

Title Storage behaviour of "Reinette du Canada" apple cultivars
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Abstract

Apple (*Malus domestica Borkh*) cultivars "Reinette du Canada" (RC) and "Reinette Grise du Canada" (RG) have been declared throughout the European Community as Protected Designation of Origin (PDO) "Manzana Reineta del Bierzo". The aim of this research was to find out the influence of storage technique on quality of PDO apple cultivars "RC" and "RG", and to evaluate the absence of traditional post-harvest treatments in these high quality cultivars in order to reduce pesticide residues in fruit. Apples were kept in standard cold storage or in controlled atmosphere (CA). At harvest time and during storage, fruit from each treatment and storage technique was analysed to determine quality parameters as well as disorder incidence. CA storage has been useful to delay the maturity process of PDO apple cultivars "RC" and "RG" and to reduce the incidence of storage disorders. Apple cultivars had different behaviour so "RG" cultivar showed lower weight loss (5.1%), shrivelling (6.4%) and bitter-pit (11%) than "RC" cultivar (8.3%, 60.8% and 34%, respectively) at the end of storage. The response of both cultivars to the treatment was quite different, so "RG" adapted better than "RC" to the absence of postharvest treatments. Untreated "RG" showed more brightness, total soluble solids (TSS) and TSS:titratable acidity values than treated "RG", factors that could improve consumer acceptance. Effectiveness of postharvest treatment in terms of bitter-pit was lower in "RG" than in "RC". These results indicate that "RG" would adapt better to storage without the use of chemical postharvest treatments.