



Managing for Today's Cattle Market and Beyond

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Industry Opportunities and Some Issues for Value Based Marketing

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Grid pricing is commonly associated with value based marketing because each animal's price is based on individual quality and yield grades rather than group or pen averages. This pricing system has been regarded as superior to traditional average pricing because it eliminates estimation error from the sale transaction. Schroeder and Graff estimate that selling cattle via live or dressed weight pricing results in an average per head pricing error of roughly \$30 per head, assuming that grid pricing reflects the true value of a carcass.

While grid pricing has the potential to provide better incentives for the livestock industry to improve genetics and management, we also believe that value based marketing in the future will involve much more than just grid pricing. That is, we are of the opinion that marbling score and yield grade information conveyed through grid pricing falls short in adequately capturing all of the attributes of beef that are noticed by the consumer. In addition, we feel that more customized beef products will be attained in the future through more targeted genetics and narrow management paths.

Identity preservation or traceability, as discussed by other articles in this section, is a tool that we feel has the potential to help facilitate these customization efforts on a much broader scale than current alliances. One insightful beef industry alliance, that has relatively specific genetics and

mandated feeding practices, is Ralphs' California Beef program. This particular program has identified consumer problems with beef tenderness, consistency and flavor and developed a beef program to meet consumer demand. To meet consumer demand in their markets, Ralphs is structured to use the consistent genetics from the dairy industry and combine this with a specialized feeding program. This California program offers key insights to the beef industry on meeting consumer demand for beef.

A California Beef Program

Ralphs Grocery Co., a subsidiary of The Kroger Co., is the largest supermarket operator in southern California with 295 conventional supermarket stores and 84 Food 4 Less warehouse stores. To address quality problems for beef that consumers expressed to Ralphs' meat department employees in the 1980s, Charlie Bergh, group Vice President of Ralphs' perishable division at that time, developed the California Beef program. This program targeted the three quality attributes of tenderness, consistency, and flavorful meat identified as most lacking in their meat counters. Furthermore, these quality attributes were identified as having a big reward potential since virtually all of their competing retail stores were equally or more

deficient in providing these attributes. The California Beef program was launched in April of 1993, after roughly three years of consumer testing to address these quality issues of tenderness, consistency and flavor.

Several breeds of cattle were considered for their program. First, English breeds were considered as a supply source for their program, but they were unable to identify a year-round supply of 2,500 head of young aged animals per week that met the program's criteria. Continental and Brahma lines were found to have unacceptable tenderness. In the end, the largest bovine breed in the U.S. or Holsteins, were shown to have the most promise for their program. Given that there are few strains of Holsteins, the consistency of this breed stood out.

In addition, Holsteins were rated as being very tender in all of their shear force and consumer tasting trials. Yield grade for Holsteins was also a genetic factor that sold Ralphs on this breed and the overall economic viability of their proposed California Beef program. Holsteins were found to produce more yield 2 grades and have a 3 to 5 percent better retail cutout than traditional Crossbreds. Similar results on yield grade and cutout were verified with information supplied by Packerland, which was slaughtering 15,000 Holsteins per week in Wisconsin at the time, and Texas A & M (Stiffler *et al.*). Holsteins have a higher bone to meat ratio than other breeds, but they were found to have more retail cutout than the Crossbreds studied due to less internal and external fat.

Beyond genetics, Ralphs identified age and pre-slaughter feeding practices as other keys to producing a desirable meat product. While beef cattle can go the management path of a stocker operation and be fed on a high-energy grain ration for only 90 days, Ralphs mandated that their animals be grain fed for 300 days. This feeding requirement also ensured that their animals would be young since Holsteins will reach their desired slaughter weight of 1,150 pounds in about 13 months. Commercial Crossbreds rarely see the slaughterhouse before 15 months of age and often not until they are 18 to 24 months of age.

