

Boil Your Unpeeled Carrots for Maximum Nutrition

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STORY AT-A-GLANCE

- › One of the best examples of how crucial it is to cook carrots correctly is that it boosts their cancer-fighting capabilities by 25% due to a compound called falcarinol
- › Carrots contain high amounts of carotenoids, which are converted into vitamin A in your body, helping improve your eyesight and more
- › Scientists say carrots release the most nutrients when they're boiled whole, without being peeled, shredded or grated first
- › Most people identify them as being orange, but they actually come in a variety of colors, such as purple, red, yellow, white and even black

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There are astonishing arrays of vegetables in the world of every shape and color, each representing an amazing commodity. It's incredible that you can put seeds in the ground, give them adequate sunlight and water, and in a matter of weeks or a few months, you have instant food, which your body needs to thrive.

Vegetables contain vitamins, minerals, nutrients and phytonutrients, such as antioxidants, sulforaphane, isothiocyanates, anthocyanins, carotenoids and a host of other beneficial compounds to provide energy, help your body fight disease, increase your immune function and perform a myriad of other tasks.

Carrots, one of the sweetest vegetables, are also one of the most popular plant-based foods. They're unique for several reasons, but perhaps one of their most important calling cards is beta-carotene, which can't be manufactured in your body, so it needs to come from your diet. In the days of the Romans and Greeks, carrots were believed to be an aphrodisiac, which may be why they purportedly were used more as a "medicine" than a food.

Here's another interesting theory: Daily Mail reports that the first carrots weren't the orange we're used to seeing today, but were developed to have an orange color as a political tribute to the Dutch House of Orange.¹

Many of the earliest Dutch citizens were involved in agriculture, and many were known to grow carrots, but up to the late 1500s carrots were usually purple, green, white and even black. In the 17th century, when the Dutch Republic was formed, carrots with high amounts of orange-hued beta-carotene were cultivated, and they caught on.²

Nutrients in Carrots

If you've noticed that "carotene" sounds like "carrot," there's a reason. The word came from the Nobel prize-winning German scientist Richard Kuhn,³ who crystallized the carotene compound from carrot roots. Beta-carotene is just one of more than 600 carotenoids, responsible for the pigment in colorful foods like [dark leafy greens](#), [tomatoes](#), egg yolks, fruits and salmon (the most healthy option being [wild-caught Alaskan salmon](#)).

Carrots contain higher levels of beta-carotene than any other vegetable or fruit. The reason that's significant is because beta-carotene gives (some) carrots their distinctive orange color, but also converts in your body to vitamin A, which is very good for your vision. You may have heard your mother say eating your carrots would be good for your eyesight, and it happens to be true.

Numerous minerals "up" the health aspects of carrots, such as calcium, phosphorus and magnesium, to help build strong bones and a healthy nervous system.

Calcium is essential for healthy heart muscles; phosphorus is helpful for softening skin and strengthening teeth, hair and bones, while magnesium plays a role in absorbing nutrients, mental development and fat digestion. Carrot consumption is also good for body-beneficial potassium, vitamins C and B6, copper, thiamine and folate. **Fiber** is another benefit, which helps move food through your system for easier elimination and better health overall.

How to Extract the Most Nutrition From Your Carrots

Most people assume eating carrots raw is the way to get the most nutrition,⁴ but science reveals that's not always the case. It turns out that cooking carrots whole, skin intact, without chopping, slicing, grating, shredding or peeling them, is the best way to obtain the most nutrients when they're eaten (although you should scrub them first to remove surface dirt).

Once they're cooked, they can be chopped in the manner you desire. Just before serving, add a little coconut oil and grass fed butter for the highest nutrition.

Researchers also maintain that boiling carrots in their unchopped state makes them taste better.⁵ Nearly 100 volunteers took the taste test, and 80% of them came to that conclusion. Independent nutritionist Carrie Ruxton wondered if the same benefits might come from vegetables belonging to the carrot family with a similar size and texture, such as parsnips.

In 2013, Dr. Kirsten Brandt found in an animal study⁶ that when rats were fed **carrots** or isolated falcarinol, they were a third less likely to develop full-scale tumors than the others.

In 2016, Brandt and colleague Ahlam Rashed, from Newcastle University's School of Agriculture, Food and Rural Development, concluded from another study⁷ that carrots boiled before being cut contained 25% more falcarinol, and as a result, 25% more cancer-fighting capabilities, than those chopped beforehand. Daily Mail reported:⁸

"Cut carrots have a higher surface area in contact with the water, resulting in greater loss of nutrients compared with boiling them whole. The heat softens the cell walls in the vegetable, allowing vitamins and falcarinol to leach out. Dr. Brandt said: 'The great thing about this is it's a simple way for people to increase their uptake of a compound we know is good for you. All you need is a bigger saucepan.'"

Different Veggies Require Different Preparation Methods

Different preparation methods are used on different veggies to get the most nutrition. Rodale's Organic Life asserts:⁹

"Cooking vegetables helps to soften their tough fibrous exteriors and loosen up all the nutritional good stuff that lies inside. In fact, some vegetables, such as tomatoes, are actually more healthful if you eat them cooked, because the process of cooking them boosts their level of the potent antioxidant lycopene.

The only problem is, not all cooking methods are the same. Some boost nutrient content; some take it away. Some add unwanted fat, while others add the crucial amount for your body to absorb all the nutrients in vegetables."

