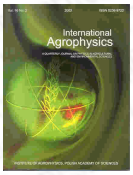

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Bruise resistance coefficient and bruise sensitivity of apples and cherries

(get PDF)

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abstract Bruise Resistance Coefficient (BRC) and Bruise Sensitivity (BS) of stored apples and raw cherries were studied by the quasi-static compression of simple fruits between two plates. The results obtained show that both parameters depend on the extent of compression. For the lowest deformations they were zero. Starting from some characteristic values of the absorbed energy and/or the work of loading the BRC and the BS increased with increasing absorbed energy and the work of loading, respectively. This behaviour was observed mainly for 8 % deformation of apples. For higher deformations (up to the 30 % in the case of cherries) the BRC and/or BS rather decreased with an increasing extent of compression. The initial characteric values of the absorbed energy and the work of loading from which both the BRC and BS increased with the increasing extent of deformation seems to be connected with a characteristic value of the relative absorbed energy for which common value of 0.52 for both apples and the cherries was observed.

keywords fruits, bruising, compression, bruise volume, absorbed energy, hysteresis losses