



Vol 1. #9. Good afternoon. For the past eight years, we have focused on trying to add value to MT calves by certifying that they are BQA certified, that the purchaser of these calves knows what management practices have been provided (vaccinations given, minerals fed, implant usage) prior to sale. The following article summarizes several projects we have completed as part of the Montana Beef Network. Have a good week. JP

WHY SHOULD I KEEP RECORDS (BEAUSE THEY ADD VALUE TO WEANED CALVES)

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Are we listening to the consumer?

The “produce-and-then-sell” mentality of the cattleman who produces commodity beef is rapidly being replaced by the strategy of first asking consumers what they want as attributes in their beef products, and then creating or manufacturing it (Smith, 2003). Schroeder (2003) said “The opportunity for industry-wide profitability will be absolutely dependent upon...a clear-eyed, relentless focus on the consumer, and what is required for her or him to persistently spend more money on beef.”

At the consumer level, quality attributes such as tenderness, flavor and portion size are important while at the production level, concerns are focused on such with things as performance, health and predictability all through the system. The product attributes that are known to affect beef demand include 1) food safety (is this product safe?), 2) nutrition (is it good for me?), 3) palatability (is it tender and tasty?), 4) convenience (is it convenient to prepare?) and 5) the relative price when compared to competing meats. These product attributes have frequently been called the “demand drivers” because they have been shown to drive the demand for beef (Genho, 2001).

Dr. Harlan Ritchey from Michigan State University said “The beef industry has changed more in the past six years than it did in the previous sixty” (Oldham, 2002) and Paterson (2002) concurred with “It took 20 years to turn beef demand around because the industry’s price system failed to provide signals—premiums for doing things right and discounts for doing things wrong. The beef industry is continuing to move from “production driven” to “consumer driven” which is simply another way of saying “end-user responsive” (Smith, 2001a). Smith (2001b) concluded that producers must know the difference between a “customer” and a “consumer”. An example of this difference includes: A feedlot operator can say that he/she is satisfying the customer by providing the most desirable carcass (in terms of Quality Grade, Yield Grade, carcass weight, rib-eye area, defect criteria) as defined by a packer grid, but may not be satisfying the consumer (the person who eats the beef). To be consumer-driven means that cattle producers can no longer just provide what they think is best (or easiest or most economical) and expect the world to come begging for more. Rather, consumer-driven means that at each critical juncture in the beef production sequence, consideration must be given to what the consumer wants and is willing to buy.

This old saying is so true today, “You can’t manage what you don’t measure, and you must compare your measurement against some relevant standard to determine where you are and where you need to be” (McCollum, 2003). This means that ranchers will need better and more complete production records in the future. One thing that is also changing is the ever widening spread between cost of production and revenue of production ranching. Any strategy must have a cost/benefit analysis of some type. Most research ignores this or at least provides no way for a producer to perform a

financial analysis. Flying by the seat of your pants in this day and age is risky business if you plan to stay in business (Steve Roth, President of Montana Stockgrowers Association).

What types of records do Montana ranchers keep?

The results of a mail-in survey conducted by Duffey, et al., (2007, in press) to determine the level of record keeping and methods of identifying producers who were Beef Quality Assurance (BQA) certified are presented in the following table. Significant differences were found between BQA certified producers and non-BQA certified producers regarding the types of records maintained on the ranch (Table 1).

Table 1. Types and format of records maintained by BQA certified and not- BQA certified producers (Duffey et al., 2007, In press)

