

Nutrition and Health Info-Sheet

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Some Facts About Phytochemicals

What are phytochemicals?

- Phytochemicals are a large group of plant-derived compounds.
- Phytochemicals may be responsible for the disease protection provided by eating diets high in fruits, vegetables, beans, cereals, and plant based beverages such as tea and wine [1].

What are the various types of phytochemicals?

- Phytochemicals are broken into the following groups [1]:
 - Phenolic Acids
 - Stilbenes/Lignans
 - Flavonoids (such as Anthocyanins, Flavones, Flavanones, Isoflavones, Flavonols, and Flavanols)



What are flavonoids?

- Flavonoids are the most diverse group of phytochemicals. Once consumed and absorbed, flavonoids have been shown to reduce chronic disease risk [2].

What is the evidence that phytochemicals protect against disease?

- Epidemiological studies suggest that consumption of a diet high in fruits and vegetables is associated with a reduced risk of chronic disease [3].
- Unfortunately, there is not enough evidence to confirm that phytochemicals are responsible for these effects.



What is the recommended intake of phytochemicals?



- There is not currently a recommended intake for phytochemicals.
- Health authorities such as the American Cancer Society and the American Heart Association recommend eating a diet high in fruits and vegetables to ensure a person consumes enough phytochemicals [4, 5].

Should people take phytochemical supplements?

- The long-term effects of pharmacological doses of phytochemicals on human health are not well understood and therefore supplementation is not recommended.
- The relationship between food and health is complex. By replacing foods with supplements, beneficial food components or important interactions between food components may be lost.
- Current evidence still supports that consumption of a balanced diet, high in a variety of fruits, vegetables, and whole grain foods, is associated with optimal health [6].

Why is it important to eat a variety of plant-based foods?

- Hundreds of phytochemical compounds, with many different biological functions, have been identified in plant-based foods.
- Consuming a variety of plant-based foods helps to ensure that individuals receive the optimum benefits from the fruits and vegetables consumed [7].
- Below is a chart that lists some of the phytochemicals found in food:

Phytochemicals in Food

Food	Phytochemical
 Soy Beans, Soy Milk, and Tofu	Isoflavones (Genistein and Daidzein)
 Strawberries, Red Wine, Blueberries	Anthocyanins
 Red Wine, Grape Juice, Grape Extracts, Cocoa	Proanthocyanidins and flavan-3-ols
 Garlic, onions, leeks, olives, scallions	Sulfides, thiols
 Wheat Bran, oats	Dietary fiber
 Carrots, tomatoes, and tomato products	Carotenoids such as lycopene, beta-carotenes
 Broccoli and other cruciferous vegetables such as kale, horseradish	Sulforaphane

References:

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