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Nutritional status of lactating dairy cows under small holder dairy farming system in the Polgahawela veterinary range

H M S S K Herath[1*], U L P Mangalika[2], R A U J Marapana[3] and R T Seresinhe[1]

[1]*Dept. of Animal Science, University of Ruhuna, Mapalana, Kamburupitiya.*

[2]*Dept. of Animal Nutrition, Veterinary Research Institute, Gannoruwa, Peradeniya.*

[3]*Dept. of Food Science and Technology, University of Sri Jayawardanapura, Nugegoda.*

The present study was conducted to investigate the nutritional status of lactating dairy cows under small holder dairy farming systems in the Polgahawela veterinary surgeon's range. A preliminary survey was conducted to collect data on small scale dairy farming, feeding practices and milk production of lactating dairy cows using a structured questionnaire. Data were collected from 30 dairy farmers having 68 dairy cows. Based on the results of the survey 30 lactating dairy cows were selected for further study and they were categorized into 3 groups based on the level of production (Low<2.5L, Medium 2.5-7.5L, High 7.5-14L). Amounts offered and refused were recorded for 3 consecutive days while milk yields were recorded for 2 consecutive days in all 30 cows. Body weights were determined using a weigh band. Representative samples of roughages and concentrates were analyzed for proximate composition. Pooled milk samples were analyzed for Milk Urea Nitrogen (MUN) using the spectrophotometer method and protein, lactose, salt, and fat were analyzed using the lactoscan tester. Specific gravity, total solid and SNF were calculated using lactometer readings.

Dry matter intake of High, Medium and Low milk producing animals was 14.34, 14.77 and 12.22 kg respectively. Digestible energy (DE) and crude protein (CP) content of supplied feed samples were not different ($p>0.05$) among high and medium production levels, but was significantly lower with the low production level. There was a significant difference ($p<0.01$) between required and supplied and farmer information based DE and CP amounts. There was no difference between supplied and farmer information based DE and CP amounts. However, required DE and CP levels were significantly lower than supplied amounts in all animals. It was observed that, the crude fiber was high while crude fat was low in offered roughage feed samples collected from the low production category. No difference was observed in CP %, CF % and fat % with respect to offered rice bran and dairy meal in high and medium levels of production. But low producing animals fed with dairy meal consisted of high fiber levels. MUN level was significantly lower in low milk production level (9.2 mg/ 100 ml) as compared with medium (10.67 mg/ 100 ml) and high (13.8 mg/ 100 ml) production levels. However milk protein, milk lactose and milk salt were different ($p<0.05$). High milk producing animals had high milk protein % (3.248) than the other two levels of milk production. There is no correlation between MUN and the total crude protein intake. Therefore, it can be concluded that the nutritional status of lactating dairy cows of all production levels are in good condition.

pensacolask@gmail.com Tel: 0716178512