Item	BQA Certified		Not-BQA Certified		t value
	n	%	n	%	
Types of records maintained					
Animal number and description	199	86.1	80	69.0	3.87*
Vaccination records	194	84.0	69	59.5	5.20*
Calf birth records	180	77.9	75	64.7	2.66*
Animal purchases and sales	178	77.1	77	66.4	2.13*
Cowherd records	170	73.6	57	49.1	4.64*
BQA records	104	45.0	5	4.3	8.44*
Names of suppliers and buyers	100	43.3	34	29.3	2.54*
Feed records	89	38.5	29	25.0	2.53*
Where animal was born	78	33.8	27	23.3	2.01*
No records kept	8	3.5	9	7.8	
Animal Identification Methods					
Plastic Ear Tag	212	91.8	90	77.6	3.78*
Hot Iron	185	80.1	75	64.7	3.17*
Ear Tattoo	48	20.8	14	12.1	2.00*
Ear notch	31	13.4	18	15.5	
Electronic Tag	25	10.8	2	1.7	3.02*
Freeze Brand	22	9.5	11	9.5	
Metal Tag	19	8.2	8	6.9	
No Identification	0	0	0	0	

* $P < 0.05$.

- More ($P < 0.05$) BQA producers (86.1%) kept track of animal numbers and descriptions than did non-BQA producers (69.0%).
- *The BQA-certified producers (73.6%) kept more ($P < 0.05$) cowherd records than non-BQA producers (49.1%).*
- In addition, the BQA producers (84.0%) maintained more ($P < 0.05$) vaccination records than non-BQA producers (59.5%).
- Records on purchase and sale of animals were maintained by 77.1% of BQA and 66.4% of non-BQA respondents ($P < 0.05$).
- Only 43.3% of BQA respondents and 29.3% of non-BQA respondents reported maintaining records of suppliers and buyers of their cattle ($P < 0.05$).
- There were differences between BQA producers (20.3%) and non-BQA producers (8.6%) who used on-farm electronic record keeping system, such as Excel.
- The majority of the respondents kept records for more than two years, although there was a difference ($P < 0.05$) between BQA producers (84.4%) and non-BQA producers (69.8%).

The respondents were also asked how they identified their animals (Table 1). Respondents were allowed to choose all answers that applied to their management situation.

- More ($P < 0.05$) BQA producers (91.8%) used plastic ear tags for animal identification than did non-BQA producers (77.6%) and

- BQA producers (80.1%) were more likely ($P < 0.05$) to use a hot iron brand than were the non-BQA producers (64.7%). Even though Montana is a brand-law state, it does not mandate that animals be branded.

Methods of marketing Montana cattle

Several marketing methods that were used by producers are presented in Table 2. The most common method to market weaned calves was to sell them to an order buyer (44.6% for BQA vs. 48.3% for non-BQA) followed by taking the calves to an auction market (BQA, 24.7%; non-BQA, 27.6%). BQA certified producers were more ($P < 0.05$) likely to use the auction market to market cull cows than non-BQA producers (95.2% vs. 84.5%).

Although there were no differences between the two types of producers regarding the number of years that they have sold calves to the same buyer, the results indicated that a majority of producers have developed relationships with buyers and have marketed to the same buyer for three or more years. Buyers are requiring producers to provide information on the calves they purchased. Vaccination records were requested most frequently (BQA, 39%; non-BQA, 31%).

As the various sectors of the beef industry react to BSE, animal identification, and country of origin labeling, producers will be asked to provide more source and process verification documentation to the buyers.

Table 2. Marketing preferences of BQA certified and non-BQA certified producers

Marketing Options	BQA certified		Non-BQA		<i>t</i> value
	<i>n</i>	%	<i>n</i>	%	
Calf Marketing Preference					
Auction Market	57	24.7	32	27.6	
Order Buyer	103	44.6	56	48.3	
Video Auction	39	16.9	13	11.2	
Forward Contract	29	12.6	8	6.9	
Private Treaty	45	19.5	29	25.0	
Retained Ownership	19	8.2	7	6.0	
Cull Cow Marketing Preference					
Auction Market	220	95.2	98	84.5	3.46*
Order Buyer	26	11.3	12	10.3	
Retained Ownership	6	2.6	3	2.6	

* $P < 0.05$.

