In order to be effective business people, both financial and production records must be used to make management decisions. Without this background information it is nearly impossible to allocate money, time, and labor resources in the most cost effective manner. Harlan Hughes, Agricultural Economist, North Dakota State University, in a recent talk, stated: "Today, ranching is such a dynamic and highly competitive business that cow operators can no longer assume that financial performance will come automatically with high herd performance."

PROFITABILITY FOCUS POINT: IDENTIFY THE CRITICAL SUCCESS FACTORS FOR YOUR OPERATION

We must identify, measure, and manage the critical success factors for our ranches. Harlan Hughes identified growth, reproduction, replacement rate, and market weight as four of the critical success factors that affect profitability in the cow/calf operation. Dr. Bryan Melton, Iowa State Economist, concurs with this idea. At the 1995 mid summer NCA meeting, he assigned a relative economic value to the importance of reproduction, production, and consumer product as 47%, 23% and 30%, respectively. For the cow/calf producer, this infers that resource management must emphasize reproductive efficiency, while meeting the needs of the beef consumer for a wholesome, healthful product with consistent quality.

The production system of Quinn Cow Company is based on Angus, Angus-Hereford, and Angus-Simmental cows. The breeding program is a two-way rotational back cross with Simmental and Angus bulls. The cows weigh an average of 1150 pounds with an average frame score of 5-6. Sires are selected for maternal traits and moderate growth. The calving cycle is generally 60 days and the percent of cows weaning calves will range from 87- 92%. The pregnancy rate is approximately 93-96%. Seventy to seventy-two percent of the cows calve in the first 21 days of the calving period. The cows are monitored during calving, and though this is more feed and labor intensive, the percent of exposed cows weaning calves was improved. Dave Hamilton, Thedford, Nebraska rancher, recently stated that calving his cows in a similar manner increased his feed cost \$8.00 per head, but the break-even was saving only 2.2% more calves. The economics of this scenario must be figured each year in order to reflect current economics. The heifers are synchronized with MGA fed for 14 days, followed by 17 days normal ration, followed by one injection of Lutalyse. The heifers are then observed for heat and bred AI for 5 days. This is followed by natural service breeding for 30 days. The AI bulls are chosen on EPD's for low birth weight and calving ease qualities, while maintaining reasonable production of weaning weight. The conception rates for the herd are listed in Table 3 . The replacement heifers conception rate will range from 87-95%, the second calf heifers will also fall in this range. The replacement rate is about 10-12%, which we feel is above the industry average. The cost of replacement heifer development is a significant investment and all costs should be carefully tracked. The expense for higher replacement rates is charged against the cows and accounts for additional cow costs if the herd is expanded.

The herd averages 532 pounds weaned calf per cow exposed. The steers, sent directly off the cow to the feedyard, have averaged 603 pounds pay weight. They generally gain 3.0 pounds while in the yard and convert at about 6.5. Heifers that are not kept as replacements are weaned on the ranch for 30-45 days and then sent to the feedlot. In the past two years the heifers have been fed in a partnership arrangement. Open cows are marketed several times during the year. Younger cows are corn fed and marketed through a local butcher as dressed beef. Cows that are identified for market during calving are maintained until late spring or early summer. Those without calves or whose calves have been grafted on better cows are sold from April to June. Those cows with calves are not exposed to a bull and are maintained until July when their calves are weaned. The cows are then sold and their calves maintained until October. Table 3 outlines some production measurements for Quinn Cow Company.

Table 3.

Critical Measurement
Economic Impact

Year of Exposure	1989	1990	1991	1992	1993	1994	Ave
Total % Preg: 60 days cow exposure 45 days hfr exposure	96	96	94	93	95	94	93
% Live calves/cow exposed	94	94	95	93	91	92	93
% Calves weaned/cow exposed	89	90	91	92	87	91	90
Actual weaning weight, steers, lbs	598	602	609	590	570	598	595
Actual weaning weight, hfrs, lbs	568	572	579	560	540	568	565
Avg weaning weight, steers & hfrs, lbs	583	587	594	575	555	583	580
Pounds weaned/cow exposed	519	528	540	520	505	530	524

In Table 4, Larry Corah, Kansas State University Animal Scientist, clearly demonstrates the economic importance of reproduction and market weight. While this is an excellent illustration of the importance of reproduction and market weight, the economic impact on the break-even price may be somewhat misleading. The example assumes a constant cow cost of \$325. Generally speaking increases in weaning weight and rate come with increased input costs in the areas of genetics, nutrition, and management.

