

# Adoption of Pre- and Postharvest Technologies to Improve the Competitiveness of 'Carabao' mango in the Local and International Markets

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## Abstract

While global demand for mango has increased over the past 10 years, the country's mango producers in the Philippines, mainly dominated by smallholder farmers, cannot consistently deliver high-quality mangoes to major markets due to the high losses that are attributed to pests, diseases, and poor pre- and postharvest management, compounded by gaps in the supply chain. The research endeavor performed a field trial on a one-hectare mango farm in Brgy. Aumbay, Island Garden City of Samal, Davao del Norte. Specific activities include the following: preharvest bagging on mango using improved material, harvesting at proper maturity stage, hot water treatment, conduct of focus group discussions and benchmarking, conduct of capacity building activities, and the development of a website. Results showed overall positive outcome. Fruits bagged with the improved bagging material showed to have minimized pre- and postharvest losses while preserving better fruit quality longer and achieving higher antioxidant activity. Harvesting the mango fruits at 110-115 d after flower induction (DAFI) leads to 91-100% mature fruit at harvest with better fruit quality with moderately high total soluble solids (TSS), better visual quality, and a lower incidence of anthracnose. The application of hot water treatment (HWT) also increased the percentage of marketable fruits by up to 42% at 12 d after harvest or three days after arrival in Manila, compared to only 1.67% for untreated fruit because of the reduced number of fruits affected by anthracnose and stem end by 45% and 68% compared to untreated fruit, respectively. Mango farmers and contractors also show willingness to adopt the three technologies, especially the adherence to proper harvest maturity and use of HWT. The project also conducted season-long training on pre- and postharvest technologies where the participants were exposed and actually handled the technologies themselves.