

Abstracts

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of N (ID) was determined using the in vitro (pepsin and pancreatin) steps of the 3-step procedure of Calsamiglia and Stern (1995). Total-N content of each fraction was different ($P < 0.05$) with LAB having the highest N content (8.1 vs. 6.1 vs. 5.6% of DM for LAB, SAB, and LAP, respectively). Purine concentration was greatest ($P < 0.05$) in LAB compared with SAB and LAP (3.1 vs. 1.0 vs. 0.9 mg/g of bacterial DM, respectively). Similarly, LAB had a higher ($P < 0.05$) purine:N ratio compared with SAB and LAP (37.4 vs. 12.3 vs. 11.1 mg/g of bacterial N, respectively). Total amino acids (AA) (wt/wt) varied ($P < 0.05$) with each treatment (35.9 vs. 29.8 vs. 27.72% for LAB, SAB, and LAP, respectively). Most individual AA (g/100 g of total AA and wt/wt) exhibited differences ($P < 0.05$) between the 3 populations. Essential AA content (g/100 g of total AA) was highest ($P < 0.05$) in LAB and lowest in LAP (47.15 vs. 46.02, respectively). Non-essential AA content was greatest ($P < 0.05$) in LAP followed by SAB and LAB (53.3 vs. 52.3 vs. 51.8 g/100 g total AA, respectively). LAB was highest ($P < 0.05$) in ID followed by LAP and SAB (71.2% vs. 68.2% vs. 57.5% for LAB, LAP, and SAB, respectively). Results demonstrate that microbial fractions have differing digestibilities in the small intestine and suggest that ID of mixed rumen microbes can be influenced by the relative amount of each microbial population.

Key Words: intestinal protein digestibility, microbial protein, rumen microbes

P126 Non-esterified fatty acids and its relationship with mediators of the acute phase response in dairy cows. F. da Rosa^{1, 2, 3,*}, P. Montagner^{3, 4}, E. Schmitt⁵, A. Schneider^{3, 6}, C. C. Brauner^{2, 3}, E. Schwegler^{3, 4}, M. Weschenfelder^{3, 4}, A. R. Krause^{2, 3}, F. Del Pino^{3, 7}, M. N. Corrêa^{3, 4}, ¹*Animal Sciences, University of Illinois, Urbana*, ²*Animal Sciences, Núcleo de Pesquisa, Ensino e Extensão em Pecuária (NUPEEC)*, ³*Department of Veterinary Clinics, Federal University of Pelotas*, ⁴*Brazilian Agricultural Research Corporation, EMBRAPA - CPAFRÓ, Porto Velho*, ⁵*Nutrition College*, ⁶*Department of Biochemistry, Federal University of Pelotas, Brazil*.

The aim of this study was assess the concentration of acute phase protein during the peripartum period in pluriparous dairy cows with three different levels of non-esterified fatty acids (NEFA) in the postpartum. Nineteen cows from a commercial herd kept in a semi-extensive system in southern Brazil were enrolled in this study. The animals were categorized into three groups according to serum NEFA concentrations. High group (GH): higher NEFA concentration; intermediate group (GI) and low group (GL): lower NEFA concentrations. The blood was collected on 23, 14, 7 and 3 d prepartum, on the day of partum and on 3, 6, 9, 16 and 23 d postpartum. In these time points were analyzed the concentrations of NEFA, Haptoglobin (Hp) and Paraoxonase (PON). Statistical analysis was performed using the SAS program. NEFA was compared between groups by analysis of variance using one-way ANOVA, Haptoglobin and Paraoxonase measurements were analyzed by repeated measures using the MIXED procedure with a value of $P < 0.05$ considered significant. It was observed a significant effect ($P = 0.001$) for serum NEFA concentrations among the GH, GI and GL groups: 0.6-1.04 mmol/L; 0.42-0.59 mmol/L and 0.28 – 0.4 mmol/L, respectively. Postpartum Hp concentration was higher in GH (1.08 ± 0.19 g/L) than in GL (0.93 ± 0.16 g/L) ($P = 0.002$). Regarding the Paraoxonase, in the prepartum period it showed difference between groups ($P = 0.008$), whereas the GL (127.29 ± 5.3 U/mL) had higher concentrations than the GI (110.26 ± 4.9 U/mL) and also higher than GH (97.58 ± 5.1 U/mL). In addition, these effects ($P = 0.001$) were maintained (GL: 110.85 ± 5.1 U/mL; GI: 105.38 ± 4.6 U/mL; GH:

