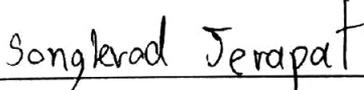


Songkrod Jerapat 2007: Use of Dry Matter as Harvesting Index for Durians cv. Kradum and Chanee. Master of Science (Postharvest Technology), Major Field: Postharvest Technology, Interdisciplinary Graduate Program. Thesis Advisor: Associate Professor Jingtair Siriphanich, Ph.D. 171 pages.

A study was conducted on pulp dry matter accumulation of 'Kradum' and 'Chanee' durians (from 7 and 8 orchards respectively) in Chanthaburi and Trat Province, during 2002-2004 seasons. It was revealed that the rate of dry matter accumulation in 'Kradum' durians was 1.0-1.8% per day, whereas in 'Chanee' it was only 0.2-1.1% per day. The maximum rate of dry matter accumulation in 'Kradum' occurred between 83-90 days after full bloom (DAF). In 'Chanee' this occurred between 97-104 DAF. Sensory evaluation based on texture, sweetness, nuttiness, off-flavor, overall preference and maturity scores showed that sensory scores on the whole increased rapidly between 76-83 and 90-97 DAF in 'Kradum' and 'Chanee', respectively. At 90 DAF in 'Kradum' and 111 DAF in 'Chanee', most sensory scores were higher than 5, which is the minimum acceptable scores. The sweetness scores increased faster than others, while the overall preference score increased at the slowest rate. The correlation study between pulp dry matter and sensory scores showed that pulp texture and off-flavor gave the lowest correlation with dry matter, whereas sweetness, nuttiness, overall preference and maturity resulted in medium to high correlations. The latter four characteristics were used to determine the minimum pulp dry matter for harvesting 'Kradum' and 'Chanee', which were found to be 28.7% and 26.4%, respectively. In randomly purchased 'Kradum' from 30 containers destined for export between 2002 and 2004, it was found that only 3 containers in 2002 did not pass the standard grade of 27%. On the opposite, for 'Chanee' randomly purchased from 38 containers, it was found that 9 containers out of 11 in 2002, 3 containers out of 19 in 2003 and 6 containers out of 8 in 2004 did not pass the standard grade of 30%. Total cost for the service of determining durian maturity per container was 667 Baht. This was shared by the government sector at a cost of 299 Baht, mostly for labor and travel. Another 368 Baht were borne by the private sector, mostly to cover the cost of fruit used for maturity determination.

  
Student's signature

  
Thesis Advisor's signature

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