C326869 : MAJOR BIOTECHNOLOGY
KEY WORD: BANANA (AAA GROUP), FINGER DROP, POSTHARVEST ENZYMES
PRASAN CHALARDKID : INFLUENCE OF POSTHARVEST ENZYMES ON FINGER DROP IN KLUAI HOM THONG *Musa* (AAA GROUP, GROS MICHEL) THESIS ADVISOR : ASSO. PROF. SANHA PANICHAJAKUL, pH.D., 140 pp. ISBN 974-583-168-9.

Correlation of cell wall and starch hydrolysing enzymes, ethylene production, and firmness have been studied to clarify the mechanism of finger drop in Kluai Hom Thong *Musa* (AAA Group, Gros Michel). Ripening was established by 10 ppm. ethylene induction for the period of 12-hours. After the activation period ethylene production and the firmness loss of fruit were investigated and found occuring more rapidly than the unactivation bananas. GA_3 at 900 ppm. has partialy effected on ethylene production. The application of $CaCl_2$ (10 - 90% w/v) to the whole fruit could diminish the rate of ethylene production together with the decreased in firmness of the peel. Although the brown spots was observed all over the banana's peel. Ethionine had shown no competitive inhibition with methionine in inducing ethylene production together with the peel-firmness reduction. Liquid paraffin and Sta Fresh 7055 applying to the whole fruits exhibited a strong inhibition reaction to the process of ethylene production and firmness.

The application of GA_3, (900 ppm.), AVG, (200 and 500 ppm.), liquid paraffin, and Sta Fresh 7055 to the certain area between the pedicel and neighbour's peel following by ethylene induction was performed. Results indicated the possibility of finger drop inhibition affiliated with rate of ethylene production and firmness.

Three enzymes involving ripening phenomena were investigated. The activities of cellulose, alpha-amylase were found elevating rapidly while during the ripening period.

The rapidly increased in activities for cellulase and alpha-amylase in parallel to the rate of ethylene production was observed, while pectin methyesterase activity increment was rather slow during the ripening period. AVG, Liquid paraffin and Sta Fresh 7055 can reduce the rate of those 3 postharvestes enzymes synthesis during the growth period when they were directly applied to inhibit the finger drop phenomena.