# Berry Health Benefits Network

California Strawberry Commission OSU Department of Food Science & Technology Oregon Raspberry & Blackberry Commission Oregon Strawberry Commission Washington Red Raspberry Commission



### **Fact Sheets**

## Blackberries | Blueberries | Black Raspberries | Red Raspberries | Strawberries

Scientists have found berries have some of the highest antioxidant levels of any fresh fruits (measured as ORAC), and kale and spinach are the only vegetables with ORAC values as high as fresh, delicious berries. Fresh berries are some of the most powerful (and delicious) disease-fighting foods available.

## **Anthocyanins**

Color pigments in berries that are powerful antioxidants. Blue, purple, and red color has been associated with a lower risk of certain cancers, urinary tract health, memory function, and healthy aging.

#### **Antioxidants**

Substances that protect the body by neutralizing free radicals or unstable oxygen molecules, which can damage the cells and are a major source of disease and aging.

#### **Catechins**

Catechins are flavonols that support the antioxidant defense system. Catechins found in caneberries are very similar to those found in green tea which studies show may contribute to cancer prevention. The catechins content found in 100 grams (about 3 /4 cup) is as follows: red raspberries, .83 milligrams and Evergreen blackberries, 1.4 milligrams.

## **Dietary Fiber**

Found only in plant foods, fiber helps maintain a healthy GI tract, lowers blood cholesterol, reduces heart disease and may prevent certain types of cancers.

## **Ellagic Acid**

A phenolic compound known as a potent anti-carcinogen which has anti-viral and anti-bacterial properties. Scientists feel ellagic acid plays a major roll in cancer prevention and tumor reversal.

#### **Fiber**

A carbohydrate-like substance found only in plants. Dietary fiber helps maintain a healthy gastrointestinal tract and may help prevent certain types of cancers. It can also help to reduce blood cholesterol levels and lower the risk of heart disease.

#### **Gallic Acid**

A potent antioxidant also found in black tea and red wine, shown in tests to inhibit cell proliferation and cell death in prostrate cancer cells.

## **ORAC (Oxygen Radical Absorbance Capacity)**

ORAC (Oxygen Radical Absorbance Capacity) values are a measure of the antioxidant activity. Specifically, it measures the degree and length of time it takes to inhibit the action of an oxidizing agent. Antioxidants inhibit oxidation which is known to have a damaging effect on tissues. Studies now suggest that consuming fruits and vegetables with a high ORAC value may slow the aging process in both body and brain. Antioxidants are shown to work best when combined; the presence of fiber and other plant compounds enhance the health benefit. For this reason, a nutraceutical source is a more viable antioxidant option than that of a dietary supplement. Single servings of fresh or freshly cooked fruits and vegetables supply an average of 600-800 ORAC units. Scientists believe that increasing intake of foods that provide 2000-5000 units per day may be needed to increase serum and tissue antioxidant activity sufficiently to improve health outcomes.

## **Phytochemicals**

Phytochemicals are naturally occurring antioxidants in plants that add flavor, color pigments and scent, and they are abundant in all types of fruits and vegetables, particularly berries.

The pigments that give berries their rich red to blue, black and purple colors are a type of phytochemical that has been shown to have significant disease-fighting, cell-protecting antioxidant capacity.

#### Quercetin

A flavonol that works as both an anti-carcinogen, an antioxidant and protects against cancer and heart disease.

#### Rutin

A bioflavonoid that promotes vascular health, helps to prevent cell proliferation associated with cancer and has anti-inflammatory and anti-allergenic properties.

## Salicylic Acid

The salicylic acid found in Oregon caneberries may prove to have the same protective effect against heart disease as aspirin. Aspirin is a closely related compound know to pharmacists as salicylic acid acetate. The therapeutic successes of small daily doses of aspirin to inhibit atherosclerosis suggest the possibility that salicylic acid consumed in foods may provide a similar benefit. A 100-gram serving (about 3 /4 cup) of red raspberries contains around 5 milligrams of salicylic acid.

#### Vitamin C

A water soluble vitamin that functions as a powerful antioxidant.

#### Source:

Oregon Raspberry & Blackberry Commission

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