

**Title** Changes in sensitivity to mechanical damage in relation to cultivar, maturity, degreening process and storage

**Author** Larrigaudière C, Schotsmans W and Recasens I

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### **Abstract**

Previously we showed that fruit respiratory rates may be used as a physiological marker of mechanical damage in Clemenules fruit. The objective of work was to use this marker to determine the specific impact that some agronomical and post-harvest processes may have on the fruit sensitivity to mechanical damage. We determined the difference in sensitivity between cultivars (Clemenule, Navelina and Valencia) and for Clemenule the specific sensitivity of the fruit in relation to initial maturity (external colour), degreening and storage duration. External colour was determined with a colorimeter in L\*a\*b\* coordinates as the IC index of each fruit. Degreening was carried out with external ethylene following the standard procedure used in packing-houses. The effect of storage duration was determined on fruit stored for 30 days at 5°C. Cultivar differences were as expected with fruit with thicker rind exhibiting lower sensitivity to mechanical damage compared with fruit with thinner rind. In Clemenules a significant inverse relationship was found between the IC index and the sensitivity of the fruit to damage indicating that the more immature (greener) fruit were less sensitive to mechanical stress. Degreening did not increase the sensitivity to mechanical damage and sensitivity to mechanical damage decreased significantly during storage. The minimum sensitivity was found after 7 days of storage and remained at that level during the remaining storage period.