

Panitan Kaewjantawee 2007: Use of Bottom Soil from Giant Freshwater Prawn Pond for Chinese Kale Cultivation; Case Study of Don Yai Hom Sub-district, Muang District, Nakhorn Pathom Province. Master of Science (Sustainable Land Use and Natural Resource Management), Major Field: Sustainable Land Use and Natural Resource Management, Interdisciplinary Graduate Program. Thesis Advisor: Assistant Professor Suriyan Tunkijjanukij, Dr.Scient. 73 pages.

The results from nutrient quantities and some aspects quality analysis of bottom soil of giant freshwater prawn ponds after 10, 15, 20 years farming and Kampaengsaen soil showed that the percentages of Total Nitrogen in soils are 0.94, 0.80, 0.87 and 0.58, respectively. The percentages of Organic matter in soil are 1.48, 3.00, 1.48 and 2.22, respectively. Average available Phosphorus level are 46.88, 48.34, 107.05 ppm, respectively and the average Exchangeable Potassium level are 459.90, 409.10, 454.80 and 891.90 ppm, respectively.

The mixed ratio at 1:3 between bottom soil of 15 years old prawn pond and Kampaengsaen soil yielded the best growth of Chinese kale seed germination at $93 \pm 0.66\%$. However, the mixed ratio at 3:1 between bottom soil of 10 years old prawn pond and Kampaengsaen soil yielded the best average growth in height and the highest average weight of Chinese kale stem at 16.46 ± 2.77 cm. and 30.24 ± 11.16 grams, respectively.

According to the study, it was found that the average total costs incurred to farmers from non-use of bottom soil of giant freshwater prawn pond for Chinese Kale cultivation were 15,932.80 Baht/rai, whereas the average total costs for use of bottom soil were 29,750.40 Baht/rai. Average yield per rai from non-use of bottom soil were 3,258 kilograms which was lower than the average yield per rai of the farmers obtained from use of bottom soil at 3,834 kilograms. Due to this reason, farmers who used bottom soil for cultivation made an average profit at 921.60 Baht/rai less than non-use of bottom soil farmers who made an average profit at 10,201.20 Baht/rai.

All of farmers accepted utilizations of bottom soil from giant freshwater prawn pond for Chinese Kale cultivation increasingly yield per rai and quality of soil. However, all of farmers are dissatisfied with increasing cost and lower profit.

Student's signature

Thesis Advisor's signature