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Effect of different levels of non-fiber carbohydrate and particle size on intake, digestibility, chewing activity and performance of Holstein dairy cow

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Eight primiparous lactating dairy cows were used in a feeding study to assess effects of different levels of Non-Fiber Carbohydrate (NFC) and Particle Size (PS) on production, ruminal, and plasma measures of Holstein dairy cattle in cross over design with 14 days preliminary period and four 21 days treatment periods. Samples and data were collected in the last 7 days of each period. Feed sources that differed in NFC profile were ground corn (higher NFC), ground barley (lower NFC). Dietary particle size was altered by two size of alfalfa hay coarse and chopped. Reduction of particle size increased DMI, OM, Ash, daily NDF intake (kg), but decreased the proportion of physically effective factor and physically effective NDF in the ingested rations. Digestibility of ether extract and NDF affected with NFC reduction and coarse particle size respectively. Blood urea and BUN affected with PS and cows fed the low NFC diet tended to LDL. Increasing was fed coarse alfalfa hay increase rumen pH. Chewing activity increase with coarse Alfalfa hay and tended to decrease with high NFC. Cows consuming high NFC had the highest milk yield, FCM, milk fat, protein, lactose and solid non-fat yield per kilogram. Milk protein percentage, tended to significant, but milk fat percentage, solid non-fat yield per kilogram did not differ across treatments.

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Slow-release non-protein nitrogen impact on performance of weaned crossbred calves

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The present study was designed to investigate the impact of slow release non-protein nitrogen on the performance of weaned crossbred calves. A total of 21 crossbred male calves of same age and body mass index were divided into three equal groups A, B and C. The calves belonging to the group A and B were offered experimental feed amended with Optigen (30 g/head and 15 g/head) while group C was kept on basal feed and served as control. The experiment was conducted for duration of 60 days. Feed intake, body weight, average daily weight gain, feed efficiency, economic return, hematology and plasma profile was studied. It was observed in present study that use of NPN has non-significant effect on weight gain, feed intake, blood glucose level and blood urea nitrogen, whereas it increase overall profitability. The profit value gained/day/calf was Rs. 8.6 in group A while it was Rs. 0.3/calf/day in group B. It is recommended from this study that further trials on large scale may also be conducted to observe effect on NPN.

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