A total of 395 calves (397 lb) were purchased from sale barns in Oklahoma and Texas in the fall of three consecutive years to measure the effect of USDA feeder cattle frame and muscle grades on performance and profitability. Individual purchase weight and price were recorded, and steers were assigned USDA feeder cattle grades of Large, Medium or Small frame size and Number 1 or Number 2 muscle thickness by the same official USDA market graders. Steers were grazed on rye pasture and then valued by commercial order buyers in frame and muscle grade groups.

- Muscle grade did not affect animal performance or profitability during the grazing phase.
- Grazing ADG increased linearly as frame grade increased, but purchase price was lower for Small steers than for Medium and Large frame steers, respectively, resulting in greater grazing-phase net returns for Small steers.
- Following finishing on a high-concentrate diet, the lesser total weight gain during finishing of Small steers resulted in lesser per-animal revenue. Feed and interest costs were also less and marbling score greater for Small steers, resulting in greater finishing net returns and carcass price.
- In a post hoc analysis in which frame and muscle grades were reassigned to cattle based on hot carcass weight and LM area, only 44% of the cattle remained in their original grade. Only 30% of the steers graded as Small at purchase were actually Small, and only 38 and 66% of the steers graded as Medium and Large at purchase were actually Medium and Large, respectively.

The authors concluded the stocker cattle auction market channel was not efficient in assigning appropriate discounts to frame grade of stocker cattle purchased. Part of this inefficiency may be due to the difficulty in assigning accurate frame and muscle grades to immature calves. Additionally, producers who manage cow herds that contain small-framed cows may need to consider retaining ownership of small-framed calves to optimize their profit.
Effect of Supplemental Trace Minerals From Injection on Health and Performance of Highly Stressed, Newly Received Beef Heifers

(Richeson and Kegley, University of Arkansas)
The Professional Animal Scientist 27 (2011): 461-466

Injectable trace minerals administered on arrival to highly stressed beef calves may improve health and performance during the critical receiving period. Crossbred beef heifers (n = 90; initial body weight = 439 lb) were obtained from auction markets and assigned randomly to one of three treatments: 1) s.c. injection of trace mineral solution containing Zn (20 mg/mL), Mn (20 mg/mL), Cu (10 mg/mL), and Se (5 mg/mL) (TM1; 1 mL/45.5 kg); 2) s.c. injection of trace mineral solution containing Zn (48 mg/mL), Mn (10 mg/mL), Cu (16 mg/mL), and Se (5 mg/mL) (TM2; 1 mL/45.5 kg); or 3) negative control. Calves were offered ad libitum access to a common diet and were evaluated daily for clinical signs of bovine respiratory disease.

- Overall average daily gain was greater for calves receiving either trace mineral injection compared with controls; however, average daily gain did not differ between the two mineral treatments.
- Total dry matter intake was greater for TM1 and TM2 than for control.
- Total gain/feed was also improved for the two trace mineral treatments. Calves receiving TM1 and TM2 gained 0.18 and 0.19 lb, respectively, per pound of feed consumed; control gained 0.16 lb per pound of feed consumed.
- Calves administered TM1 had reduced bovine respiratory disease morbidity rates compared with control, with TM2 being intermediate.
- Antibiotic treatment cost was greater for control than for TM1 or TM2.

Administration of a trace mineral injection during initial processing of highly stressed, newly received heifers improved ADG, feed efficiency, bovine respiratory disease morbidity and antibiotic treatment cost.

Consumer Assessment of Beef Strip Loin Steaks of Varying Fat Levels

(O’Quinn et al., Texas Tech University)

A consumer study was conducted to determine the effects of fat level of beef strip steaks on the palatability traits of tenderness, juiciness, flavor liking and overall liking, while further investigating the window of acceptability for fat content of beef. Thirty beef strip loins were selected by trained personnel to equally represent USDA Prime, High Choice (upper 1/3 Choice), Low Choice (lower 1/3 Choice), Select and Standard. Proximate analysis was conducted on all strip loins to determine percent fat, moisture, protein and collagen. Three strip loins from each quality grade were selected based on fat percentages from proximate analysis to best represent each USDA quality grade for use in the consumer evaluations. In addition to the U.S.-sourced product, beef LM pieces from six Australian Wagyu steers (Wagyu) and six Australian grain-finished steers (Australian) were used in the consumer evaluations. Consumers rated each steak sample for tenderness, juiciness, flavor and overall liking and rated each
The Professional Animal Scientist 27 (2011): 461-466

Eating and Drinking Behaviors of Newly Received Feedlot Calves
(Buhman et al., West Texas A&M University)

To characterize eating and drinking behaviors of newly received feedlot calves and to determine daily feed intake rate, 170 newly received, high-stress, lightweight calves (body weight = 550 and 517 lb, respectively) were observed throughout the first 57 days on feed at a commercial feedyard using an electronic monitoring system. Average individual eating frequency, eating duration, drinking frequency, drinking duration and group daily feed intake rate were calculated.

- Mean daily eating durations for the first 3, 5, 10, 27 and 57 days on feed were 115.1, 117.5, 106.3, 93.8 and 82.9 minutes/day, respectively.
- Mean daily eating frequencies for the first 3, 5, 10, 27 and 57 days on feed were 11.5, 12.6, 13.2, 12.9 and 12.0 visits/day, respectively.
- Mean daily drinking durations for the first 3, 5, 10, 27 and 57 days on feed were 7.7, 7.5, 7.5, 8.4 and 7.9 minutes/day, respectively.
- Mean daily drinking frequencies for the first 3, 5, 10, 27 and 57 days on feed were 6.0, 6.0, 6.0, 6.0 and 5.7 visits/day, respectively.
- Mean eating and drinking behaviors for the first 3, 5, 10, 27 and 57 days on feed were highly variable, with CV ranging from 18.5 to 69.8.
- Daily rate of feed intake ranged from 0.83 to 5.28 ounces/minute.

Results of this observational study provide estimates of daily mean eating and drinking behaviors and rate of feed intake for high-stress, lightweight, confined feeder cattle. Estimates of variability of these outcomes will facilitate sample size determination for future studies.

2011 Food and Health Survey – Consumer Attitudes Towards Food Safety, Nutrition and Health

The International Food Information Council Foundation Food & Health Survey provides ongoing insights into how consumers view their own diets, their efforts to improve them, their understanding of food components in their diets and safe food preparation.

- Compared to previous years, more Americans (approximately half) perceive their overall diet as “somewhat” healthful. At the same time, while a majority of Americans are still making changes in their diet, fewer Americans report making dietary changes in 2011 (59% compared to 64% in 2010).
- Significantly fewer Americans are concerned with their weight status this year. Still 69% of Americans are trying to lose or maintain their weight and cite these as strong factors influencing their decision to make dietary changes and remain physically active.
- More Americans this year report that their physical activity levels are sedentary (43%) – a significant increase from 2010 (37%).
- When asked about their awareness of the concept of sustainability in food production, 58% say they have read or heard at least “a little” about sustainability in food production.
- Forty-eight percent believe that advances in modern food technology have provided or will provide future benefits for themselves and their families.
- Eight-eight percent believe that fortified foods and foods with added benefits have at least some impact on overall health.
• Fifty-one percent are confident in the safety of the U.S. food supply. Sixty-one percent believe that imported food is less safe than foods produced in the U.S.

• Taste and price are the most important factors for Americans when deciding what to order in a restaurant.

• While taste prevails and continues to be the main driver of purchasing foods and beverages in 2011 (87%), the price of food is increasingly becoming important for American consumers.