EFFECTS OF SEROTONIN AGONIST ON THE PLASMA CONCENTRATIONS OF GROWTH HORMONE, THYROID HORMONES AND MILK COMPOSITIONS AND PRODUCTION IN HOLSTEIN DAIRY COWS.

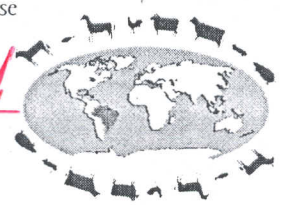
Eslami, R.N.; Khazali, H. and Rokni, H.

Serotonin is one of the most important neurotransmitters in central nervous system, which can affect the function of hypothalamus. This experiment was conducted to evaluate the effects of intrajugular injection of serotonin agonist (L-Tryptophan) on plasma growth hormone (GH), triiodothyronine (T3) and thyroxin (T4) concentrations and milk yield and compositions. Twelve multiparous Holstein dairy cows were assigned randomly to four groups in split-plot design with three 5 d periods. After a five-days pretreatment period each group received one the treatments for five consecutive days. Treatments were: 1) saline (control) 2) 2 mg.kg-1.BW-1 3) 4 mg.kg-1.BW-1 4) 8 mg.kg-1.BW-1. The experiment was ended after a five-days post-treatment period. Milk and blood samples were collected daily during the entire of experiment. Daily milk yield and body weight changes were determined. Milk samples were analyzed for fat, protein, lactose solid not fat and total solid content of the milk. Blood plasma samples were analyzed for GH, T3 and T4. Blood plasma GH, T3 and T4 concentrations increased significantly (P 0.05) with increasing the level of injected serotonin. No significant difference were observed between treatments for fat, protein, lactose solid not fat and total solid content of the milk samples, although daily milk yield and yield of fat and protein increased significantly (P 0.05) with increasing the level of injected serotonin agonist. The results of this study indicate that serotonin agonist injection can increase secretion of GH, T3 and T4 from hypophysis and consequently improve milk yield in dairy cows.

EFFECTS OF FEEDING SYSTEMS IN THE PREGNANCY RATE OF YEARLING BEEF HEIFERS.

Azambuja, P.S. and Lobato, J.F.P.

With the aim to reduce the age at first mating of beef heifers to 14/15 months were utilized 108 female calves (55 Hereford amd 53 Braford), borned at spring 2000, random alocatted in three feeding systems (treatments =T) during the first winter post-weaning (06/01/01 to 08/20/01): a) T1- supplemented with defatted rice bran(DRB) on native pasture; b) T2- semi-feedloted with sorghum silage *ad libitum* in a paddock with 1.5 ha and concentrate (DRB; 1.5% LW) + NPN (0.005% LW); c) T3- semi-feedloted with sorghum silage *ad libitum* in a paddock with 1.5 ha and comercial ration (1.5% LW). The mean liveweight gain of T3 (0.478 kg/day) was higher ($P<0.05$) than those of T1 (0.170 kg/day) and T2 (0.252 kg/day). After this period of suplementation, the heifers grazed together ryegrass pasture with similar($P>0.05$) liveweight gain for the three groups(T1=0.462, T2=0.441 and T3= 0.405 kg/day) until the breeding season on native pature with same ($P>0.05$) liveweight gain in this period (T1=0.504, T2=0.547 and T3= 0.507 kg/day). The pregnancy rate was similar ($P>0.05$) for both groups (T1=25.0, T2= 13.9 and T3=11.1%) with the overall mean of 16,7%. The pregnant heifers were oldest (mean of 412.61 vs 387.20 days), heaviest (mean of 279.17 vs 219.29 Kg) and had a higher body condition score (mean of 3.94 vs 3.09, in 1-5 scale) at the beggning of the breeding season and also, previously, had been heaviest at weaning (158.17 vs 119.63 kg) than the non pregnant heifers ($P<0.01$).



PERFORMANCE OF CALVES FROM FOUR GENETIC GROUPS UNDER ROTATIONAL GRAZING ON TANZÂNIA GRASS.

Correa, L.A.; Alencar, M.M.; Freitas, A.R. and Santos, P.M.

Beef cattle production in Brazil can be increased by using crossbred animals due to their genetic potential as a result of heterosis and additive breed effects. The objective of this study was to evaluate the performance of weaned calves produced by Nellore or high grade Nellore cows and Nellore, Angus, Canchim, and Simmental bulls, during back grounding under grazing on fertilized Tanzania grass (*Panicum maximum*), from December 2001 to May 2002. Twelve calves of each genetic group were managed altogether in a 8 hectare rotational system divided into 13 paddocks, with three days of occupation and 36 days of rest. Initial and final body weight measurements taken on each animal were analyzed using a model for repeated measures. The response of the grass to fertilization was high, allowing monthly accumulation rates of 54.0, 88.0, 92.0, 139.0, 94.0, 99.0, 93.0, and 35.0 kg of DM/ha/day from October to May, enough to keep 6.7 AU/ha, producing 903.0 kg of live weight gain/ha. There were significant effects of genetic group (GG) ($P<0.0001$), repeated measure (RM) ($P<0.0001$) and GG x RM ($P<0.0237$) on calf body weight. The significance of GG x RM can be attributed to the Nellore and Canchim groups; initial weights were similar ($P>0.05$) for both, while the Canchim was superior for final weight ($P<0.05$). With respect to weight gain during the six-month period, Angus, Simmental and Canchim calves showed similar ($P>0.05$) performance (0.63 to 0.65 kg/animal/day), and were superior to the Nellore (0.55 kg/animal/day) calves. (Financial support: Embrapa and Fapesp).

PREDICTION OF WEIGHT AND PERCENTAGE OF RETAIL CUTS IN NELLORE CATTLE USING ULTRASOUND MEASUREMENTS

Silva, S.L.; Leme, P.R.; Putrino, S.M.; Martello, L.S.; Borgatti, L.M.O.; Luchiari Filho, A. and Lanna, D.P.D.

In order to verify the usefulness of using ultrasound measurements of ribeye area (UREA) and backfat thickness (UBFT) between 12th and 13th ribs, and live weight (LW), to predict weight (RCW) and percentage (RCP) of retail cuts of beef cattle, 48 Nellore steers were fed 69 days with high concentrate diets (65%). Live weight and ultrasound measurements were taken 70, 43 and 15 days before slaughter. After slaughtering hot carcass weight (HCW) was obtained. After 24 hours of chilling, carcasses were ribbed and ribeye area (CREA) and backfat thickness (CBFT) were obtained. One side of each carcass was fabricated into boneless closed trimmed retail cuts. Multiple regression equations were developed from ultrasound, carcass, LW and HCW data to predict RCW and RCP. Equations using measurements of carcass (CREA, CBFT and HCW) were not good estimators of RCP ($R2=0.05$) but explained 81% ($R2=0.81$) of variation in RCW. Prediction equations using ultrasound estimates and LW showed similar results to carcass when predicting RCW ($R2 = 0.01$; 0.08 and 0.11) when taken 70, 43 or 15 days after slaughter, respectively. Regression equations to estimate RCP from ultrasound measurements and LW, were less accurate ($R2 = 0.64$; 0.72 and 0.72) with regard to using carcass measurements, when taken in the same periods, respectively. Prediction equations to estimate RCP with ultrasound or carcass data were not accurate. Estimates of RCW using ultrasound measurements showed similar results to those using measurements obtained directly from carcass and can be used to estimate carcass composition of cattle.