

Title The locular gel differentially affects translucency development and firmness decay in fresh-cut tomato slices

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Abstract

Sliced tomatoes rapidly become translucent and show accelerated softening. Slicing-induced development of translucency and firmness decay of the outer pericarp was investigated in slices with or without locular gel and in slices from different tomato genotypes varying in their amount of locular gel. In addition, the effect of wounding-associated juice release on translucency and softening was investigated in slices stored as “single slice” and stored as “stacked slices” and in slices blotted dry immediately after wounding. Rapid translucency development was severely affected by the presence of locular gel. In slices where the locular gel was removed, and in cultivars with low amounts of locular gel, translucency development was much less. Translucency development seemed unrelated to the released juice from wounded tissue as it was not affected by the storage method (stacked or single slices) nor by dry blotting of cut surfaces immediately after slicing. Rapid firmness decay in slices is not related to the presence of the locular gel and was also not affected by storage method (stacked or single slices) nor by dry blotting of cut surfaces immediately after slicing. The results show that translucency development and firmness decay are independent processes occurring simultaneously after slicing.