

THESIS TITLE INFLUENCE OF NITROGEN ON YIELDS, QUALITY AND PERSISTENCES OF GUINEA GRASS (*Panicum maximum*)

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ABSTRACT

Two experiments were carried out on the Korat soil series (Oxic Paleustults) of the Khon Kaen University environment. The glasshouse experiment (experiment 1) studied the influence of rate of nitrogen on yield, nutrient value, and persistence of guinea grass. The randomized complete block design used was composed of five rate of nitrogen which were 0, 20, 40, 80 and 160 kg N/rai with 8 replications. Seven rootstocks of guinea grass were planted per pot. Watering to field capacity was also made twice a day. Grass was harvested every 40 days by cutting at approximately 15 cm. above the soil surface. Results showed that when the rate of nitrogen was increased it gave more dry matter yield, crude protein, density and root dry weight.

The field experiment (experiment 2) studied the influence of nitrogen rate on yield of guinea grass. The randomized

complete block design was composed of five rate of nitrogen which were 0, 20, 40, 80 and 160 kg N/rai with 6 replications. Seven rootstocks of guinea grass were planted per hill at spacing 50 x 50 cm. The size of the plot was 2 x 3 meter. Grass was harvested every 40 days during the wet season by cutting at approximately 15 cm. from ground level. Results demonstrated that the maximum yield was obtained from the 40 kg N/rai treatments and it also suggested to give more nitrogen during the late of wet season.