1.82 vs. 1.60 mg/100 g LM) with ANNUAL, without differences with PAST. Time-on-pasture affected carcass, LM proximate composition, and tissue color; whereas forage type and frame score had minor effects.

Key Words: beef, forage, grazing

TH293   Fatty acid profile of meat from Nellore young bulls fed crude glycerin and lipid sources. R. A. Silva, J. F. Lage*, E. San Vito, A. F. Ribeiro, L. M. Delevatti, E. E. Dallantonia, M. Machado, L. R. Simonetti, B. R. Vieira, and T. T. Berchielli, *Universidade Estadual Paulista, Jaboticabal, Sao Paulo, Brazil.*

This objective of this study was to evaluate the effects of feeding different lipid sources on diets containing crude glycerin (CG) - 80% glycerol - included on 10% of DM diet on longissimus muscle fatty acid profile of Nellore young bulls finished in feedlot. Forty young bulls (Nellore), with 426.00 ± 30.20 initial BW, were randomly assigned to 4 treatments, with 10 replicates. The diets (30% of corn silage and 70% concentrate) were: 10% of CG being control diet (Cn); 10% of CG plus soybean oil (SO), 10% of CG plus whole soybean grain (SG) or 10% of CG plus bypass fat (BF). The Cn diet had 3.5% of ether extract (EE) and diets with lipid sources had 5.5% of EE. Concentrates were composed of grounded corn, soybean meal, urea/ammonium sulfate, mineral mixture and lipid sources. The diets were isonitrogenous. Animals were assigned to individuals pens, fed 97 d and slaughtered with average of 521.30 ± 44.27 kg BW. All carcasses were chilled at 0°C for approximately 24 h. A boneless longissimus muscle (LM) section 10 cm thick was removed from the posterior end of the wholesale rib. LM samples were individually vacuum-packaged and held at -20°C for analysis. The samples were submitted to lipid extraction and methylation and analyzed by gas chromatography. The experiment was conducted according to a completely randomized design and data were analyzed by the GLM procedure of SAS, and the Tukey test used considering 5% probability. The treatments did not affected the contents of CLA ($P = 0.11$), total saturated fatty acid ($P = 0.67$), total unsaturated fatty acid ($P = 0.67$), total monounsaturated fatty acid ($P = 0.19$), total polyunsaturated fatty acid ($P = 0.40$) and relation n-6:n-3 ($P = 0.45$). The inclusion of lipid sources on diets containing crude glycerin (10% DM) did not alter the fatty acid profile of meat from Nellore young bulls finished in feedlot.

Key Words: beef cattle, glycerol, feedlot

TH294   Visible and near infrared reflectance spectroscopy (Vis-NIRS) to predict tenderness in Nellore cattle. M. N. Bonin*[1], S. L. Silva[1], L. Bunger[2], D. Ross[2], C. Craigie[2], R. C. Gomes[3], A. Figueiredo[1], P. Torralvo[1], J. H. A. Campos[1], V. N. Barbosa[1], F. J. Novais[1], M. H. A. Santana[1], L. S. Oliveira[1], M. Mazon[1], J. B. S. Ferraz[1], *[1]College of Animal Science and Food Engineering, University of Sao Paulo, Pirassununga, SP, Brazil, [2]Scotland's Rural College, Edinburgh, United Kingdom, [3]Embrapa Beef Cattle, Campo Grande, MS, Brazil.*

Visible and near infrared reflectance spectroscopy (Vis-NIR) has the potential of predicting meat quality traits by acquiring scans at early postmortem and in intact samples. This technique has the advantage of being a nondestructive and quickly method that could be used as alternative of destructive, laborious and high cost methods as that used for physical and sensorial evaluation of tenderness. The aim of this study was to evaluate the accuracy of Vis-NIRS for predicting beef tenderness in Nellore cattle. Six hundred and 64 Nellore bulls with 18 to 30 mo of age were used in this study. The animals were slaughtered in 6 batches from September 2009 to November 2010. All carcasses were ribbed at the 5th rib, 48 h postmortem and a sample of the longissimus thoracis

