

Phairat Phimsirikul 1992 : Nitrogen Fertilizer Rate Optimal for Rhizobium on Four Varieties Mungbean in Mab Bon and Chan Tuk Soil Series. Master of Science (Agriculture), Major Field Soil Science, Department of Soil Science. Thesis Advisor : Assoc. Prof. Dr. Somsak Vangnai. 76 pages.

A study on the effects of rates of nitrogen fertilizer on mungbean cultivated in Mab Bon and Chan Tunk soil series was conducted at the Study Center for Kao Hinson Development, Amphoe Panomsarakam Chacheongsao Province. The experimental design used was 4 x4 factorial in RCB; four mangbean varieties (U-Thong 1, Chainat 60, Kampaengsaen 1 and Kampaengsaen 2) and four rates of nitrogen fertilizer (0, 3, 6 and 12 kgN/rai). All treatments were inoculated with Rhizobium and triplesupperphosphate and potassium chloride as the rate of 9 kgP<sub>2</sub>O<sub>5</sub>/rai and 6 kgK<sub>2</sub>O/rai respectively were used as basal fertilizers. Results revealed that no effects of nitrogen fertilizer were observed, when mungbean was cultivated in Mab Bon soil, with dry weight of vegetative parts, seed yield and other yield components (pod number/plant, seed number/plot and 1,000 seeds weight), nodule number/plant, nitrogen percentage and nitrogen content in vegetative parts and seed. It was, however, found that seed yield and pod number/plant of mungbean varieties U-Thong 1, when recieved nitrogen fertilizer at the rate of 3 kgN/rai, trended to be relatively higher than the other treatments. Seed yields and other yield components, nitrogen content of vegetative parts and seed of mungbean varieties Kampangsean 2 and Kampangsean 1 were found to be significantly higher than those of the other varieties. It is suggested that, to obtain high yeild of mungbean cultivated in Mab Bon soil, mungbean varieties Kampangsean 2 and Kampangsean 1 should be used. Nitrogen content of vegetative parts of mungbean grown in Chun Tuk soil recieved 12 kgN/rai was found to be significatly higher than those of the other treatments. No effect of nitrogen fertilizer rates was observed with other yield components. No significant difference was observed with yield and yield components of the four mungbean varieties, except 1,000 seeds weight of mungbean varieties. Kampangsean 1 was found to be higher than the other varieties.