Broccoli is best steamed for three or four minutes to release the maximum amount of its most beneficial nutrient – **sulforaphane** – in a process that eliminates epithiospecifier protein, which is heat-sensitive and destroys the sulfur. Steaming it briefly also retains the enzyme myrosinase, the agent that converts glucoraphanin to sulforaphane. Further, boiling your broccoli (or microwaving it) eliminates the desirable myrosinase.

Safe Cooking Options to Retain Nutrients

What are some other healthy ways to cook veggies? Griddles or frying pans are one way – if it's stainless steel, titanium, ceramic, glass or enamel. When you use nontoxic pots and pans, most vegetables not only retain the valuable, good-for-you compounds but

also make it easy to observe in the process. Rodale's Organic Life¹⁰ lists several common methods of preparing veggies, starting with baking:¹¹

"Baking, or roasting, is hit or miss. Based on the study results, bake your artichokes, asparagus, broccoli and peppers, all of which retained their antioxidant values, but not your carrots, Brussels sprouts, leeks, cauliflower, peas, zucchini, onions, beans, celery, beets and garlic, which all saw decreases in nutrient levels.

Where baking really shines is with green beans, eggplant, corn, Swiss chard and spinach, all of which saw their antioxidant levels increase after baking. Toss a handful of those veggies into your next casserole."

- **Steaming** – Some scientists say tossing veggies with a little oil, such as coconut oil, butter or ghee, used after the heating is finished, helps boost nutrient absorption.
- **Sautéing** – For some reason, studies don't seem to recommend sautéing, but it's interesting to note that this is the preferred method used by The George Mateljan Foundation, a not-for-profit dedicated to helping people cook and eat for optimal health. In fact, the site notes that it "produces a much richer flavor."¹²
- **Boiling** – It only makes sense that if you cover your veggies with water and boil them, many, if not most, of the nutrition will dissipate. Peas, cauliflower and zucchini, in particular, lose much of what they offer. If you must boil your vegetables, save the nutrient-rich water to use for soup or sauce. Carrots, as previously mentioned, are an exception to this rule.
- **Frying** – This cooking method is, not surprisingly, the one that fails the test in terms of retaining antioxidants and other nutritive advantages in cooked food. Frying is said to be responsible for food losing between 5% and 50% of each vegetable's nutrients.

Caveats (Like Carcinogens) to Circumvent When Cooking

Another important caveat: When you want to eat something healthy on one hand and nontoxic on the other, make sure your griddle, skillet, roaster, saucepan or any other tool you use for heating does not have a **nonstick chemical coating**. It's a toxin looking for a place to happen.

These nonstick options, used since the 1940s, may make cooking convenient, but the bits that peel off over time eventually get into your food and into your system, as well as release toxic fumes when heated to high temperatures. The American Cancer Society notes:¹³

"Perfluorooctanoic acid (PFOA), also known as C8, is another man-made chemical (known as fluorotelomers) ... (with) the potential to be a health concern because it can stay in the environment and in the human body for long periods of time. Studies have found that it is present worldwide at very low levels in just about everyone's blood."

Additionally, many food manufacturers recommend microwaving for convenience, even packaging foods in plastic bags or containers that can be popped into the microwave for "no muss and no fuss." But there are many problems and potential problems with microwave use: Vital nutrients might be lost, antibodies degraded, protein chemistry altered and white blood cells impaired due to thermic effects. Microwaving may also have detrimental effects on your heart.

The second problem is that many people use **plastic in microwaves**, which may cause the chemicals they contain to leach into your food. That's not all: There are two other things to pay attention to regarding the oils you use for cooking, as some have much higher smoke points than others. Coconut oil and butter are safe fats to use that are also very healthy for you.

The second thing to watch is the temperatures you use when you cook. Be aware that when the heat is too high, it can destroy nutrients and even create the formation of harmful (aka carcinogenic) substances. As in everything else, especially nowadays, it seems, when it comes to the foods you eat, researching as much as possible is only prudent.

Carrot Color Makes a Difference

As mentioned earlier, carrots once came in a rainbow of colors and weren't cultivated to be orange until much later. Adventurous gardeners and horticulturalists are getting into their roots, though, so to speak, and resurrecting carrot colors that are every bit as nutritious, just in different ways. You may have seen some of these colors at local farmers markets, if not in your neighborhood grocery store.

In the cultivation process, scientists have also been exploring ways to breed more nutrients into these many-colored carrots, while at the same time attempting to get consumers more interested.

There have been eye rolls, however, says Philipp Simon, plant geneticist in the horticulture department at the USDA's College of Agricultural & Life Sciences in the University of Wisconsin. He and his team have been looking to develop carrot varieties that are unusual in hue but still acceptable to people used to buying orange, while still tasting good and offering health benefits. Healthland,¹⁴ Time's food segment, lists the nutritional aspects different carrot hues offer:

- **Red** – Lycopene and beta-carotene pigment, linked to a lower risk of certain cancers, including prostate cancer
- **Yellow** – **Xanthophylls** and lutein are associated with cancer prevention and eye health
- **Orange** – Beta- and alpha-carotene pigment provides vitamin A
- **White** – Mild, with high fiber content
- **Purple** – Anthocyanin, beta- and alpha-carotenes may provide extra vitamin A for heart disease protection; have a sweeter and sometimes "peppery" flavor

Healthland adds:¹⁵

"Thanks to Simon's efforts, carrots today have about 75% more beta-carotene (a pigment used by the body to make vitamin A) than the carrots available 25 years ago. His team at the University of Wisconsin partners with USDA's

Agricultural Research Service, which supports scientists working on ways to improve Americans' nutritional intake."

Sources and References

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