

Driscoll's
BERRY FACT SHEET FOR CONSUMERS/CONSUMER MEDIA

Please Direct Your Questions or Comments to:
Driscoll Strawberry Associates, Inc.
Consumer Affairs
P.O. Box 50045
Watsonville, CA 95077-5045
1-800-871-3333

Eat Fruits and Vegetables for The Health Of It

For years, Americans have been encouraged to include more fruits and vegetables in their diet to benefit from their disease fighting powers. A high fruit and vegetable diet seems to lower the risk for diseases such as cancer, heart disease, stroke and maybe even aging.

5 A Day Is Not Enough

The National Cancer Institute changed its 1991 campaign of "5 A Day" to its new slogan of "5 to 9 and feeling fine, fruits and vegetables anytime" in 2002. This is the result of recent research on additional benefits from larger quantities.

Berries Are Edible Superstars

Specific fruits and vegetables have been showcased as superior health protectors. Brightly colored berries are edible superstars that may protect against certain cancers, heart disease and aging. Berries have been given this high status because of the vitamins, minerals, dietary fiber and the phytochemicals that they contain.

Phytochemicals are plant substances that promote health and prevent chronic disease. Some of these phytochemicals are antioxidants; flavonoids, quercetin, anthocyanins and ellagic acid.

ANTIOXIDANTS-

Act As A Shield Of Armor Against Diseases.

Exposure to our environment causes our bodies to form free radicals. When free radicals attack the cell membrane it starts the development of heart disease. When they injure the DNA in the cells it initiates cancer. A free radical assault is called oxidation since it reacts with oxygen.

Antioxidants fight against oxidation. They neutralize the free radicals and prevent the cell damage. Concentrated sources of antioxidants such as berries will have the greatest impact on the antioxidant fighting capacity in the body.

Blackberries, raspberries and strawberries are all good sources of antioxidants. There are many forms of free radicals and each will react differently in the presence of the various

antioxidants. In a study with berries and four types of free radicals, strawberries had the highest antioxidant power against one and blackberries were the leader of the pack against the other three.

Berries Score Highest On The Antioxidant Scale

Oxygen Radical Absorbance Capacity (ORAC) is a test that measures the total antioxidant score of foods. Foods with the highest ORAC may give the body the greatest protection.

The four berries topped the ORAC chart for 10 fresh fruits tested. Blueberries, blackberries, strawberries and raspberries showed superior ORAC values over plums, oranges, grapes, cherries, kiwi and grapefruit.

Blueberries and blackberries even beat the top ORAC vegetable; kale and strawberries beat the second highest ORAC vegetable; spinach.

All four berries won over the eight other vegetables tested for ORAC value showing their superiority as antioxidant fighters.

Antioxidants As The Fountain Of Youth

Our bodies show signs of aging due to the amount of oxidation they experience. Aging may be the result of oxidation to the central nervous system. Over time there will be an increase in age associated diseases which involve the nervous system such as Alzheimer's and Parkinson's disease.

Several studies suggest that foods can reduce the oxidation due to their antioxidant activity. Memory impairment and difficulties in concentration can be reduced with fruit and vegetables high in flavonoid and antioxidants.

Berries And Spinach, The Anti-Aging Formula

James Joseph, Ph.D., lead scientist at the Laboratory of Neuroscience of the USDA Human Nutrition Research Center on Aging at Tufts University found astonishing results with spinach and berries. He found that diets supplemented with either spinach, strawberry or blueberry can prevent declines in motor learning and memory in aged animals. All three supplements; blueberry, strawberry and spinach improved short term memory. Only the blueberry improved balance and coordination.

Blueberries, The Only Food To Reverse Aging.

Age related declines in animals, such as motor deficits, have been shown by Dr. Joseph to be REVERSED but only with a blueberry supplemented diet. This is the first study that showed a food's ability to reverse dysfunction in behavior nerve cells.

FLAVONOIDS-

The Natural Safeguard Against Heart Disease And Cancer

Flavonoids are phytochemicals and strong antioxidants. The process of heart disease is thought to be due to free radical damage. Flavonoids can destroy the two most dangerous types of free radicals. They may be a natural heart disease preventive since flavonoids can also lower blood cholesterol.

One study showed that the highest fruit and vegetable eaters were found to have a 31% lower risk of stroke. The women had almost 6 servings per day and the men about 5 servings. Each additional serving per day cut their risk by 6%. The key components of fruits and vegetables that were responsible for less stroke risks were flavonoids, potassium, folate and fiber which berries have in high amounts.

