

## **Needs on Soil Management for Increasing Maize and Cassava Yields by Farmers in Phatthana Nikhom District, Lop Buri Province**

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### **Abstract**

The research project on needs of farmers for increasing maize production was conducted at the Phatthana Nikhom district, Lop Buri province. There were 177 farmers in study sample group. Results showed as following :- 1) Farmers had average age of 43 years. Most of them graduated high school. They had experience to grow maize about average of 10 years. They obtained soil management information and fertilizer usage in high level from the official of Department of Agriculture Extension, local leader and the official of Land Development Station. There was average of 3 laborious person per house-hold. Average cost production was 3,066.20 Baht per rai, average revenue was 5,985.30 Baht per rai, net revenue was 2,919.50 Baht per rai. 2) Farmers had information on soil management and fertilizer usage in high level. 3) Most farmers had not contour bund in low land, but they raised seed plot for growing. For upland, more than half of farmers had land preparation and growing maize across contours. Fertilizer usage for growing maize including low land and upland, mostly used chicken excretion in average rate of 1.6 tons per rai with chemical fertilizer 15-15-15 in average rate of 35.6 kilogram per rai. For crop rotation, most farmers planted sunflower after maize and incorporated maize residue into the soil to improve soil fertility. 4) For low land, most farmers desire to practice as recommendation of incorporation of maize residue and raising seed plot when planting maize. For upland most farmers desire to practice as recommendation by land ploughing deeper than 15 centimeter, incorporation of maize residue, planting vetiver grass strip. For fertilizer usage as recommendation, most farmers including low land and upland desire to apply manure 1-3 tons per rai. More than half of farmers desire to apply compost 2-4 tons per rai and organic fertilizer 1-3 tons per rai. 5) Most farmers had not land preparation equipment and must to pay a high cost of its preparation. The research project on needs of farmers for increasing cassava production was conducted at Phatthana Nikhom district, Lop Buri province. There was 157 farmers in study sample group. Results showed as following:- 1) Farmers had average age of 43.8 years. Most of them graduated certificate level or equality. They had experience to grow cassava about average of 5.7 years. They obtained soil management information and fertilizer usage in high level from the official of Department of Agriculture Extension, Land Development Station and local leader. There was average of 3.1 laborious person per house-hold. Average cost production was 6,598.8 Baht per rai, average revenue was 7,381.8 Baht per rai. 2) Farmers had information on soil management and fertilizer usage in high level. 3) Most farmers had not contour bund in low land, but they raised seed plot for growing cassava. For upland, all farmers had not land preparation but growing cassava across contours. Fertilizer usage for growing cassava including low land and upland, mostly used chicken excretion in average rate of 792.9 kilogram per rai. With chemical fertilizer 15-15-15 in average rate 43.5 kilogram per rai. All farmers cut cassava leaves and stem then covered the soil. 4) For low

land, most farmers desire to practice as recommendation of raising seed plot and cutting leaves and stem then cover the soil. For upland, most farmers desire to practice by land preparation across contours, planting vetiver strip, cutting cassava leaves and st covering the soil. For low land, farmers desire to incorporate *Crotalaria juncea* 5 kilogram per rai into the soil, apply manure 1-3 tons per rai. For upland, most farmers desire to incorporate *Vigna spp*, *Canavalia spp*. 10 kilogram per rai and manure 1-3 tons per rai.

**Keywords:** maize, *Vigna spp*, *Canavalia spp*.