

ABSTRACT

The experiment was carried out under rain-fed conditions on the upland area of farmer at Ban-Kao, Tumboon Ban-Lao, Ban-Fang district, Khon Kaen province. The design was 4x3 Factorial in RCBD with 4 replications and treatments consisted of 4 grass species (signal, ruzi, purple guinea and atratum) and 3 row spacing (25x25 cm, 50x25 cm and 50x50 cm).

Rootstocks of all grasses were planted in the plastic bags for 3 months then, transplanted on the experimental plots after land preparations according the treatment. Land preparations composed of one ploughing and two harrowings. Fertilizers composed of N, P, K, S and Ca were given to all plots. Grasses and weeds were cut at 10 cm. after the clearing cut for every 40-50 days in the wet season but only two cuts in the dry season. Then, the samples were sorted to grasses and weeds, oven dried and weighed for both fresh and dry weight and analysed for CP, ADF and NDF.

The results (during 10 April 2000 – 8 April 2001) showed that yield of signal (*Brachiaria decumbens*) were highest ($P<0.05$) for both green and dry weight. Yields of signal and purple guinea (*Panicum maximum* TD 58) were similar. Atratum (*Paspalum atratum*) gave the lowest yield. ($P<0.05$). Row spacing of all grasses at 25x25 cm gave highest yields ($P<0.05$). Data on chemical compositions of four grasses were also report.