

Title A Descriptor for Damage Susceptibility of a Population of Produce
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Abstract

In the handling of fruits and vegetables the susceptibility of the product to mechanical damage is of primary concern. In the past, researchers have generally described the bruise susceptibility of a product in terms of its average bruise size (volume or area) as a function of energy (impact or absorbed). This method is not able to describe the variability of bruise occurrence within a population of perishable produce.

The more useful measure for commercial operators is the proportion of a product line which will sustain damage of economic importance. The approach presented in this paper uses a logistic function to describe the relationship between impact energy and the likelihood of a certain bruise size occurring. This approach takes into account the natural variability of bruising within any given population. The slope of the logit has been shown to be a characteristic of variety, with the logit offset describing season and maturity variation for apples. The method also provided a good prediction technique for the susceptibility for varieties of nectarine and potato.