

HITTING THE TARGET AND GETTING A REWARD FOR A HIGH-QUALITY PRODUCT

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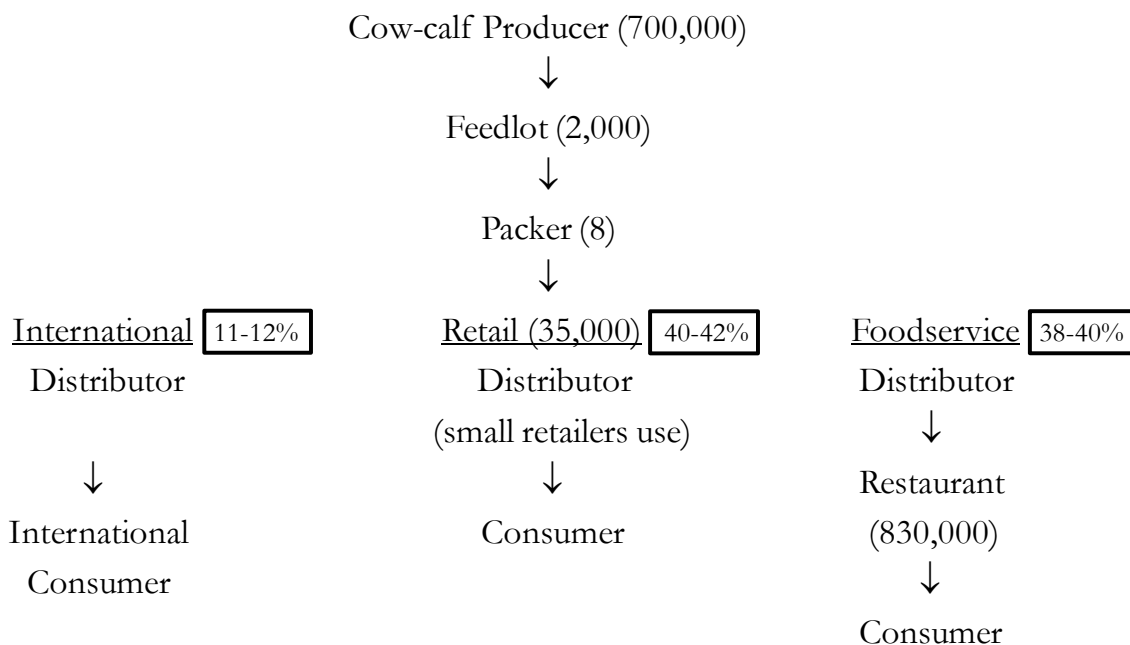
So I apply these technology strategies – How do I profit?

Introduction

How does that great beef product actually get to the consumer?

Most of us think we know, but, at least in my case, I really did not understand the process.

Figure 1. Industry structure



In most cases, for large chain retailers (grocery stores), the product goes directly from packer to retailer. For smaller stores, they buy through a retail distributor so they get the volume and cuts they can sell.

For restaurants, nearly all product goes through a foodservice distributor. This distributor creates the 8 oz. or 12 oz. steak that appears on menus providing a key service for restaurant owners.

At the international trade level, distributors again are a key factor in U.S. beef finding its way into the global market.

So what is the consumer telling us they want?

