

Title Modelling the effect of 1-MCP on avocado fruit
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Abstract

In this study the effect of 1-methylcyclopropene (1-MCP) on the softening of avocado fruit (*Persea americana* Mill.) cv. 'Hass' was modelled. Data was collected from 40 batches of fruit from different origins. A simplified mechanistic ODE based model was developed to analyse the experimental data. Most of the model parameters were treated as being generic for all fruit while only two of the model parameters were identified as being unique to each individual fruit. The model was able to explaining more than 95 % of the observed variation for most of the fruit. The model successfully quantified the effect of 1-MCP on avocado softening taking into account the stochastic nature of batch behaviour.