

How You Cook Your Veggies?

Veggies are great foodstuff for our daily diet. They protect our microbiota and also immune system within their vitamins and minerals. Although they have many benefits for our lives, some people refuse to eat veggies. Maybe you pinch your nose and force them down. Or are you on the other side of the spectrum, enjoying every leaf and stem, wishing you could get even more out of every bite?

No matter your preference, today given some advice on how to cook veggies to take pleasure in eating veggies and avoid nutrient loss.

How to Making Them Taste Good

Broccoli, cauliflower, cabbage, kale, spinach, brussels sprouts which are known as Brassica vegetables are common staple greens in most cultures. Brassicas, also known as mustard greens, are typically low in sugar and high in sulfur which explains their bitter flavor. Boiling extracts the water soluble sulfur which is why broccoli, kale, or whatever your preference isn't as bitter when boiled. This is a missed opportunity however because low sugar content means brassica take longer to burn and need more time/heat for caramelization

Caramelization is the oxidation of sugar. It's responsible for the sweet nutty flavor you taste in browned vegetables or other sugary foods. Through a series of non-enzymic chemical reactions sugars are converted by heat into caramel, making the dish sweeter. Caramelization requires heat, time, and sugar. Caramelization of most vegetables requires roughly 230F or 110 degrees Celsius which means under normal conditions caramelization cannot happen via boiling or steaming, as the maximum heat retention of water is 100 degrees Celsius. This can change due to pressure or dissolved solutes. All of this is to say that you'll require a "dry heat" cooking method such as roasting or frying in order to get the most flavor out of your vegetables.

Salt is a well known flavor enhancer. It does this by interacting with all five flavor receptors (salt, sweet, sour, bitter, umami) and altering their activity. Salt blocks bitter taste receptors making bitter flavors left over from the cooking process more palatable.

How to Minimizing Nutrient Loss

Cooking is a type of chemical reaction. It can change nutrient composition of food in different ways depending on the cooking method or nutrient in question. Things to consider are:

- Heat stability
- Nutrient solubility (water or fat)

The heat stability of vitamin C and to a lesser extent A can be a concern depending on how hot, and how long you're cooking your vegetables.

Vitamin A loss is mainly a threat when cooking for a particularly lengthy period of time and in fact moderate cooking times increase b-carotene availability. Moderate being defined here as enough cooking to soften the vegetable's texture, but not burn it. Vitamin C on the other hand is much more delicate and prone to loss from heat. Vitamin C can be quickly lost at temperatures below boiling, although the exact temperature and time depends on the vegetable, preparation method, etc.

Vitamins, based on solubility, may be leached of into their cooking medium. So water soluble vitamins (C and B) are at risk when boiling. Research shows there is a large range in the potential percentage leaching of water soluble vitamins into cooking water from the vegetable. Leached vitamins don't simply disappear when they enter cooking water, they're still in there and assuming you plan on using the water for something like soup you'll still receive their full benefit.

Fat soluble vitamins (A, D, E, and K) come with their own complexities. Fat is required for their absorption and storage in the body. This means vegetables should be paired with fats when cooking or serving since they're typically low in fat themselves. Cooking vegetables in oil or serving them with higher fat foods has been shown to increase absorption of fat soluble vitamins.

So Which Way Is The Best?

With all this information in mind we can confer that to get the best flavor and most nutrients out of your veggies, specifically brassicas, they should be roasted or stir fried in oil and lightly salted; unless you're preparing soup in which case the more vegetables you can boil in the stock the more nutritious the broth will be.