Other management practices were directly or indirectly imposed by Ralphs to ensure consumer satisfaction. In the beginning, feedlots had a problem of overfeeding since the steers would get too fat and big to be accepted. But the problem of overfeeding

was quickly rectified with all carcass data going back to the feedyard (Kay, 1993). Feedlots immediately fine-tuned their sorting, nutrition programs, and days on feed to the specifications set by Ralphs. Specifications initially written by Ralphs were quite detailed and included the following: a) fat coverage can not exceed mid-point USDA yield 3 grade standards, b) exterior fat shall be clean and white to creamy white, c) fat coverings that exceed three-fourths of an inch "measured at a point equal to one-third of the loin eye or rib, measured from the outer tip of the loin eye muscle, shall be rejected," d) surface of carcass shall be light red to deep blood red with no noticeable dehydration, bruises, or "dark cutters," e) exposed surfaces shall be free from any tackiness, f) all carcass bones will be "porous and red with buttons that are soft and white," g) hot carcass weights shall range from 600 to 820 pounds, h) internal carcass temperature shall not exceed 45 degrees Fahrenheit, and i) all animals shall be from Select and Choice quality grade young steers. The consistent genetics from the dairy industry permitted Ralphs to set specific production standards and guidelines.

Feedlots in Southern California were contracted by the Tolleson, AZ packing plant of Sun Land Beef (SLB) for Ralphs to raise Holsteins. SLB offered their first contracts to over 10 different feedlots in Southern California and had 5 sign up to produce Holsteins for Ralphs. A \$23 per head premium was paid by Ralphs with \$22 going to the feeder and \$1 going to SLB for sorting, identifying, and tracking the animal. This premium was roughly \$3.25 per cwt. on a carcass basis. At SLB's slaughter and processing facilities, Holsteins were slaughtered separately from "Crossbreds." A Ralphs' grader visually selected carcasses that received the California label and then carcasses with a Ralphs stamp were separated from the other Holstein carcasses right before chilling. Ralphs was primarily looking for select grade carcasses and they had an agreement with SLB to buy no more than 30 percent of their carcasses with a Choice grade.

Ralphs' confidence in their product consistency and desirability was so great when they initiated their program that they offered customers a "double your money back" guarantee if they were not satisfied with any California Beef purchase. Ralphs introduced the product in 134 of 165 stores and found an increase in beef sales of 4.3 lbs. per 1000 shoppers for stores with California Beef after

six months. Beef sales increased 3.7 percent during the first seven months of the program while overall supermarket sales of beef were flat to negative in Los Angeles for the same period (Kay, 1994).

Although vitamin E supplementation was not initially adopted as a management practice when Ralphs launched their program, they did identify this practice as something they should consider. In simplistic terms, vitamin E works as an antioxidant to retard the ugly browning and eventual green coloring of beef exposed to the air. Ralphs relied on research that was done by the University of Wisconsin-Madison and a pharmaceutical company, Hoffman-La Roche, Inc. to evaluate shelf life attributes of beef from feeding additional vitamin E. Dr. Scott Williams led this research in the early 1990s that evaluated Holstein and Crossbred steers sold by Sam's Warehouse Stores. They concluded that feeding 375 International Units of Vitamin E for the entire feeding period cut retail meat losses or "retail shrink" by more than 60 percent. Shrink for the vitamin E supplemented beef was 1.98 percent while the control product had a 5.62 percent shrink. Vitamin E was not regarded as a consumer concern given that the level of daily animal supplement was lower than the daily human intake of someone receiving Vitamin E supplement. Ralphs later adopted the requirement of vitamin E supplement.

Currently, feedlots raising beef for Ralphs will feed their "normal mix" of vitamin E supplement until 30 to 40 days before slaughter. Then a heightened level of vitamin E supplement is fed until the Holsteins are slaughtered. Currently, Holsteins account for almost two-thirds of SLB's cattle slaughter. Ralphs' "California Beef" label has changed to "California Branded Beef" since many of the Holsteins are now fed in Arizona feedlots.

