T50 Genotype × climate interaction in the genetic evaluation for growing traits in Braunvieh cattle. L. A. Saavedra-Jiménez[1], R. Ramírez-Valverde[1], R. Núñez-Domínguez*[1], N. López-Villalobos[2], A. Ruíz-Flores[1], and J. G. García-Muñiz[1], *[1]Universidad Autónoma Chapingo, Chapingo, México, [2]Massey University, Palmerston North, New Zealand.*

The presence of genotype × environment interaction causes changes in ranking of breeding values (BV) of sires from one environment to another, which affects genetic progress. The objective was to determine the magnitude of genotype × climate interaction (G×C) for growth traits in the genetic evaluation of Braunvieh cattle. Traits studied were weaning weight (WW) and yearling weight (YW). Records provided by the Asociación Mexicana de Criadores de Ganado Suizo de Registro, were grouped based on the meteorological variables recorded nearest to the herd by the National Weather System. The CLUSTER procedure in SAS was used to classify herds into 3 climates: dry tropic (DT), wet tropic (WT) and temperate (TE). Records of WW were 5348, 4501 and 2515 in DT, WT and TE, respectively, with 25173 animals in the pedigree. For YW, there were 3811, 2652 and 1528 records in DT, WT and TE, respectively, with 18072 animals in the pedigree. An animal model with ASReml software was used to estimate genetic parameters and to predict BVs. Bivariate analyses were carried out for pairwise combinations of climates for each growth trait. The criteria to evaluate G×C were: 1) genetic correlations (r_g) in bivariate analyses, and 2) frequencies of coincidence (FC) in the ranking of top 25 sires. Estimates of r_g between DT and WT, DT and TE, and WT and TE were −0.36, 0.84 and 0.72 for WW, and 0.23, 0.99 and 0.23 for YW, respectively. The FC between DT and WT, DT and TE, and WT and TE were 0.16, 0.92 and 0.76 for WW, and 0.60, 1.00 and 0.64 for YW, respectively. The size of r_g and FC imply the presence of G×C when compared WT with DT or TE, suggesting that genetic evaluations should be carried out separately for animals performing under wet tropical conditions.

Key Words: genotype by environment, weaning weight, Braunvieh cattle

T51 Relationships among visual scores with feedlot performance and feed efficiency in *Bos indicus* cattle. P. H. Cancian*[1], S. L. Silva[1], A. C. Ianni[1], F. R. Manicardi[1], R. C. Gomes[2], and J. B. S. Ferraz[1], *[1]Faculdade de Zootecnia e Engenharia de Alimentos / Universidade de São Paulo (FZEA/USP), Pirassununga, São Paulo, Brazil, [2]Departamento de Zootecnia / Universidade Estadual de Londrina (UEL), Londrina, Paraná, Brazil.*

Visual evaluation of live beef cattle have been largely used to identify more adequate animals for meat production and, in Brazil, even as selection criteria in breeding programs. However, the relationship of these evaluations with feed efficiency traits in feedlot are unknown. The objective of this work was to evaluate phenotypic correlations of visual scores of conformation (C), precocity (P) and muscularity (M) with feedlot performance. Forty 3 bulls and 43 steers of Nellore were visually evaluated by an experienced technician twice. In the first evaluation (VS16), cattle (16-mo old, 313 ± 25 kg BW) was grazing in *Brachiaria* spp. pastures. At 22-mo of age, they were fed ad libitum for 84 d for individual dry matter intake (DMI) and average daily gain (ADG) records. A second evaluation of visual scores (VS22) were carried out on d 21 of the 84-d period. The body weight (BW) was measured each 28 d to calculate average daily gain (ADG) and gain to feed ratio (G:F). The visual were assigned to each animal in a within-gender comparison and the relationship among traits was evaluated by Pearson correlation. Visual scores showed moderate to high correlations with BW in both evaluations. The correlations between BW and C were 0.75 and 0.35 in VS16 and VS22, whereas with P the correlations coefficients were 0.46 and 0.29, respectively. For muscularity, the correlation with BW was 0.5 in both evaluations. Conformation score was positively correlated with DMI and ADG in both VS16 (0.47 and 0.27) and VS22 (0.33 and 0.13) and negatively with G:F in both evaluations (−0.15 and −0.19). Correlation of P with DMI was low and positive (0.25) in VS16 and nonsignificant ($P > 0.05$) with the rest of traits in both evaluations. Visual evaluation of M had nonsignificant correlations with all efficiency traits in both evaluations, except with DMI in VS22 (0.25; $P < 0.05$).The visual score of conformation may be an indication that animals with larger frame sizes, can ingest more food than the others. Visual assessments for precocity and musculature appeared as features of low accuracy to select efficient cattle.

Key Words: conformation, precocity, muscularity

T52 Genetic parameters for carcass traits and weaning weight of composite beef cattle in Brazil. J. Ramírez-Díaz[1], T. A. Oliveira[1], A. Zampar[1], S. F. N. Pertile[1], M. A. Elzo[3], J. B. S. Ferraz[2], and G. B. Mourão*[1], *[1]University of São Paulo - ESALQ, Piracicaba, São Paulo, Brazil, [2]University of São Paulo - FZEA, Pirassununga, São Paulo, Brazil, [3]University of Florida, Gainesville.*

Heritability and genetic correlations for weaning weight (WW; n = 328,326) and real-time ultrasound measurements of ribeye area (REA), subcutaneous fat thickness (BF) and rump fat (RF) from 863 calves were estimated using data from the Montana Tropical composite beef cattle population in Brazil. Images of carcass traits were obtained for ultrasound scanning (Aloka, SSD 500, with linear transducer of 3.5 megahertz and 172 mm long and acoustic guide attached) and analyzed using LINCE software. Calves were weaned at 6 m (205 d). of age, and ultrasounds were collected at 21 m (639 d) of age. Single-trait and multi-trait analyses with direct additive effects only were considered. The maternal additive effects was considered only for WW. Models included contemporary group (herd of birth-herd of weaning-herd of measurement-year of birth-season of birth-sex of animal) as a fixed effect, and age of dam, individual and maternal heterozygosity, and age at measurement as covariates for single trait analyses. Two-trait analyses excluded the covariate for age of dam. Random effects were animal and residual. The A^{-1} matrix contained 536,120 animals. Variance and covariance components were estimated using REML methodology and ASREML software. Heritabilities (h^2) and standard error (in parenthesis) for WW, BF and RF were 0.31(0.0104), 0.13(0.1320), 0.10(0.1278) respectively. The h^2 for REA was close to zero. Maternal (h^2) was 0.1940(0.0066) for WW. The genetic correlation between WW and BF was near zero (0.038), low and negative between WW and RF (−0.26), and positive between WW and REA (0.20) with standard errors of 0.23, 0.27 and 0.24. The low heritability estimates for ultrasound traits indicated that selection for these traits at this age would be rather ineffective. Selection for WW may reduce RF. In the 2-trait analysis, the h^2 were 0.36 (0.0047) and 0.14 (0.1322) for WW and BF, 0.36 (0.0047) and 0.12 (0.1322) for WW and RF and 0.36 (0.0047) and 0.01 (0.0829) for WW and REA. These results should be considered with caution because of the small number of observations for ultrasound carcass traits.

Key Words: beef cattle, tropical composite, ultrasound traits