ABSTRACT

SUCI PRIMILESTARI. Control of Gamboge Disorder and Improved Quality of Mangosteen Fruit Through Application of Two Calcium Sources in Different Dosage. Under direction of ROEDHY POERWANTO and ADE WACHJAR.

Gamboge disorder is a major problem limiting marketable yield of mangosteen fruit. It is known to be related to low calcium content. Result of previous studies indicate that calcium soil application could increase calcium content in the fruit exocarp and reduce yellow latex in the fruit peel, but ineffective in the flesh. It is known that calcium application could not be sufficient for fruit calcium. Fulfillment of calcium in plants is influenced by the source of calcium and its dosage applied. An experiment was conducted to determine the proper combination of calcium source and its dosage in reducing yellow latex of fruit peel and flesh, also improving fruit quality. Implementations of the experiments conducted in the Kecamatan Kota Agung, Kabupaten Tanggamus, Lampung. Factorial experiment was designed with two factors: Calcium sources (calcitic lime (CaCO$_3$) and dolomitic lime (CaMg(CO$_3$)$_2$) and calcium dosage (0, 2, 4, 6 ton ha$^{-1}$ Ca). Calcium applied to the soil at blooming period. The experiment was laid out on a randomized complete block design. Leaves and fruits were sampled at harvesting period. Observation of the yellow latex in aryl and fruit peel, fruit physical properties carried out on the variables weight, diameter, fruit hardness, total dissolved solids, total titration acid, and preparation of samples for chemical analysis conducted at PKBT laboratory. Results indicated that application of dolomitic lime with calcium doses of 2 ton Ca ha$^{-1}$ could increase calcium content of the fruit pericarp (especially exocarp) and reduce yellow latex in the fruit peel and flesh. Calcium application did not affect the physical and chemical properties of the fruit.

Keywords: mangosteen, gamboge disorder, yellow latex, calcium