

Effect of the optimal and economical rate of chemical fertilizer for rice grown in various soil fertilities, Sappaya district, Chainat province

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Abstract

The study of the optimal and economical rate of chemical fertilizer for rice yield (Phatumthani variety) in Tambol Taluk, Sappaya district, Chainat province in 2005 and 2006. The experiment contain of 4 treatments as following (1) Farmer style Application of chemical fertilizer in farmer ways or Conventional Practice; FCP (2) Application of economical rate of chemical fertilizer in the recommendation of LDD; FLDD (3) Application of economical rate of chemical in the result of soil analyses; FSA and (4) Application of economical rate of chemical of DOA recommendation; FDOA. The result in 2005 illustrated that the highest yield of rice were 857 kg r⁻¹ in FLDD and 771, 764 and 734 kg r⁻¹ in FSA, FCP and FDOA, respectively, with no significant in statistic. For the result, the trend of rice yield in 2006 were more than in 2005 which FLDD and FSA were the highest yield (899 and 878 kg r⁻¹).

For FCP and FDOA were 795 and 702 kg r⁻¹ of rice yield with no significant of statistics. In term of the income per input found that FLDD were the highest profit in 2005 and 2006 (2,226 and 3,257 bahts/rai). FCP were the lowest profit in both 2005 and 2006 (1,027 and 1,914 bahts/rai). The analysis of chemical properties of soil before and after this experiment suggested that soil pH and OM were increased, Contrastly the available P and K were decrease compared between 2005 and 2006.

Keywords: Rice, Pathum Thani Rice, Chemical Fertilizer, Chainat Province