Table 4. The Break-Even Price Required to Produce a Pound of Calf
When Considering Weaning Weight
and Percentage of Cows Weaning a Calf

Weaning Weight	% Cows Weaning a Calf			
	70	80	90	100
400	\$1.16	\$1.01	\$.90	\$.81
450	\$1.03	\$.90	\$.80	\$.72
500	\$.93	\$.81	\$.80	\$.72
550	\$.85	\$.74	\$.66	\$.59
600	\$.77	\$.67	\$.60	\$.54
650	\$.71	\$.62	\$.55	\$.50
700	\$.66	\$.58	\$.51	\$.46

**PROFITABILITY FOCUS POINT: KNOW THE NUTRIENT CONTENT
OF YOUR FORAGE AND SUPPLEMENT DEFICIENCIES, IF ANY,
IN A COST EFFECTIVE MANNER**

Over fifty percent of the annual cow cost is represented by feed cost. It is very important to know the nutrient content of the forage in relation to the animal's nutrient requirement. Knowing this should help us neither overfeed nor underfeed our cattle. All hay produced or purchased is forage tested for protein and moisture. Other nutrients are tested periodically and TDN is also estimated. Estimates of standing forage nutrients are made with the help of extension beef and range specialists in both South Dakota and Nebraska.

The need for supplementation is based on this information, plus the NRC nutrient requirement for the particular age and production requirement of the animal. Generally speaking, when grazing dormant standing forage during December and early January, the cows are supplemented with a high protein cake (35-40%) to supply about half a pound of protein per head per day. When the cows are moved closer to the headquarters, high quality alfalfa (16-20% protein) is used to meet the protein needs. This is usually fed every four days. Because of the nutrient requirements of the first calf heifer, she is maintained in a separate unit until she is bred for the third time.

As we all well know, weather is an important factor in determining nutrient requirements and should be considered in all ration formulation. The condition of the cow should also be continually monitored and the reaction time should be quick. Work done by Selk & Lusby, Oklahoma State University, shows the importance of monitoring condition score and supplement strategy on subsequent reproduction and is outlined in Table 5.

The experimental objective was to evaluate the importance of body condition on rebreeding performance. The cows were condition scored biweekly from weaning through calving and wintered on standing native range. The cows were supplemented during the winter to 1) maintain body condition all winter; 2) lose body condition all winter; 3) lose body condition until January 20, and then maintain condition until calving; and 4) lose body condition until January 20 and then regain condition until calving.

Table 5. Supplement Strategies for Wintering Spring-Calving Cows
Oklahoma State University

Condition Change				
Nov. to Jan.	Maintain	Lose	Lose	Lose
Condition Change Jan 20 - Mar 15	Maintain	Lose	Maintain	Gain
% Pregnant 90 Day Breeding	91	78	83	84

**PROFITABILITY FOCUS POINT: THE MAJOR GENETIC IMPROVEMENT
IN THE HERD WILL COME FROM HERD SIRES—
KNOW THE PERSON WHO SUPPLIES YOUR SEED STOCK.**

It is a well-known fact that sires have a major influence on a herd. It is important to have and adhere to selection criteria. I feel very strongly that a long term relationship should be built with the people who supply our seed stock. Nearly all the various sources of bulls for this ranch have visited the ranch to view the cows. The two major suppliers come on a yearly basis to view the progeny and to also discuss our goals. It is also important for them to see how their bulls perform in our environment. Emphasis is placed on bull with maternal characteristics because of the importance of the replacement heifer. The criteria used for selection of black Angus bulls is listed in Table 6. Comparable figures are used for homozygous, black polled Simmental bulls.

Table 6. Criteria For Angus Herd Bull Selection
Quinn Cow Company

Traits	EPD's
Birth Weight	<5.0
Weaning Weight	>25.0
Yearling Weight	>50.0
Milk	10-20
Scrotal Circumference	34-38 cm

Carcass characteristics, i.e., marbling, rib eye area, and reduced backfat are important as we work into a retained ownership program. Of course, structural soundness is also important. Outstanding feet and legs are critical because pastures are large, with stocking rate of from 30-40 acres per cow/calf pair, and bull to cow ratios of an average of 1 bull to 35-40 cows. A frame score of 5.5 to 6 is preferred. The herd sires must have an excellent temperament.

YOUR CATTLE WILL BE TREATED LIKE A COMMODITY UNTIL YOU DIFFERENTIATE THEM INTO A PRODUCT

With the amount of information the producer has available, it is possible to market cattle as a product. Industry demonstrations such as the Strategic Alliance conducted in 1993, and other ranch to rail projects, are proof of this statement. Information outlined in most of the above discussed sections can be used to position calves and yearlings as a distinctive product. Figures which document past performance of the cattle in the feedyard is very valuable information for both current management and marketing decisions. In today's business environment, and with the need to be cost effective, it will be critical to market, not merely sell cattle.

UNDERSTAND YOU ARE IN THE MEAT BUSINESS

It has been stated that the history of rail travel and transportation might have been different if they had strategically planned with the idea, that they were in the transportation business instead of the train business. It is important that we realize we are in the meat business. It is important that our management and marketing decision be made with the end consumer in mind.

SUMMARY

It is important we enter the twenty-first century with confidence, competence, and direction. We must remember no one is immune from the natural selection process of the marketplace. It is critical we are open to new and different management practices that will make us more effective, efficient, and profitable. The livestock producers of the twenty-first century will capitalize on his unique resources and abilities. He will be driven by sound business practices, and make all decisions based on how they will affect the profitability of his operation, the industry as a whole, and the beef product on the consumers plate.

"The future is in the hands of those who can give tomorrow's generation valid reasons to live and hope." Pierre Tielhard de Chardin