

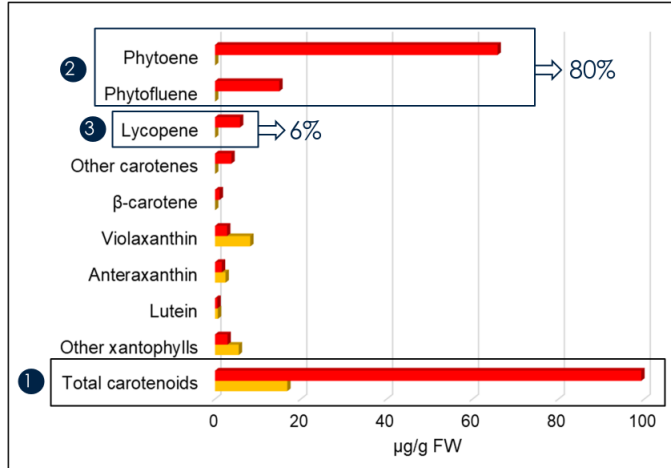
Carotenoids content and composition



Standard variety



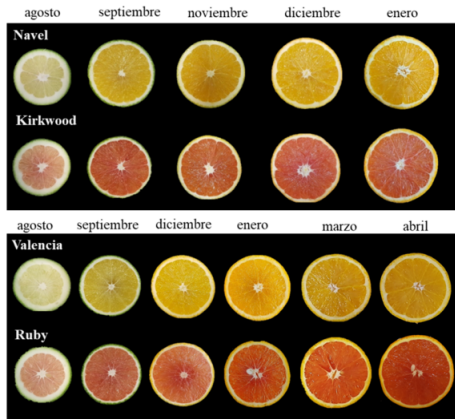
Red-fleshed variety



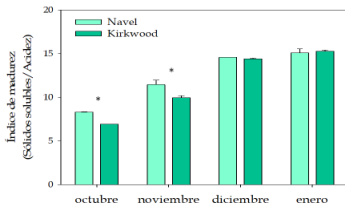
Highlights

- 1 5x times higher total carotenoids content
- 2 Huge concentrations of phytoene and phytofluene, representing 80% of total carotenoids
- 3 Lycopene represents 6% of total carotenoids

Red-fleshed oranges show similar quality characteristics compared to traditional oranges

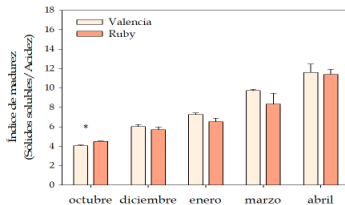


Maturity index



Very similar content of:

- Sugars
- Acids
- Vitamin C
- Vitamin E
- Flavonoids



antioxidants

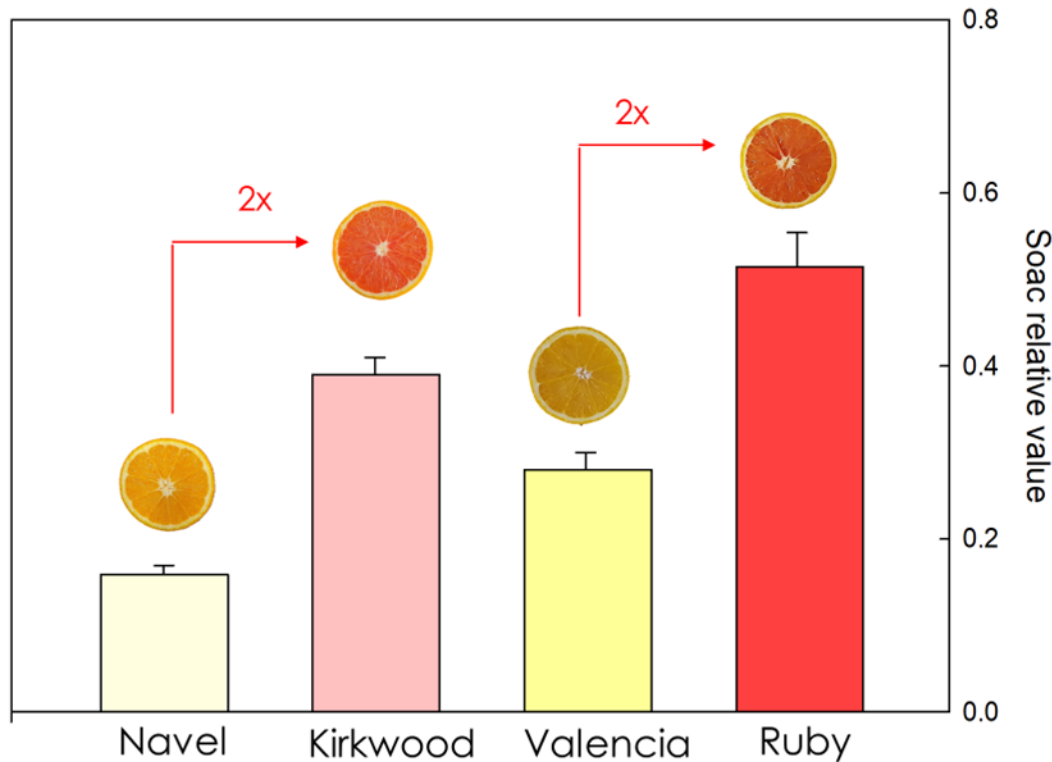
MDPI

Article

Bioactive Compounds, Nutritional Quality and Antioxidant Capacity of the Red-Fleshed Kirkwood Navel and Ruby Valencia Oranges

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SINGLET OXYGEN ANTIOXIDANT CAPACITY



Singlet oxygen is a highly reactive form of oxygen that can react with a variety of biological molecules, including lipids, proteins, and nucleic acids, often causing oxidative damage

- Specific method to determine the antioxidant capacity of carotenoids
- Red orange varieties exhibited 2x times higher SOAC
- Relationship between the content of carotenoids and the antioxidant capacity

HEALTH-RELATED PROPERTIES OF CAROTENOIDS

Regular intake of carotenoids in the diet is related to a reduction of the risk to develop degenerative diseases (cardiovascular, obesity and cancer) and important health benefits



Antioxidant activity

Lycopene

Vitamin A precursors

β -carotene

β -cryptoxanthin

