

**Title** Effects of controlled atmospheres and low temperature on storability of chestnuts manually and mechanically harvested

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**Citation** Postharvest Biology and Technology, Volume 61, Issues 2-3, August-September 2011, Pages 131-136

**Keywords** Chestnut; Impact damage; Organoleptic quality; Storage

### **Abstract**

The aim of this study was to determine the effect of controlled atmospheres on quality of manually and mechanically harvested chestnuts (*Castanea sativa* Miller cv. Marrone Fiorentino), treated with “water curing” and stored for two months. Parameters such as color, weight, firmness, acetaldehyde and ethanol concentration, soluble solids content and sensory quality were analyzed. Mechanical harvesting increased the incidence of cracks and bruises inflicted on the chestnuts, as well as removal of the tuft. As regards storability, controlled atmospheres helped maintain chestnut quality, preserving typical organoleptic characteristics and reducing the incidence of rots where damage caused by cracks and removal of the tuft were most frequent from use of a mechanical harvester.