Control of Mango's Post-Harvest fungal diseases in Miyako Island, Okinawa Prefecture, Japan by Hot Water Treatments

Victor Alonso De la Cruz Padilla¹, Hidehiko Kikuno², Chiharu Nakashima³, Mark Joseoh Balanay Cano⁴, Kojiro Omijya⁵, Keiichi Motohashi¹

¹Department of International Agriculture Development, Tokyo University of Agriculture, Japan
²Miyako Subtropical Experimental Farm, Tokyo University of Agriculture, Japan
³Graduate School of Bioresources, Mie University, Japan
⁴College of Science, Polytechnic University of the Philippines, The Philippines
⁵Saion Co. Ltd., Japan

Objective: Mango (Mangifera indica L.) is known as a quality fruit in Japan. As post-harvest diseases, like anthracnose by Colletotrichum spp. and stem end rot by Lasiodiplodia spp., cause serious damage, cost-effective and environment-conscious treatment is required. In this study, the effect of Hot Water Treatments on the control of post-harvest fungal diseases was evaluated.

Methods: Matured fruits of Mango cv. "Irwin" harvested in Miyako Island were examined. Four factorial and one control treatments were applied: dip in hot spring water at 60 ºC for 1 minute and then cooling for 10 minutes under running tap water (T1); dip in sterilize distilled water at 60 ºC for 1 minute and then cooling for 10 minutes under running tap water (T2); dip in sterilized distilled water at room temperature for 10 minutes (T3); and dip in hot spring water at room temperature for 10 minutes (T4). The fruits were storage at room temperature with AC (24-27 ºC) after treatments. The effects were evaluated by preventive value at 0, 6 and 12 days after treatment.

Results and Conclusion: Hot water treatments with hot spring water (T1) and sterilize distilled water (T2) have a significant reduction of the incidence of diseases during storage. Hot Water Treatments at 60ºC for 1 minute are effective for control of post-harvest diseases in Mango cv "Irwin".