

Title Sugars and acids influence flavor properties of mango (*Mangifera indica*).
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Abstract

Effects of sugar and acid levels on mango (*Mangifera indica*) flavour perception were analysed. Twelve treatments, identified using a constrained simplex lattice mixture design, were formulated by adding sugar (60%), citric acid (40%), and water to an equal volume of mango homogenate. Using 150-mm nonstructured line scales, a trained panel evaluated the treatments according to 11 flavour descriptors. Titratable acidity (TA), pH, and total soluble solids (TSS) were also determined. Acid concentration affected ratings for sweet, sour, peachy, pine/terpentine, astringent, and biting. Except for sour taste, all descriptors were affected by sugar content while increasing water increased intensities of all flavour notes. TA, pH, and TSS/TA correlated ($P < 0.01$) with and were useful predictors ($r > 0.80$) of sour taste and chemical feeling descriptors astringent and biting. TSS, however, was not a particularly good indicator of sweetness ($r = 0.72$) or any other descriptor except possibly peachy ($r = 0.79$). It is evident from this study that sugars and acids enhance human perception of specific flavour notes in mango, including aromatics.