

[IMAGE]

## It's All In The Preparation

By Julie Engebretson

If you're reading this, you probably already understand the importance of working a variety of vegetables and fruits into your daily diet. You may even know certain vegetables and fruits have been shown to stave off a battery of diseases, including type 2 diabetes, heart disease, Alzheimer's and several types of cancer. But did you know that the way in which your produce is processed or cooked may impact the amount of nutrition you're getting?

Despite a booming vitamin and dietary supplement industry, nothing beats the nutrients contained in fruits and vegetables. Each bite contains a wide variety of nutrients - some of which may work best synergistically (i.e., combined within the whole food) rather than alone, in pill form. This is especially true with dark, green leafy vegetables, such as spinach or broccoli, and bright orange vegetables, such as carrots or yams. In addition to vitamins and minerals, vegetables also contain compounds called phytochemicals, which provide additional health benefits.

Phytochemicals are produced naturally in plants and protect against harmful bacteria and viruses. Long researched for their health-promoting qualities, it is believed that several named phytochemicals - such as lutein, lycopene, carotenoids, flavonoids and isoflavones - may help protect consumers against a number of chronic health conditions.

Vegetables clipped to a clothesline. - Copyright © Stock Photo / Register Mark The nutrients and phytochemicals found in plants and vegetables - especially those rich in color - help keep the body youthful, strong, and physically and mentally fit. While maintaining a diet packed with plenty of vegetables, fruit, low-fat protein and whole grains is a no-brainer, there may be more to the story. This article is intended to provide some helpful hints and basic guidelines to help you and your family absorb - literally - the greatest possible amount of nutrition from every morsel.

**FRESH, FROZEN OR CANNED?** If you're anything like the roughly 70 percent of Americans who are not meeting their recommended fruit & veggie goals, you aren't reaping all the benefits these miracle foods have to offer. You don't have to be a farmer or a grower's market junkie to get your five a day: Frozen and

canned vegetables still count toward your goal.

It's a common misconception that all processed produce is completely depleted of nutrition. The widely held impression is that fresh food is invariably better for you than frozen because fresh food (provided it has not been overcooked) retains most of its chemical and nutritional content. Canned foods are notorious for higher sodium and sugar content, and frozen meals are known for the preservatives they often require. It also may *seem* common sense that food processed a year ago must be far less nutritious. But the truth may surprise you.

**HOW FRESH IS *FRESH*?** While it is widely accepted that fresh fruits and vegetables contain the most nutrients, it is important to remember that fresh produce is often transported over long distances and then left to sit on your grocer's shelf. The time that lapses between fresh-picked and purchased can cause once-fresh fruits and vegetables to lose some of their nutritional value as they are exposed to light and air.

Frozen or canned produce, on the other hand, is generally packaged on site, immediately after harvesting, when nutrient levels are at their highest. According to the United States Food and Drug Administration (FDA), the nutrients in fruits and vegetables are, for the most part, kept intact during canning or freezing, meaning that fresh, frozen or canned versions of the same food have relatively equal nutrient profiles.

The nutrients in produce remain largely intact regardless of how they are processed. The lycopene in tomatoes, for example, can be found in fresh tomatoes, canned tomatoes, spaghetti sauce and frozen pizza sauce.

An analysis of canned, fresh, and frozen fruits and vegetables, conducted in 1995 by the University of Illinois Department of Food Science and Human Nutrition, confirmed encouraging findings about canned foods, including the following:

- Fiber content is as high in canned products as in their fresh counterparts.
- Folate (folic acid, an essential B vitamin), vitamin C, vitamin A, potassium, thiamin and carotenoids all hold up well during canning. In some cases (pumpkins, for example), vitamin A levels are actually higher in the canned versus fresh product. Some analyses also show that the nutrient value of lycopene is increased when consumed after it is heated or canned.
- The nutrient value of meats and other proteins also are unaltered by the canning process.

- The canning process actually may increase calcium levels in fish as compared to the freshly cooked variety.

Judging from research, a healthy five fruits and/or vegetables a day shouldn't be hard to come by with the convenience of frozen and canned options. These items are available year-round, regardless of season, and are very reasonably priced. If you're still concerned about additives to canned or frozen foods, take the time to compare brands: Some may add less sugar and sodium to their products than others. Just check the label!

Collection of various types of peppers and a steamer pot. - Copyright © Stock Photo / Register Mark **THE ART OF CAUTIOUS COOKING.** After the harvesting, processing, transportation and purchase, the final step before produce arrives at your table often involves cooking. You may have heard of boiling the vitamins right out of your vegetables. But does simply cooking a vegetable really thwart your good efforts completely? There is some truth to this concept; however, nutrient loss easily can be minimized.

Health experts classify vitamins into two major groups: those vitamins which dissolve in fat (i.e., fat-soluble vitamins) and those which dissolve in water (i.e., water-soluble vitamins). When exposed to hot water in cooking, those vitamins most susceptible to damage or depletion are water-soluble B and C. These vitamins can be absorbed into the water, so if you are going to be consuming the water, as in the case of soup or a sauce, by all means, boil away. But if you are not going to be consuming the cooking water, there are several methods that preserve nutrients better than submerging produce in boiling water.

Something to remember: Any cooking that minimizes the time, temperature and amount of water needed will help to preserve nutrients. Contrary to popular belief, microwave cooking is one of the best ways to preserve nutrients because it uses minimal water and heat, and the cooking time is very short. Try microwaving vegetables in a microwave-safe container with a tablespoon of water at the base of the container. Steaming achieves a similar effect, minimizing cooking time and requiring little water.

What it really boils down to is that while raw is ideal, canned and frozen vegetables still provide the fiber and other nutrients that make vegetables good for you in the first place. For anyone on-the-go, particularly busy parents trying to ensure their children eat right, that's comforting news. Just remember, it's all in the preparation.

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