

Wholefoods in Focus

Beets



Edible green leaves are attached to the tapered round or oblong root portions that we know as beets. While we often think of beets having a reddish-purple hue, some varieties are white, golden-yellow or even rainbow colored. The sweet taste of beets reflects their high sugar content making them an important raw material for the production of refined sugar; they have the highest sugar content of all vegetables, yet are very low in calories

Promote Optimal Health

The pigment that gives beets their rich, purple-crimson color—betacyanin—is also a powerful cancer-fighting agent. Beets' potential effectiveness against colon cancer, in particular, has been demonstrated in several studies.

In one study, animals under the double stress of chemically induced colon cancer and high cholesterol were divided into two groups. One group received a diet high in beet fiber while the other group served as a control. The beet fiber-fed animals rose to the challenge by increasing their activity of two antioxidant enzymes in the liver, glutathione peroxidase and glutathione-S-transferase. The liver is the body's primary detoxification organ where toxic substances are broken down and eliminated, a process that generates a lot of free radicals. Glutathione peroxidase and are the bodyguards for liver cells, protecting them from free radical attack, so they can continue to protect us.

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In other animal studies, scientists have noted that animals fed beet fiber had an increase in their number of colonic CD8 cells, special immune cells responsible for detecting and eliminating abnormal cells. With the increased surveillance provided by these additional CD8 cells, the animals in one of the studies given beet fiber had fewer pre-cancerous changes.

In stomach cancer patients, when scientists compared the effects of fruit and vegetable juices on the formation of nitrosamines, cancer-causing compounds produced in the stomach from chemicals called nitrates, beet juice was found to be a potent inhibitor of the cell mutations caused by these compounds. Nitrates are commonly used as a chemical preservative in processed meats.

Protection Against Heart Disease

In the first study mentioned above, not only did protective antioxidant activity increase in the livers of beet fiber-fed animals, but also their total cholesterol dropped 30%, their triglycerides dropped 40% (elevated triglycerides, the form in which fats are transported in the blood, are a significant risk factor for cardiovascular disease), and their HDL (beneficial cholesterol) level increased significantly.

Protection against birth defects

Beets are particularly rich in the B vitamin folate, which is essential for normal tissue growth. Eating folate-rich foods is especially important during pregnancy since without adequate folate, the infant's spinal column does not develop properly, a condition called neural tube defect. The daily requirement for folate is 400 micrograms. Just one cup of boiled, sliced beets contains 136 micrograms of folate.

Description

Both beets and Swiss chard are different varieties within the same plant family (Chenopodiaceae) and their edible leaves share a resemblance in both taste and texture. Attached to the beet's green leaves is a round or oblong root, the part conjured up in most people's minds by the word "beet." Although typically a beautiful reddish-purple hue, beets also come in varieties that feature white or golden roots. No matter what their color, however, beet roots aren't as hardy as they look; the smallest bruise or puncture will cause red beets' red-purple pigments, which contain beneficial flavonoids called anthocyanins, to bleed, especially during cooking.

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Beets' sweet taste reflects their high sugar content, which makes beets an important source for the production of refined sugar. Raw beet roots have a crunchy texture that turns soft and buttery when they are cooked. Beet leaves have a lively, bitter taste similar to chard. The main ingredient in the traditional eastern European soup, borscht, beets are delicious eaten raw, but are more typically cooked or pickled.

The greens attached to the beet roots are delicious and can be prepared like spinach or Swiss chard. They are incredibly rich in nutrients, concentrated in vitamins and minerals as well as carotenoids such as beta-carotene and lutein/zeaxanthin.

How to Select and Store

Choose small or medium-sized beets whose roots are firm, smooth-skinned and deep in color. Smaller, younger beets may be so tender that peeling won't be needed after they are cooked.

Avoid beets that have spots, bruises or soft, wet areas, all of which indicate spoilage. Shriveled or flabby should also be avoided as these are signs that the roots are aged, tough and fibrous.

While the quality of the greens does not reflect that of the roots, if you are going to consume this very nutritious part of the plant, look for greens that appear fresh, tender, and have a lively green color.

Store beets unwashed in the refrigerator crisper where they will keep for two to four weeks. Cut the majority of the greens and their stems from the roots, so they do not pull away moisture away from the root. Leave about two inches of the stem attached to prevent the roots from "bleeding." Store the unwashed greens in a separate plastic bag where they will keep fresh for about four days.

Raw beets do not freeze well since they tend to become soft upon thawing. Freezing cooked beets is fine; they'll retain their flavor and texture.

Tips for Preparing Beets:

Cook beets lightly. Studies show beets' anti-cancer activity is diminished by heat.

