

Quality Care Matters

A Column about Dairy Animal Care provided by the Pennsylvania Beef Council



Are Market Dairy Cows Undervalued?

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In recent years a higher percentage of each market cow carcass has been used to produce whole muscle and higher priced cuts (rather than ground beef), which are used to produce wholesale products including marinated steaks, roasts, roast beef, Philly steaks, and fajitas. During the most recent National Market Cow and Bull Beef Quality Audit (NMCBBQA) in 2007, researchers indicated that 100 percent of plants were fabricating ribs and loins from market cows and bulls, and 86 percent were fabricating rounds and flanks. The percent of plants fabricating a large number of whole muscle items increased about 50 percent during the eight-year period since the previous audit in 1999. As a result, this major trend in the usage of market cow carcasses is contributing to the increase in their value.

The NMCBBQA-2007 also indicated that improvements are still needed in the quality and consistency of market dairy cows and carcasses. During audit holding pen evaluations, market dairy cows had more visible quality defects than market beef cows, beef bulls, and dairy bulls. This may be due to the fact that the income received from the sale of market dairy cows and bulls has historically only made up about 5 percent of the total income on a dairy. Most of the dairy cattle evaluated during the NMCBBQA-2007 had been purchased by packing plants through auction markets.

Unfortunately, market signals associated with the sale of market cows after culling often are unclear relative to characteristics of animals selling at auction. The best way to change the quality and consistency of market animals from dairy operations is for dairymen to be aware of opportunities in the marketplace to acquire premiums and avoid discounts.

Value of market dairy cows at auction

In 2008, checkoff-funded researchers in several western states determined the baseline incidence of Beef Quality Assurance (BQA)-related defects in market dairy cows sold via auction markets, and evaluated the relationship between those quality defects and selling price. Data were collected on 9,177 individual lots (12,429 animals) at 10 major livestock auction markets with regular weekly sales. Animals were evaluated for 24 different traits as they went through the auction ring. In addition to selling price, characteristics included body weight, body condition score (BCS) using the 5-point dairy scale (1: emaciated, 5: obese), locomotion score, and BQA-related variables such as injection-site knot presence/location, brand presence/size, horn presence/length, cancer eye score and numerous other quality defects. A statistical model using this large dataset was created to determine the effect of each specific trait on the overall selling price of an animal. The final model explained more than 60 percent of the variation in selling price of market dairy cows.

Results indicate that market dairy cow buyers desired moderate to heavy condition cows based on premiums up

to \$1.35 per hundredweight (cwt) for BCS 3.5 to 4.5 cows. Cows with less-than-desirable BCS of 2.0 or 2.5 were discounted at least \$5.82 per cwt, but still represented a substantial percentage (42.6 percent) of the market dairy cows evaluated. Most importantly, near-emaciated cows (BCS 1.0 or 1.5), which comprised more than 13 percent of the market dairy cows in this study, were strongly discounted in excess of \$12 per cwt. Beyond inadequate BCS, financial disincentives were also documented for light weight and/or lame market dairy cows, as well as for several BQA-related defects.

Market dairy cow carcass quality and palatability

Options for adding-value and quality to market dairy cows have also been evaluated via check-off funded research. During 2008, Idaho researchers evaluated the effects of pre-harvest feeding on end-product palatability in strip loin steaks from 160 market dairy cows culled from 4 large dairy herds. Comparisons were made between dairy cows harvested immediately after culling (control) versus cows harvested after receiving a high energy feedlot diet for 70 or 105 days with or without beta-agonist supplementation prior to harvest. Ultimately, no substantial effects of feeding, feeding length, or beta-agonist supplementation were observed on palatability traits including juiciness and tenderness among the market dairy cow steaks. Flavor was the only trait that was less desirable in steaks from control versus fed cows.

The palatability of market dairy cow steaks was also compared directly to steaks from young beef animals that had graded USDA Select. Interestingly, market dairy cow steaks (regardless if from fed or control cows) had more desirable juiciness and flavor versus Select steaks. And, tenderness of market cow steaks

determined subjectively by a trained sensory panel or objectively via Warner-Bratzler Shear Force was not different from Select steaks. These data suggest that steaks from dairy cow carcasses may inherently have more desirable juiciness and flavor than higher-priced steaks from Select carcasses. This may be due in part to the ability of Holstein cattle to deposit marbling, a relatively high energy diet throughout their lifetime and the fairly young age of market dairy cows at culling and harvest. For instance, cows in the previously-mentioned feeding study averaged just 4.4 years of age at culling and harvest.

In terms of the selling price of dairy versus beef cows, interestingly there is little difference. In fact, based on selling price data that was also collected on beef cows during the previously-mentioned auction market study, market dairy cows were actually priced slightly lower than beef cows (on average). This pricing does not account for the large differences in BCS, body weight and other traits between market beef and dairy cows that were documented in that study.

Conclusions

It is likely that market cow values will continue to increase over time. This is due in large part to the increasing percentage of each cow carcass that is fabricated and sold as whole muscle cuts. In addition, a shrinking U.S. beef cowherd, strong demand for ground beef, and limited imports of lean beef into the United States will continue to support market cow values.

As market cows continue to supply more higher-valued beef, the dairy industry may have an opportunity to identify and create a supply chain of cows and carcasses to provide mid-priced beef products with adequate palatability characteristics.

The inherent juiciness and flavor that appears to be associated with some market dairy cows, and tenderness equivalent to USDA Select steaks, could provide dairy producers with a competitive advantage in the marketplace. The strong genetic propensity to marble, relatively young age at harvest, fairly high energy diet throughout their lifetime and year-round availability of dairy cows could allow the dairy industry to provide consumers with a satisfactory eating experience at a price somewhat higher than historical prices of cow carcasses.

