عنوان مقاله:

Effects of Different Loading Forces and Storage Periods on the Percentage of Bruising and Its Relation with the Qualitative Properties of Pear Fruit

محل انتشار:

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خلاصه مقاله:

Nowadays, due to the necessity of increasing quality awareness in the food sector and its health, the non-destructive computed tomography (CT) method, which is one of the most widely used methods because of the ability to detect internal bruise in a non-destructive way, attracted so much attention. By using the non-destructive CT method a total of 81 healthy pears was selected and then subjected to quasi-static and dynamical loading. The experiment was performed on wide edge quasi-static pressure of 70, 100, 130 N and thin edge of 15, 20, 25 N and dynamic load of 300, 350, 400 g and storage period for 5, 10 and 15 days, to investigate the different effects of loading forces and storage periods on the percentage of the bruise and its relation with the qualitative properties such as phenol, antioxidant and vitamin C contents and firmness. The results of the experiments showed that the highest and lowest percentages of the bruise were related to a load of 400 N of 15 days and a 15 N 5-day thin line with values of 47.36 and 0.007, respectively. The highest and lowest physiological values were 15 N load of the 5-day thin edge and the 400 N of 15-day impact. Finally, the highest antioxidant content was 51.5% for 300 g dynamic loading force and 5-day storage, 28.86 mg/100g phenol for loading force of 70 N wide edge and 5 day storage and 7.4 mg/100ml vitamin C for loading force of 70 N wide edge and 5 day storage. Finally, according to the obtained results, there was an inverse relationship between the amount of bruising and chemical properties of pear.

کلمات کلیدی:

Bruise, Chemical Properties, Loading Force, Pear, phenol