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Preparation of nutritious and conservable cattle feed block using agricultural wastes

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Scarcity of high quality feeding materials is one of the major constraints in Sri Lankan dairy industry and the study was conducted to prepare a nutritious, conservable and cost effective cattle feed block. Four nutritionally diverse feed blocks (B1, B2, B3 and B4) were prepared incorporating different agricultural wastes. Five treatment diets; T1 (only fresh CO3 grass), T2, T3, T4 and T5 (each with 5 kg fresh CO3 + B1, B2, B3 and B4 respectively) were tested in on-farm trial using fifteen Jersey x Sahiwal cross bred heifers. Daily feed intake and live weight gain of each animal were measured. Data were analyzed using one way Analysis of variance in SAS. Among the feed blocks, B3 was prepared with 65% paddy straw, 10% rice bran, 10% coconut poonac, 10% molasses, 2% urea, 2% salt, 0.5% DCP and 0.5% lime and contained 89.6% dry matter, 14.5% crude protein, 1.5% crude fat, 30.7% fiber, 0.9% calcium and 0.7% phosphorus. Average daily dry matter intake and live weight gain of heifers fed with T2, T3 and T5 diets were higher ($p < 0.05$) compared to the heifers fed with T1 and T4. The highest ($p < 0.05$) average daily feed intake (5.6 ± 0.5 kg/day) and live weight gain (0.5 ± 0.1 kg/day) were recorded in heifers fed with T3 diet. All feed blocks could be kept for 45 days under sealed polyethylene package without any quality deterioration. Thus, block 3 could be recommended as the best feed block that to be fed with fresh forages having protein and energy balance at low cost.

Biography

W A D Nayananjalie completed her PhD from the Department of Dairy Science, Virginia Polytechnic Institute and State University, Blacksburg (VA), USA and MSc in Biotechnology at Post-graduate Institute of Agriculture, University of Peradeniya, Sri Lanka. She is working as a Senior Lecturer in Department of Animal and Food Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka. She is teaching nutrition related courses for under-graduates and conducting research in the field of animal nutrition and metabolism.

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