Title Improving productivity and quality of mangosteen

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Abstract

Indonesia has numerous edible fruit species found over the archipelago. Some of fruit species have become commercial, but they have not been cultivated optimally; among of them is mangosteen (*Garcinia mangostana* L.). Mangosteen grows in low to medium land up to 800 m above seal level with wet climate; it is cultivated in compound gardens in house-yard and agro forestry-like plantation by small holder farmers. The production center of mangosteen is western of Indonesia, including Sumatra, Java, Bali and West Nusa Tenggara. The main harvesting season of the fruit is September to April. Mangosteen production fluctuates from 30,000 to 70,000 ton a year. The fruit is exported to Taiwan, Singapore, Hong Kong, Malaysia, United Arab Emirate, Saudi Arabia, and Netherlands. The demand for mangosteen has increased markedly. However, although the export demand has increased, large scale planting of this crop has not occurred, due to its slow growth, long juvenile phase, less developed technology either technical culture or post harvest handling, and limited superior varieties. The other problems in mangosteen culture are low productivity, low fruit quality due to fruit gamboges, and short self-life of the fruit. Center for Tropical Fruit Studies of Bogor Agricultural University, Indonesia developed technology package to established mangosteen orchard. The package consists of: (1) introducing new mangosteen cultivar namely 'Wanayasa'; (b) using double root system of young mangosteen; (c) intercropping with banana or papaya; (d) irrigation system; (e) fertilizer; (f) pruning; (g) using gibberellins after harvest to maintain the green color of the petal. We also conducting mutation breeding, study the cause of gamboges of the fruits, developing technology for detection of gamboges using ultra sound wave method, and developing technique to prolong self life of the fruits.