

Title Changes of pectic composition of 'Annurca' apple fruit after storage  
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### **Abstract**

'Annurca' apple fruit, which is commonly cultivated in Southern Italy and undergoes, after harvest, a typical reddening treatment to turn the apples' skin red, is noticeable for its high firmness. An 'Annurca' variety, called 'Bella del Sud' is examined for its pectic composition after reddening and just after cold storage. Pectins, extracted with water and potassium oxalate, change their composition after different storage regimes with respect to unstored fruit. 'Annurca' pectin, as analyzed by gel-permeation chromatography, is composed of three types of polymers (high MW, >350 kDa, medium MW 350–110 kDa, low MW 40–9 kDa). Gel-permeation chromatograms revealed that the medium MW polymers decreased after normal atmosphere storage.

Eluates were subjected to enzymatic and chemical hydrolysis, then to HPLC analysis. The high and medium MW polysaccharides were rich in galacturonic acid. Low MW were rich in neutral sugars. The storage-induced differences in sugar composition revealed that the most important changes are loss of galacturonic acid in medium MW fragments, increase of glucose, rhamnose and arabinose and depletion of mannose–galactose units in low MW fragments.