

# Research Update

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## Potential Re-Ranking of Sires for Weaning Weight In Good and Poor Environments

Previous research revealed that heritability estimates for maternal weaning wt. have been shown to be higher in environments with restricted cow feed intake as opposed to environments with less limiting feed resources. Consequently, it may be possible for sires evaluated in good environments to rank differently in poor environments.

The objective of this Colorado State Univ. study was to determine the magnitude of sire re-rankings when accounting for different heritabilities in different environments. Data were obtained from the Red Angus Assoc.

of America. It consisted of 91,061 cow weights and 23,243 calf weaning weights. Calf weights were classified as occurring in either a good or poor environment. Whether the environment was classified as good or poor depended upon the dam's weight change since the previous year. The study involved the 50 most accurate sires in the Red Angus breed.

Rank correlations (0.96 to 0.99) for sires in this study showed that changes in ranking of sires between good and poor environments were insignificant (Speidel et al. 2006. Proc. Western Sec. ASAS. 57:82).

## Marketing Methods Used by Cow/Calf Producers

A recent survey by Cattle-Fax<sup>(r)</sup> revealed how producers market their

calves. The results are shown below.

<u>Marketing Method</u>	<u>% of producers using method</u>
Auction yard	32%
Direct/private treaty	29%
Video auction	16%
Forward cash contracting	11%
Other methods	12%

Regionally, auction yards are used more in the midwest, southern plains and the southeast, while calves in the northwest are more likely to go direct.

On the bred female side, 45% of producers sold by direct or private treaty and 43% used auction yards. Video auctions were a distant third at 6%. Auction yards were the overwhelming method to sell cull cows (77%), leading by a wide margin in every region.

Sixteen percent of the producers indi-

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cated they had marketed cattle in a natural or organic beef program during 2005. The results varied by region, ranging from a high of 36% in the southwest to a low of 6% in the southeast (SOURCE: Duane Lenz, Cattle-Fax®).

### **Poor Temperament Adversely Affects Performance and Profit**

Mississippi State Univ. researchers used a total of 210 feeder cattle consigned by 19 producers in a "Farm to Feedlot" program to evaluate the effect of temperament on performance, carcass characteristics, and net profit. Temperament was scored on a 1 to 5 scale (1=nonaggressive, docile; 5=very aggressive, excitable). Three measurements were used: pen score, chute score, and exit velocity. Measurements were taken on the day of shipment to the feedlot. Following is a summary of results.

- Exit velocity and pen scores were highly correlated. As pen scores increased, so did exit velocity.
- Breed of sire had a significant effect on all three temperament measurements and on feedlot performance and carcass traits.
- As pen score and exit velocity increased, treatments costs and number of days treated increased, while avg. daily gain and final body wt. decreased.

\* As pen score increased, net profit per head tended to decline:

1=\$121.89; 2=\$100.98; 3=\$107.18; 4=\$83.75; 5=\$80.81

These results are in agreement with similar research conducted at Iowa State, Texas A & M, and elsewhere (Vann et al. 2006. ASAS Southern Section Mtg., Orlando, FL).

### **Weaning and Slaughter Weights are Increasing**

The annual survey conducted by Cattle-Fax(r) revealed that the long-term trend of heavier weaning and slaughter weights is continuing. In 2005, steer weaning weights averaged 580 lbs, up 13 lbs from 2004. Average weaning weights have increased 45 lbs over the past 15 years.

During the same time period, slaughter and carcass weights have increased at an even faster pace. Fed cattle slaughter weights averaged 1233 lbs in 2005, up 17 lbs compared to 2004, and 120 lbs heavier than 15 years ago. Carcass weights have trended higher, in line with slaughter weights. Steer carcass weights averaged 816 lbs in 2005, up 10 lbs compared to 2004 and 75 lbs heavier than 15 years ago.

Cattle-Fax analysts predicted that increasing cattle weights will continue in the foreseeable future. The current long term trend in heavier carcass weights adds 1%

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to beef production each year with the same amount of cows. This means that the U.S. is producing more beef today than we were 30 years ago even though the nation's total cattle herd is 35 million head smaller (SOURCE: Cattle-Fax Special Edition, April, 2006).

### **USDA Proposing to Redefine "Grass-Fed" Beef**

USDA's Agricultural Marketing Service (AMS) announced that it is reopening discussion on a revised definition of "grass-fed" beef. Currently it is defined as an animal who has spent at least 80% of its life on a diet consisting of grass. The definition is being reconsidered because some producers believe that the criteria are not stringent enough.

The proposed definition reads as follows: "Grass (forage) fed (annual and perennial), forbs (legumes, brassicas), browse, forage or stockpiled forages post-harvest crop residue without separated grain shall be at least 99% of the energy source for the lifetime of the ruminant specie, with the exception of milk consumed prior to weaning. Routine mineral and vitamin supplementation may also be included in the feeding regimen. Grass (forage) fed claims will be verified, as provided in 7 CFR part 62, by feeding protocol that confirms a grass or forage-based diet that is 99% or higher." (SOURCE: Western Livestock Journal).