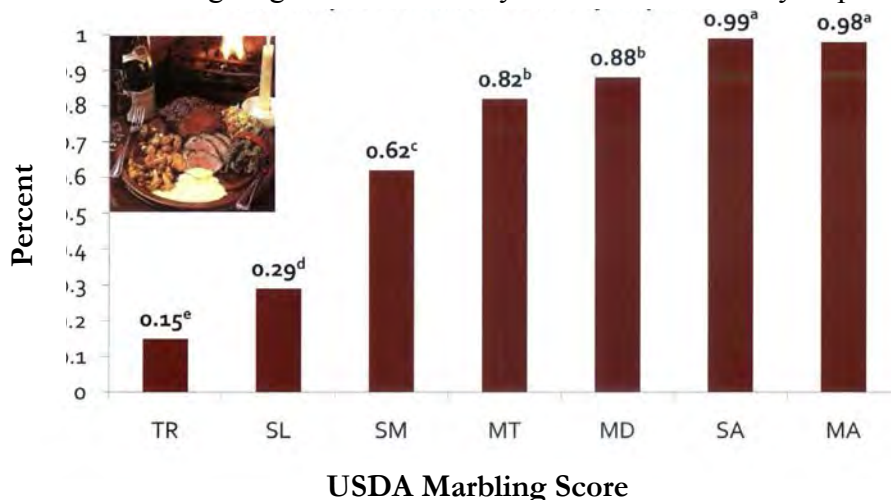
At virtually all income levels, consumers prefer beef as their animal protein. Many will pay more for a better quality product, but when they do they expect predictable flavor and tenderness. The consumer identifies quality with the USDA beef grading system.

Table 1. Eating Satisfaction Related to USDA Quality Grades

Quality Grade	Undesirable Eating Experience	% Undesirable
Prime	1 in 26	4
Premium Choice (CAB®)	1 in 19	5
Choice	1 in 7	14
Select	1 in 5	20

Always remember the ultimate driver of consumer satisfaction is tenderness and flavor, which explains 91% of the variation in eating quality (Emerson, et al 2011). Thus, as you would expect, as marbling levels decline, consumer satisfaction drops. A recent NCBA check-off funded project showed that exact trend.

Figure 2. Effect of Marbling Degree on Probability of a Positive Sensory Experience



So what has changed in how we sell beef? – Four important trends

Role of new beef cuts – One extremely valuable contribution of check-off dollars has been the development of new beef cuts. Words like “flat iron” and “teres major” now permeate the vocabulary of retailers and restaurant owners adding great value to what was once grandma’s pot

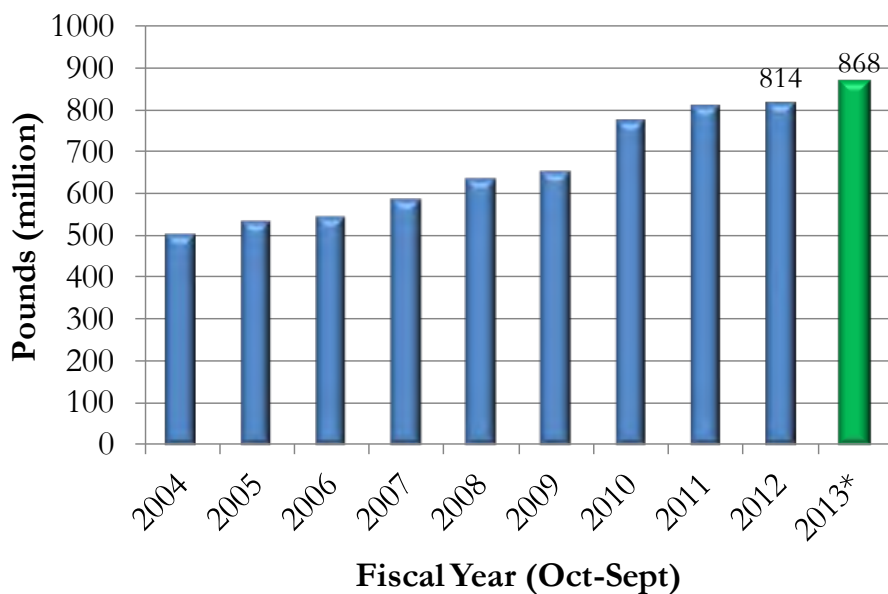
roast. Net result is these cuts have added dollars to the value of a carcass allowing cattle to be sold at prices never seen before.

Shift in quality of beef sold at retail – Traditionally, for years most grocery stores sold either commodity beef or a two tier quality offering – Choice and Select. That has changed. Within the past three years, nearly all of the major retail chains have added a premium (Prime or Premium Choice) line to what is sold; generally with some success. This has increased the demand for higher quality product, driving the grid premiums in existence today.

