Dear Alice,

If I simmer or boil vegetables in water until they are soft when making soups that have vegetables as ingredients, is any of the nutrient content of the vegetables broken down and lost for good, or does it merely move out of the vegetables into the water? In that case, since you eat the broth when you eat the soup, you would be getting all of the nutrients of the vegetables from the broth. I'm confused about this. Please help.

Answer

Dear Reader,

Kudos to you for thinking about maximizing your nutrient intake! Vegetables are a wonderful source of vitamins, minerals, and other nutrients that help people stay healthy. In the case of soup or boiled vegetables, some of the nutrients are lost into the water, so it could be good to use it as a broth or save it for another dish. In general, almost all vegetables are altered in some way before making it to the dinner plate, through processes including harvesting and cooking. While some vitamins and nutrients are more stable than others, depending on the type of vegetable and cooking method it's possible that some nutrient content may change (increase or decrease, depending on the vegetable and cooking method). That being said, eating raw vegetables isn't always desirable, and if cooking them is the best way to make sure they get eaten, then that's the way to go! Read on for more information about how to retain your fruit and veggie nutrients.

To boil this down a bit further, most food is processed before it ever reaches your kitchen, which could affect the nutrient content from the start. For instance, crops grown using nitrogen-containing fertilizer may have less vitamin C than those grown in other types of fertilizer. Additionally, many vegetables hold vitamins and minerals in the skin or close to the vegetable's surface so the vegetables that are peeled or trimmed before packaging may lose some of their nutrient content. This isn't to say using certain fertilizers or removing the skin is all bad. These processes help destroy bacteria, improve digestion of the vegetables, and make the food more palatable, which encourages greater veggie consumption.

When it comes to cooking vegetables, a worthwhile point to reiterate is the nutrient content that
makes its way into your stomach varies greatly depending on the type of vegetable and cooking method used. One study showed that microwaving, compared to other methods of cooking including boiling and steaming, removed the highest amount of vitamin K, but the least amount of vitamin C from a variety of vegetables. Furthermore, certain cooking methods, such as steaming, may be better for nutrient retention of one type of vegetable, including broccoli, and worse for another, such as sweet potatoes. To your question, boiling your vegetables may cause some of the nutrient content, especially water-soluble vitamins including vitamins B and C, to leach into the surrounding water. Fortunately, using that water (or broth) in a soup or a gravy can, in fact, be a way of saving those nutrients and putting them to good use. If you’re looking to retain as many of the nutrients as possible, consider other methods such as steaming, roasting, or microwaving, depending on the vegetable in question.

Other strategies to maximize your nutrient content include storing the produce based on what’s indicated on the package label. If the package calls for the vegetable to be stored in the refrigerator, you might try placing it in the crisper section to keep it fresh. If you’re one to remove the outer layer of vegetables, consider washing or scrubbing the vegetable instead since there are nutrients near the surface. Similarly, when preparing lettuce or cabbage, try to use the outer leaves unless they’re wilted or look unpalatable. Because vegetables react differently based on cooking method, it’s good to mix in fresh and raw ingredients when possible. And if you do cook your veggies, it’s best to do so quickly to keep as much of the nutrients as possible.

All that being said, regardless of how you choose to prepare your vegetables, all those greens (yellows, reds, oranges, etc.) have many health benefits, such as reducing blood pressure, among others. Moreover, the Academy of Nutrition and Dietetics recommends that you consume at least three to five servings of vegetables every day, so it’s a good idea to continue varying your food preparation whenever possible.

If you want more information on the nutrient content of various raw vegetable, check out the U.S. Food and Drug Administration Raw Vegetables [2] website. You may find some new veggies to add to your soup. Bon appetit!

Alice!

Related questions

Ooh, baby, I like it raw (or, is a raw diet healthy?) [7]
Nutritional differences between canned, frozen, and fresh veggies? [8]
Antioxidants [9]

Resources

Columbia Health Nutrition Services (Morningside) [10]