

Broccoli

1. **Look up the definition for phytochemicals. Identify three important phytochemicals found in fruits and vegetables. What are their roles in maintaining a healthy body?**

Primary-level response:

Phytochemicals are sometimes called phytonutrients. They are found in fruits and vegetables and may help prevent you from getting certain diseases. Fruits and vegetables that are bright in color generally have the most phytochemicals, so eat a variety of colorful fruits and vegetables every day. There are many phytochemicals. Some examples include isoflavonoids, flavonoids, and carotenoids.

Secondary-level response:

Phytochemicals, or phytonutrients, are plant compounds that contain protective, disease-preventing properties. They have antioxidant effects and help boost enzymes that detoxify carcinogens. More than 900 different phytochemicals have been identified as components of food. Three found in fruits and vegetables are beta-carotene (examples of food sources are carrots and sweet potatoes), lycopene (one source is tomatoes), and anthocyanin (one source is blueberries). Fruits and vegetables that are bright in color generally have the most phytochemicals.

2. **Broccoli contains natural sodium. What is the benefit of natural sodium? What is the difference between natural sodium and table salt (sodium chloride)?**

Primary-level response:

Sodium helps our bodies accomplish certain functions we need to survive. Our bodies need sodium to help maintain our cells, send messages to our nerves, and help our muscles relax, including our hearts. We get sodium from table salt and processed foods. It also occurs naturally in some foods. Natural salt lacks certain elements we get from table salt. If you only consumed natural salt, it would not allow our bodies to perform much needed functions (listed above).

Secondary-level response:

Some of the most basic work our bodies do depend on sodium: maintaining proper fluid balance; controlling the movement of fluids in and out of cells; regulating blood pressure; transmitting nerve impulse; and helping muscles relax, including the heart muscle.

Salt is 40% sodium (Na) and 60% chloride (Cl). The difference between natural sodium and table salt is that unrefined rock salt lacks many of the trace elements normally found in table salt, making it a poor substitute as an exclusive salt source. The deleterious health effects of exclusive use of rock salt are similar to the effects of total lack of salt in one's diet. Today, table salt is universally accessible, relatively cheap, and iodized.

3. What does the dark green color of broccoli indicate?

Primary-level response:

The dark green color indicates high nutrient value.

Secondary-level response:

Green color indicates high nutrient values that provide important health benefits and may help fight certain diseases.

4. How does plant spacing affect broccoli during growth?

Primary/Secondary-level response:

Broccoli plants grow upright, often reaching a height of 2 1/2 feet. There should be 12 to 24 inches in between each broccoli plant and 18 to 36 inches between rows. This will allow them to grow properly.

5. What are the top three commercial broccoli-producing counties in California?

Primary/Secondary-level response:

Monterey, San Luis Obispo, and Santa Barbara.

6. What are the various forms in which broccoli is processed and sold?

Primary/Secondary-level response:

Broccoli is processed and sold frozen, as soups, baby food, in vegetable melodies (frozen and canned), and as flowerets in pre-packaged bags.

Sources:

www.fruitsandveggiesmatter.gov/month/broccoli.html

www.cfaitc.org

<http://urbanext.illinois.edu/veggies/broccoli.cfm>

Updated: April 2011