A new restaurant concept – premium grinds – If there is a new or reinvented food/meat category, it is ground beef. America has clearly developed a new love affair for ground beef. With the advent of new ground beef chains, like Smashburger, Five Guys, Hard Rock Cafe and many more, premium grinds are a new restaurant category by itself. The relevance to the beef producers is these are further adding value to the carcass. Traditionally, the only factor influencing ground beef prices was the fat/lean ratio or the cut it came from (ground sirloin, chuck or ground trim). Today, premium grinds are generally priced 14-18 cents/lb higher than traditional grinds.

Food has become more of a lifestyle rather than a daily essential – And demand for beef is benefitting – Today, many business deals are made over lunch or dinner. Outdoor BBQ cooking has grown and the plethora of food shows is exploding. Cooking is vogue. Beef consumption, especially for premium brands, has benefitted greatly.

Figure 3. Certified Angus Beef® pounds sold



2013*: Projected

So are there premiums being applied to this higher quality product?

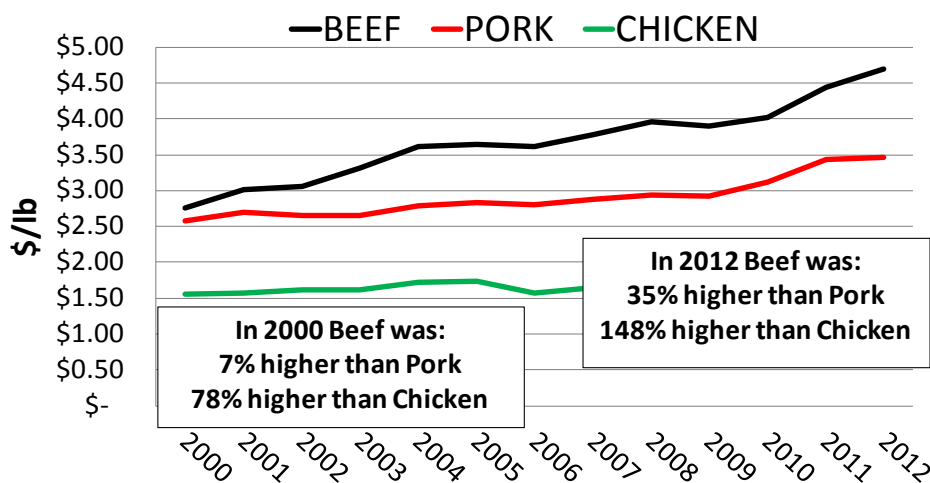
Easy answer is absolutely. Let us first look at what a difference a few years has made in cattle prices.

Figure 4.

	January 1, 2009	January 1, 2013	% Change
Live Cattle, \$/cwt	\$85	\$126	+48%
Feeder Cattle (550 lb), \$/cwt	\$98	\$169	+72%
Cull Cows, \$/cwt	\$43	\$77	+79%
Omaha Corn, \$/bu	\$3.92	\$7.27	+85%

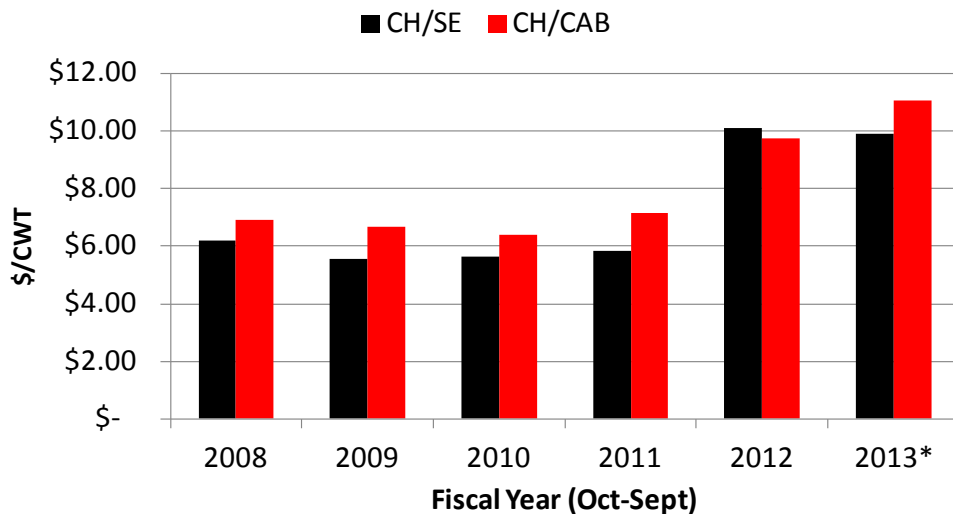
It is important that we realize beef has outdistanced our competing proteins in price growth making consumer satisfaction critical or consumer will shift to cheaper protein sources.

