# Quality Characterization of Traditional, Italian and Conical Pepper Cultivars

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## INTRODUCTION



Photo credit: Edward Burtynsk

**The province of Almeria, southeast of Spain, has more than 30.000 hectares of greenhouse dedicated to the cultivation of vegetables, one third are pepper crops. There are different types of pepper, being the Italian and conical elongated peppers (9%)*, of recent interest to the market for its high taste quality and different ripening colors. A segment of the market is interested in this same typology as traditional non-hybrid cultivar, called "cuerno de toro".**

**Peppers are increasingly valued for its nutritional and organoleptic properties. At present there is no doubt that the consumption of these fruits has increased due to the change in eating habits because of the benefits they provide to our health. The objective of the present study was to characterize the physical-chemical and nutritional profile in 3 cultivars of Italian pepper, 3 conical cultivars with three colors, red, orange and yellow; and 1 traditional red elongated pepper cultivar.**

***Source: Price and Market Observatory, CAPDER, 2018.**

## MATERIALS and METHODS

**The analyzes were performed from 3 randomly selected fruits for each of the 3 replications per cultivar. Plants were grown in a mediterranean greenhouse equipped with fertigation controler in the IFAPA "La Mojonera" Research Center, Almería, using integrative production management techniques.**

**The cultivars tested were: Italian (red, orange and yellow), Conical (red, orange and yellow) and a red tradicional cultivar called "cuerno de toro". Methodologies used are supported in the scientific literature and the results were statistically analyzed.**

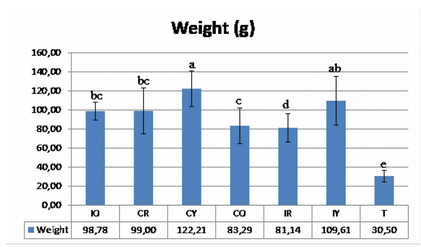


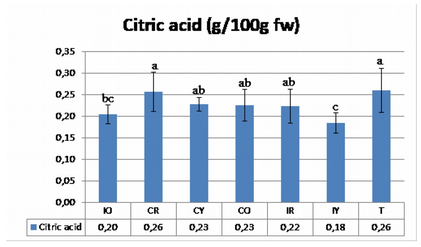
## RESULTS

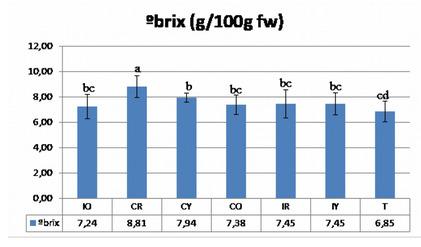


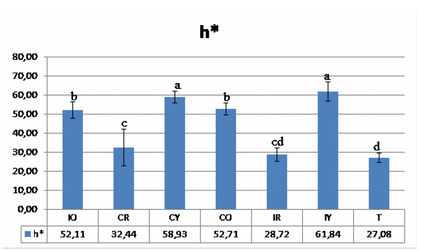
**CULTIVARS**

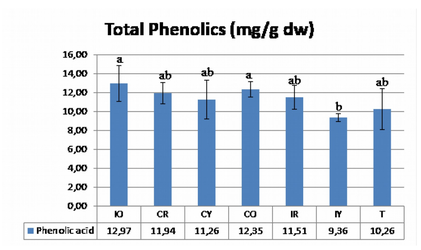
**IO. Italian Orange**
**CR. Conical Red**
**CY. Conical Yellow**
**CO. Conical Orange**
**IR. Italian Red**
**IY. Italian Yellow**
**T. Traditional**

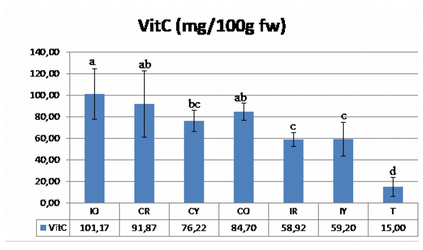


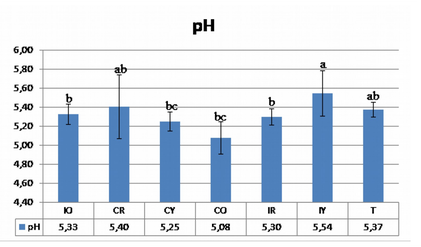



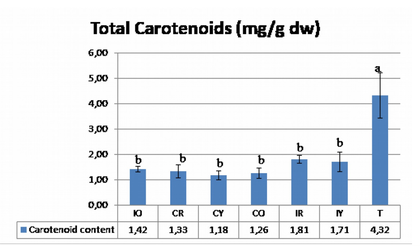






## CONCLUSIONS

**Cultivars showed a wide variability for the most of the characters studied. The yellow fruits had the highest average weight (109.61-122.21g). In relation to the color, different chroma is obtained, the yellow cultivars showed the highest tone value (hue> 58). The pH ranged between 5.08-5.54 and the acidity 0.18-0.26g of citric acid/100g of fresh weight (f.w.), with significant differences between types and cultivars. All cultivars showed high sweetness, standing out significantly, with 8.81 ºBrix, the red conical type. Total phenolic content was similar (10.26-12.97 mg eq gallic acid /g f.w.). The orange and conical red and orange Italian fruits showed significantly higher vitamin C content (84.7-101.17 mg/100g). The traditional cultivar showed the highest carotenoid content, with 4.32 mg/g fw.**

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