### **Relative Importance of Weight, Quality Grade, and Yield Grade as Determinants of Beef Carcass Value**

Colorado State Univ. researchers constructed a data set of 2,000 carcass records to closely approximate carcass wt. and grade characteristics of the U.S. fed cattle population. Two carcass-pricing grids, a quality-based and a yield-based grid, simulating actual beef-pricing systems were used for the analysis. Grid prices were computed for each of three Choice-Select spreads (5, 10, and \$20/cwt).

For both grids, carcass wt. was the single most important driver of carcass value per head, accounting for 70 to 90% of the variation in total revenue per head when the Choice-Select price spread was \$10/cwt or less. As the Choice-Select spread increased, the importance of weight as a value driver declined, and the influence of quality grade increased.

Quality grade was the second most important driver of grid value, accounting for about 8 to 9 times more variation in revenue per head than yield grade when the Choice-Select spread was \$20. Yield grade played a minimal role in both pricing systems, accounting for less than 10% of the variation in total revenue per head.

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The authors noted that current grid-price signals reward production of cattle with heavy carcass weights and high quality grades. Consequently, when quality grade premiums are high, it may encourage overfeeding of cattle, resulting in excessive numbers of yield grade 4 carcasses. They concluded that premiums for YG 1 and YG 2 carcasses currently are not large enough to encourage production of high-cutability carcasses, except when the Choice-Select price spread is very low (Tatum et al. 2006. Prof. Anim. Sci. Vol. 22, No. 1).

### **Steers Had Lower Marbling Scores But More Tender Steaks Than Either Intact or Spayed Heifers**

Scientists at Montana State Univ., Colorado State Univ., and the American Simmental Assoc. collaborated in an experiment to determine

the effects of gender on carcass traits and cooked beef palatability. Steers, heifers, and spayed heifers were fed a high-energy diet for 161 days.

Implants were not used, and heifers were not fed melengestrol acetate (MGA) to suppress estrus.

- Steer carcasses were 55 lb heavier than either heifer group, which had similar carcass weights.
- Fat thickness did not differ among gender groups.
- Steers and intact heifers had significantly greater ribeye areas than spayed heifers (12.0 vs. 11.3 sq. in.)
- Calculated yield grades tended to be similar among gender groups.
- Marbling scores and quality grades were significantly lower for steers than for intact and spayed heifers, which were similar.

The effects of gender on tenderness were statistically analyzed in two different ways: 1) at a common level of fat thickness (0.5 in.), and at a com-

mon level of marbling (Modest83). At a common fat thickness, tenderness tended to favor steers, but the differences were not statistically significant. At a common marbling score, there was a greater difference in tenderness, again favoring steers over either heifer group (Choat et al. 2006. J. Anim. Sci. 84:1820).

### **Type of Dewormer Had a Significant Effect on Marbling Score**

Kansas State Univ. researchers used 428 yearling feeder steers (887 lb) to determine if type of dewormer has an effect on carcass characteristics. At 45-60 days after arrival, the steers were allotted to either one of two treatments: 1) Valbazen oral drench at 4 ml/110 lbs body wt., or 2) subcutaneous injection of Dectomax at 1 ml/110 lbs body wt. All steers were ultrasounded for initial marbling

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score, which averaged 430 (Slight minus).

Fecal egg counts showed that both dewormers cleared internal parasites from the steers. Carcass data revealed that, compared to Valbazen, Dectomax significantly increased fat deposition as measured by backfat thickness (0.56 vs. 0.51 in.), kidney, pelvic, and heart fat (2.46 vs. 2.38%), and marbling score (527 vs. 511). Changes in marbling scores from initial scores were 101 and 86 for Dectomax and Valbazen, respectively. There were no significant differences in carcass wt. or ribeye area.

The authors noted that with the many factors (genetic and environmental) that affect marbling development, producers need to consider management decisions that increase the probability of cattle grading Choice and higher. They concluded that the use of Dectomax rather than

Valbazen may lead to increase in marbling scores (Christopher et al. 2006. Kansas State Univ. Beef Cattle Research Report of Progress 959).

### **Antibiotics in Animal Feed Do Not Result in Bacterial Resistance**

A recent study by the Institute of Food Technologists revealed that use of antibiotics in food animals does not increase the resistance of pathogenic bacteria in humans. The study was provoked by marketing campaigns during the past decade by organic food advocates who have suggested there is an overuse of antibiotics in animals, thereby making the food less safe for human consumption. The study was also an answer to recent legislation in the House and the Senate proposing to ban antibiotics from livestock feed. Dr. Michael Doyle, chairman of the panel that conducted the study, stat-

ed the results raise questions about those organic and natural groups who use bacterial resistance to antibiotics as a basis for the promotion of their products (SOURCE: Western Livestock Reporter).

### **BSE Odds in U.S. are One in a Million**

According to a USDA report, the odds of the government finding any more BSE cases in the U.S. are less than one in a million. The most likely number of cases still present is between 4 and 7. The numbers are based on a draft USDA analysis of its BSE programs over the past 7 years. Therefore, the prevalence of BSE in the U.S. is extraordinarily low, according to Agriculture Secretary Mike Johanns (SOURCE: Steve Kay, Cattle Buyers Weekly). ■