Adding Value through Customization

Moving the beef industry towards a production-marketing system that will be more highly valued by today's consumer is a formidable challenge. This challenge is most noteworthy given that two pieces of meat with the same "label" at most retail counters could easily have come from strikingly different genetic and management paths. We highlight opportunities and issues below that we feel will be important for the beef industry to address in order to add more consumer value through producer customization activities.

Vitamin E Supplementation

Vitamin E fed at adequate levels was found by Ralphs to reduce retail shrink by over \$15 per carcass while the estimated cost of feeding vitamin E was around \$2 per head. The National Cattlemen's Beef Association has estimated that vitamin E supplementation reduces retail shrink by 5.2 percent, saving \$50 per carcass on beef sold overseas. Clearly, vitamin E supplementation is a relatively simple management issue at the producer level that would result in a good rate of return for the industry.

However, problems associated with getting everyone to adopt vitamin E feeding or free riding and monitoring costs would need to be addressed. Assuming that a unique animal identification system will eventually be introduced for food safety reasons, an opportunity would exist to tag management practices like vitamin E feeding to this kind of database. If producers fail to take advantage of customization through vitamin E feeding, where it is done most efficiently, customization will continue to occur with similar levels of retail shrink at the retail level. But this also results in a lower derived demand for live cattle. In part, better education and appreciation for the derived demand process will help sell producers on the value of customization activities like vitamin E supplementation. In addition, the beef industry should also conduct additional research to identify and verify the returns associated with value-enhancing activities.

Identity Preservation/Traceability

As discussed in another article in this section, Canada will implement a traceback program for all their cattle on 1 January 2001. All cattle are to be tagged with an approved Canadian Cattle Identification Agency (CCIA) ear tag when they leave their herd of origin. After 1 July 2001, all Canadian packing plants are required to "transfer the information to the carcass and maintain that identity to the point of carcass inspection." Each animal will have a unique identification number. A 90 percent traceback is targeted so that containment of a potentially devastating disease or major food safety defect can be quickly isolated and rectified. Although the CCIA has been enacted to address food safety and animal disease concerns, consumer feedback issues could also be tagged into the database that houses each CCIA animal number. Additional data collection and coordination could also make tracing retail primal cuts to a specific

genetic-management path a reality. If consumers have the ability to voice their satisfaction or dissatisfaction with a particular genetic-management path, the beef industry would be able to more precisely identify and react more swiftly to any changes in consumer demand.

Market development should be incorporated as a goal of any identity preservation system even if liability concerns related to food safety issues are driving the industry and policy makers to the table. As noted in the article entitled, "Identity Preserved Red Meat Products," other countries are clearly ahead of the U.S. in establishing their traceback systems and this could erode our competitive position for many export markets.

Narrowed Genetic-Management Paths

Holsteins were the only breed Ralphs found available to supply consistent, acceptable quality, and steady supplies of fresh beef throughout the year. While programs like Certified Angus Beef, Farmland Supreme, and Certified Hereford Beef narrow genetic diversity, their genetic requirements are still rather loosely defined and limited. More objective measurement of meat characteristics is another possibility, but it is doubtful that measurement can account for the same level of quality attributes that could be built into an identity preserved marketing system. Given consumer demand for consistency and palatability, every sector from seedstock to retail level should try to come together and establish a few standardized quality targets and acceptable genetic-management paths for those targets. Identity preservation is a tool that could be used to narrow the genetic-management paths for the industry. For example, an age limit and acceptable percentage ranges of Continental, English, and other characteristics (e.g., maximum percentage of 15 percent Brahma for heat tolerance) could be set before animals could be classed as say tender. With artificial insemination, producers could use semen or first generation bulls from 10 to 15 endorsed semen alternatives on approved cows. Different classes of animals could be shipped on different days of the week in order to segment product while maintaining high plant throughput. With the potential to implement genetic markers on a large scale with relatively short turn around and low cost, management issues related to age, feed, and environment may become more of a challenge to narrow in the future than genetics.