An earlier, but smaller survey (King et al, 2000) was conducted throughout Montana by MSU county agents to determine management practices that influenced marketability of weaned calves. A ten-page questionnaire was proctored by county agents during September through December of 1999 and ranches were intentionally selected to represent a cross section of ranch cow inventory, management practices and marketing strategies. Sixty seven ranches representing 20,840 mature cows were included in this survey (average herd size of 311 cows). Calving season averaged 62 d (range 40-100 d), 84% used pregnancy evaluation, 88% used scrotal measurements and 94% used EPD's in bull purchasing decisions. Other selected results of the survey are presented in Table 3.

The beef cattle industry must get past the conventional philosophy that good-looking cattle are profitable and instead use accurate performance data to make business decisions (Smith, 1999). The U.S. cattle industry is comprised of more than 800,000 individual farms or ranches that provide the nation with a steady supply of safe, nutritious beef. Cattlemen form the largest part of the U.S. food and fiber industry, which, in turn, is the largest segment of the U.S. economy (about 17.5 percent of the gross national product).

If the consumer demands to know where or how their food was produced, then this information should be provided to them (eg. mCOOL, certified Angus or Hereford beef, natural beef, grass-finished beef, age and source verified calves for export markets)? However, the cost/benefit must be clearly described or you may confuse the livestock producer if the program is government mandated or it will lose credibility if it is market driven without auditable production practices.

Table 3. Summary of Selected Ranch Production Practices by MT Cow-calf Producers (King et al. 2000)

Percentage of ranches utilizing reproductive technologies.

	<u>% of ranches using</u>
EPD's	94
Scrotal Measurement	88
Pregnancy Test	84
Semen Evaluation	81
Body Condition Score	69
AI	40
Estrus Synchronization	34

Have you changed these management practices during the last five years?

	<u>% who have changed</u>
Location of Injections	91
Route of Injections	88
Genetics	67
External Parasite Control	64
Cull Animal Management	40
Implanting Procedures	27
Cattle Handling	7

Market driven animal identification (source and age verification)

There are currently at least five reasons why the beef industry is interested in source verification or traceability of cattle; 1) ascertaining ownership of the animal, 2) identifying parentage of the animal, 3) improving palatability of the product, 4) assuring food safety and 5) determining compliance in branded-beef programs and alliances (Smith, 2000).

Auction markets and video auctions now provide producers with the option to sell livestock as age and(or) source verified to customers such as Wal-Mart, McDonald's, and potential export markets. The Beef Export Verification (BEV) plan for Japan requires processes for validating the source and age (less than 21 months) on calves and beef products.

What does age and source verification mean in the market place?

- Source-verification of cattle offered with all background information and documentation helps the potential buyer determine the value of the calves. The buyers are offering premiums for the quality they expect, for background information, and for confidence in the reliability of the information presented about the feeder animals. Because the quality cannot be determined solely by inspection, the issue of reputation of the market and sellers does influence the buyers.
- Has potential to open markets to you for which other producers are not eligible, because they are not age and source verified. For example, Japan and some other export markets will only import cattle that are age and source verified, or commonly called Beef Export Verification (BEV), from the U.S. This creates a market demand which supplies are not yet capable of filling. When market demand is high and supplies are low the producer benefits in a higher value for their product.
- Producers whose cattle have been age & source verified reported increased marketability and premiums for this documentation. This is a great time to take advantage of being ahead of the curve of mandatory animal ID and capturing extra revenue. (Colorado Cattlemen's Assoc.2007)

Wes Ishmael (2005) quoted Steve Hunt the CEO of U.S. Premium Beef as saying "We believe producers who can trace cattle back to their origin and provide age verification will obtain more value relative to the market." Many producers have sold cattle in Superior's VASE program, Northern Video's VESA program, Joplin Regional Stockyards and 101 Livestock Auction. These value added sales are realizing additional income for cattle producers who age and source-verify their cattle.

Does additional information have value in the market place?

