Title	Antioxidant compounds and qualitative traits in european (*P. domestica* L.) and japanese (*P. triflora* L.) plum fruits as affected by cold storage
Author	Sottile F., Impallari F.M., Peano C. and Giuggioli N.
Citation	Abstracts Book, 6th International Postharvest symposium, 8-12 April 2009, Antalya, Turkey. 256 pages.
Keyword	Antioxidant; plum; storage

Abstract

Many human diseases are caused by the oxidative activity of the free radicals that damages lipids, proteins and nucleic acids causing cardio- and cerebrovascular diseases and cancer and many other troubles in the human health. Several studies have showed that a diet richer in fruits and vegetables is commonly associated with a lower incidence of these diseases and that is explained by the high content of polyphenols of these foods. Polyphenols have been recognized as important compounds with antioxidative activity and since 1960 have been studied their therapeutic properties showing their protective action on the vascular system with an important scavenger activity and recently also the protection property against cancer have been, demonstrated. Many factors influence the antioxidant compounds content in fruits and vegetables and the genotype is certainly the most important, but as it was showed by some studies, it depends on other factors too, like the cultivation environment and technique and the storage conditions. So the temperature and the length of the storage time are the main factors that ensure the maintaining of the foods quality and the increasing attention about the antioxidant properties of the foods leads to consider also that aspect in the topic of the storage. In fact, depending on the conditions that occur in that step, many changes in the molecules can happen that lead to increase or decrease the antioxidant compounds level. The present study was focused to establish the effect of the low temperature and the duration of storage on the total phenolic content and qualitative characteristics of the ancient Italian plum accessions included in programs of germplasm conservation that have a certain importance in the local market and that in the last years are· gaining a good place also in the niche national markets. The fruits have been stored in modified atmosphere (CO_2 12% and O_2 12%) at 2°C for 30 days. At the beginning and at the end of the storage the total phenolic content and other qualitative parameters, like titratable acidity, soluble solids content, firmness and colour, have been evaluated. The data of the Italian accessions have been compared with those of the international cultivar TC Sun. Obviously the results are preliminaries and need further evaluations.