

## October 2018 Health Notes by Evelyn Ames

### Cooking Enhances Nutritional Value of Several Vegetables

In a nut shell, so to speak, several vegetables are more nutritious when cooked compared to when eating them raw. Cooking is crucial to our diets as it helps us digest and soften food such as cellulose fiber. For example, cooking boosts the amount of cis-lycopene in tomatoes by about 30 plus percent. Heat breaks down the plants' thick cell walls and aids the body's uptake of some tomato nutrients that are bound to those cell walls. Intake of higher levels of lycopene (red pigment found predominantly in tomatoes and fruits such as red bell peppers, watermelon and papaya) has been suggested to lower the risk of cancer and heart attacks.

Many of us like to nibble on raw carrots, especially as appetizers at our informal dining forays. But, cooked carrots, as well as cooked spinach, mushrooms, asparagus, cabbage, kale, and peppers supply more antioxidants, such as carotenoids and ferulic acid, to the body than they do when raw. The suggested method of cooking is boiling and steaming rather than frying. Boiling or steaming better preserves antioxidants, particularly carotenoid, in carrots, zucchini and broccoli.

Some specifics from the USDA Nutrient Data Laboratory:

- Kale and spinach show an increase in certain nutrients when cooked. Cooked kale has 2.5 grams of protein, 0.52 grams of fat and 2.6 grams of fiber. Raw kale has similar protein and fat content but only half the fiber. Other nutrients that increase in cooked kale include vitamins A, K and beta-carotene.
- Spinach's protein content increases from 0.86 grams for 1 cup of raw spinach to 5.4 grams per cooked cup. Minerals that are more concentrated in cooked spinach include calcium, iron, magnesium and potassium, and vitamins that increase in cooked spinach include vitamin C, vitamin A, folate, beta-carotene and lutein.
- Zucchini, carrots and broccoli may provide more vital antioxidants when boiled or steamed. Cooked carrots contain more vitamin A, lutein and vitamin K than do raw carrots.
- One-cup serving of cooked broccoli has more lycopene, vitamin A and folate than raw broccoli and a cup of cooked zucchini provides more calcium, potassium, vitamin A, beta-carotene and vitamin K than raw zucchini does.
- Onions have an increase in some nutrients when cooked. One cup of cooked onions has 1 gram more protein than raw onions, a higher concentration of both calcium and selenium, and more choline, lutein and vitamin K than 1 cup of raw onions. Choline acts to help cell membranes move nutrients through the body and plays a role in reducing inflammation. Lutein, a phytochemical, aids vision and retina health.

Interesting fact about lycopene is that it is better absorbed with a little fat. When cooking with tomatoes, consider drizzling a little olive oil into or onto the tomatoes. Bon Appetit!

<https://www.scientificamerican.com/article/raw-veggies-are-healthier/> Journal of Agriculture and Food Chemistry US Dept. of Agriculture. <https://www.livestrong.com/article/536645-vegetables-that-should-be-cooked-to-maximize-their-nutrients>