



## News about juice & nutrition

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*Powered by Dr. Pedro Mena (University of Parma, Italy) & IFU Science and Technology Commission and is intended for use by IFU members and juice industry professionals as reference to assist with their research.*

### **Highlighted**



**Orange juice has a positive effect on gut microbiota and some metabolic biomarkers, but not all the cultivars may have the same effect**

Two studies have assessed the impact of orange juice consumption on gut microbiota profile. The [first study](#) was carried out in 10 healthy young women that consumed commercial pasteurized orange juice for 2 months. Results showed that daily intake of orange juice did not change women's body composition, but improved some blood biochemical parameters (low-density lipoprotein-cholesterol, glucose, and insulin sensitivity). Moreover, orange juice positively modulated the composition and metabolic activity of gut microbiota. Interestingly, [another study](#) has recently pointed out that different orange cultivars may have a different effect on gut microbiota composition and metabolic profile. In particular, consumption of 500 mL of orange juice from “Cara Cara” or “Bahia” cultivars for 1 week modified the abundance of some bacterial families and a series of metabolites. Together, these studies emphasize that it is not so easy to claim for the effects of orange juice on gut microbiota, since not one size fits all.



**Juice intake is not related to body mass index in children and adolescents, results from a 17-y longitudinal cohort study in Iowa**

Using data from 2 different studies carried out with children and adolescents from Iowa, [a study](#) has investigated whether there is a longitudinal association between beverage intakes and body mass index (BMI) in a birth cohort followed for 17 years. Sugar-sweetened beverage and 100% fruit juice intakes were collected by frequency questionnaires at ages 2 through 17 years and were longitudinally associated with BMI z scores (a measure of BMI changes), for 720 children. Data revealed that, while each additional 8 oz. sugar-sweetened beverage/day throughout childhood and adolescence increased the BMI z score an average 0.050 units, 100% juice intake was not associated with BMI z scores.



### **Tomato-derived lycopene in plasma depends on Single Nucleotide Polymorphisms in men with prostate cancer**

It is well-known that human plasma and tissue lycopene concentrations are heterogeneous even when consuming controlled amounts of tomato or lycopene. [An interesting study](#) conducted in prostate cancer patients has evaluated whether single nucleotide polymorphisms (SNPs) in carotenoid metabolism genes are predictive of plasma lycopene responses to steady state tomato juice consumption. It was found that SNPs in one gene ( $\beta$ -carotene 15,15' monooxygenase 1, BCO1) may modulate human plasma and prostate tissue responses to dietary lycopene intake. It was concluded that genetic variants related to carotenoid metabolism may partially explain heterogeneous human blood and tissue responses and may be critical covariates for population studies and clinical trials.



## **Spotlight: The sugar affair**

- [Too much sugar intake among 2-year old Australians](#)
- [Preschool-age children exceed recommendations for fruit juice consumption, but there is no correlation with body weight](#)
- [Juice intake is not related to BMI, a 17-y longitudinal cohort study](#) (*highlight #2*)

## **Specific juices**

### **Beetroot**

- [Chronic beetroot juice supplementation and recreational runners](#)
- [Beetroot juice supplementation and well-trained cyclists](#)
- [Beetroot juice reduce aortic systolic blood pressure acutely](#)
- [Beetroot juice lacks of beneficial effects during submaximal exercise](#)

### **Cranberry**

- [Cranberry juice decreases disease activity in women with rheumatoid arthritis](#)

### **Kiwifruit**

- [Making kiwifruit more nutritious](#)

### **Orange**

- [Hesperidin can modulate the postprandial glycaemic response of orange juice](#)
- [Orange Juice and levels of blood glucose, lipids, and gut microbiota metabolites](#) (*highlight #1*)
- [Different cultivars entail different effects at gut microbiota level](#) (*highlight #1*)

### **Pomegranate**

- [Pomegranate juice and blood pressure in patients with type 2 diabetes](#)
- [Comparing the effects of thermal and non-thermal technologies on pomegranate juice quality](#)

### **Tart Cherry**

- [Effects of tart cherry juice on inflammation and oxidative stress in older adults](#)

### **Tomato**

- [Cardiovascular benefits of tomato juice in subjects with stage 1 hypertension](#)
- [Genetic polymorphisms are associated with plasma lycopene in men with prostate cancer](#) (*highlight #3*)
- [Antiplatelet aggregation effects, according to EFSA health claim requirements](#)

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