Nattha Hengcharoen 2007: Nitrogen Accumulation of Mungbean, Soybean and Groundnut as Green Manure for Baby Corn Grown in Pots on Pak Chong Soil Series. Master of Science (Agriculture), Major Field: Soil Science, Department of Soil Science. Thesis Advisor: Assistant Professor Chairerk Suwannarat, Dr.agr. 98 pages.

A pot experiment on accumulation of nitrogen in mungbean, soybean and groundnut used as green manure crops for baby corn on Pak Chong soil series was conducted. The design of the experiment was a Completely Randomized Design with four replicates. The experimental treatments were (1) no green manure and no N fertilizer, (2) soybean green manure, (3) mungbean green manure, (4) groundnut green manure, (5) N fertilizer, (6) soybean green manure with N fertilizer, (7) mungbean green manure with N fertilizer and (8) groundnut green manure with N fertilizer treatments. The three legumes were inoculated with appropriate rhizobia before planting. Each legume was grown in the absence of N fertilizer and incorporated into the soil at 50 % flowering. These activities were repeated 3 times in which after each incorporation 30 days were allowed for the legume residue to decompose before subsequent planting. Then, baby corn hybrid (Pacific 283) was planted with N fertilizer applied in treatment numbers (5), (6), (7) and (8)

The results showed that N accumulation of mungbean was superior to groundnut and soybean, respectively. After incorporating the three legumes, the results revealed that all green manure treatments increased organic matter, total N, ammonium and nitrate in soil more than those without green manure. These resulted in increases in plant height, stem circumference, ear weight, straw weight, N content and total N uptake of the baby corn. However, mungbean and groundnut as green manure seemed to increase in both growth and yield of baby corn greater than soybean. In addition, growth and yield of baby corn in the N added treatments were similar to those applied with green manure without N.

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