

Title Physicochemical changes of pineapple submitted to different mechanical injuries
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Abstract

The pineapple sensorial qualities and high dietary value are dependent upon physicochemical changes. The changes in some of 'Pérola's' physicochemical properties were determined after simulating the mechanical injuries experienced from harvest to commercialization. Fruit was submitted to the following treatments: T1: non-injured fruit (control); T2: one 60-cm free fall; T3: four longitudinal cuts (70 mm long and 2 mm deep); T4: eight perforations (3 x 2 mm) of the fruit base; and T5: compression for 30 minutes (equivalent to 160 Newton). After the application of the treatments, fruit was stored for 15 days at 11°C and 85% RH. Every five days fruit was evaluated for mass loss (%), pulp translucency (scale of 0 to 4, where 0 = opaque pulp and 4 = 100% of translucent pulp), juice percentage (%), acidity (% citric acid) and skin colour (L*, a* and b*). Fruit exposed to the compression treatment showed significant mass loss during storage losing 7.2% in 15 days. No differences were found in translucency of the fruit subjected to the different treatments. The juice percentage declined from 48.6% to between 38 and 41% after 15 days of storage. The initial acidity was of 0.49% citric acid and increased to 0.76%. Colour L *, a* and b* showed no differences among the treatments. Compression was the most harmful postharvest mechanical injury for 'Pérola' pineapples. Compression injury was observed to occur during lorry transport to the markets.