

**Title** Morpho-histology of 'Manila' and 'Haden' fruit development. A comparative study with postharvest implications

**Author** C. Barbosa-Martínez, L. Ponce de León-García and C. Pelayo-Zaldívar

**Citation** ISHS Acta Horticulturae 820:281-288. 2009.

**Keyword** *Mangifera indica* L.; anatomical characteristics; anthesis; fruit maturity; fruit ripening

### **Abstract**

Anatomical and morphological aspects of Anacardiaceae family have received little attention. *Mangifera indica* L. is the cultivated species of major world distribution and economical importance of this family. In the present work, we compared morpho-histological changes occurring from anthesis to ripening in the monoembryonic cultivar 'Haden' and the polyembryonic 'Manila' mango. Differences in exo, meso and endocarp, as well as in seed were observed. 'Manila' mango had less layers of epidermal cells, thinner hypodermic cell walls and fewer, thinner and shorter fibers than 'Haden' fruits. In ripe fruits, lenticels were more abundant in 'Haden' mangoes, and the cuticle was thicker than in 'Manila' fruits. Manila ripe mango had larger mesocarp cells and its endocarp was constituted by parenchyma cells distributed in a fiber reticule. Additionally, fruit growth and differentiation were faster in 'Manila' than in 'Haden' fruits. These histological and physiological characteristics explain differences in water loss, postharvest diseases, mechanical damage and perishability between fruits of these cultivars. They also explain why 'Manila' fruits have traditionally been less exported to distant markets than 'Haden' fruits.