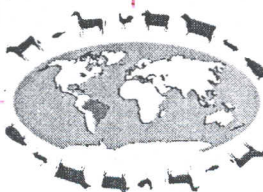


## DAILY METHANE EMISSION AT DIFFERENT SEASONS OF THE YEAR BY NELORE CATTLE IN BRAZIL GRAZING *Brachiaria brizantha* CV. MARANDU. PRELIMINARY RESULTS

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Methane emissions by Nelore cattle grazing *Brachiaria brizantha* were monitored during the winter, spring and summer. The evaluations were carried out in an area of 48 ha, divided in 16 experimental units, formed by 2 paddocks. Sixteen Nelore steers with live weight (LW) varying from 206 to 525kg, 196 to 538kg and 258 to 598kg during winter, spring and summer, respectively, were distributed on the experimental units with 10 other animals of the normal herd. Methane emissions were measured with the hexafluoride (SF<sub>6</sub>) technique. The forage allowances and chemical composition were made before the measurements were taken. Mean methane emissions were 102.3, 138.53 and 220.0g animal/day and 0.344, 0.408 and 0.543g/kgLW/day in the winter, spring and summer respectively. Variations on methane production observed among seasons it's mainly due to forage quality that affects digestibility and consumption, but the LW differences should be taking into account. There are a strong statistical evidence ( $P < 0.05$ ) that increasing live weight there are a higher methane emissions ( $CH_4$ , winter =  $34.49 + 0.3139 LW$ ,  $R^2 = 0.9397$ ;  $CH_4$ , spring =  $38.10 + 0.3003 LW$ ,  $R^2 = 0.9392$ ;  $CH_4$ , summer =  $75.08 + 0.342 LW$ ,  $R^2 = 0.79$ ). The  $CH_4$  emissions were highly correlated ( $P < 0.05$ ) with animal LW for all seasons ( $r = 0.8084, 0.9691$  and  $0.8888$ , for winter, spring and summer, respectively). Relative methane emissions ( $CH_4$ , g/kg LW) were inversely correlated with live weight ( $r = -0.8481, -0.8701$ , and  $-0.6440$ , for winter, spring and summer, respectively). This is because of the higher dry matter intake in relation to the body weight of growing animals.



## EFFECT OF FAT SOURCE AND MONENSIN ON RUMEN FERMENTATION OF NELLORE STEERS

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Four cannulated Nelore (*Bos indicus indicus*) steers, were utilized in a 4x4 latin square design experiment to evaluate the rumen fermentation. Steers were fed high concentrate diets with calcium salt of fatty acids or whole cottonseed as fat sources, and to study the effect of monensin in whole cottonseed diets. Each experimental period of six days had a previous adaptation period of 16 days. Four concentrates were fed: control (CTRL), with calcium salt (CSalt), with whole cottonseed (CS), and with whole cottonseed without monensin (CSWMO). The diets had, respectively, 4,8, 9,4 8,9, and 7,7% of ether extract in the dry matter. The fermentation parameters measured were  $NH_3$ , volatile fat acids (VFA) and pH. Statistical analysis was made with the general linear model (GLM) procedure of SAS. The inclusion of whole cottonseed or calcium salt as fat source did not affect the rumen parameters studied ( $p > 0,05$ ). The ionophore utilization or not in the whole cottonseed diets had no effect either. These results suggested that whole cottonseed had little or no effect on rumen fermentation due to the slowly fat release and that calcium salt was inert in the rumen environment. It was concluded that whole cottonseed and calcium salts are fat sources with little effect on rumen fermentation at the levels utilized in this experiment, and also that monensin apparently has no influence on rumen fermentation of diets with whole cottonseed.

## EVALUATION OF WHEAT BRAN AND ITS USING IN DAIRY COWS NUTRITION

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For chemical composition studying of wheat bran, random samples were taken from flour producing factories in sectional of Iran. Samples were received weekly during 6 weeks (for every factory, there were different 6 samples). These samples were analyzed for value of OM, CP, ADF, NDF, CEE, Ca, and P by standard methods in laboratory. Statistical analysis by random completely design showed that there were significant different in value of CP, ADF, NDF, EE among different factories ( $P < 0.01$ ). In the next step of experiment, wheat bran with the greatest of CP value were select for considering the effect of low and high level on performance of dairy cows. Eight multiparous Holstein cows were used for two treatments and periods. Cows were adapted to the experimental diets for 14 days and entered to the sampling period of 7 days. The treatments were: 1) 25% wheat bran and 2) 40% wheat bran (as a percentage of concentrate). There were no significant different between the average daily DM and nutrient intakes. DM, OM and CP digestibilities were significantly increased with 40% level of wheat bran ( $P < 0.05$ ), while NDF and ADF digestibilities were similar in the two treatments. Rumen pH,  $NH_3$  and plasma glucose were not significantly increased by changing the level of wheat bran. Daily milk production, percentage and daily yield of protein, fat, lactose, casein, NPN and SNF milk were not significantly affected by different diets.

## STUDY ON THE NUTRIENT BALANCE TECHNICAL DEVELOPMENT FOR MINIMIZATION OF METABOLIZED DISORDER IN DAIRY COW DURING THE PRE- AND POSTPARTUM

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Twenty multiparous Holstein cows were used to examine the effects of flake corn and RUP (rumen undegradable protein) levels on dry matter intake, milk yield, milk composition and metabolic disorders of dairy cow during the prepartum and postpartum. Two kinds of corn, cracking corn and flake corn, and two levels of RUP, RUP 30% and RUP 40% were tested according to a factorial arrangement in a randomized block design. Dietary treatments were fed *ad libitum* from 21 d before expected calving date to 21 d after calving. Dry matter intake was similar 9 kg among treatments for 3 weeks prepartum, but postpartum intake was higher for cows fed the flake corn and RUP 40% diets. Cows fed the flake corn diets produced more milk yields than those fed the cracking corn diets. Concentrations of NEFA and glucose were unaffected by treatment, but cows fed cracking corn and RUP 30% diet increased concentration of NEFA at calving. Calving ease was unaffected by treatment. At calving, plasma cortisol concentration was higher for cracking corn and RUP 40% treatment than another treatments.