


Jakraphaun Saengkra 2006: Effect of Different Foliar Organic Fertilizers on Growth and Development, Root Yield and Starch Content of *Manihot esculenta* Crantz cv. HuayBong 60. Master of Science (Economic Botany), Major Field: Economic Botany Division of Science. Thesis Advisor: Associate Professor Uthai Kantho, M.S. 113 pages. ISBN 974-16-2030-6

A study effect of different foliar organic fertilizers application on growth and development, root yield and starch content of cassava (*Manihot esculenta* Crantz) cv. HuayBong 60 was conducted. Application of foliar fertilizers consisted of pig manure extract (PME), fish hydrolysate (FH), foliar fertilizer from China (FFC) or chemical foliar fertilizer from Belgium (CFF) at 1, 2 and 3 months after planting were compared to 15-15-15 chemical soil fertilizer (CSF) application 50 kg. per rai at 1 month after planting as positive control and foliar water spraying or no fertilizer application as negative controls. The study was utilizing randomized complete block design with 4 replication per treatment.

Result of the study has shown that organic foliar fertilizer application (PME, FH and FFC) did not produce any significant different in plant growth and productivity performance including plant height, bush width, stem diameter, number of branching, leave greenness, total dry matter yield and total fresh root yield to the negative controls. CSF has produced significantly higher ( $P<0.05$ ) plant height, stem width and bush width than the other treatments except the CFF. All fertilizer application has provided significantly higher ( $P>0.05$ ) N content in the plant leaves than the controls. There were no significant different among treatments on the content of other minerals in the cassava leaves. CSF and CFF has produced a significantly higher ( $P>0.05$ ) yield of total dry matter, root dry matter and leave dry matter of the plants than the other treatments. There were no significant different in fresh root yield of the plants between CSF and CFF but both treatments had a significantly higher ( $P<0.05$ ) fresh root yield and plant growth characteristics than the other treatments. All foliar fertilizer applications (PME, FH, FFC and CFF) had produced more negative balance for N, P and K but less negative balance for micro and trace elements by crop removal than the CSF. For the approximately equivalent root yield of the cassava, CFF have provided less cost of fertilizer (40 Bahts/rai) than CSF (600 Bahts/rai). Result of the study has shown that CSF will provide more sustainability of the soil for cassava production.

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