Response of *Panicum maximum* TD.58 to Nitrogen and Phosphorus Fertilizers on Ubon Soil Series in Thung Kula Ronghai *

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**Abstract**

This study was conducted to investigate the response of Purple guinea (*Panicum maximum* TD. 58) to nitrogen and phosphorus fertilizers on Ubon soil series at Tung Kula Ronghai area, Roi-Et province, during April 1994 to December 1996. The experimental design was 4 x 4 factorial in randomized complete block with 4 replications. Factor A consisted of 4 nitrogen fertilizer rates viz 0, 20, 40 and 60 kg/rai/year and factor B was 4 phosphorus fertilizer rates viz 0, 10, 20 and 30 kg P₂O₅/rai/year. The result of this experiment indicated that dry matter yield (average 2 years) of Purple guinea grass that were applied 20 40 and 60 kg N/rai were 2,281.4, 2,325.5 and 2,193.2 kg/rai, respectively and each yield was higher than the yield of non-nitrogen application (1,948.1 kg/rai/year). Average dry matter yield were increased from 1,905.5 to 2,209.7 and 2,360.0 kg/rai by increasing phosphorus fertilizers from 0 to 10 and 20 kg P₂O₅/rai respectively and the yield tended to decline when the higher phosphorus rate was applied. However, the higher net profit tended to be obtained from application of 40 kg N/rai and 20 kg P₂O₅/rai/year.

For forage nutritive value, the increasing of nitrogen fertilizer rates application from 0 to 20 , 40 and 60 kg N/rai had affected forage protein percentage which increased from 8.4 to 9.0 , 10.4 and 11.3 respectively, but there was no changes in NDS, NDF, ADF, phosphorus and calcium percentage. The increased phosphorus fertilizer rate had not affected the protein and fibers content except phosphorus and calcium.

* Research Project No. 37 (2/1/37) 0513-068