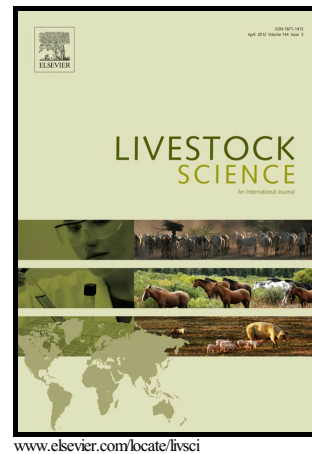


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Sonali Prusty, S.S. Kundu, Vijay Kumar Sharma



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**Nutrient utilization and methane emissions in Murrah buffalo calves fed on diets with
different methanogenic potential**

Sonali Prusty¹, S.S. Kundu², Vijay Kumar Sharma³

¹world.sonalindri@gmail.com corresponding author and Assistant Professor, Animal Nutrition, College of Vet. Sc. and A.H., Bilaspur, CGKV (C.G.)

²Principal Scientist, Dairy Cattle Nutrition, ICAR-National Dairy Research Institute, Karnal (Haryana)

³Subject matter specialist, Animal Sciences, KVK Kathua, SKUAST-J (J & K)

Dairy Cattle Nutrition, National Dairy Research Institute, Karnal, Haryana (India-132001)

ABSTRACT

The objective of the present study was to evaluate the routine ingredients in ruminant feed (grains, agro-industrial byproducts and oilseed cakes) and their combinations for methanogenesis *in vitro* and to analyze the efficacy of least vs. most methanogenic diet formulations in Murrah buffalo calves. Methane was estimated by *in vitro* gas production technique. The concentrate mixtures were prepared by combining lower methanogenic ingredients from each category. Alike higher methanogenic ingredients were mixed to formulate concentrate mixtures. Six concentrate mixtures were formulated with metabolizable energy (ME) of 13 MJ/ kg and crude protein (CP) of 20%. Their composition is as follows: C1 (sorghum, rice bran, mustard cake-deoiled (DOMC):: 50, 10, 40), C2 (sorghum, wheat bran, DOMC:: 45, 20, 35), C3 (sorghum, wheat bran, DOMC, cotton seed cake (CSC):: 43, 15, 32, 10), C4 (sorghum, rice bran, DOMC, CSC:: 40, 15, 30, 15), C5 (maize, gram churi, soybean meal (SBM):: 30, 50, 20) and C6 (maize, wheat bran, SBM:: 37,

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