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Shiitake Mushrooms and your Health

Health Benefits

A symbol of longevity in Asia because of their health-promoting properties, Shiitake mushrooms have been used medicinally by the Chinese for more than 6,000 years.

Invigorate Your Immune System

Recent studies have traced shiitakes' legendary benefits to an active compound contained in these mushrooms called *lentinan*. Among lentinan's healing benefits is its ability to power up the immune system, strengthening its ability to fight infection and disease. Against influenza and other viruses, lentinan has been shown to be even more effective than prescription drugs; it even improves the immune status of individuals infected with HIV, the virus that can cause AIDS.

Promote Optimal Health

Lentinan, which is technically classified as a polysaccharide and referred to as a branched beta-glucan, has also been shown to have anti-cancer activity. When lentinan was given for human gastric cancer, reticular fibers developed in tumor sites. Reticular cells, which are spread throughout the body in various tissues, are immune cells that have the ability to ingest (phagocytose) bacteria, particulate matter, and worn out or cancerous cells. When lentinan was administered, not only was there a proliferation of reticular cells in gastric tumor sites, but many T lymphocytes (another type of immune defender) were drawn to these cancer sites with the result that the cancer cell nests were fragmented and destroyed.

A Hearty Mushroom That's Good for Your Heart

A large number of animal studies conducted over the last ten years have shown that another active component in shiitake mushrooms called *eritadenine* lowers cholesterol levels-and this amazing compound lowers cholesterol no matter what types of dietary fats the lab animals are given. Even when lab animals are given dietary protein rich in methionine (an amino acid researchers have found causes an increase in cholesterol formation), eritadenine still lowers plasma cholesterol levels in a dose-dependent manner. In other words, the more eritadenine given, the more cholesterol levels drop.

Shiitake Mushrooms Found to be Top Food Source of Potent Antioxidant

L-ergothioneine, a powerful antioxidant, has been discovered in mushrooms, thanks to a new analytical method capable of identifying this antioxidant in plant material. In research presented at the 2005 American Chemical Society meeting in Washington, D.C., an American research team revealed that mushrooms contain higher concentrations L-ergothioneine than either of the two dietary sources previously believed to contain the most: chicken liver and wheat germ.

Testing mushrooms consumed in the U.S., the team found that shiitake, oyster, king oyster and maitake mushrooms contain the highest amounts of ergothioneine, with up to 13 mg in a 3-ounce serving. This equals forty times as much as is found in wheat germ.

Of the most commonly consumed mushrooms, portabellas and criminis have the most L-ergothioneine, followed by white buttons. White buttons, the most popular of all mushrooms consumed in the U.S., contain up to 5 mg per three ounce serving-12 times as much as wheat germ and 4 times more than chicken liver. And more good news, L-ergothioneine is not destroyed when mushrooms are cooked.

Description

Although numerous types of mushrooms provide wonderful tastes, textures and healthful properties, shiitake mushrooms have been recently receiving widespread attention and, as a result, are increasingly available in the marketplace.

Like other mushrooms, shiitakes are as mysteriously unique as they are delicious. While often thought of as a vegetable and prepared like one, mushrooms are actually fungi, a special type of living organism that has no roots, leaves, flowers or seeds.

Shiitake mushrooms have brown, slightly convex caps that range in diameter from about two to four inches in diameter. The scientific name for shiitake mushroom is *Lentinus edodes*.

Other mushrooms with Asian roots that are also becoming more popular are reishi (*Ganoderma lucidum*) and maitake (*Grifola frondosa*). Reishi mushrooms usually have an antler or rounded, fan shape; the most popular type of reishi is red in color, although that is just one of the six colors in which they grow. Maitake mushrooms grow in a formation of clustered brownish fronds of fan-shaped petals and are commonly known as "Hen of the Woods." These types of mushrooms are available in food markets specializing in Asian foods.

History

Shiitake (as well as reishi and maitake) mushrooms have grown wild since prehistoric times. Their therapeutic value has been prized in Asian countries, where they originated, for thousands of years. They play a critical role in Asian medicinal traditions and were noted in some of the first books on herbal medicine written thousands of years ago. In the past few decades, these mushrooms have become more popular in the United States as a result of an expanding body of scientific research supporting their numerous health benefits. In addition to China, Japan, Korea and Taiwan, these mushrooms are currently cultivated in a host of other countries including the United States.

Safety

Shiitake Mushrooms and Purines

Shiitake mushrooms contain naturally-occurring substances called purines. *Purines* are commonly found in plants, animals, and humans. In some individuals who are susceptible to purine-related problems, excessive intake of these substances can cause health problems. Since purines can be broken down to form uric acid, excess accumulation of purines in the body can lead to excess accumulation of uric acid. The health condition called "gout" and the formation of kidney stones from uric acid are two examples of uric acid-related problems that can be related to excessive intake of purine-containing foods. For this reason, individuals with kidney problems or gout may want to limit or avoid intake of purine-containing foods such as shiitake mushrooms.

Nutritional Profile

The following chart shows the nutrients for which this food is either an excellent, very good or good source. Next to the nutrient name you will find the following information: the amount of the nutrient that is included in the noted serving of this food; the % Daily Value (DV) that that amount represents (similar to other information presented in the website, this DV is calculated for 25-50 year old healthy woman); the nutrient density rating; and, the food's World's Healthiest Foods Rating. Underneath the chart is a table that summarizes how the ratings were devised.

Shiitake mushrooms, raw				
8.00 oz-wt				
226.80 grams				
87.23 calories				
Nutrient	Amount	DV (%)	Nutrient Density	World's Healthiest Foods Rating
iron	3.59 mg	19.9	4.1	very good
vitamin C	5.98 mg	10.0	2.1	good
protein	4.98 g	10.0	2.1	good
dietary fiber	2.49 g	10.0	2.1	good
World's Healthiest Foods Rating	Rule			
excellent	DV>=75%	OR	Density>=7.6	AND DV>=10%
very good	DV>=50%	OR	Density>=3.4	AND DV>=5%
good	DV>=25%	OR	Density>=1.5	AND DV>=2.5%

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