Further research into factors that influence end-product eating quality of beef from market dairy cows is needed. Concurrently, a reduction in BQA-related defects in market dairy cows is also needed in order to ensure market access. This may be a great opportunity for the dairy industry to add value to something historically viewed as a by-product. Ultimately, if this was accomplished on a large scale, much more than 5 percent of a dairy's income could come from the sale of market dairy cows in the future.

Additional Resources
On-line resources information on Dairy BQA can be accessed at www.bqa.org/dairybqa.aspx, including a copy of the newly-released national Dairy BQA Manual.

Figure 1: Premiums and discounts (\$/cwt) paid for market dairy cows at auction based on the 5-point dairy body condition scoring system (1: emaciated, 5: obese).

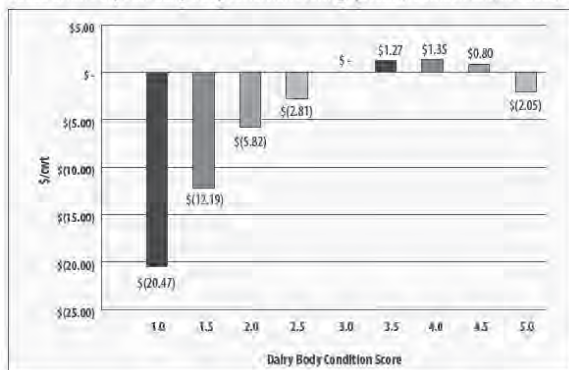


Figure 2: Age distribution of 160 culled dairy cows used to evaluate the effects of feeding on end-product palatability.

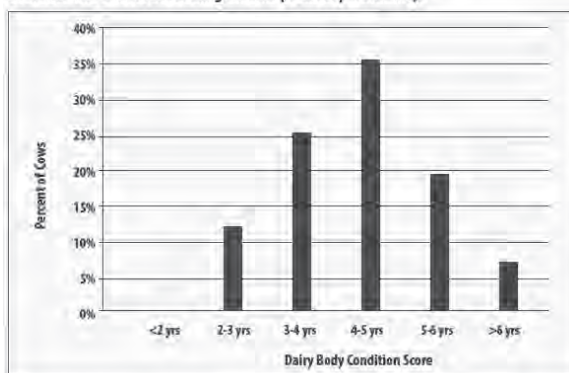
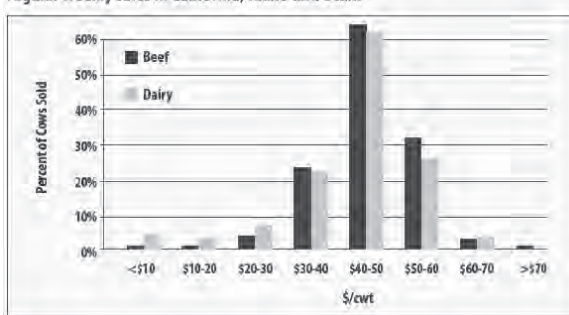


Figure 3: Distribution of sale prices for market beef and dairy cows evaluated at auction markets during 125 sales at 10 major livestock auction markets with regular weekly sales in California, Idaho and Utah.



Upcoming BQA Trainings

Please visit www.pa-bqa.org for more details on these upcoming trainings or contact Nichole Hockenberry at nhockenberry@pabeef.org or 888-4BEEFPA.

The training dates are as follows:

March 18

DACQA Training (Youth Program)

March 24

Classroom Training & Chute Side at Pennsylvania Beef Expo, Snider Ag Arena, University Park; Classroom Training: 12 - 1:30 p.m., Chute Side: 2 - 4 p.m.

March 29

Milton Hershey School (Youth Program)

April 7

Delaware Valley College (Youth Program)

April 20

York County Chute Side Training, York County 4-H Center, 771 Stovertown Road, York, PA 17408, 6 - 8 p.m.

April 25

Lebanon County Recertification & Classroom Training, 2120 Cornwall Road, Suite 1, Lebanon PA 17042
Recertification: 6- 7 p.m.; Classroom Training: 7 - 9 p.m.

April 28

Bedford County Chute Side, Deana Jak Farms (Doug Howe), 337 Guyer Corner Road, New Enterprise, PA 16664
Chute Side: 6 - 8 p.m.

May 5

Delaware Valley College (Youth Program)



Kristin Wilkins

Wilkins Joins Beef Council Staff

BEDFORD, Pa. — The Pennsylvania Beef Council announces that Kristin Wilkins, RD, has joined the organization as Director of Nutrition Education for the Pennsylvania Beef Council and Director of Public Relations for the Northeast Beef Promotion Initiative. In this dual position, Wilkins will spend 50 percent of her time developing beef nutrition programming in the Commonwealth and 50 percent of her time implementing beef checkoff programs along the I-95 corridor. Now in its sixth year, the Initiative is funded by checkoff dollars from the Cattlemen's Beef Board and is based out of the Beef Council office, Bedford.

A June 2010 graduate of Indiana University of Pennsylvania's (IUP) dietetic internship program, Wilkins will complete her master's degree in food and nutrition this May. While an undergraduate student, she worked at the UPMC Bedford Memorial Hospital, in the dietary department.

Wilkins grew up on Maple Springs dairy farm in Bedford County where she served as the 2005 Bedford County Dairy Princess. She is a member of the American Dietetic Association (ADA), the Pennsylvania Dietetic Association (PADA).

Contact Wilkins at kwilkins@pabeef.org or 1-888-4BEEFPA.