Effect of Plant Spacing on Yield and Chemical Composition of Three Varieties of Napier Grass in Petchaburi Province

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Abstract

A study on plant spacing of three varieties of Napier grass was conducted on Hub - Krapong soil series (Sandy loam soil) at Petchaburi Animal Nutrition Research Center during 1993 - 1995. The design of experiment was split plot in randomized complete block; which main plot comprised of 4 plant spacings: 50x25, 50x50, 50x75 and 75x75 cm, and sub-plots were three varieties of Napier grass which were: Napier grass (Pennisetum purpureum), Mott Dwarf Elephantgrass (P. purpureum cv. Mott) and Kinggrass (P. purpureum cv. Kinggrass)

The result showed the increase of dry matter yield and tiller number when enlarged plant spacing. The highest dry matter yield of 4,365 kg/rai/year was obtained from 75x75 cm. spacing. From the three varieties, Kinggrass gave the highest yield and followed by Mott Dwarf Elephantgrass (3,755 and 3,401 kg/rai/year, respectively). The lowest yield (3,103 kg/rai/year) was obtained from Napier grass. In term of forage quality, Napier grass had higher crude protein content (8.2%) Mott Dwarf Elephantgrass had 7.7% CP and had the lowest fiber components (ADF, NDF Cellulose and Lignin.) Kinggrass had higher fiber components and lower protein content (7.1%) than the other two varieties. Hower, plant spacing showed very little effect on forage quality.

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