

## Antioxidant activity of citrus juices undervalued

Orange juice and juices from other citrus fruits are considered healthy due to their high content of antioxidants, which help to reduce harmful free radicals in our body, but a new investigation shows that their benefits are greater than previously thought.

José Ángel Rufián Henares, professor at the University of Granada, and his team, have developed a technique called 'global antioxidant response' (GAR), which includes an in vitro simulation of the gastrointestinal digestion that occurs in our body, whilst taking into account the 'forgotten' antioxidant capacity of the solid fraction.

Upon applying the technique to commercial and natural orange, mandarin, lemon and grapefruit juices, it has been proved that their values greatly increase. For example, in the case of orange juice, the value ranges from 2.3 mmol Trolox/L (units for the antioxidant capacity) registered with a traditional technique to 23 mmol Trolox/L with the new GAR method.

"The antioxidant activity is, on average, ten times higher than that which everyone thought up until now, and not just in juices, but also in any other kind of food analysed with this methodology," highlights Rufián Henares, who notes its possible application: "This technique and the results derived from it could allow dieticians and health authorities to better establish the values of the antioxidant capacity of foods."

With the help of this method, scientists have also created a mathematical model in order to classify juices according to their natural and storage conditions, which ensures that the correct raw materials and sterilisation and pasteurisation processes are used.

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