

B-59:Effect of fodder/shrub leaves on voluntary feed intake and *in vivo* digestibility and growth performance of goats

Sujatha Premaratne, K D T L Abeywardhana
(*Dept. of Animal Science, Faculty of Agriculture,
Univ. of Peradeniya*)

Goat farming is an important industry in domesticated animal farming systems. Goat husbandry requires a relatively smaller capital investment when compared to other livestock enterprises. They can utilize poor quality forages and could adapt to many types of management systems, climates and environments. Goats depend on tree fodders and shrubs as the main source

of nutrition. Tree leaves and shrubs may become of particular value during the dry periods of the year, when the pasture production is limited. The objective was to study the effect of different tree fodders and shrubs on the voluntary feed intake and digestibility of crossbred goats.

A metabolism trial was conducted using 12 male cross bred (Sannan * Jamnapari) goats, having an average weight of 16 ± 4 kg. Animals were blocked according to the weight and allocated to the different diets within a block.

Three rations were formulated and balanced for crude protein, calcium, phosphorus and energy. Rations consisted of tree fodder/shrub leaves namely, Gadumba *Trema Orientale*, Kapok - *Ceiba pentandra*, Tropical Kudzu *Pueraria phaseoloids* and Jak-*Artocarpus heterophyllous* with Guinea 'A' *Panicum maximum* as the basal diet. Except Guinea grass, all leaves were fed in the form of dried leaves. It was a RCBD with 4 replicates. Total collection method was practised to collect feed, refusals and faeces and dry matter digestibility was calculated. Data was statistically analysed using the analysis of variance and comparisons were made using LSD. In conjunction with above experiment, 3 male sheep (Dorset * Southdown) having an average age of 5-6 years and average weight of 33 ± 2.5 kg were used in an *in sacco* experiment to measure the degradation rates of above mentioned fodder leaves.

Highest crude protein content and lowest crude fibre content was observed in Gadumba compared to other feeds. *Pueraria* and Guinea grass had a higher crude fibre content than the other feeds. Lowest organic matter was found in *Pueraria*.

Inclusion of Gadumba and Kapok (diet 2) increased the feed intake of animals compared to the other 2 diets. This increase may be associated with the higher crude protein and lower crude fibre content in Gadumba leaves compared to other leaves. On the other hand, intake of diet 1 was less compared to the other 2 diets due to the low palatability and high crude fibre content of Kudzu.

Dry matter digestibility of diet 2 and 3 were lower compared to diet 1. The decrease in dry matter digestibility in these 2 diets may be related to the increased feed intake of these diets and thereby increasing the rate of passage. According to the nylon bag study, highest dry matter degradation rate was observed in Gadumba whereas lowest was recorded in Guinea grass.

According to the results, diet 2 (Gadumba, Kapok and Guinea grass) can be considered as the best combination of feeds of the diets tested for goats reared for mutton.

Financial assistance by CARP for research grant number CARP/12/81 67 is acknowledged.

Dry matter digestibility of diet 2 and 3 were lower compared to diet 1. The decrease in dry matter digestibility in these 2 diets may be related to the increased feed intake of these diets and thereby increasing the rate of passage. According to the nylon bag study, highest dry matter degradation rate was observed in Gadumba whereas lowest was recorded in Guinea grass.

According to the results, diet 2 (Gadumba, Kapok and Guinea grass) can be considered as the best combination of feeds of the diets tested for goats reared for mutton.

Financial assistance by CARP for research grant number CARP/12/81 67 is acknowledged.