

## Plant-Based Nutrition and Lifestyle



### **Is eating raw vegetables nutritionally healthier than cooked vegetables?**

You might have heard or read about this comparison. Most raw vegetable 'purist' and some nutrition experts will tell you it is healthier to eat raw vegetables because they believe that cooking vegetables destroys the vitamins and nutrients in raw foods. Is that really true? Some recent nutrition studies say no. One study published in *The British Journal of Nutrition*<sup>1</sup> (2008) found that cooked vegetables can be just as nutritious as raw veggies and some are even more nutritious than uncooked ones depending on how they are cooked.

In the study the researchers cooked a variety of vegetables. They first steamed, stir fried, micro waved the vegetables for 2-4 minutes and found there was no significant nutrient loss. Then the vegetables were boiled for 30 minutes and showed there was significant nutrient loss, most of nutrients were found in the water. So, boiling vegetables may not be the best option in cooking some vegetables.

And in another study, researchers found that people eating an all-raw diet had low levels of lycopene<sup>2</sup>. The study found that a group of 198 subjects who followed a strict (95%) raw food diet had normal levels of vitamin A and relatively high levels of beta-carotene (an antioxidant found in dark green and yellow fruits and vegetables), but low levels of other nutrients, such as lycopene (a potent antioxidant found in tomatoes).

Lycopene is a red pigment found predominantly in tomatoes and other rosy fruits such as watermelon, pink guava, red bell pepper and papaya. Several studies conducted in recent years (at Harvard Medical School, among others) have linked high intake of lycopene with a lower risk of cancer and heart attacks. Rui Hai Liu, an associate professor of food science at Cornell University who has researched lycopene, says that "it may be an even more potent antioxidant than vitamin C".

Studies have also suggested that cooking actually boosts the antioxidant content of vegetables. It's well established that cooking can increase beta-carotene levels, a

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nutrient which we use to make Vitamin A<sup>3</sup>. Studies have also found that we only absorb 1-2% of the beta-carotene in vegetables like carrots, but cooking can raise the level we can absorb to over 75%<sup>4</sup>. And while cooking Broccoli damages the enzyme myrosinase, which breaks down glucosinates (compounds derived from glucose and an amino acid) into a compound known as sulforophane, a nutrient linked to anti-cancerous activity, it increases the folate availability<sup>5</sup>. In this case broccoli is healthier raw rather than cooked.

### Why is cooking vegetables good?

Cooking breaks down compounds in plants our body has trouble digesting like cellulose, a complex carbohydrate (polysaccharide). Cooking makes food easier to digest and makes nutrients more available to our digestive system. Despite the fact that humans can't digest cellulose, because we (humans) lack the digestive enzymes to digest them, it's still an important part of a healthy diet. The cellulose fibers from vegetables and grains pass through our digestive system basically unchanged, called dietary fiber or roughage, which helps cleanse or scrub our intestines, keeps the intestines healthy and results in healthy bowel movements.

### Conclusion

It's better to have a good mix of raw and cooked veggies in your diet. That way you get the best of both worlds. The key thing is not to presume that cooked vegetables are nutritionally poor, because they're not. They're also packed with vitamins and minerals, and some of them you can't get as easily by eating the uncooked versions. That's why it is important you eat lots of fruits and vegetables to have a healthy balance. So if you don't like to eat certain vegetables raw, cook them – it is better you eat them cooked than not eat them at all, no matter how many of the nutrients cooking might destroy. And it doesn't really matter whether you cook them or not, as long as you're eating your full servings of greens, reds, and yellows every day. You'll get the nutrients you need either way!

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## References:

1. Miglio, C., et al. (2008). "Effects of Different Cooking Methods on Nutritional and Physicochemical Characteristics of Selected Vegetables" *Journal of Agricultural and Food Chemistry* 56(1), 139-147.
2. Garcia, A.L., et al. (2008). "Long-term strict raw food diet is associated with favourable plasma  $\beta$ -carotene and low plasma lycopene concentrations in Germans." *British Journal of Nutrition* 99, 1293-1300.
3. Talcott, S. T., L. R. Howard, and C. H. Brenes (2000). "Antioxidant Changes and Sensory Properties of Carrot Puree Processed with and without Periderm Tissue." *Journal of Agricultural and Food Chemistry* 48(4), 1315-1321.
4. Erdman, et al. (1993). "Absorption and transport of carotenoids." *Annual NY Academy of Sciences* 691, 76-85.
5. Clifford A.J., et al. (1990). "Bioavailability of folates in selected foods incorporated into amino acid-based diets fed to rats." *Journal of Nutrition* 120(12), 1640-1647.

## Articles:

Finding the Best Way to Cook All Those Vegetables, Tara Parker-Pope, May 20, 2008.

How to Cook Vegetables without Losing Their Vitamins and Nutrients, Kristie Leong, M.D., May 22, 2007