Sukhawat Tongleaw 2011: Effect of Harvesting Season on Fruit Quality and Fruit Nutrient Concentrations of 'Khao Yai' Pummelo. Master of Science (Agriculture), Major Field: Horticulture, Department of Horticulture. Thesis Advisor: Assistant Professor Lop Phavaphutanon, Ph.D. 141 pages.

Fruit quality of 'Khao Yai' pummelo harvested in January and April in two consecutive years of 2007 and 2008 from the same orchards and trees was compared. Fruits were obtained from 5 well managed orchards in Amphawa and Bangkhonthi Districts, Samutsongkhram Province. Fruit quality was different between harvesting seasons. Fruits harvested in April had less height, width, circumference, fruit weight, juice sac weight, peel and carpel membrane weight, peel thickness, number of fruit with granulation, level of granulation disorder, L* and b* values of peel, while their pulp percentage, total soluble solids, total soluble solid / titratable acidity ratio and preference scores were greater than those harvested in January in both years. Therefore, 'Khao Yai' pummelo fruits harvested in April had better overall quality than those harvested in January. Pummelo fruit quality from Amphawa district (brackish water zone) and Bangkhonthi district (brackish water free zone) was not different. Fruits harvested in January and April 2008 were analyzed for their mineral contents to estimate nutrient loss through crop removal. Nutrient contents in 'Khao Yai' pummelo fruits were ranked in the following order: potassium (K) > nitrogen (N) > calcium (Ca) > phosphorus (P) > magnesium (Mg). Nutrient loss through crop removal was 1.87 g N, 0.26 g P, 2.69 g K, 1.11 g Ca and 0.17 g Mg for every kilogram fruit fresh weight in January crop. In April crop, nutrient loss through crop removal was 1.79 g N, 0.27 g P, 2.65 g K, 1.11 g Ca and 0.19 g Mg for every kilogram fruit fresh weight. The representative orchards in this study had high to very high nutrient concentrations particularly P, K, Ca and Mg. Nutrient concentrations in soil and leaves and fruit nutrient content were poorly correlated or had no correlation.

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