

NUTRIENT RICH BELL PEPPER (CAPSICUM)

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Capsicum annuum L. an important part of human diet since 7500 BC. The genus *Capsicum* consists of about 22 species in which five being domesticated *C. annuum*, *C. chinense*, *C. frutescense*, *C. pubescence* and *C. acetum*. Capsicums are colored fruits with different taste and color: Green and purple are more pungent and taste slightly bitter. Red, orange and yellow are milder flavored, sweeter, and pleasant to taste.



The stronger the color of the bell peppers, the higher the concentration level of anti-oxidants. Anti-oxidants protect the body from carcinogenic and toxic substances. Each color of the bell peppers has different phytochemicals and provides nutrients. The fruit has almost the whole range of vitamin B complex (B1, B2, B3, B5, B6 and B9) (Clément Kouassi *et al.*, 2012). Other minerals are potassium, manganese, thiamine, molybdenum, tryptophan, copper, cobalt and zinc.

Peppers are consumed worldwide and their importance has increased gradually to place them among the most consumed spice crops in the world. They are usually consumed as food and used as additives in the food industry. They also have a significant role in traditional therapeutic purposes such as asthma, coughs, sore throats, to relieve toothaches, counter-irritant balm for external application, to alleviate pain, shingles, arthritis, diabetes. The presence of Capsaicin compounds in capsicum has medicinal values (Oyagbemi *et al.*, 2010).



- Red coloured capsicum contains -astaxanthin, lycopene
- Orange coloured capsicum contains -alpha, beta and gamma-carotene
- Purple coloured capsicum contains -anthocyanin
- Yellow coloured capsicum contains -lutein, zeaxanthin

Active Constituents of Capsicum and types

- ❖ **Capsanthin:** Abundant in red bell peppers, capsanthin is a powerful antioxidant responsible for their brilliant red color. Carotenoid may help protect against cancer.

- ❖ **Violaxanthin:** The most common carotenoid antioxidant in yellow bell peppers.
- ❖ **Lutein:** abundant in green bell peppers and black paprika, lutein is absent from ripe bell peppers. Adequate intake of lutein may improve eye health.
- ❖ **Quercetin:** A polyphenol antioxidant found in a wide variety of plants. Beneficial for the prevention of chronic diseases, such as heart disease and cancer.

Green Bell Pepper



Green bell pepper is a tasty and healthy vegetable. This vegetable is low in calories and contains less grams of fat and a good supply vitamins and minerals. Their mildly sweet flavor makes green bell peppers versatile enough to include a wide variety of nutritious recipes.

Purple Bell Pepper

The purple-skinned, with green flesh bell pepper has a sweet, green flavor that is slightly more bitter than Red, Orange or Yellow bell peppers. Low in calories, bell peppers contain no fat or cholesterol.



Red Bell Peppers



Red bell peppers actually start out as green bell peppers. When green bell peppers are allowed more time, they become red and sweet. Along with enhanced flavor, red bell peppers reach peak nutrition quality from this extra ripening time. Vitamin A, in the form of beta carotene, increases up to 11-fold as green bell peppers turn red. Vitamins and minerals naturally found in red bell peppers make them a great choice for lowering blood pressure. The combination of low sodium and high potassium found in red bell peppers makes them a healthy choice for hypertension.

Yellow Bell Pepper

Yellow peppers' includes sweet taste and high vitamin C content. The vitamin is an antioxidant that bolsters the immune system. Vitamin C lower the risk of heart disease and cancers. The vitamin also builds collagen, an important component of healthy skin and cartilage. Because cooking depletes the vitamin C content of foods, raw or lightly sautéed yellow peppers are the healthiest serving options.



Orange Peppers

Orange peppers are high in vitamin C. Bell peppers are high in nutrients and are a good addition to a well-balanced diet. Orange peppers contain only 30 calories and less grams of fat. Orange peppers with carotenoids, lutein and zeaxanthin which protect eyes from age related macular degeneration and cataracts.



Health benefits of capsicum

Anti-bacterial and anti-fungal: The anti-septic properties in capsicum makes it effective in fighting food poisoning and fungal infection problems, like ring-worm, shingles, athlete's foot.

Anti-aging: anti-oxidant in capsicum is highly effective in helping to protect the skin from free radical damage known to cause signs of aging.

Blood clots prevent: Very high content of vitamin C in capsicum makes it very effective in preventing blood clot, thus preventing strokes.

Cancer prevention: Colored capsicums contain very high anti-oxidant and phytonutrients that are especially helpful in preventing cancers of the pancreas and prostate.

Cholesterol: The colorful juices help to reduce cholesterol. The concentrated anti-oxidant fights oxidative stress thereby oxidizing the LDLs in blood. It retards the development of atherosclerosis (hardening of the arteries) and lower blood pressure.

Digestive system: Capsicum is a stimulant herb. It helps relieve gastrointestinal problems like indigestion, colic, dyspepsia, and help to reduce excessive flatulence.

Immune system: The strong content of vitamin C stimulates white cells to fight infection, naturally building a good immune system.

Metabolism, enhanced: Increases body metabolism by lowering triglycerides which are stored in our body fats. This helps to burn calories more effectively.

Optical system: The high vitamin C and beta-carotene makes capsicum especially beneficial in preventing eye problems like astigmatism, cataracts and macular degeneration.

Pain relief: Capsaicin in capsicum blocks transmission of pain, so it can help relieve pain to a certain degree. It is also effective for eliminating headaches and migraines.

Respiratory problems: The high level of vitamin C coupled with flavonoids make capsicum a very good food that helps prevent respiratory problems like asthma, emphysema, wheezing, lung infections, etc.

Sore throat: Gargling capsicum juice help to eliminate a sore throat.

Precautions: When eaten in moderation, bell peppers do not have any adverse health effects.

The contribution of *Capsicum annuum* L. in ethanomedicinal use provide an important role in different diseases and paves a dynamic role in the research field of medicine.

REFERENCES

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