Don't peel beets until after cooking. When bruised or pierced, beets bleed, losing some of their vibrant color and turning a duller brownish red. To minimize bleeding, wash beets gently under cool running water, taking care not to tear the skin since this tough outer layer helps keep most of beets' pigments inside the

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vegetable. To prevent bleeding when boiling beets, leave them whole with their root ends and one inch of stem attached.

Beets' color can be modified during cooking. Adding an acidic ingredient such as lemon juice or vinegar will brighten the color while an alkaline substance such as baking soda will often cause them to turn a deeper purple. Salt will blunt beets' color, so add only at the end of cooking if needed.

Since beet juice can stain your skin, wearing kitchen gloves is a good idea when handling beets. If your hands become stained during the cleaning and cooking process, simply rubbing some lemon juice on them will remove the stain.

Safety

Beeturia

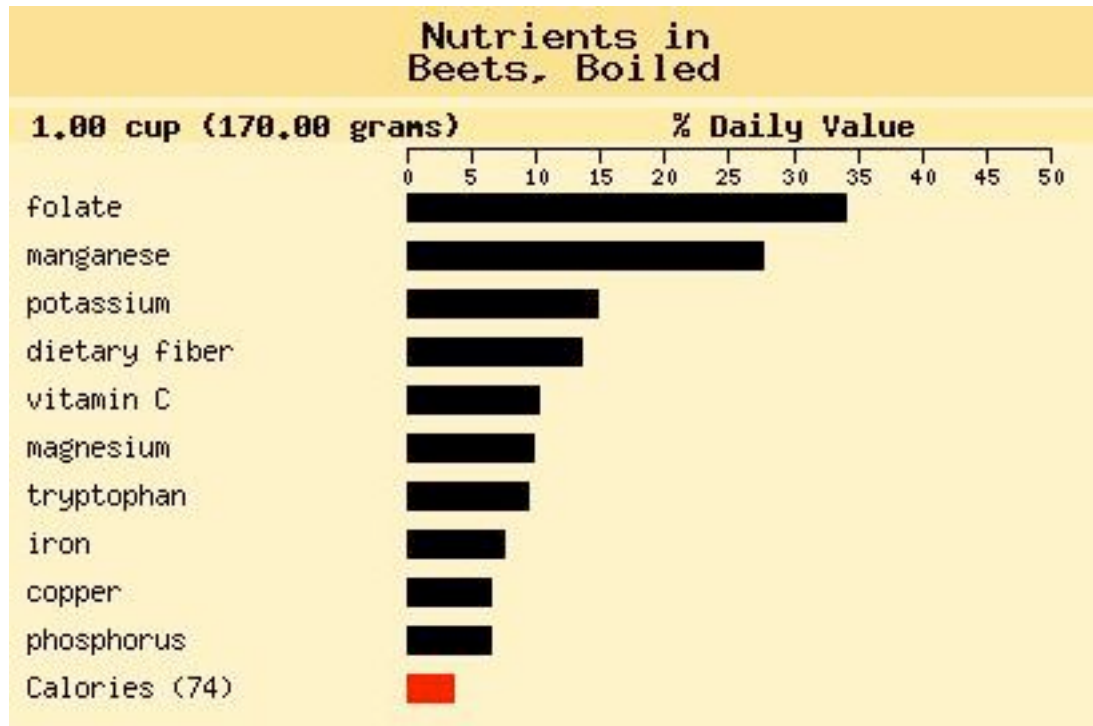
If you start to see red when you increase your consumption of beets, don't be alarmed. You're just experiencing beeturia, or a red or pink color to your urine or stool. The condition is harmless.

Beets and Oxalates

Beets (notably beet greens) are among a small number of foods that contain measurable amounts of oxalates, naturally-occurring substances found in plants, animals, and human beings. When oxalates become too concentrated in body fluids, they can crystallize and cause health problems. For this reason, individuals with already existing and untreated kidney or gallbladder problems may want to avoid eating beets. Laboratory studies have shown that oxalates may also interfere with absorption of calcium from the body. Yet, in every peer-reviewed research study we've seen, the ability of oxalates to lower calcium absorption is relatively small and definitely does not outweigh the ability of oxalate-containing foods to contribute calcium to the meal plan. If your digestive tract is healthy, and you do a good job of chewing and relaxing while you enjoy your meals, you will get significant benefits - including absorption of calcium - from calcium-rich foods plant foods that also contain oxalic acid. Ordinarily, a healthcare practitioner would not discourage a person focused on ensuring that they are meeting their calcium requirements from eating these nutrient-rich foods because of their oxalate content. For more on this subject, please see "Can you tell me what oxalates are and in which foods they can be found?"

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Nutritional Profile



References

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