DIAGNOSIS OF MECHANICAL INJURIES IN AVOCADOS BY MAGNETIC RESONANCE IMAGING

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This study was aimed at to determine the potential of magnetic resonance imaging use, as non-destructive method, to evaluate the effects of the mechanical injuries in avocados. Mature fruits were used, of 'Quintal' cultivar, and the injuries were caused by two impacts, in opposed sides of the fruit provoked by free fall from 2.00 m. In the compression injury, they were caused by a weight of 117.6 N, for 24 hours and in the cut injury, they received four longitudinal lesions in opposed sides, with 40.0 length mm and 4.0 depth mm. The injured fruits were stored under controlled atmosphere conditions (22 ± 2 °C and 50% RH) and analyzed in magnetic resonance imaging Varian Inova of 2 Tesla, every 5 days, with symmetrical images being obtained starting from the center of the fruit. The tomography of magnetic resonance was shown as an effective tool in the detection of internal injuries in avocado fruits. The fruits submitted to the injuries by compression and impact didn't show external lesions, but the images indicated the occurrence of the internal lesions and the evolution of the same ones during the ripening. After the impact, the fruits also presented cracks in the pulp adjacent to the pit, which were filled out by vegetable tissue in the 6 days of storage. The cut injury provoked superficial deformations, whose internal effects were also shown in the images, which presented a cicatrisation process during the storage period.