Effect of Cattle Manure and Nitrogen Fertilizer on Brachiaria mutica and Pennisetum purpureum under Irrigated Ratchaburi Soils.

Thipha Punyavirocha¹ Chirawat Khemsawat¹
Sangarum Smutharug¹ Sumali Lairungreang²
Aphichata Sutika² Atcharapan Masapan³

Abstract

The experiment was conducted on Ratchaburi soils under irrigation at Chainat Animal Nutrition Research Center during November, 1986 to December, 1988. The plot-layout was split-splitplot in randomized complete block using 2 varieties of grasses as mainplot (Napier and Mauritius), 4 rates of cattle manure as subplot (0, 2, 4 and 6 ton/rai) and 4 rates of urea fertilizer as sub-subplot (0, 20, 40 and 60 kg/rai).

The result showed that, the DM yield of Napier were 2,206 and 2,715 kg/rai/yr and Mauritius were 1,983 and 2,207 kg/rai/yr in the 1st and 2nd year. DM yield of Napier got higher (P < .05) production than Mauritius in the 2nd year only. The increasing application rate of cattle manure was increased (P < .05) yield of both grasses especially in

* Research Project No. 31 - 1324 - 53
1/ Chainat Animal Nutrition Research Center.
2/ Central Region Agricultural Center, Chainat Province.
3/ Division of Animal Nutrition, Department of Livestock Development.
the 2nd year. The effect of nitrogen fertilizer on the yield was found only in the 2nd year. The rates of 40 and 60 kg urea/rai gave higher (P<.05) yield than 0 and 20 kg urea/rai.

Interaction between cattle manure and nitrogen fertilizer on dry weight yield were showed in the 2nd year. Both grasses responded to N when high rate of cattle manure were used. At 6 ton cattle manure/rai and 40 kg urea/rai gabe the highest dry weight yield of Napier (3,253 kg/rai) and Mauritius (2,549 kg/rai).

Mauritius CP got better responded to cattle manure than Napier CP (P<.01). The increasing rates of Cattle manure were decreased Napier NDF, but increased on Mauritius NDF. Nitrogen application was slightly influence on CP and NDF. Both ADF and lignin were not responded to cattle manure and nitrogen application.