

Title Maturity Prediction of Young Coconut Fruit with Partial Least Square Regression

Author Songtham Chaiyapong and Bundit Jarimopas

Citation Proceedings of the 9th Conference of Thai Society of Agricultural Engineering 2008, The Imperial Mae Ping Hotel, Chiang Mai, Thailand, 31 January – 1 February 2008. 203 p.

Keywords Young coconut; Maturity; Prediction

Abstract

This research was to determine physical characteristic, mechanical, physiological and sound properties as related to young coconut fruit maturity. Three maturity of young coconut fruit, i.e. immature, mature and overmature, was used with the determined properties to predict young coconut flesh thickness by means of Partial Least Square Regression (PLSR). The results showed that specific gravity, frequency and mesocarp slope, could well formulate the calibration equation to predict young coconut flesh thickness. The resulting correlation coefficient (R), the standard error of prediction (RMSEP) and the bias was equal to 0.961, 0.394 and -0.0024 respectively.