

**Title** Characterization of 'Marsh' grapefruit peel maturation and its relationship to postharvest handling and keeping quality

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#### **Abstract**

This reports a preliminary study to understanding the role of peel maturation in citrus as it relates to postharvest handling and keeping quality of the fruit. Currently, citrus is harvested based on internal quality (edibility). Peel changes have not been related to best harvest time. Several physical parameters (weight loss, decay, chilling injury, color index, puncture resistance, and detachment force), and chemical parameters (TSS:acid ratio of the juice, and sugars, glycosidases, abscisic acid and volatile components of the peel) were measured for harvest dates to determine if peel maturation and senescence can be monitored by some combination of factors in order to minimize fruit disorders resulting from immature or senescent peel or unusual stress levels that the peel may have been subjected to. Changes in levels of sugars, glycosidases, abscisic acid and volatile components during maturation (harvest dates) coincided with changes in peel color, percent fruit drop and with fruit characteristics during storage (weight loss, decay and chilling injury) and may be useful for establishing harvest date guidelines to avoid harvesting too early (immature fruit) or too late (senescent fruit) so that less postharvest injuries occur while the fruit still has acceptable internal quality. Suggested harvest period was January-March. Days from bloom date, detachment force and peel reducing sugars were the best indicators for a peel senescence index.