PSVIII-2 Hy-D Increases Performance of Grazing Nellore Young Bulls Receiving Protein Supplement in the Growing Phase. Melissa Barreto Silveira¹, Fernanda Simões Mudado¹, Alexandre Perdigão², Isabelle E. de Matos³, Aline Gomes da Silva³, Henrique Jorge Fernandes¹, Victor Valério de Carvalho², Tiago S. S. Acedo²,¹Federal University of Mato Grosso do Sul, ²DSM Nutritional Products S/A, Brazil

Abstract: Studies demonstrate the benefits of supplementing 25-OH Vit D3 to bovines, few is known about its effect on performance of grazing animals in tropical conditions. Thus, our objective was to evaluate the effects of inclusion of 25-OH Vit D3 (Rovimix Hy-D 1.25%, Hy-D) in protein supplement on performance of grazing Nellore steers during the rainy season. Nellore steers (n=50; iBW of 346 ± 5 kg; age, 14 mo) were used. Animals were equally distributed in two paddocks (25 animals each one) of B. brizantha, cv. Marandú (7.0 ha each), equipped with electronic feeders, that allowed assess to individual supplement intake. The treatments consisted of a protein supplement (Fosbovi Proteico 30, DSM, Brazil), with or without the addition of Hy-D, in a dose adjusted to daily intake of 1 mg/animal/d. The experimental period was 99-d. To avoid possible effects of paddocks, groups of animals were rotated among the paddocks weekly. At the beginning and at the end of the experiment, animals were weighed after 16h of total fasting. At the end of the trial, blood samples from 15 animals per treatment were collected before fasting, to determine serum concentrations of 25-OH Vit D3. Data were analyzed according to a complete randomized block design. The use of Hy-D (Control vs Hy-D) decreased supplement daily intake (0.753 vs 0.529 kg/d; P< 0.02); did not affected final BW (427 vs 423 kg; P >0.10) or ADG (0.810 vs 0.765 kg/d; P >0.10); and increased the supplementation efficiency (1.166 vs 1.591 kg ADG / kg supplement, P< 0.01) and serum 25-OH Vit D3 (27.3 vs 59.3 ng/mL; P< 0.01). It is known that 25-OH Vit D3 has a positive effect on skeletal muscle hypertrophy and the increased serum 25-OH Vit D3 in the present study points that the greater nutritional efficiency of animal receiving Hy-D could be linked to a greater muscle deposition.

Keywords: Nellore cattle, supplement, vitamin D3

PSVIII-1 Hy-D Increases Ca, P and Serum Metabolites Related to Growth in Grazing Animals Receiving a P Deficient Supplement. Fernanda Simões Mudado¹, Alexandre Perdigão², Melissa Barreto Silveira¹, Isabelle E. de Matos³, Aline Gomes da Silva³, Henrique Jorge Fernandes¹, Tiago S. S. Acedo²,¹Federal University of Mato Grosso do Sul, ²DSM Nutritional Products S/A, Brazil

Abstract: The aim with this trial was to evaluate the effects of 25-OH Vit D3 in serum metabolites of growing grazing Nellore young bulls during the rainy season with two different supplementary P levels. Two independent and sequential trials were performed: first one using a 250 g/kg CP supplement containing 8 g/kg of P, and the second one using the same 25% CP supplement, with no addition of P. In each trial, eighteen young bulls of 385 kg BW and 18 months of age were randomly assigned to the two treatments (n=9 animals/treatment): addition or not (control) of 25-OH Vit D3 (ROVIMIX Hy-D 1.25%, Hy-D) to the supplement. Animals were placed in a paddock of B. brizantha, cv. Marandú, equipped with electronic feeders that provided individual access (animal/treatment). On day 31 of each trial, blood samples were taken for determination of 25-OH Vit D3, IGF-1, Ca, P, Alkaline Phosphatase (ALP), and osteocalcin (OCa). In each trial, data were analyzed according to a complete randomized design. In the first trial (8 g/kg of P in supplement) the use of Hy-D (Control vs Hy-D) increased serum concentrations of 25-OH Vit D3 (25.4 vs 44.7 ng/mL, P< 0.01); not affecting the others variables. In the second trial, when no P was not added to the supplement, the use of Hy-D (Control vs Hy-D) increased serum concentrations of 25-OH Vit D3 (25.4 vs 44.7 ng/mL, P< 0.01); Ca (10.8 vs 11.3 mg/dL, P< 0.07); P (7.4 vs 8.3 mg/dL, P< 0.08); ALP (205 vs 263 U/L, P< 0.04); IGF-1 (256 vs 327 ng/mL, P< 0.07); and did not affect OCa (P< 0.27). These results showed that positive effects of Hy-D on metabolism could be dependent of dietary P level, with Hy-D being able to maintain the levels of Ca, P and serum metabolites related to growth when no P was supplied in the supplement.

Keywords: Nellore cattle, supplementation, vitamin D3