

SCIENTIFIC BENEFITS OF DRINKING 100% JUICE

Dietary Impact

- Most Americans aren't consuming enough fruit and vegetables every day. Nearly 90% of Americans are below recommended intakes. (1)
- Data from the 2020 Produce for Better Health State of the Plate report shows declines in **fruit and vegetable consumption from 2015** are **growing worse every year.** Young children, in particular, have been found to have the greatest losses. Much of that is due to a decrease in 100% juice consumption. (2)
- The 2020 Dietary Guidelines recognize one cup of 100% fruit juice as equivalent to one cup of whole fruit.
 (3)
- Research shows consumers that eat a variety of fruits and vegetables in all forms have higher total intakes
 than those who don't consume produce in all forms. Given the benefits of both fruit and juice, consuming a
 combination of fruit and juice maximizes each individual's ability to meet dietary requirements. (3,4)
- Children and adults who **drink juice tend to eat more whole fruit overall** and have **better quality diets** than those who don't drink juice. Furthermore, juice complements rather than competes with fruit. (5,6)
- Drinking juice in younger years can have long term dietary benefits. A Boston University study showed drinking 100% fruit juice early in life was associated with healthier diets later in life without adversely impacting weight. Consumption of 100% fruit juice during the preschool years was associated with higher intakes of whole fruit and total fruit as well as better diet quality through childhood and into middle adolescence. (7)

Nutritional and Health Impact

- 100% fruit juice is a **nutrient-dense beverage** that delivers **essential vitamins and minerals**, like folate and potassium, with no added sugars and **without contributing to overweight, obesity or dental caries** in adults or children. (4,6,8,9,10)
- Adults who drink 100% juice tend to have lower body weights, lower body mass index's and a 22% lower risk for being overweight or obese and a 27% lower risk of metabolic syndrome compared to nonconsumers. (6)
- 100% juices contain beneficial plant compounds known as bioactives. This is what gives juice it's unique color, flavor, taste and aroma. Fruit bioactives include carotenoids, polyphenols such as flavonoids and more. In addition to coffee and tea, fruit and fruit juices have been identified as major contributors to polyphenol and bioactive intake in the US diet. (11)
- 100% fruit juice is the number one source of vitamin C (35%) among children 2-18 years of age and the second major contributor of potassium (8%), second only to milk (19%). Whole fruit ranks third (12%) and fourth (5%), for these nutrients, respectively. (12)
- Recent population-based research found dramatic declines in vitamin C intakes in all age levels. These declines are largely driven by decreases in 100% juice consumption coupled with modest increases in whole fruit consumption. Knowing the importance of vitamin C to immunity, skin health and collagen formation, this could have significant health implications. (13)

Consumer Economic Impact

Juice is an easy, convenient, accessible, and cost-effective way for both children and adults to obtain their daily fruit servings. It is available year-round and nationwide. This is especially true for families on a budget or those receiving food assistance, as they are more likely to identify access, affordability and higher levels of waste as barriers to fresh fruit and vegetable consumption. (14)

• A recent evaluation of the most cost-effective contributors of under-consumed food groups and nutrients identified 100% juice as the top cost-effective contributor for fruit and the top cost-effective contributor for vitamin C. (15)

Consumption Guidelines

- The 2020 Dietary Guidelines acknowledges that as part of a healthy diet pattern say **up to half of your daily fruit intake may come from 100% juice**. (3)
- In addition to water, the Dietary Guidelines say beverages that contribute beneficial nutrients, such as "fat-free and low-fat milk and **100% juice**, should be the primary beverages consumed" by Americans. (3)
- According to the American Academy of Pediatrics (AAP) 4 to 6 ounces of 100% fruit juice per day is appropriate for young children. For children age 7 and older, the AAP says the serving size may be 8 to 12 ounces per day. (16)

SCIENTIFIC REFERENCES:

- 1. Centers for Disease Control and Prevention. Disparities in State-Specific Adult Fruit and Vegetable Consumption United States, 2015. Vol 66: 45. Morbidity and Mortality Weekly Report; Nov 17, 2017.
- 2. 2020 PBH STATE OF THE PLATE: America's Fruit & Vegetable Consumption Trends © 2021 Produce For Better Health Foundation.
- 3. 2020-2025 Dietary Guidelines for Americans.
- 4. Scientific Report of the 2020 Dietary Guidelines Advisory Committee.
- 5. Nicklas TA. et. al. "Consumption of 100% fruit juice is associated with better nutrient intake and diet quality but not with weight status in children: NHANES 2007-2010. *Internat'l J of Child Health and Nutri*, May 2015; vol 4: 112-121.
- 6. Agarwal S, Fulgoni Iii VL, Welland D. Intake of 100% Fruit Juice Is Associated with Improved Diet Quality of Adults: NHANES 2013-2016 Analysis. Nutrients. 2019;11(10):2513.
- 7. Wan, L., Jakkilinki, P.D., Singer, M.R. *et al.* "A longitudinal study of fruit juice consumption during preschool years and subsequent diet quality and BMI" *BMC Nutr* 2020: 6(25).
- 8. Crowe-White K. et. al "Impact of 100% Fruit Juice Consumption on Diet and Weight Status of Children: An Evidence Based Review" *Crit Rev in Food Sci and Nutr*, Aug 2016, 56(5), 871-884.
- 9. O'Neil CE, Nicklas TA, and Kleinman R. Relationship between 100% juice consumption and nutrient intake and weight of adolescents. *Am J Health Promot*. 2010; 24(4), 231-237.
- 10. Kelley LD and Mah E "100% Fruit Juice and Dental Health: A Systematic Review of the Literature" *Front Public Health*, July 2019, 7:190-196.
- 11. Ho KKHY, Ferruzzi MG, Wightman JD. Potential health benefits of (poly)phenols derived from fruit and 100% fruit juice. Nutrition Reviews. 2019;78(2):145-174.
- 12. Keast et. al. Food Sources of Energy and Nutrients among Children in the United States: National Health and Nutrition Examination Survey 2003–2006. *Nutrients* 2013; 5:283-301 and Supplemental Data for Vitamin C.
- 13. Brauchla, M.; Dekker, M.J; Rehm, C.D. Trends in Vitamin C Consumption in the United States: 1999–2018. Nutrients 2021, 13, 420-435.
- 14. Produce for Better Health Foundation: The Impact of Policy Recommendations with Limiting and Inclusive Language on Consumers Perceptions and Intent to Purchase, Fresh and Packaged Forms of Fruits & Vegetables. 2015.
- 15. Brauchla, Mary and Victor Fulgoni, III. "Cost-Effective Options for Increasing Consumption of Undersconsumed Food Groups in the United States." *Current Developments in Nutrition* vol. 4, Suppl 2 706. 29 May 2020.

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16. Heyman MB, Abrams SA, AAP SECTION ON GASTROENTEROLOGY, HEPATOLOGY, AND NUTRITION, AAP