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Pre and Post-Calving Supplement with Multinutrient Blocks to Improve the Performance of Grazing Bali Cows (*Bibos banteng*)

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Abstract

Seventeen multiparous pregnant Bali cows with BCS 1 to 2, approximately 90 d before the expected date of calving, were randomly allocated to one of two feeding groups. Group A cows (n=9) were grazed on natural pasture, while group B cows (n=8) grazed with the others but received 1.25 kg multi nutrient blocks, whose constitution was as follows (%): molasses (28), urea (5), coconut cake (15), fishmeal (5), rice bran (25), lime (8.5), salt (7.5), grit (5) and ultramineral (1). Nutritional parameters such as dry matter intake, digestibility and rumen environment were estimated over a 7 d period. Cows were weighed and assessed for BCS (on a five-point scale) every two weeks, commencing at 12 weeks prior to calving, within 24 h after calving up to 16 weeks after calving. Blood metabolites were measured monthly, and progesterone was measured twice weekly using RIA. Uterine involution was determined by rectal palpation at 7 d postcalving. The interval from calving to first estrus was monitored by estrus observation twice a day. Conception at first service was assessed by pregnancy diagnosis 45 to 60 d after insemination. Results showed that except EE and NFE, dry matter and all nutrients intake as well as their digestibilities were significantly increased by supplementation. Rumen pH, ammonia and VFA levels were affected by multi nutrient blocks. Cows fed multi nutrient blocks supplement had higher liveweight, BCS, liveweight changes and slightly BCS change throughout the experiment. Blood metabolites concentrations i.e. glucose, urea and total protein were affected by multi nutrient blocks supplement, mainly around parturition. Two groups had a similar pattern of pre and post-calving progesterone profile. Five and four cows of the respective groups showed increased progesterone concentrations exceeding 1.0 ng/ml for 3 to 4 days before exhibition of the first estrus. The rate of uterine involution and conception to first service were similar in the two treatment groups, but interval from calving to the exhibition of the first estrus was shorter in supplemented than unsupplemented cows.

Keywords: Body condition score, *Bibos banteng*, Indonesia