$86,01 \pm 4,6$ U/mL) during the postpartum. Considering the immune response, our results showed that the acute phase protein occurs in dairy cattle during the peripartum period and further emphasize that there is a link between inflammatory mediators and energetic metabolism. In summary, the present study indicated that pluriparous dairy cows with higher concentration of non-esterified fatty acids in the postpartum had higher values of Hp and lower values of PON during the transition period.

Key Words: acute phase response, dairy cattle, energetic metabolism

P127 Loin quality of Brazilian native lambs fed with different levels of crude glycerin. H. A. Ricardo*, C. M. Cunha, A. R. M. Fernandes, J. C. S. Osorio, F. M. Vargas Junior, M. A. P. Orrico Jr., L. O. Seno, *Grande Dourados Federal University, MS, Brazil*.

The crude glycerin has been successfully used in ruminant nutrition because shows potential as gluconeogenesis substrate replacing energy concentrates. The objective of the study was to evaluate the effects of replacing coarse ground corn by different levels of crude glycerin on Loin quality traits. We used 24 lambs with mean body weight of 20 kg. Animals used in the study belong to a group of native wool sheep of the State of Mato Grosso do Sul, Brazil, called as "Pantaneiros." The experiment was conducted in a completely randomized design with 4 treatments: 0, 2.5, 5.0, and 7.5% of crude glycerin inclusion on dry matter (DM). Diets were formulated to be isonitrogenous and isoenergetic only varying the inclusion of crude glycerin in replace of coarse ground corn, to provide an average gain of 0.2 kg/day. Oat hay was used as roughage and concentrate was composed of corn and/or crude glycerin, soybean meal, ground soybean and mineral mix, with a roughage:concentrate ratio of 25:75. Animals' body condition was used as slaughter criterion. As soon animals had a body condition between 3.0 and 3.5 slaughter was performed at the Grande Dourados Federal University Meats Laboratory. Initial pH was taken after slaughter on *Longissimus* muscle between 12th and 13th ribs, and final pH was taken 24 h postmortem. Loins were removed from the left side of chilled carcasses, between the first and the last lumbar vertebra. Slices of each Loin with 2.54 cm were used to determine lean color scores (L*, a*, and b*), cooking loss (CL), water holding capacity (WHC) and Warner-Bratzler shear force (WBSF). Data were analyzed using Proc GLM in SAS as a completely randomized design. Crude glycerin levels did not affect initial pH ($P = 0.12$), final pH ($P = 0.99$), L* ($P = 0.42$), a* ($P = 0.12$), b* ($P = 0.35$), CL ($P = 0.43$), WHC ($P = 0.50$), and WBSF ($P = 0.84$). Results from this study indicate that addition of crude glycerin until 7.5% can replace corn and does not affect Loin instrumental characteristics of Brazilian native lambs.

Key Words: co-products, corn, shear force

P128 Increasing preconception RUP supplementation improves mature beef cow return to estrous cyclicity but does not impact milk production or reproductive performance. A. F. Summers*, D. M. Larson, A. S. Cupp, *Animal Science, University of Nebraska, Lincoln*.

Previous literature reports improved AI conception rates in beef heifers supplemented distillers grains with solubles (DDG) during development compared with heifers receiving a dried corn gluten and corn germ (CON) based supplement. The objective of this experiment was to determine the effect of feeding two differing RUP supplements on preconception first calf heifer (FCH) and cow reproductive