Figure 5. Retail pricing of beef, pork and chicken



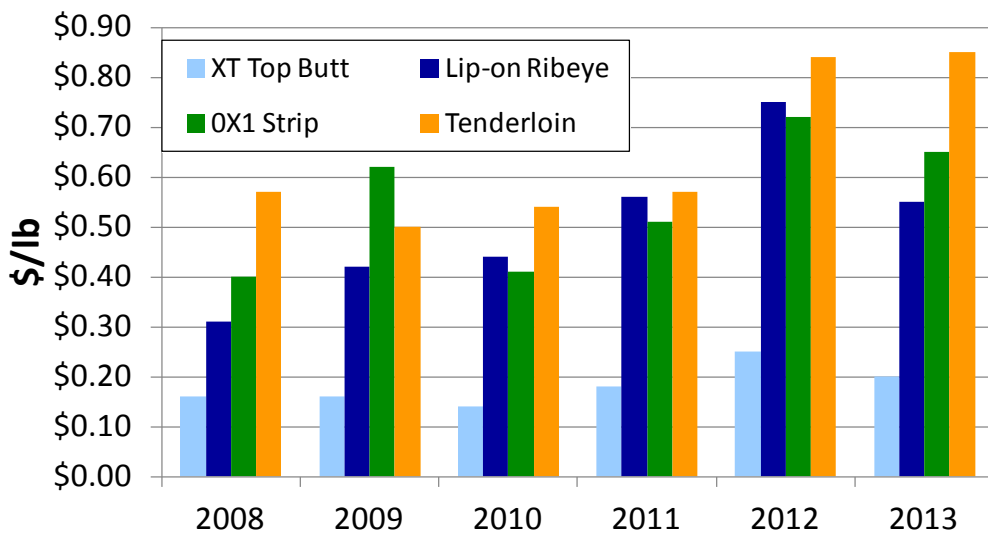
Traditionally, we always talk about the Choice-Select spread, but today we have added the Prime-Choice spread and CAB[®]-Low Choice spread to our vocabulary because of the impact they bring to grid premiums.

Figure 6. Cutout value spreads



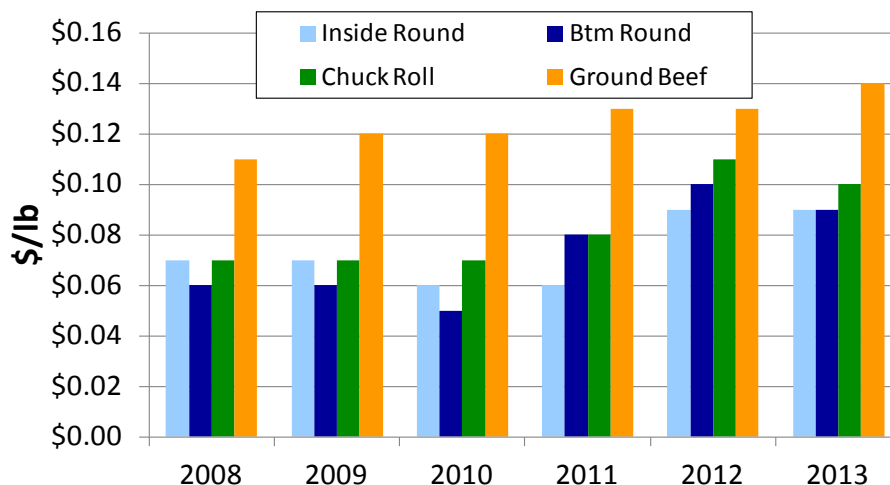
Source: Urner-Barry
 2013*: October-August

Figure 7. CAB[®] premiums over choice – Middle meats



Source: Urner-Barry

Figure 8. CAB® premiums over choice – End meats/grinds



Source: Urner-Barry

But will I get paid for hitting the premium quality target?

