Proceedings of the Peradeniya University Research Sessions, Sri Lanka. Vol. 9. November 10, 2004

YIELD AND NUTRITIVE VALUE OF TWO FODDER GRASSES AS AFFECTED BY FERTILIZERS

S.M.C. HIMALI[*], G.G.C. PREMALAL[**], N. JAYASEKARA[*], I.K. ATAPATTU[*] AND S. PREMARATNE[*]

[*]*Department of Animal Science, Faculty of Agriculture, University of Peradeniya, Peradeniya,* [**]*Veterinary Research Institute, Gannoruwa. Peradeniya*

An experiment was conducted to evaluate the effect of fertilizer on yield and quality of CO-3 (*Pennisetum perpurium* x *Pennisetum americanum*) and VRI-435 (*Panicum maximum*) fodder under mid country wet zone of Sri Lanka.

The experiment consisted of four treatments namely, T1 - CO-3 without fertilizer, T2 - CO-3 with fertilizer, T3 - VRI-435 without fertilizer and T4 - VRI-435 with fertilizer. Treatments were arranged in a Randomized Complete Block Design with 3 replicates. Rates of inorganic fertilizer applied to CO-3 and VRI-435 were 322 kg N, 115 kg P_2O_5, 135 kg K_2O /ha/yr and 230 kg N, 80.5 kg P_2O_5 and 90 kg K_2O /ha/yr respectively. Nitrogen was applied in 9 splits. Cattle manure was applied at the rate of 15,000 kg/ha/yr. Other management practices were adopted as recommended.

Plants were harvested for the first time at 45 days after planting and again 40 days after the first harvest and, fresh yield per plot was recorded. Sub samples were taken from each plot to determine the dry matter content and chemical composition of forages. Plants were harvested again after 40 days and same parameters were taken. Data were statistically analyzed using SAS package and means were separated using LSD.

Application of fertilizer increased ($p<0.05$) the dry matter yield of fodders. However no significant difference on dry matter yield was observed between CO-3 and VRI-435. Application of fertilizer increased ($p<0.05$) the crude protein content of fodders and, crude protein content of CO-3 was much higher ($p<0.05$) compared to VRI-435. However, there was no interaction between the varieties and fertilizer for crude protein content of forage. No significant differences were observed between fodders on crude fat, acid detergent fibre, neutral detergent fibre, P and K contents with fertilizer application. Application of fertilizer increased the dry matter yield and crude protein content in both grasses.

However, long-term experiments are needed before recommending any of the grasses for the mid country wet zone.