



## NUTRI-FACTS: PHYTONUTRIENTS

Phytonutrients are naturally-occurring chemicals found in plants and plant-based foods, such as fruits, vegetables, beans, and grains.<sup>1</sup> They are responsible for the color, taste, and smell of your food.<sup>1</sup> In addition to enhancing flavor, phytonutrients are also thought to help prevent disease.<sup>1</sup> Research shows that there may be health benefits to consuming phytonutrients due to the fact that they change the chemical processes in your body for the better. Many phytonutrients behave like antioxidants or hormones in that they support the immune system, reduce inflammation, and prevent cell damage.<sup>2</sup> All of these functions are critical to fighting a variety of chronic diseases, most notably cancer.<sup>2</sup> Thousands of phytonutrients exist and scientists have only started to understand their health benefits.<sup>2</sup> Below are a list of some of the more widely studied phytonutrients<sup>2,3,4</sup>:

Phytonutrient	Health Benefit	Source
Carotenoids (lycopene, beta-carotene, lutein)	Reduces cell damage by acting as an antioxidant and decreases risk of eye disease and certain cancers	Broccoli, leafy greens, carrots, sweet potatoes, cantaloupe, watermelon, and cooked tomatoes
Flavonoids (anthocyanin)	Improves vision, protects the nervous system, inhibits inflammation and tumor growth, and aids immunity	Apples, citrus fruits, berries, onions, soybeans and soy products, coffee, and tea
Polyphenols (ellagic acid, curcumin)	May prevent cancer cell formation, prevents inflammation, and acts as an antioxidant	Grapes, berries, citrus fruits, apples, green tea, whole grains, and peanuts
Terpenes	May prevent cancer cell formation and slow cancer cell growth, strengthens immunity, limits production of cancer-related hormones, fights viruses, and acts as an antioxidant	Cherries, rosemary, and citrus peel
Sulfides	Decreases low-density lipoprotein (LDL) or "bad" cholesterol	Garlic, onions, leeks, scallions, and olives

### Tips for Getting More Phytonutrients

Diets high in fruits and vegetables are associated with a reduced risk of chronic diseases.<sup>3</sup> Although it is not proven that phytonutrients are responsible for the lowered risk, incorporating fruits and vegetables into your diet is an important way to fuel your body with the vitamins, minerals, and fiber that it needs. It is recommended that men eat 3 cups of vegetables and 2 cups of fruit a day to maintain a healthy diet.<sup>5,6</sup> Women should eat 2½ cups of vegetables and 1½ - 2 cups of fruit daily.<sup>5,6</sup> You can also check out [HPW Healthy Eating](#) and follow these tips:

- ▶ Add chopped fruit to cereal, oatmeal, and yogurt
- ▶ Add fresh greens, carrots, celery, broccoli, beans, and peppers to soups and sauces
- ▶ Keep fresh vegetables, such as carrots, peppers, and broccoli, on hand for snacking instead of chips
- ▶ Replace sodas and sports drinks with green or black teas
- ▶ Swap processed grains for 100% whole grains

### Supplements

Although phytonutrients found in fruits and vegetables are part of a well-balanced diet, supplements that claim to provide the same benefits may not be a safe or healthy way to increase your intake of phytonutrients. For more information check out [Food First, Supplement Second](#) and be sure to consult your health care provider.

To view the references for the Nutri-Facts series, visit:

[HTTP://WWW.MED.NAVY.MIL/SITES/NMCPHC/HEALTH-PROMOTION/PAGES/NUTRI-FACTS\\_REFERENCES.ASPX](http://www.med.navy.mil/sites/nmcphc/health-promotion/pages/nutri-facts_references.aspx)

