

**Title** Effect of storage temperature and genotype on quality of globe artichoke [*Cynara cardunculus* L. subsp. *scolymus* (L.) Hegi] head

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#### **Abstract**

The globe artichoke heads are much appreciated for human nutrition both for their taste and their nutritional value. Chilling storage can represent the way to extend the commercial availability of this product. The nutritional properties of the buds, however are linked to the used genotype and the postharvest storage conditions. The aim of this work was to study the changes in heads quality characteristics related to cold storage temperature and genotypes. During the season 2003-2004 four different genotypes of globe artichoke with spring production ('Blanc Hyèrois', 'Camard', 'Camerys' and 'Romanesco') were grown at Syracuse (East Sicily). Artichoke heads were harvested at commercial stage. In the laboratory a half of the heads was stored at 4°C and the other half at 8°C. At harvest and once a week throughout chilling storage for a total of five sampling, on 10 stored heads chemical characterization (dry matter, crude protein, total sugar and crude fibre) was performed. Between both temperatures, at 4°C proteins degradation resulted at similar level to sugars degradation. On the contrary at 8°C sugars amount decreased deeply, because they represent the main substrate of the respiration processes. Among the genotypes 'Romanesco' and 'Camard' showed stability for the chemical characteristics until twenty-eight days of storage. After two weeks of storage 'Blanc Hyèrois' lost the quality traits to be commercialised. These results give initial information to identify genotype and suitable temperature for chilling storage of globe artichoke heads. Moreover they represent a basis for other experiments about metabolism processes changing head nutritional value.