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Research note

Variation in fruit chilling injury among mango cultivars

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Abstract

Mango (*Mangifera indica* L.) fruit of six cultivars ('Kaew', 'Rad', 'Okrong', 'Tongdum', 'Nam Dok Mai' and 'Nungklangwun') were stored at 4, 8 and 12 °C (85–90% RH) and randomly sampled every 5 days. Chilling injury was manifested initially as a gray to brown discoloration of the peel, followed by a color change in the pulp and the endocarp (seed coat). The seed tissue of most cultivars became brittle during storage at 4 and 8 °C for as little as 5 days, and the seeds did not germinate. In all cultivars studied, storage life was limited by skin discoloration. If acceptable skin color (no discoloration of more than 10% of the skin surface) after 5 days of shelf life at room temperature (about 30 °C) was taken as a criterion, fruit of all cultivars, except 'Rad' and 'Okrong', could be not be stored for more than 5 days. According to this criterion, 'Rad' fruit could be stored at 12 °C for 15 days and 'Okrong' fruit for as long as 25 days. This variation in chilling injury (CI) sensitivity may be useful in breeding cultivars with improved storage life at low temperatures.

Keywords: Discoloration; Endocarp; Pulp; Seed; Skin; Storage life