Regional/Ethnic Markets

Both Ralphs and SLB indicated that the southwest is more of a Select than a Choice market. In contrast, consumers from other regions like the Midwest and east coast are referred to as more of a Choice than Select market. In addition to regional demand preferences, ethnic groups can have very distinct preferences. For example, Benedict Feeding, Inc. near Casa Grande, AZ, custom feeds a few pens of 2-3 year old Brahma bulls and stags for a small butcher in the bay area of San Francisco. These animals have very little marbling and are relatively tough so that they would rank very poorly under USDA grading criteria. But these animals are apparently a good substitute for the water buffalo and ox that some ethnic groups are accustomed to.

Hispanics, African Americans, and Asian Americans currently make up 28 percent of the U.S. population and estimates are that they will account for 44.5 percent by 2040 (Silver). Since 1990, overall U.S. buying power has increased 56.7 percent while Hispanic, African American, and Asian American buying power has increased 72.9, 84.4, and 102 percent, respectively (Humphreys, 1998a, 1998b, 1999). Research related to a better understanding of these regional and ethnic demand differences should be considered with seedstock through retail sectors sharing a common vision for this effort. Given today's discriminating consumers, producing for the average is more likely than ever to miss the mark for any market segment.

Vertical Verification

While USDA does all the grading of carcasses at SLB, Ralphs still has one of their employees on the packing line in SLB's plant making selection decisions. Dietrich noted that this was a key component for making the California Beef program work because it insured credibility of the program to Ralphs. If the beef industry moves to identify more targeted meat products, retailers will need to have input into seedstock selection decisions for any program to work. Likewise, seedstock, cow-calf, and feeder input will be important to assure that production parameters are reasonable. Vertical verification should be encouraged at all levels of any coordinated genetic-management program to improve credibility and increase communication among sectors.

Mutual Gains

It is important to recognize that gains can be realized in every sector from the cow-calf to retail level with a better beef product. Although Holstein steers were fed before the California Beef program started, the price of day-old Holstein calves has increased from the program so that dairies now have a “good market” for newborns (Kay, 1996). Feedlots have also benefited from the California Beef program. In addition to the “premiums” received, some feedlots feel that the program has helped them keep cattle feeding alive in the southwest (Kay, 1994). These feedlots transport most of their grain in from the Midwest, making their per pound cost of feed significantly more expensive than other feeding regions. SLB indicated that the program has helped them operate their plant more efficiently by running closer to capacity (Dietrich). Ralphs claimed that beef drives meat department sales, and that when meat is in a customer’s basket, individual sales double because individuals that purchase meat are “primary shoppers” (Kay, 1994). At 4.4 percent of total store sales, beef was the largest dollar-producing category of Ralphs’ stores. Soft drinks were the only product category close to beef at 3.7 percent.

Captive Supplies/Pricing

In the California Beef program, captive supplies were deemed necessary to ensure that consumers could always go into a Ralphs store and make a repeat brand purchase. Captive supplies were also noted as being important for improving cost efficiencies and profit variability at both the feedlot and packer levels. In the California Beef program, SLB was contracting with feeders for cattle on behalf of Ralphs. A contracted feedlot, SLB, or Ralphs were required only to give a 30-day notice to end their participation in the program. Cattle in the feeding program prior to a 30-day notice would have to be purchased by Ralphs through SLB, provided they met contract specifications. A “see how it goes” approach was initiated from the beginning and appears to have worked for the long-term benefit of the relationships involved.

When problems would come up each partner gained a new perspective for each other’s operation and through joint problem solving each relationship gained a new level of trust and confidence (Kay, 1994). For example, when the program was first initiated SLB had to purchase Holsteins outside of

what they had contracted for due to bad weather. Advertising dollars had already been spent in anticipation of California Beef hitting the retail shelves, so SLB paid an extra \$1 to \$2 per cwt. than previously contracted. Although this poor start might have discouraged some, SLB was committed to the long-term vision of the program.

Because the program has been tested by all kinds of adverse events from earthquakes to company mergers, confidence has been built into their long-term relationships. As noted by SLB in reference to Ralphs, “whenever differences would come up we were committed to working through any problem. We believe that it is better for us to go into the future together building on our long-term relationship rather than going forward alone.” If the beef industry can identify more targeted genetic and management paths, a “see how it goes” approach between any contracting parties would probably be wise.