Fifteen years ago, all we heard was “there is no extra money made by producing a higher quality animal.” Years ago maybe that was true. But today, whether it is a sale barn sold calf or fed steer, quality signals or grid premiums clearly exist. To not over simplify it will take some marketing skill to make sure you get those dollars, but they clearly exist.

Table 2. Example of Premiums Paid by One National Program Used by Many Producers in This Region and How They Have Changed Over the Past 15 Years

	Top 25% Cattle Premiums			
	1998	2003	2008	2013
\$/Head	26.39	45.30	64.89	117.94

As more of the large retailers started selling Choice (or higher) beef, the demand for Choice and Premium Choice (CAB®) has shown dramatic increases. For a typical 830 lb. carcass, the spread from Premium Choice (CAB®) to Select is in the range of \$140-180/head; making producing quality an important target for beef producers.

Can I have growth and grade?

Absolutely; today, cattle are capable of excellent growth rates while maintaining an excellent grade. This equals dollars (Table 3).

Table 3. Feedyard Closeout and Carcass Performance Comparison

Yearling Steer Closeouts July-October, 2008-2011	Higher Growth Higher Grade*	Lower Growth Lower Grade**
Pens	151	113
Total Head	36,266	26,729
Death Loss	1%	1%
Placement Weight (lbs.)	806	797
Purchase Cost Per Head	\$864	\$857
Finish Weight (lbs.)	1,387	1,276
Days on Feed	166	150
Dry Feed Intake (daily lbs.)	20.66	12.92
Average Daily Gain (lbs.)	3.49	3.26
Dry Feed/Gain (lbs.)	5.92	6.12
Feedlot Cost of Gain (\$/cwt)	88.39	93.64
Dress Percent	64.6%	64.1%
Prime & Choice	73%	40%
Certified Angus Beef	19%	5%
Yield Grades 1-3	89%	95%
Premium vs. Live Market (head)	\$64	\$12
Value Per Head Sold	\$1,415	\$1,256
Profit/Loss Per Head	\$27.30	(\$58.29)

*1,350 lbs. or heavier finish weight/65% or better Prime and Choice grades

**1,300 lbs. or lighter finish weight/45% or lower Prime and Choice grades

Source: Tom Brink, JBS Five Rivers Cattle Feeding, LLC

Keys to making the “Quality recipe” work

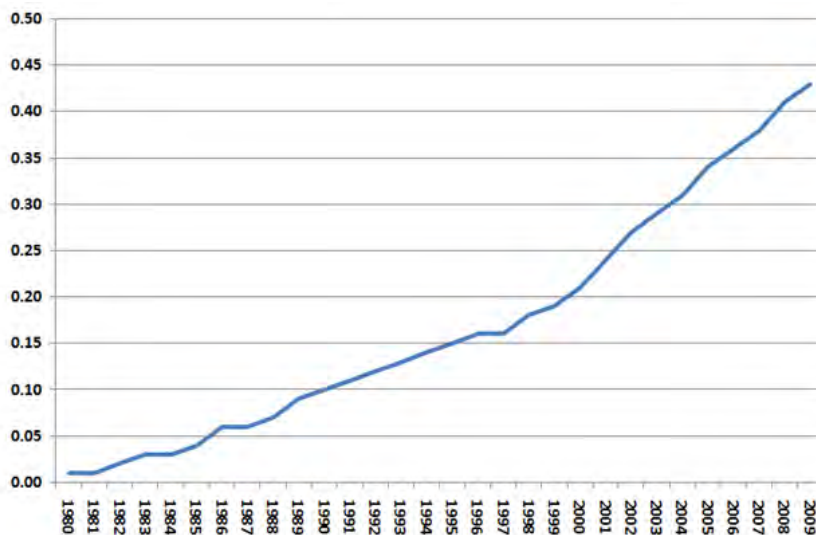
1. Genetics are very important

When trying to create a positive eating experience, while still generating a profit for the producer, the old adage “it is hard to make silk out of a sow’s ear” really fits. Using the “right” genetics is really step one to hitting a quality target. Four key genetic factors should be considered.

