

**Title** Studies on the precooling technique and marketing of bamboo shoot (*Bambusa oldhami* Munro)

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#### **Abstract**

In order to study suitable methods for precooling, packaging and storage for exporting bamboo shoot by sea, experiments were conducted with bamboo shoots produced in Taipei prefecture. Hydrocooling, forced-air cooling, packing amount and ethylene scrubber in polyethylene (PE) bags, as well as different storage conditions were studied. Evaluations included measuring water loss, soluble solid content, ascorbic acid content, firmness and color change of cut surface. Hydrocooling cooled products faster than forced-air cooling, but caused higher losses of soluble solid and ascorbic acid than the latter method. Bamboo shoots were packed in a PE bag of 0.06mm thickness, which created a modified atmosphere, and helped retain soluble solid and ascorbic acid contents, as well as minimizing change in color of cut surface. Packs containing eight pieces of bamboo shoot had lower quality than packs containing five pieces. In packs with eight shoots anaerobic respiration occurred, and off odor developed. The above methods were applied to export bamboo shoot to Japan by sea. Bamboo shoots were inspected by the Bureau of Animal and Plant Health inspection and quarantine, COA, before being transported in 20' steel dry cargo container by sea at 1°C. Through 16 days transportation, the bamboo shoots retained good quality, they had 7°Brix, without browning, and just a little bit of toughening. The expense of transporting by sea is lower than that of transporting by air.