

Waraporn Momngam 2004: Effect of Swine Waste Extract in Foliar Application on Cassava Yield, Starch Content and Nutritional Values of Cassava Chips. Master of Science (Economic Botany), Major Field: Economic Botany, Division of Science. Thesis Advisor: Associate Professor Uthai Kanto, M.S. 145 pages.
ISBN 974-274-098-4

Utilization of swine waste extract as foliar fertilizer for cassava (*Manihot esculenta* Crantz) Rayong 5 cultivars started at 3 month of age on production characteristics of the plant and on yield and starch content of the tuber at age 9, 10 and 11 months was studied. The study was employed 5 x 3 Factorial in RCB with 5 method of fertilization application as follows. 1. No spraying of any fertilizer; 2. Monthly spraying of water; 3. Bi - monthly spraying of water; 4. Monthly spraying of swine waste extract; 5. Bi-monthly spraying of swine waste extract. Swine waste extract is the filtrate of the dissolving of 1 kg of dry pig manure in 10 kg water for 24 hours. The study was conducted at a plantation in Kanchanaburi province, Thailand during July 2002 - October 2003.


Results of the study have shown that monthly and bi - monthly spraying of swine waste extract has significantly produced higher total vegetative weight, leaves weight, yield and starch content of the tuber than those on the other treatments but have no influence on height and harvesting index of the plant as well as the number of tuber per plant.

The effects of the foliar fertilizer spraying on the content of macro and micro-minerals including N, P, K, Ca, Mg, Fe, Cu, and Mn in cassava leaves and cassava tuber were not unclear. The responses of mineral content on the foliar fertilizer application were very much fluctuated among the plant aged 9, 10 and 11 months which is probably due to the low concentration of minerals in the swine waste extract and the rain fall during the harvesting-age of the plant.

The effects of the foliar fertilizer on nutritive value of cassava chips produced from the experimental plants have shown that the application of swine waste extract has significantly improved nutritive value of cassava chips by the reduction of crude fiber content which are probably due to the increase in starch content and size of the tuber.

Waraporn Momngam

Student's signature



Thesis Advisor's signature

May 21, 2004