- a. *Breed choice* – Yes, all cattle breeds can create a quality eating experience, but some breeds excel.
- b. *The Angus genetic influence* – Angus as a breed, from its origin in Scotland as the “butcher’s breed,” has created the image where the name Angus and eating quality are synonymous. The name Angus is present in 67-68% of all USDA beef brands. Hence, it is not surprising as the percentage of Angus in a calf increases, quality grade improves and *Certified Angus Beef*[®] (CAB[®]) acceptance rates grow, explaining why today 40-50% of all calves result from a straight commercial Angus cow mated to a registered Angus bull.

- c. *Successful use of genetic information like marbling EPDs and genetic indexes like \$B* – Although Angus as a breed marbles very well, there is a huge variation among bulls. A great way to incorporate those top bulls is use of marbling EPD information. As a breed, Angus breeders have made great progress in focusing on marbling as part of their selection process.

Figure 9. Angus Genetic Trend for Marbling (Spring 2011) – Average Marbling EPD by Birth Year



- d. *Use new DNA technology to hit quality target* – As an industry, we are in our infancy of using a genetic selection tool that will expand what we can select for and the accuracy of the genetic information we use – that technology being DNA.

In 2012, Certified Angus Beef LLC, in partnership with Angus Genetics, Inc. and Zoetis Animal Genetics, launched an Angus-specific DNA tool for commercial cattle producers called GeneMax™ (GMX™). GeneMax allows commercial cow-calf producers to look under the hide and select replacement females that will produce progeny that are superior for both growth and grade. It also can be used to evaluate the grading and growth potential of feeder calves.

When a DNA sample is collected and submitted, the producer receives a GMX score, an economically weighted value for marbling and post-weaning gain combined, as shown in Figure 10. For more information, go to <http://www.cabpartners.com/genemax/results.php>.

Figure 10. GeneMax™ Test Results

Tag	Sex	Assn Num	GMX™ Score	GMX™ Marbling	GMX™ Gain	Most Likely Sire	
						Tag	Reg. Num.
1R177	C	BIR 619046714	99	5	5	5899	AAA 13395344
1U093	C	BIR 620020729	99	5	5	5899	AAA 13395344
1S113	C	BIR 620020965	99	5	5	5899	AAA 13395344
1S009	C	BIR 620020932	98	5	5		
1W053	C	BIR 621342968	98	5	5	5899	AAA 13395344
1P142	C	BIR 619700932	98	5	4	5899	AAA 13395344
1R149	C	BIR 619046690	97	5	5	5899	AAA 13395344

GeneMax™ score of 99 = top 1%, 75 = top 25%, 50 = average; 25 = bottom 25%, 1 – bottom 1%

- e. *Through AI usage, the ability to use proven genetics* – In the “Missouri recipe,” one of the key success factors has been their effective use of artificial insemination. This allows use of proven genetics, but also bulls with high marbling EPDs. The following table graphically illustrates the value of proven genetics.

Table 4. Performance Data (2008-2011) for Steers from the University of Missouri Thompson Farm, Spickard, MO, That Were Fed at the Irsik & Doll Feed Yard in Garden City, KS

Sire Group	Maternal Grand Sire	No. of Steers	Choice or Higher (%)	CAB® (%)	Prime (%)
High accuracy	High accuracy	153	100	58	30
High accuracy	Low accuracy	64	100	61	34
High accuracy	Natural service	35	100	60	14
Totals		252	100	59	29
Natural service	High accuracy	58	97	60	12
Natural service	Low accuracy	17	100	53	18
Natural service	Natural service	26	92	27	12
Totals		101	96	50	13

The initial female mating is important. When daughters of proven high accuracy bulls are mated back to unrelated proven high accuracy bulls, the ultimate success can be achieved. These progeny become cattle with \$100-200 premium potential in a grid marketing program, as shown in the Mike Kasten data below.

