

FRESH OR FROZEN FRUIT & VEGETABLES



Relying on a mix of fresh and frozen can help you get your five-to-nine daily servings of fruits and vegetables.

The carbohydrate, protein, fiber, and mineral content do not differ much between fresh or frozen fruits and vegetables. But vitamins and beneficial plant-derived chemicals (phytonutrients) may be lost when produce sits on the supermarket shelf or in your refrigerator before being eaten. That means unless you buy fruits and vegetables harvested locally—and recently—the ones you eat may contain fewer vitamins and phytonutrients than you think.

The good news is that frozen fruits and vegetables have plenty of nutritional value. The choice between fresh and frozen requires you to weigh price and convenience as well as nutrient value.

"Frozen is a great, healthy alternative to fresh, especially if your fresh produce isn't so fresh anymore," says Dr. Michelle Hauser, a clinical fellow in medicine at Harvard Medical School and a certified chef and nutrition educator. "But if freshly picked produce is easy for you to come by, then it may be slightly higher in nutrients than its frozen counterparts."

It's also good to remember that your body needs fairly small amounts of essential nutrients for good health. If you are eating a variety of fruits and vegetables daily, chances are you will get what you need whether you buy fresh, frozen, or some combination of the two.

Fresh or frozen: What's the difference?

How do fresh and frozen produce stack up in terms of nutritional content? Here is what researchers at the University of California-Davis found:

- The carbohydrate, protein, fiber, and mineral content are similar between fresh and frozen.
- Fresh produce can lose half of its vitamins and phytonutrients during storage or cooking.
- Fewer of the fat-soluble vitamins A and E are lost in the frozen packaging process compared with water-soluble vitamins like C.
- Frozen produce may contain more vitamins and phytonutrients than days-old fresh items, though additional cooking and storage after defrosting may close that gap.

What is fresh?

How fresh is your produce? It's in the eye of the beholder. "Clearly, wilted lettuce and peppers with soft spots on them at a supermarket are much less fresh than picked-this-morning fruits and veggies from the farmer's market,"

But even produce that looks fresh and unblemished in the store may have been picked unripe so it could be stored for months and shipped with minimal damage. Before it got to the grocery shelf, it may have been speed-ripened artificially. As a result, it may be less nutritious than naturally matured fruits and vegetables.

For example, the B and C vitamins in fruits and vegetables are highly sensitive to heat, light, and exposure to oxygen. Within a week of refrigerated storage, carrots can lose close to 80% of their vitamin C.

The alternatives to fresh produce come in a bag, box, or can:

Frozen. The produce is picked ripe, sometimes blanched minimally in hot water, and frozen by a processor in or near the fields. This helps to preserve its nutritional value. Interestingly, some frozen produce may be enhanced with vitamin C during the packaging process to prevent browning. So you may end up getting more of this vitamin than you get from fresh produce.

Canned. The produce is picked ripe. It's cooked a bit more than frozen produce is. Many canned vegetables have added salt as a preservative, and canned fruit may come in sugary syrup laced with various additives. Removing the skin can reduce mineral content of canned produce. The chemistry of the water used in processing also affects mineral content.

What should you eat?

People make food choices for complex reasons. For you, taste, price, and convenience may trump perceived nutritional value. But there's no doubt that for taste and nutrient quality, you can't beat recently fresh-picked local produce. Whole, unrefined plant foods are the foundation of any healthy diet.

On the other hand, if fresh produce is unavailable, inconvenient, out of season, or beyond your budget, frozen products provide plenty of nutrition. When all else fails, cracking open a can of peas never hurt anyone—unless you cut your thumb in the process. Just watch the sodium content.

*Dean Verhoeff, Nutritionist
Lead Superintendent*