



Florida Citrus: Our Local Healing Nectar

This is the season of Florida's abundant oranges and grapefruit harvest.

And, also being the time of colds and flus, nature provides us with a remedy in our own backyard.

Hundreds of studies have been conducted on the nutrients found in citrus fruit, and juice, and the role these nutrients play in reducing the risk of diseases including cancers and heart disease. Florida citrus fruit contain essential vitamins including Vitamin C, bioflavonoids, fiber, and minerals in both fresh and juice form. Florida citrus includes oranges, grapefruit and specialty varieties such as temple oranges, tangerines and tangelos.

Research shows an abundance of nutrients in citrus fruits including Vitamin C, a potent antioxidant that has been shown to counteract free radicals, helps maintain collagen, the substance that maintains bone structure and helps the body repair tissue, and enhance cellular immunity.

In addition, there are over 170 phytochemicals in an orange. These compounds include carotenoids, flavonoids, terpenoids, limonoids, glucarates.

Over 60 flavonoids have been identified in citrus. Their properties include antitumor and antiviral activity, anticarcinogenic and anti-inflammatory activity, and ability to



inhibit platelet aggregation and therefore reduce the risk of coronary thrombosis. The flavonol quercetin has a greater antioxidant activity than beta-carotene and vitamin-E. The flavonoids, tangeretin and nobiletin, are potent inhibitors of tumor cell growth and can activate the detoxifying P-450 enzyme system. Dr Bracke of Belgium has shown that tangeretin can block the invasion of normal tissue by malignant tumor cells.

There are at least 38 limonoids in citrus, with limonin and nomilin being the 2 major ones. These triterpenoid compounds provide the subtle bitter taste in citrus. They occur in high



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concentrations in grapefruit and orange juice. Limonoids also possess the ability to inhibit tumor formation by stimulating the major detoxifying enzyme, glutathione S-transferase.

Orange and lemon oil contains substantial amounts of limonene, a terpenoid that also possesses anticancer activity. Citrus pulp and the albedo (the white of the orange) is rich in glucarates. These substances are being studied for their potential use to prevent breast cancer and lower the risk of PMS symptoms. Glucarates have the ability to modify estrogen metabolism.

There are about 20 carotenoids in an orange. Only pink grapefruit has a high content of beta-carotene. However, other citrus (tangerines, oranges) contain high levels of other carotenoids (lutein, zeaxanthin, beta-cryptoxanthin) that have significant antioxidant activity and protect against age-related macular degeneration, the leading cause of blindness after age 65. Pink grapefruit also contains a high level of lycopene, the red pigment in tomatoes and guava that has significant antitumor activity.

Other Citrus nutrients include vitamin B1, dietary fiber, potassium and folic acid. Potassium protects against sodium-induced elevation of blood pressure. Orange juice helps replenish electrolytes in children with diarrhea. Folate, an important B vitamin, is known to reduce the risk of certain types of

birth defects, support heart health, immune health, and detoxification pathways. Fresh Florida oranges and grapefruit contain dietary fiber, including pectin, a soluble fiber. Fiber aids in digestion and elimination, is known to significantly lower blood cholesterol levels and, when part of a low fat diet rich in fruits and vegetables, may help reduce the risk of some cancers. Research shows that regular exercise and a balanced diet high in fruit and vegetables and low in fat can help maintain a healthy weight.