Cattle-fax's newsletter TRENDS (April, 2007) reported that providing additional information to the buyer could add significant value to feeder calves. This report indicated that in any given week, in any region, there is easily a \$25-\$30/cwt price spread on calves in the same weight class. What is driving these spreads?

1. Knowing how cattle perform in the feedyard and on a carcass weight basis can be worth \$2 to \$5 dollars per cwt (and in some cases even more) on higher performing cattle.

2. Weaned, pre-conditioned calves that have had their booster shots have generated between \$4-\$8/cwt premiums to non-weaned calves in each of the past two years.
3. Source and age verified cattle are a growing market opportunity both internationally and domestically. Not all programs will pay for this yet today but several do pay anywhere from \$10-\$25 per head.
4. The natural market is still small but it is growing at a rapid pace. Calves that qualify for a natural program can generate an additional \$3-\$7/cwt. depending on weight and time of year. To capture these premiums, align with a program. The commodity market will not pay premiums for non-implanted calves.

Can we use certification programs to make better cattle?

The Montana Beef Network, uses individual calf identification to provide data to producers to use as a benchmark to compare their herd's performance and carcass traits to industry goals. We believe that value-added programs will provide an added benefit to a market driven animal identification program. The following are economic summaries by Drs. Brester, McNew and Smith from the Department of Agricultural Economics and Economics at Montana State University who have evaluated Beef Network data.

How do Montana cattle compare to the U.S. Average?

9,600 head of cattle marketed between 1999 and 2001 were analyzed. The data indicate that:

- Montana Beef Network cattle tend to be more concentrated in the Choice quality grade compared to the U.S. average, with fewer cattle in the Montana Beef Network grading Prime or Select. Yield Grade results also suggest noticeable differences between cattle in the Montana Beef Network and the U.S. averages. The average Yield Grade for Montana Beef Network cattle was 2.58, while the U.S. average is 2.35.
- Cattle from the Montana Beef Network would average a discount of -\$3.46 per cwt if sold using the U.S. average premium/discount schedule or a -\$3.36 per cwt discount if sold on the Gelbvieh grid.
- Although average cattle should not be sold on the grid this does not imply that all cattle should not be sold on the grid. Some producers have high quality cattle and can earn better prices for those cattle by selling on the grid. Only 2.5 percent of all producers would ever find it advantageous to sell on the grid if the U.S. Average Grid were in effect. For these producers, they would sell on the grid only 35.7 percent of the time and the average premium would be \$0.053 per cwt. If the Gelbvieh grid were in effect, 24 percent of the producers would find it worthwhile to sell on the grid at least once over this time period. On average, this group of producers would sell on the grid 11 percent of the time and earn an average premium of only \$0.04 per cwt.
- For these producers in the Montana Beef Network, the value of carcass grading information is worth \$0.04 to \$0.05 per cwt on a carcass weight basis.

The Value of BQA certification

A mail survey was conducted by King et al. (2000) . The survey was sent to 400 Beef Network members who were BQA certified and 400 non-members. Responses were received from 147 members and 69 nonmembers. The following conclusions were drawn from the survey:

In 2000, MBN members averaged \$98.04/cwt for steer calves; non-members averaged \$96.42/cwt – with the differences being statistically significant.

MBN members averaged \$93.28/cwt for heifer calves; non-members averaged \$91.82/cwt – with the differences being statistically significant.

No statistical differences between members and non-members were found for calf sale weights, sale methods, or number of calves marketed.

MBN members used modified live vaccines relative to killed vaccines much more frequently than non-members.

On average, MBN members vaccinated calves 1.73 times; non-members vaccinated calves 1.35 times – with the difference being statistically significant.

After accounting for calf sale weights (and the number of years out of the last five that ranchers had marketed cattle to the same buyer), it appears that the MBN program added \$1.56/cwt to steer calf prices and \$1.09/cwt to heifer calf prices.