(2.5 cm thick) was removed. A Vis-NIR spectra with a wavelength range from 400 to 1400 nm and intervals of 5 nm was collected immediately and the samples subjected to Warner-Bratzler Shear Force (WBSF) analysis. Calibration and validation procedures were performed using Partial Least Squares Regression in the program UNSCRAMBLER (version 10.1, Camo, Trondheim, Norway). For testing the Vis-NIRS accuracy at distributing the samples into classes of tenderness, predicted WBSF values were regressed against actual WBSF values. The WBSF values ranged from 2.82 to 13.14 kg, with mean = 6.95 kg and SD = 2.01 kg. Low coefficients of determination were observed in the calibration ($R_c^2 = 0.29$, RMSEC = 1.70) and in the cross-validation ($R_{cv}^2 = 0.14$, RMSECV = 1.29), indicating a low ability of Vis-NIRS for predicting exact values of WBSF in Nellore cattle. However, when used to classify meat as tender (WBSF <4.5 kg) or tough (WBSF >4.5 kg), Vis-NIRS correctly classified 91.8% of samples. These results are in accordance with other studies that reported the Vis-NIRS as a powerful tool for categorization of meat products, with correct classification of more than 80% of samples. Using Vis-NIRS spectroscopy at deboning may be a powerful technique to distinguish tender from tough meat in industrial routines to add value to meat cuts.

Key Words: *Bos indicus*, intact sample, WBSF

TH295   Influence of season of lamb finshing on meat quality. R. C. Vilarinho[1], U. Souza[1], C. P. McManus[2], and L. Kindlein*[1], *[1]Federal University of Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil, [2]Brasilia University, Brasilia, DF, Brazil.*

The present study aimed to evaluate carcass and meat characteristics of lamb (<18 mo of age) slaughtered in different seasons of the year (spring and summer) reared in semi-intensive systems in Rio Grande do Sul State, Brazil. Several genetic and environmental factors can affect quantitative and qualitative traits of lamb meat. For this experiment, a total of 120 Corriedale were used, 60 finished and slaughtered in spring and 60 in the summer. After slaughter and evisceration, hot carcasses were weighed (HCW) and pH (pH_{0h}) measured. After chilling cold carcass weight was taken (CCW) and final pH (pH_{24h}). A section between the 11th and 13th ribs as taken of the longíssimus dorsi muscle for analysis. Animals slaughtered in the spring had higher weights (HCW, CCW) and rib-eye area (REA) ($P < 0.001$, $P < 0.001$, $P < 0.002$; 18.81 kg, 18.40 kg and 13.72 cm^2, respectively) than those slaughtered in the summer (18.00 kg, 17.92 kg and 12.14 cm^2, respectively). These results were expected as in this region there is greater pasture availability and quality in the spring. Other authors found darker meat in lambs slaughtered in the winter, with less fat deposits than those slaughtered in other seasons. In the present study no differences ($P > 0.05$) were found between seasons for meat quality traits including pH_0 6.50(±0.02) vs. 6.40(±0.01); pH_{24} 5.67(±0.03) vs. 5.70(±0.03); L* 34.17(±2.34) vs. 33.84(±3.72); a* 5.09(±1.45) vs. 4.60(±1.21); b* 6.73(±2.56) vs. 6.82(±2.43); marbling (IMF) 1.68(±0.50) vs. 1.63(±0.60); subcutaneous fat thickness (SF), 0.49 (±0.10) vs. 0.48(±0.12); for spring and summer respectively·. The slaughter season for lambs influences carcass traits with animals slaughtered in the spring showing higher values for HCW (Kg), CCW (Kg) and REA (cm^2) than those slaughtered in the summer but this does not affect meat quality.

Key Words: carcass, lamb meat, marbling

TH296   An Investigation of the black bone syndrome with broiler chickens fed diets supplemented with 25-OH-vitamin D$_3$. L. Kindlein* and S. L. Vieira, *Federal University of Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil.*

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