

# BLACK CURRANT

## *(Ribes nigrum L.)*

**Plant History, Description and Use:** The black currant is a deciduous shrub, originated in Europe, Asia Pacific and North America (native to the Midwestern and Northern parts of North America). Their leaves are maple-shaped and their yellow-white flowers resemble small bells growing alternately in a row. It is a dark purple berry, approximately 1cm in diameter, and quite aromatic. The black currant berries are found in clusters (4-6 berries) and are ready to be picked in August. Black currants are used in making juice beverages, jellies, preserves, pancake syrup, and ice cream. A unique glaze is prepared from black currant for meats like fish and poultry. In the wild, many species of birds and bear feed on the sweet berries. Black currant was popular in pioneer times and was used as a remedy for colds or to soothe a sore throat to minimize the severity of respiratory infections. A renowned French liqueur known as “cassis” is prepared from black currant. The French have traditionally used this berry to treat arthritis, rheumatism, and renal dysfunctions. Black currant is a popular drink in the United Kingdom where it is considered a healthy juice choice. Today, black currant is used as a supplement to enhance immune function, arthritis, and to improve vision. Fun fact: Black currant, once widely cultivated in the US, carried a disease that wiped out pine forests and so was eradicated in the 1930's New Deal Work programs. After many decades of careful breeding, the US has begun to allow the cultivation of certain black currant species, bringing home this rich source of healthy fruit.

**Composition:** Black currant also contains high concentrations of potassium, iron, organic acids, and biologically active plant phenolic compounds. Its Vitamin C content is among the highest at 155-215 mg (per 100 g) compared to orange juice at 53 mg. Included are:

- ❖ Fatty acids (gamma-linolenic acid (GLA), alpha-linolenic acid (ALA), linoleic acid, stearidonic acid)
- ❖ Catechins and other beneficial flavonoids
- ❖ Proanthocyanidins
- ❖ Anthocyanins (cyanidin-3-glucoside, cyanidin-3-rutinoside, delphinidin-3-glucoside, delphinidin-3-rutinoside)

Black currant is particularly rich in Gamma-linolenic acid (GLA) and Alpha-linolenic acid (ALA). These are essential fatty acids (EFA), vital to the well being of the body, and are required for normal brain function, growth, development, bone health, stimulation of skin, hair growth, regulation of metabolism, and maintenance of reproductive processes. Research has indicated that black currant has a potentially beneficial role in the areas of immune system, visual function, and anti-oxidation.

**Role in Inflammation and Immune Response:** Prostaglandin E2 (PGE-2) are a group of hormone-like substances that are responsible for contraction and relaxation of smooth muscle, dilation/constriction of blood vessels, control of blood pressure, and regulation of inflammation. Prostaglandin E2 (PGE-2) is released by blood vessel walls in response to infection or inflammation. PGE-2 levels increase during the aging process and an acute increase occurs in diseases as Rheumatoid arthritis. Wu et al., (1999) conducted clinical trials on elderly patients to elucidate the role of black currant. Their research indicated that black currant enhances the immune response and decrease PGE-2 levels in elderly patients. Leventhal et al., (1994) investigated the role of black currant in Rheumatoid arthritic patients. These researchers showed that black currant reduced pain and joint tenderness in these patients.



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Role in Vision: Visual display terminals (VDT) such as computer monitors, televisions and videogames are an intrinsic part of our lives. VDT users blink less since these activities require high levels of concentration for long periods without rest. Many VDT operators complain of weary eyes due to tiredness, prolonged concentration, stress, and dryness. Farsightedness, nearsightedness and double vision are some of the concerns for VDT users, as these may cause muscular aches and pains in the eye. A condition known as nearpoint stress refers to eye muscle fatigue that one experiences after focusing on a near object for a long duration, such as computer monitors or books. The close focusing involved in each of these tasks causes nearpoint stress resulting eye fatigue and even long-term nearsightedness. Researchers have shown that Artemis' black currant product suppresses "false" nearsightedness. Moreover, use of black currant is indicated to alleviate eye strain and ache.

Antioxidant Role: Both Vitamin C and anthocyanins have antioxidant properties, but in some formulations can "neutralize" each other. In orange juice, flavonoids such as hesperidin and narutin prevent the degradation of vitamin C. However, Miller et al., (1997) demonstrated that the anthocyanins in black currant are more effective in preventing the degradation of vitamin C, thus making black currant a more potent source of vitamin C than oranges.

Role in Kidney Disease: It has been demonstrated that black currant has a curative effect on patients suffering from acute kidney inflammation, or when kidney disease has reached an advanced stage. Lab assays have shown the potassium present in black currant contributes to the excretion of excess acidic compounds found in patients suffering from kidney inflammation. Increased filtering capacities of the kidney were also shown in a large number of patients.

Role in Anemia: Due to the high concentrations of iron and vitamin C, black currant has been shown to be a very efficient therapy against anemia. Vitamin C enhances the body's ability to absorb the iron, increasing red blood cells and hemoglobin.



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