The Influence of Tropical Legumes and Nitrogen Rates on Yields of Ruzi Grass (Brachiaria ruziziensis)

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Abstracts

An experiment was conducted on Korat soil series at Chiang Yern Animal Nutrition Station, Mahasarakham province to evaluate yield and chemical composition of ruzi grass in association with Alysiearpus vaginalis, Centrosema pubescens, Macroptilium atropurpureum, Stylosanthes hamata cv. Verano and using 5 rates of nitrogen fertilizer (0, 100, 200, 400 and 600 kgN/ha). Dry matter yield was measured every 45 days during rainy season. They were cut three times each year. Dry matter yield, botanical composition and chemical composition were recorded for two years.

The results have shown that dry matter yield of ruzi grass applied nitrogen fertilizer was higher than ruzi grass together with legumes. The highest yield (726.2 kg/ha) was obtained from applied 600 kgN/ha/annum. Alyce clover

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together with ruzi grass gave the highest yield only in the first year. But regrowth of the second year was poor. Legume proportion decreased in the following year. except Verano stylo which was vigorous and persisted in the mixture.

Average (2 years) crude protein content of ruzi grass together with legumes (Ruzi + Alyce Clover = 11.09 %, Ruzi + Centrosema = 11.46 %, Ruzi + Siratro = 10.61 %, Ruzi + Verano stylo = 10.26 %) was comparable with ruzi grass applied 200 – 400 kg N/ha/annum, but crude protein yield was lower. Phosphorus content was not different in ruzi grass applied nitrogen fertilizer of together with legumes, calcium content was lower. Phosphorus yield of ruzi grass plus nitrogen was higher than in grass-legume mixtures, calcium yield was not different.