

用物性分析仪检测鸭梨和京白梨果实采后质地的变化

高海生, 贾艳茹, 魏建梅, 冉辛拓, 乐文全

河北科技师范学院食品科技学院, 河北昌黎 066600; 河北省农林科学院昌黎果树研究所, 河北昌黎 066600

Studies on the Post-harvested Fruit Texture Changes of ‘Yali’ and ‘Jingbaili’ Pears by Using Texture Analyzer

GAO Hai-Sheng, JIA Yan-Ru, WEI Jian-Mei, RAN Xin-Tuo, LE Wen-Quan

College of Food Science and Technology, Hebei Normal University of Science and Technology, Changli, Hebei 066600, China; Changli Fruit Institute, Hebei Academy of Agriculture and Forestry Sciences, Changli, Hebei 066600, China)

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摘要 采用物性分析仪测定鸭梨 (*Pyrus bretschneideri* Rehd. ‘Yali’) 和京白梨 (*Pyrus ussuriensis* Maxin. ‘Jingbaili’) 果实质地参数的变化, 分析其质地构成和变化特性。结果表明: 硬度、破裂力、弹性、咀嚼性、粘附性和内聚性参数可较好地评价梨果实质地构成和变化。鸭梨果实各质地参数值变化很小, 硬度与破裂力极显著正相关, 二者均与咀嚼性极显著正相关, 其它参数间的相关性均未达到显著水平。京白梨果实各质地参数值变化较大, 硬度与破裂力极显著正相关, 二者均与粘附性呈极显著负相关, 与弹性和咀嚼性显著正相关; 咀嚼性与粘附性亦显著正相关。硬度、破裂力、弹性和咀嚼性是评价质地的主要参数, 粘附性和内聚性则反映了质地的细微变化。

关键词: 梨 果实 软化 质地特性 物性分析仪

Abstract: To evaluate the formation and change of texture properties, fruit of *Pyrus bretschneideri* Rehd. ‘Yali’ and *Pyrus ussuriensis* Maxin. ‘Jingbaili’ were taken as the materials to determine the related-texture parameters by using Texture analyzer. The results showed that the texture-related parameters, such as fracture, springiness, chewiness, adhesiveness and cohesiveness, could be used to evaluate texture properties of pear fruit. For ‘Yali’ pear, the values of all texture-related parameters changed weakly. The hardness was positive correlation of 0.01 levels with fracture, and these two parameters were also 0.01 levels of positive correlation with chewiness. But no significant differences were observed on the other texture-relate parameters. On the contrary, the value of each texture parameter showed a greater change in ‘Jingbaili’ pear fruit. Also, there was 0.01 level of positive relationship between the hardness and fracture. Both hardness and fracture had 0.05 level of negative relation with adhesiveness, while had significantly positive relationship with springiness and chewiness, and the significant positive correlation was seen between chewiness and adhesiveness. All above results indicated that the hardness, fracture, springiness and chewiness can be used as the main index to evaluate fruit texture, while the parameters like adhesiveness and cohesiveness would response for the subtle texture changes.

Keywords: *Pyrus*, fruit, softening, texture property, texture analyzer

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