Table 5. Stacking Marbling – Kasten Missouri Study

	Generations		
	Highly Proven (2 generations or more)	Highly Proven (one generation)	Sired by bull with positive carcass EPDs
Prime	49%	0%	0%
CAB [®]	47%	79%	59%
Low Choice	4%	21%	37.5%
Select	0%	0%	3.5%
Avg. Premium over non-stacked cattle	+\$177.48	+\$52.89	—

Source: Mike Kasten, Missouri beef producer

As Mr. Kasten stated so well, “Stacking generations of highly proven genetics adds great value and you cannot do that without using AI.”

2. Managing cattle for a quality target

As important as genetics is to hitting a quality target, management is equally important. Every day quality is managed out of cattle by poor decisions. Let us examine four key factors:

- a. *Health management* – Herd health is critical to a profitable ranching operation, and no less important in producing a high-quality beef product. The best genetics are easily derailed if cattle get sick at any time in their lives. Research has repeatedly shown the dramatic impact health has on both feedlot performance and carcass merit.

Table 6. Effect of Postweaning Disease on Carcass Traits, Feedlot Performance and Mortality and the Net Decrease in Dollars Per Head Returned

	Number of Treatments		
	0	1	2
ADG	3.3	3.1	2.9
Prime & CAB [®] , %	15.4	11.9	9.8
Mortality	.1	3.8	15.3
Net \$	—	-\$119.72	-\$365.01

Source: Iowa Tri-County Steer Carcass Futurity

b. *Nutritional management*

Whole-herd Nutrition

Herd nutrition, including your protein, energy and mineral programs, has a significant impact on the health and immune response of your calf crop, which can affect carcass-quality potential.

- Work with your nutritionist to develop an effective nutritional program.

Pre-weaning and Weaning

As early as 60 days of age, nutrition other than milk has been shown to affect carcass quality. Supplemental feed while still nursing can have a significant positive effect on marbling. Diets high in starch (especially corn) have been proven a most effective way to stimulate marbling deposition.

Creep Feeding and Early Weaning

Creep feeding and early weaning can improve marbling and aid transition to independent life at weaning. One of these two strategies, sometimes both, can benefit your operation.

Post-weaning and Preconditioning

- 45-day minimum preconditioning period
- Target gains from 2 to 2.5 lbs. per day
- Get calves eating from a bunk and drinking from a waterer
- Utilize a corn-based diet – Because of starch removal, distiller's grains are not recommended as the major component of the diet

Caution

If calves are moved from a high-energy diet to a lower gain (<2.0 lbs./day) growing diet, they will not continue to develop marbling at a high rate.

- c. *Reproductive management* – We all know that early calving cows (heifers) are the most economically efficient because they wean heavier calves and breed back sooner and at higher levels. What we did not know until recently is early born calves result in the production of higher quality carcasses. As first reported by Dr. Rick Funston, University of Nebraska beef scientist, this was supported by our data collected on a Missouri cattle operation.

Table 7. Quality Grade by Birth Sequence Within the Spring Calving Season

USDA Quality Grade	Birth Sequence				Chi-Square P Value
	E	ME	ML	L	
Prime	0.53%	0.78%	0.00%	0.11%	0.3915
CAB [®]	28.60%	24.37%	16.28%	11.24%	<.0001
All Choice	85.05%	83.63%	76.88%	77.89%	0.0087
Select	13.88%	14.81%	23.12%	21.05%	0.0043
Standard	0.53%	0.78%	0.00%	1.05%	0.9695

Summary

Adding value beyond just pounds is a challenge, but improving quality grade sure can help achieve that goal allowing producers to take great pride in what they are achieving.