NUTRIENTS AND PHYTOCHEMICALS IN OHIO PRODUCE

Farm to Health Series

Concerned with getting the most nutrients as possible from produce to optimize health benefits?

Phytochemicals are natural compounds in plants and foods derived from plants that can have health benefits when consumed. As opposed to nutrients, omission of phytochemicals in the diet will not cause deficiency symptoms, but including them can have additional health benefits.

For more information or how to maximize nutrients in other fruits and vegetables, see http://localfoods.osu.edu/maximizenutrients.

HOW COOKING OR PRESERVING CAN IMPACT NUTRIENT AND PHYTOCHEMICAL LEVELS

Cooking and preservation exposes the fruit or vegetable to heat, oxygen, and light, all which can degrade nutrient and phytochemical levels. How do you maximize the levels in your food? Keep reading…

Cooking or Preservation Method	How to Maximize Nutrients and Phytochemicals
Boiling	Shorter cooking time minimizes nutrient loss; Consume cooking water or save for later.
Steaming	Shorter cooking time minimizes nutrient loss; Minimal contact with water helps retain water-soluble nutrients.
Sautee	Lower temperatures and shorter cooking times minimizes nutrient loss; lack of water during cooking reduces loss of water-soluble nutrients. Light cooking can increase availability of phenolics and carotenoids in peppers.
Roasting or grilling	Choose a cooking method with lower temperatures to maximize nutrient retention.
Canning	Can improve absorption of lycopene from tomatoes.
Freezing	Results in high nutrient retention; If blanching before freezing, can have loss of heat-sensitive and water-soluble nutrients
Drying	Loss of all water-soluble nutrients. To maximize nutrient and phytochemicals, choose a different preservation method.

HOW THEY IMPROVE HEALTH

Fruits, vegetables, and their combination of nutrients and phytochemicals likely play a role in the development of age-related chronic diseases, like cancer and cardiovascular disease. Nutrients listed are at levels providing more than 5% of the daily value for ½ cup produce:

	Vitamins	Minerals	Phytochemicals	Health Benefits
Beets	Folate	Potassium	Betalains	Antioxidant and anti-inflammatory compounds; Blood pressure benefits
Cruciferous Vegetables	Vitamin C, Folate, Vitamin A, Vitamin K		Gluocosinolates	Cancer protection, especially bladder and prostate
Green Beans, Pea Pods	Vitamin C, Folate, Vitamin A, Vitamin K		Carotenoids, Chlorophyll, Polyphenols, Saponins	Antioxidant compounds
Green Leafy Vegetables	Folate, Riboflavin, Vitamin B6, Vitamin E, Vitamin A, Vitamin K	Magnesium, Iron, Calcium, Potassium	Carotenoids, Polyphenols	Antioxidant and anti-inflammatory compounds; Cancer protection; Bone health
Peppers	Vitamin C, Vitamin B6, Vitamin A		Carotenoids, Phenolics, Capsaicin	Cancer protection; May improve plasma cholesterol profile
Sweet Corn	Vitamin C, Thiamin, Folate		Carotenoids, Phenolics	Antioxidant compounds; Slows digestion; Blood sugar control
Tomatoes	Vitamin C, Vitamin A, Vitamin K	Potassium	Carotenoids	Cancer protection, especially prostate; Heart disease protection
Winter squash, Pumpkins, Carrots	Vitamin C, Vitamin B6, Vitamin A, Vitamin K	Potassium	Carotenoids	Antioxidant and anti-inflammatory compounds; Cancer protection; Blood sugar control
Apples, Pears, Peaches	Vitamin C, Vitamin K		Quercetin	Anti-inflammatory compounds
Berries	Vitamin C, Vitamin K		Anthocyanins, Ellagitannins	Anti-inflammatory compounds; Cancer protection, especially mouth, esophagus, intestine, and prostate
Melons	Vitamin C, Folate, Vitamin B6, Vitamin A	Potassium	Carotenoids, Polyphenols	Antioxidant and anti-inflammatory compounds;

This information is not meant to diagnose, treat, cure, or prevent any disease. This project is made possible by funding through OSU CARES - an initiative of OSU Extension and the Ohio State University to expand faculty, staff & student partnerships with communities throughout Ohio.