

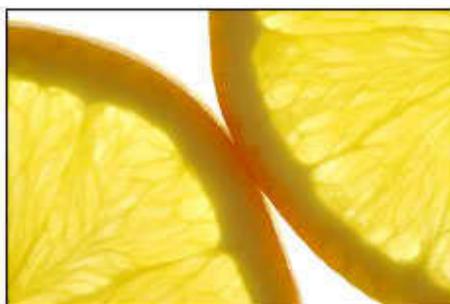
From our friends at "Back to Herbs"



## Bioflavonoids

Bioflavonoids are sometimes called Vitamin P or semiessential nutrients. More than 4,000 of these compounds have been identified; in many cases, they give color to fruits, vegetables and flowers. They exhibit a host of biological activities, most notably their powerful antioxidant properties. Bioflavonoids work with other antioxidants to offer a system of protection. Numerous studies have shown their unique role in protecting vitamin C from oxidation in the body, thereby allowing the body to reap more benefits from vitamin C.

Hungarian scientist Dr. Albert Szent-Gyorgyi, who found it within the white of the rind in citrus fruits, first discovered Vitamin P in 1936. It is contained mainly in the edible pulp of the fruits rather than in the strained juices. The letter P, for permeability factor, was given to this group of nutrients because they improve the capillary lining's permeability and integrity-that is, the passage of oxygen, carbon dioxide, and nutrients through the capillary walls.



The main known function of the bioflavonoids is to increase the strength of the capillaries and to regulate their permeability. The capillaries link the arteries to the veins. They deliver oxygen and nutrients to the organs, tissues, and cells and then pick up carbon dioxide and waste and carry them through the veins and back to the heart. The citrus bioflavonoids possess in vitro antioxidant activity and an ability to increase intracellular levels of vitamin C, rutin and hesperidin (flavonols) which may have beneficial effects on capillary permeability and blood flow. By its support of the capillaries, vitamin P helps to prevent hemorrhage and rupture of these tiny vessels, which could lead to easy bruising. Also, capillary strength may help protect us from infection, particularly viral problems. Bioflavonoids also can reduce the amount of histamine released from cells.

The bioflavonoids are helpful in the absorption of vitamin C and protect the multifunctional vitamin C molecule from oxidation, thereby improving and prolonging its functioning. Therefore, the bioflavonoids are indirectly, and possibly directly, involved in maintaining the health of the collagen that holds the cells together by forming the basement membranes of cells, tissues, and cartilage. The bioflavonoids are easily absorbed from the intestinal tract, as is vitamin C. Some is stored in the body, though most of the excess is eliminated in the urine and perspiration.

Flavonoids also have a low toxicity compared to other active plant compounds and they've been called "nature's biological response modifiers" because they can help us react appropriately to viruses, carcinogens and allergens, by giving a powerful boost to the immune system. This means that flavonoids exhibit anti-inflammatory, anti-microbial

and anti-cancer properties, because they protect against oxidative and free radical damage caused by pollution and the body's normal metabolic processes. Free radicals are responsible for a lot of the damage done to the body and are one of the major factors that contribute to aging.

Consumers and food manufacturers have become interested in flavonoids for their possible medicinal properties, especially their putative role in prevention of cancers and cardiovascular diseases. Although physiological evidence is not yet established, the beneficial effects of fruits, vegetables, tea, and red wine have sometimes been attributed to flavonoid compounds. The main source of bioflavonoids is citrus fruits-lemons, grapefruits, oranges, and, to a lesser extent, limes. Rose hips, apricots, cherries, grapes, black currants, plums, blackberries, and papayas are other fruit sources of vitamin P.

Many medicinal herbs owe their effectiveness to the bioflavonoids they contain. Besides the important antioxidant effects, bioflavonoids help the body maintain health and function in many other ways.

Another primary use of bioflavonoids is to provide synergy in the utilization of vitamin C; therefore they contribute to many vitamin C applications-for example, the treatment of colds and flus. Bioflavonoids themselves are often supplemented for problems where improved capillary strength is needed, such as bleeding gums, easy bruising, and duodenal bleeding ulcers, which may be worsened by weak capillaries. Bioflavonoids when combined with Vitamin C both increase in potency. Together they stimulate the production of bile to help the digestive system, lower cholesterol levels, treat and prevent cataracts and maintain the health of collagen.



Flavonoids could induce mechanisms that may kill cancer cells and inhibit tumor invasion. In preliminary studies, UCLA cancer researchers have proposed that smokers who ate foods containing certain flavonoids, such as catechins found in strawberries and green and black teas; kaempferol from brussel sprouts and apples; and quercetin from beans, onions and apples, may have reduced risk of obtaining lung cancer.

The main health benefits of bioflavonoids fall into two categories: health-promoting and therapeutic. The health-promoting effects include better eyesight, improved cardiovascular health, increased capillary strength, a stronger immune system, and improved structure of connective tissues and appearance of skin. Bioflavonoids also can lower the risk of some diseases, such as atherosclerosis, cancer, arthritis, and gastrointestinal disorders. The therapeutic applications include treating a variety of diseases and disorders some of which are: coronary heart disease, allergies, inflammation, hemorrhoids, respiratory diseases, viral infections, some types of cancer, and peptic ulcers.

Bioflavonoids - useful in treatment and prevention of many health conditions:

- clinical results have been obtained in treatment of capillary permeability, easy bruising, hemorrhoids, and varicose veins
- referred to as "nature's biological response modifiers" - modify body's reaction to compounds such as allergens, viruses, and carcinogens
- powerful antioxidants by giving protection versus oxidative and free radical damage

- prevents formation of oxidized cholesterol through antioxidant effects
- greater antioxidant effects than Vitamins C, E, Selenium, and Zinc
- antioxidant effects
- increase intracellular Vitamin C, rutin, and hesperidin
- beneficial effects on capillary permeability and blood flow
- anti-allergy and anti-inflammatory effects
- Venous insufficiency
- Improve microvascular blood flow and clinical symptoms (pain, tired legs, night cramps, and restless legs)
- Improve venous function
- Relieve hemorrhoidal signs and symptoms in pregnant women



Be sure to try NSP's Vitamin B-Complex (100 caps), Nutri-Calm® (100 tabs) or Super Supplemental Vit. & Min. (120 tabs).

## References:

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**Yours in Good Health!**

Sincerely,

Chris Ritchason  
 Dr. Jack & Verlyn Ritchason, Founders  
 The Back to Herbs Team

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