

### Species diversity and nutritive value of forages collected from Walawa region

Plant composition and nutritive value of herbage were sampled randomly using a quadrat from five grazing and five cut and fed sites were determined to evaluate the production potential of the two buffalo feeding systems in the Walawa region of Sri Lanka.

Herbage from grazing lands consisted 85% grasses, 1% legumes, 6% sedge weeds and 8% other species. *Poaceae* species such as *Ileusine indica* (19%), *Leptochloa chinensis* (13%) *Ischaemum rugosum* (12%) and *Cyperaceae* species such as *Frymbristylis littoralis* (4%), *Cyperus irria* (2%) were dominant in grazing sites. As other species, *Ludividia vaginalis* (3%) was dominant. These species were adopted to tolerate grazing pressure but maintain a reasonable balance between grasses and other species.

Herbage collected from cut and fed sites consisted 70% grasses 20% legumes, 4% sedges and 6% fodder leaves. Dominant grasses were *Ileusine indica* (13.3%), *Leptochloa chinensis* (9.1%) and *Pennisetum polystachyon* (8.9%). When considering the dominant leguminous and other fodder species *Leucaena leucocephala* (9%), *Glyricidia sepium* (8%) and *Bauhiniya recemosa* (3%) were dominant.

The dry matter and organic matter contents of herbage were 26.4%, 28.9% and 17.3%, 19.6% for grazing and cut and fed systems, respectively. Crude protein content ranged ( $P < 0.05$ ) from 9% to 12% for forages collected from grazing and cut & fed sites. There was a significant variation in crude protein, dry matter and organic matter contents between cut and fed and grazing systems of management. Forages under cut and fed system could

maintain a higher level of production due to presence of diverse variety of tree and legume fodder species over natural grasses. Results also revealed that the feeding by grazing only could maintain only a subsistence level of production. However, the provision appropriate supplements (tree fodder, rice straw, etc.) through farmer awareness programmes would boost the production in low input output systems of buffalo management in Walawa region of Sri Lanka.