Teerayut Klumchaunt 2013: Effects of by-Product of Monosodium Glutamate (ami-ami) Mixing with Fly Ash on Growth and Yield of Cassava (*Manihot esculenta* Crantz).
Master of Science (Soil Science and Management Technology), Major Field: Soil Science and Management Technology, Department of Soil Science.
Thesis Advisor: Assistant Professor Chaisit Thongjoo, Ph.D. 69 pages.

The aim of this study was to investigate the effects of by-product of monosodium glutamate (ami-ami) mixing with fly ash on growth and yield components of cassava (*Manihot esculenta* Crantz) *var.* Huay Bong 60. Experimental design was randomized complete block (RCBD). The study revealed that the application of ami-ami and fly ash mixture of 1,000 kg/rai in combination with chemical fertilizers equivalent to 1,000 kg/rai of the mixture effected on the highest of plant height, branch/plant, fresh root yields, root/plant, weight/root, concentrations of N, P and K in root yields of cassava, which was not different from the applications of chemical fertilizers equivalent to 2,000 kg/rai of the mixture. Further, it was found that all treatments that applied chemical fertilizers or ami-ami and fly ash mixture both single use or in combination with chemical fertilizers effected on starch contents nearly the same, and significantly different when comparing with the control treatment that effected on the lowest of plant height, branch/plant, fresh root yields, root/plant, weight/root, concentrations of N, P and K in root yields and starch contents of cassava.

After experiment, it was found that all treatments that applied chemical fertilizers or ami-ami and fly ash mixture both single use or in combination with chemical fertilizers as well as the control treatment effected on chemical properties of soil: a) soil pH was neutral to slightly alkaline; b) the electrical conductivity (EC_e) of soil was non-saline; c) the organic matter of soil was low to moderate low; d) the available P of soil was very high; e) the exchangeable K of soil was low to moderate; and f) the exchangeable Ca and Mg of soil were high. Further, it was found that all treatments that applied chemical fertilizers or ami-ami and fly ash mixture both single use or in combination with chemical fertilizers effected on the exchangeable Na of soil nearly the same (44.69-49.33 mg/kg). While the control treatment effected on the lowest of the exchangeable Na of soil (40.36 mg/kg).

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