Feedlot Performance of Montana Feeder Cattle

Data from seventy pens of cattle were obtained from a Colorado branded-beef feedlot program. Statistical procedures were used to evaluate the impact of a variety of factors on morbidity (sickness), mortality, average daily gain, carcass weight, and carcass quality. The following summarizes the results:

- Pens which contained animals from multiple ranches had a 6.7 percentage point increase in morbidity. In addition, pens which contained heavier feeder cattle had significantly lower morbidity.

- Pens which contained heavier feeder cattle had significantly lower mortality.
- After accounting for gender, pens which had lower morbidity (sickness) had higher average daily gains. In addition, Montana feeder cattle had significantly higher average daily gains (about 0.2 lbs/day) than feeder cattle from five other states.
- Increased average daily gains and heavier feeder cattle resulted in larger carcass weights.
- After accounting for gender and carcass weights, straight bred British animals had higher percentages grading Choice than British crossed with British animals, and British crossed with Continental animals had lower percentages grading Choice than British crossed with British animals.
- Montana feeder cattle were not different from those originating in other states in terms of morbidity or mortality. However, because of higher average daily gains, heavier carcass weights, and a higher percentage of animals grading Choice, *Montana feeder cattle generated \$31.47-\$35.70/head more than other animals depending upon Choice-Select price spreads and selling method.*

Beef quality in the food chain (Brester, McNew and Smith, 2003)

In general, producers can only receive payment for higher quality cattle when the “lemons” problem is solved. The “lemons” problem is described as follows. Nearly-new used cars typically sell for very large discounts relative to new cars because buyers assume that a nearly-new car is being sold because something is wrong with the vehicle. The only way an owner of a good, nearly-new, used car can receive a price that reflects its actual condition is to provide credible evidence of the vehicle’s quality. Ranchers face a similar problem. To receive higher prices for higher quality cattle they must provide credible evidence of the improved quality to buyers. In almost all cases, providing this information involves costs that currently may or may not be lower than the returns they obtain from providing the information. Cattle operations benefit from new technologies throughout the marketing chain that reduce those costs and increase premiums paid for quality attributes by households who consume beef.

Summary

If the beef industry is going to continue to be successful, Chuck Schroder (2003) presented three rules for the beef industry to adhere to:

Rule 1. Remember you are in a consumer product business. Everyone has an obligation to deliver quality, affordability and an overall image (“satisfaction”) that will cause the consumer to choose beef over its competitors in the meat case or on the menu. Each one in the system must be accountable for his or her contribution to meeting the consumer’s desires, and should expect to be compensated for that contribution.

Rule 2. Remember you are in a changing business. There is scarcely a successful consumer product on the market today that is the same as it was five years ago – in some cases, five months ago! The complex beef industry requires agility to respond to the many factors influencing its potential for profitability, such as: consumer demands for innovation; rising costs of land, labor and other inputs; regulations driven by fact, fear and perceptions; competition from other proteins; dwindling sources of labor, etc. We resist change for a variety of good and poor reasons, but those who grasp it and drive it have a chance to turn it to their advantage. We must strategically invest available industry resources, in understanding, preparing for and effecting proper change.

Rule 3. Remember you are in a relationship business. While the independent nature of beef producers, processors and marketers has been a signature of our culture everyone must recognize the concomitant nature of business relationships today. Sparking conflict for the sake of tradition and entertainment is a costly practice that benefits only our competitors, and contributes to the outward squeeze on human resources as it adds cost to the system. Learn to know and respect your customers. Learn to know and respect your suppliers. Learn to know and respect your peers. If your regular reading, viewing and listening materials on your industry do not contribute to that knowledge and respect, stop reading, viewing and listening to them. The beef industry has, turned an important corner in recent years as traditional lip service to consumer needs was transformed into strategic action. That action resulted in a measurable change in consumer demand, which translated into more consumer dollars flowing into the beef system. If we continue down that path, in spite of the often self-generated distraction it will invariably take, it will lead to an industry that is growing on sound fundamentals, attracting investment and entrepreneurial vigor, and establishing new strength on its traditional values.

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