

Thasaporn Song-on 2006. Effect of Integrated Organic Waste Materials and Chemical Fertilizer on Yield and Yield Components of Pathumthani 1 Rice Variety in Kamphaeng Saen Soil Series. Master of Science (Agriculture), Major Field: Agronomy, Department of Agronomy. Thesis Advisor: Associate Professor Akwut Thasanasongchan, Ph.D. 66 pages. ISBN 974-16-2125-6

The study of the effects of integrated organic waste materials with chemical fertilizer on yield and yield components of Pathumthani 1 rice variety in Kamphaeng Saen soil series. The experiment applied swine manure biogas and industry waste that were mixed with chemical fertilizer (16-16-8). The experiment studied at the field of Department of Agronomy at Kasetsart University at Kamphaeng Saen campus, Nakorn Pathom, during June 2004 - October 2004. The experiment design was Randomized Complete Block design with 4 replications and 8 treatments were used chemical fertilizer (16-16-8) in rate 10 and 20 kg./rai, industry waste and swine manure biogas in rate 3,000 kg./rai, industry waste and swine manure biogas in rate 1,000 were mixed with chemical fertilizer in rate 10kg./rai., industry waste and swine manure biogas in rate 2,000 were mixed with chemical fertilizer in rate 10kg./rai. The object of the experiment was to study the application of integrated organic waste materials were mixed with chemical fertilizer and efficiency of application of integrated organic waste materials were mixed with chemical fertilizer on yield and yield components of Pathumthani 1 rice variety.

The result shows the application of chemical fertilizer, organic waste and organic waste was mixed with chemical fertilizer on yield components. The application of swine manure biogas rate 3,000 kg./rai and swine manure biogas rate 2,000 kg./rai was mixes with chemical fertilizer rate 10 kg./rai produced the highest number of tiller per hill (32 tiller/hill) and the number of panicle per hill (19 panicle/hill) and the application of swine manure rate 2,000 kg./rai was mixed with chemical fertilizer rate 10 kg./rai produced the highest weight of 1,000 seed (31.39 g). The application of industry waste rate 1,000 kg./rai was mixed with chemical fertilizer rate 10 kg./rai and swine manure biogas rate 1,000 kg./rai was mixed with chemical fertilizer rate 10 kg./rai produced the highest number of seed per hill (85 seed/hill) and the application of swine manure biogas rate 1,000 kg./rai was mixed with chemical fertilizer rate 10 kg./rai produced the lowest undeveloped percentage (15.89%). The application of chemical fertilizer, organic waste and organic waste was mixed with chemical fertilizer were found the yield is not significant different. The application of swine manure biogas rate 2,000kg./rai was mixed with chemical fertilizer rate 10 kg./rai produced the highest yield (1,198 kg./rai)

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Thesis Advisor's signature