Title Postharvest physiology and technology of sapote mamey fruit (*Pouteria sapota* (Jacq.) H.E. Moore & Stearn)

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Abstract

Sapote mamey is a tropical tree native from Mexico and Central America that shows potential as an alternative commercial crop for tropical and subtropical regions of the world. Its fruit is a good source of nutrients and it is highly appreciated in Mexico and countries of Central and South America because of its pleasant and sweet flavour and the bright deep orange–red colour of the pulp. A clear demand for the fruit exists in these countries and has been recently reported in other countries such as Australia, Israel, Philippines and Spain. This paper reviews information on postharvest biology and technology of sapote mamey fruit published by several authors in the past 60 years and presents experimental data obtained in the last 10 years by our research group. Topics deal with postharvest handling and physiology; changes of quality attributes during ripening such as colour, total soluble solids, firmness, water content, sugars and carotenoids; diseases, insects and disorders during storage; and responses to low temperatures. The effect of controlled and modified atmospheres on the postharvest life and quality of sapote mamey is also discussed. Other postharvest treatments and technologies that have been evaluated on this fruit are also revised, including the use of ethrel, the application of the ethylene action inhibitor 1-methylcyclopropane and the effect of heat treatments for quarantine purposes and waxing to extend the storage life. Since the preservation and exchange of native material is essential for breeding studies and for making new improved varieties available for commercial production, the creation of a bank of germplasm is an idea also presented in the paper. We believe this review will serve as a useful reference for those studying and investigating postharvest aspects of sapote mamey fruit. Hopefully, it will also encourage future research to preserve the quality, minimize postharvest loses and increase the demand for this pleasant and exotic fruit.