

Anusorn Kullawong 2011: Effects of Water Management and Cutting Height on Growth and Yield of Mulato II Hybrid (CIAT 36087) Grown on Phon Phisai Soil Series.

Master of Science (Agronomy), Major Field: Agronomy, Department of Agronomy.

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Study on Effects of Water Management and Cutting Height on Growth and Yield of Mulato II Hybrid (CIAT 36087) Grown on Phon Phisai Soil Series was conducted in a glass- house chamber at the Kasetsart University Farm, Chalermphrakiat Sakon Nakhon Province Campus during March 2008 to June 2009. The first experiment was carried out in pots applying a factorial in CRD as the experimental design. Factor A, soil moisture contents, had 4 levels viz. 25% 50% 75% and 100% FC. Factor B, heights of cutting, had 2 levels viz. 5 and 10 cm. above soil surface. Each treatment repeated 3 times. The second experiment was conducted in the field applying a Spilt plot in RCBD as the experimental design. The main plot had 2 levels of heights of cuttings viz. 5 and 10 cm. above soil surface. The subplot had 4 levels of soil moisture contents viz. 25% 50% 75% and 100% FC. Each treatment repeated 3 times.

From the results of the experiment 1, when averaged from 2 heights of cutting at soil moisture content 25% 50% 75% and 100% FC, dry matter yields of Mulato II were 13.0 14.0 15.1 and 16.4 grams/ pot respectively, water requirement were 112.43 80.43 41.04 and 21.92 litres/pot respectively, crude protein content ranges 10.1 – 11.9 %, the mean values of NDF ranges 60.0 – 61.5 % and the mean values of ADF ranges 30.4 – 30.8 %. From the second experiment, when averaged from 2 heights of cutting at soil moisture values 25% 50% 75% and 100% FC, dry matter yields of Mulato II were 15.0 16.2 17.0 and 19.6 grams/pot respectively, water requirement were 81.23 61.11 34.10 and 16.20 litres/pot respectively, crude protein ranges 10.0 – 11.3 %, the mean values of NDF ranges 60.9 – 62.9 % and the mean values of ADF ranges 31.0 – 32.4 %. In conclusion, in order to maintain high yield and high quality of the grass, the availability of soil moisture content of Phon Phisai Soil Series, should not less than 50 % FC. If the soil moisture content is less than this point, the yield and quality of the grass reduced dramatically.

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Thesis Advisor's signature