While contracts can aid in planning and cost efficiencies, a long-term pricing contract for many years that fails to predict the mean price fairly accurately will be doomed for failure. SLB voiced that they would rather not “guess the longer-term trends for the industry.” Coming up with the capital to cover losses for when the market steadily moves against SLB’s contracted position is a risk they would rather not take. Technologies and policies can change the underlying structure of an industry rather quickly. Given the difficulty associated with predicting the long-term mean price for an industry, shared ownership or cooperator agreements appear to have a place for reducing income fluctuations between sectors while achieving a relatively high level of economic efficiency.

Conclusions

Genetics, management and the environment are key inputs for the beef industry. Ralphs found desirable palatability and consistent genetics by using grain fed Holsteins that would reach slaughter weight in about 13 months. SLB contracts with feedlots for Ralphs to apply feedlot management practices identified for producing quality, consistency, year-round availability, and consumer value. These elements are believed to be key for the consumer loyalty they have developed for their California Beef product. Their branded beef product was tested and re-tested for consumer acceptability

before they launched their program. Ralphs selected the Holstein breed from existing genetics largely because of product consistency, tenderness, and the ability to immediately produce year-round supplies. In addition to having a relatively narrow genetic base, a Ralphs employee visually selects animals that will carry their branded beef label. This was identified as a key component for making the California Beef program work. A steady supply of beef through the slaughterhouse was noted by SLB as being very important for keeping their per unit processing costs low.

Producing attributes of consistency and tenderness from even a selected sub-set of composite breeds raised in different climatic and range environments presents a formidable challenge to the beef industry. The experience of Ralphs suggests that seedstock selection decisions need to be more focused than just the grid pricing carcass quality attributes of marbling and yield. Palatability extends beyond grid measures for the consumer and consistency is more than producing animals that hit the same area of the grid. Better information sharing and coordination between seedstock and retail industries could help assure that consumer preferences of palatability and consistency are met while meeting high production standards. In addition, cow-calf, feedlot, and packing industries need to be involved with any genetic plan proposed between seedstock and retail sectors to ensure that management can take full advantage of any genetic-management path targeted.

Identity preservation should be considered as an industry management strategy to produce more targeted quality attributes, and enable traceback capabilities for food safety and animal disease problems. Through an industry recognized identity preserved marketing system, feedlots could also benefit from market customization activities like Vitamin E feeding. Regional and ethnic markets could be better serviced through identity preservation. Identity preservation can segregate targeted genetic-management paths while maintaining many of the slaughter and processing scale economies of size. Given the fragmented nature of the cow-calf sector, where genetic decisions occur, an identity preserved marketing system appears to be a logical tool for the beef industry to explore in order to develop more targeted genetic-management paths. Objectively measuring all quality attributes that consumers value for every

carcass is likely to prove cost prohibitive for the long-term, given the competitive supply chain structure of the pork and poultry sectors. Furthermore, traceback capabilities of an identity preserved marketing system provide value to the beef industry for improving their product.

The inability of the current grid pricing system to identify genetic outliers within a pen is cause for concern. Under this pricing system, the “better performing” ranches or pens need to increase in size relative to the “poorer performing” ranches for genetic advances to occur for the industry. In addition, as noted by meat scientists and Ralphs, many problems associated with poor beef quality can occur after slaughter. An identity preserved marketing system would have the capacity to isolate management, environmental, and processing practices that are not utilizing the full genetic potential of an animal. Emerging technologies like “computer vision scanning” and the “tissue tenderness probe” will also do little to improve the genetic pool of the beef industry if these technologies just sort beef. An identity preserved marketing system is really needed to establish superior genetic-management paths that will consistently meet different regional and ethnic market consumer demands. Until such a system is implemented, beef could continue to lose market share under grid pricing to the more consumer driven and narrow genetic-management path orientation of the pork and poultry sectors.

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