The Dutch population was examined for their flavonoid intake and incidence of myocardial infarction, MI. The higher dietary flavonoids from tea, the lower the MI. In other studies, there is evidence that tea drinking lowers the risk of heart disease. In animals, tea reduces blood cholesterol and other blood fats. Blueberries may have an equal or greater effect since they have a higher flavonoid content per kg. than tea.

Flavonoids may also guard against cancer. They can interrupt tumor development in animals. The relationship between flavonoids and risk of cancer was studied in almost 10,000 Finnish men and women. The higher intake of flavonoids, showed the lower cases of all cancer. The major food source of flavonoids in the Finnish diet was apples. It is interesting to note that blueberries contain more flavonoids per kg. than apples.

Berries Obstruct Free Radical Damage

A study of berry extracts showed protection against free radicals cell damage. A low concentration of strawberries stopped human cell damage by 54% and a higher concentration inhibited by 84%. Blackberries showed the most effects.

A subclass of flavonoids are quercetin and kaempferol. Kaempferol is found only in strawberries. Quercetin is found in all berries and is one of the most abundant flavonoids.

QUERCETIN-

The blockade For Cancer, Stroke, Cataracts, Virus' and Allergies

Quercetin showed protection against lung, colon, breast, ovarian, endometrial and gastrointestinal cancer .

Quercetin prevents plaque from sticking to arteries and blood clotting. In a study of 552 men followed for 15 years, higher amounts of quercetin showed lower cases of stroke.

Additional benefits of quercetin on human health include defense against cataracts in diabetics, virus' and allergies.

Berries Have The Quercetin and Vitamin C Edge

The antioxidants in quercetin was enhanced by vitamin C. The availability of quercetin can be higher from foods than from supplements because of the synergism with the vitamins. The benefits of quercetin would be best derived from foods such as berries that contain the vitamin C and quercetin combination.

ANTHOCYANINS

Color Your Way To Health

Anthocyanins are part of the flavonoid family. They are the blue violet and red pigments in plants such as blueberries, strawberries and blackberries. The pigment is where the disease fighters are found. Berries are characterized by their bright color and high anthocyanin content.

Dr. Joseph showed that the blueberry diet could reverse age related defects. Even though the spinach diet had an equal amount of antioxidant activity, it was ineffective in reversing aging. The blueberry extract is rich in anthocyanins, visible in its indigo color. Spinach does not contain any anthocyanins. The difference may be in the defensive factors of the anthocyanins.

Anthocyanins are free radical scavengers and antioxidants. They battle against vascular disease, bacteria, virus', cancer, inflammation and allergies.

They increase circulation, improve vision , enhance immune system and promote wound healing. Anthocyanin products are prescribed as medicines in many countries for treatment of various diseases.

Berries Are A Tasty Prescription

Food sources of anthocyanins show promise in providing the same benefits.

Anthocyanins found in raspberries and sweet cherries can reduce inflammation.

Strawberries and blackberries were moderately effective. The salicylic acid in aspirin is found in berries. These fruits may be as effective as drugs in alleviating pain from arthritis and gout.

During storage, anthocyanins in strawberries, raspberries and blueberries actually increase. Strawberry anthocyanin content went up to 6.8 fold when stored at 30 degrees C for 8 days.

ELLAGIC ACID

Get The Ellagic Acid Advantage With Berries

Ellagic acid is a phytochemical that defends the body against cancer. Ellagic acid has been shown to prevent cancers of the lung, skin and liver in animals.

Out of the 26 fruits and nuts that Dr. Stoner from Ohio State University tested for ellagic acid, raspberries, blackberries and strawberries were the top three.

Berries Hinder Cancer

Dr. Gary Stoner tested the ellagic acid in strawberries in animal diets. The diet decreased the tumors in the esophagus. Raspberries have also shown to prevent cancer in animals.

Dr. Stoner also found that berries protected the colon against cancer.

Dr. Larcom, professor at Clemson University in South Carolina found that extracts of blueberry and blackberry can suppress breast cancer growth. Strawberry, blueberry and raspberry contain chemicals that protect against cervical and breast cancer.

-Lisa Bellini Gergley, M.S., R.D.
For Driscoll's Strawberries Associates, Inc.