

## Beef Species

**W39 Survey of beef quality assurance on California dairies.** S. Aly<sup>1</sup>, H. Rossow<sup>1</sup>, G. Acetoze\*<sup>2</sup>, T. Lehenbauer<sup>1</sup>, M. Payne<sup>3</sup>, D. Meyer<sup>2</sup>, J. Maas<sup>4</sup>, and B. Hoar<sup>3</sup>, <sup>1</sup>*Veterinary Medicine Teaching and Research Center, School of Veterinary Medicine, University of California-Davis, Tulare*, <sup>2</sup>*Department of Animal Science, University of California-Davis, Davis*, <sup>3</sup>*Western Institute of Food Safety and Security, University of California-Davis, Davis*, <sup>4</sup>*Veterinary Medicine Extension, School of Veterinary Medicine, University of California-Davis, Davis*.

In October 2010 a mail and internet survey of California's dairy industry was implemented to assess the Dairy Animal Care and Quality Assurance (DACQA) program. The DACQA program, which involves cattle of all ages, benchmarks practices on the dairy that affect the use of dairy cattle for beef. The survey was mailed to a random sample of 1071 California dairies (65%) stratified by county with allocation proportional to density of dairies in each of the state's 32 counties with dairies. Data from the 173 (16%) responses from 19 counties received which represented 10% of the state's milking herd, showed that 90% of culled cows on California dairies were sold for beef. Survey results also showed that personnel from 45% of California's dairies preferred injecting drugs subcutaneously if possible, 97% kept track of withdrawal periods and 49% maintained a form of drug inventory. Personnel who maintained a drug inventory were 3 times more likely to test for drug residues compared with those who didn't ( $P$  value 0.02). Furthermore, 44% of personnel of California's dairies reported knowledge of their culled cows' hot carcass weight or USDA carcass grade. In addition to the estimated 34% of California dairies that supported a beef quality assurance certification program, approximately 45% would specifically request more information on such a program. Although few dairies were familiar with the DACQA website, approximately half requested more information on the program. The likelihood that the DACQA certification program would be applied on California dairies is favorable given the interest support for it.

**Key Words:** beef quality, DACQA, survey

**W40 Effects of stabilizing oxidative balance through dietary means on growth performance, antioxidant metabolites and fertility factors in bulls.** T. J. Wistuba,\* M. Becker, S. Court, and G. I. Zanton, *Novus International Inc., St. Charles, MO*.

One of the most important factors of farm profitability in Australian beef herds is fertility. Numerous factors can influence oxidative balance in livestock (environmental, dietary, health, etc.) and thus fertility, especially in young bulls. Nutritionally Cu, Mn and Zn have been shown to affect superoxide dismutase activity (SOD), Se has an important role in glutathione peroxidase activity (GPX), and dietary antioxidants have been shown to improve overall immune status. The objective of this study was to improve oxidative balance in young bulls through nutrition and measure the response in antioxidant metabolites, semen quality and morphology and animal performance. Two hundred-one Droughtmaster bulls ( $614.6 \pm 35.61$  kg) were tested for semen morphology 19 d pre-treatment. Animals were then blocked into pen groups by age, average sperm morphology and BW for apparent maturity and physiological status. The control ration was balanced to meet or exceed NRC (1996) requirements, the treatment diet was the control ration plus 2-hydroxyl-4-methyl-thio butanoic acid (MHA), Agrado Plus dietary antioxidant, Mintrex-Cu, -Mn and -Zn as well as Zorin SeY (Novus

International) and was fed for 59 d. The ANOVA was generated utilizing the GLM procedure of STATA version 11 (College Station, TX); model included treatment, date and the interaction between treatment and date. Results indicated no benefit to sperm morphology or performance when compared with control. However, SOD/g Hemoglobin was reduced in both treatment and control. Semen concentrations of GPX increased significantly for treatment when compared with the control ( $P = 0.025$ ). Rectal temperature increased to a greater degree ( $P = 0.001$ ) for control compared with treatment ( $P = 0.014$ ). Additionally, radiant temperature at the testicular surface increased significantly in control during the trial ( $P = 0.008$ ). This study indicates feeding dietary antioxidants, hydroxy methyl analog, chelated trace minerals, and organic selenium can encourage maintenance of antioxidant metabolites.

**Key Words:** bull development, oxidative balance, semen quality

**W41 Phenotypic correlations of the residual intake and gain with ultrasound carcass traits and other feed efficiency measures in Nellore cattle.** R. C. Gomes\*<sup>1</sup>, S. L. Silva<sup>2</sup>, M. H. A. Santana<sup>2</sup>, J. B. S. Ferraz<sup>2</sup>, P. Rossi Jr.<sup>3</sup>, and P. R. Leme<sup>2</sup>, <sup>1</sup>*Department of Animal Science, State University of Londrina, Londrina, Parana, Brazil*, <sup>2</sup>*College of Animal Science and Food Engineering, University of Sao Paulo, Pirassununga, Sao Paulo, Brazil*, <sup>3</sup>*Federal University of Parana, Curitiba, Parana, Brazil*.

The residual feed and gain (RI&G) was recently reported as an alternative feed efficiency trait in beef cattle; however, associations of RI&G with carcass traits have not been described. The aim was to evaluate the phenotypic correlations of RI&G with ultrasound carcass traits in Nellore bulls and steers. Individual dry matter intake (DMI) and average daily gain (ADG) were computed in Nellore steers ( $n = 267$ , 20-mo old;  $346 \pm 30$  kg initial BW) and bulls ( $n = 277$ , 22-mo old;  $391 \pm 40$  kg initial BW) in performance tests that were carried out from 2005 to 2011. Ultrasound backfat thickness (UBFT), rump fat thickness (URFT) and rib eye area (UREA) were measured at the beginning and at the end of each test and the daily gain of each trait was calculated. Residual feed intake (RFI), residual gain (RG) and RI&G were computed using test as a contemporary group effect in the model. Pearson correlation analyses were carried out separately for steers or bulls. Coefficients of correlation of RI&G with feed conversion ratio (FCR), RFI and RG were respectively  $-0.79$ ;  $-0.86$  and  $0.86$  for steers and  $-0.70$ ;  $-0.87$  and  $0.87$  for bulls ( $P < 0.0001$ ). RI&G, RFI and RG were not correlated with mid-test body weight ( $P > 0.05$ ). For steers, RI&G was not correlated with final UBFT ( $0.00$ ,  $P > 0.05$ ), final URFT ( $-0.03$ ,  $P > 0.05$ ) and with the daily gain of both traits ( $-0.03$  and  $0.01$ , respectively,  $P > 0.05$ ). Positive low correlations were observed between RI&G and final UREA ( $0.13$ ,  $P < 0.05$ ) and with UREA gain ( $0.14$ ,  $P < 0.05$ ). In bulls, RI&G was not correlated with UREA gain ( $0.00$ ,  $P > 0.05$ ), final UBFT ( $-0.06$ ,  $P > 0.05$ ), final URFT ( $-0.04$ ,  $P > 0.05$ ) and with the gain of both traits ( $0.08$  and  $0.02$ , respectively,  $P > 0.05$ ). A low positive correlation was observed between RI&G and final UREA ( $0.17$ ,  $P < 0.05$ ). In the same data set, RFI and RG were correlated with UBFT and URFT gains in steers, whereas RG was also correlated with final UREA in both genders. Residual intake and gain is highly correlated with other feed efficiency traits and seems independent of subcutaneous fat deposition, but not rib eye area.

**Key Words:** beef, *Bos indicus*, gain to feed