

**Title** Comparison of two tomato genotypes based on bioactive compounds  
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### **Abstract**

In Spain, several traditional tomato (*Solanum lycopersicum*) cultivars exist, that are very popular in their own local zones. However, these cultivars have, as a main problem, the lack of resistance to some particular viruses, which decrease tomato yield. The aim of the present work was to evaluate the effects of genetic improvements of the tomato type 'De la Pera' for bioactive compounds. The tomatoes were harvested at five maturity stages and measured for total antioxidant activity in the hydrosoluble phase and in the liposoluble phase and contents of total polyphenols, lycopene and ascorbic acid. A comparison of the contents of bioactive compounds was also carried out on tomatoes grown in a greenhouse and in open air. Results showed that tomato fruit from a traditional, non-modified cultivar have higher contents of bioactive compounds, measured as total polyphenols and total antioxidant activity than genetically modified tomatoes. No differences were found in the lycopene content. In general, tomatoes grown in open air had higher levels of bioactive compounds. For both genotypes, the best harvest stage may be stage 4.