

Fascinating Fiddleheads: The Springtime Harvest

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Matteuccia struthiopteris (L.) Todaro, which belongs to the Onocleaceae family, is a plant that can be used in traditional Indian medicine but it is common in western and southern districts where there is high rainfall, and especially on lime-rich soils. It is also known as ostrich fern, fiddlehead fern, or garden fern. Edible ferns include the popular ostrich fern, which has a vase-shaped habit and is often used in cooking. They are the tightly coiled, newly emerged fronds of a young fern that resemble the scroll-like head of a fiddle or violin. These delicate greens are harvested for use as a vegetable and have a short growing season that starts in the spring, usually after the threat of frost has passed. The season to enjoy these edible ferns is only a few weeks each year.



The traditional Chinese medicine system incorporates the rhizomes and frond bases of *M. struthiopteris* to treat various ailments such as threadworm, influenza virus, infectious diarrhea, hematochezia, and uterine hemorrhage. These medicinal plants are known for their pharmacological activities that include antiviral, antiparasitic, and antibacterial actions. Fiddlehead ferns are the young, uncurled fronds that grow in clusters at the base of ferns. These tender, new ferns only appear for a short time in spring, usually for two weeks or less. They are considered one of the first fresh vegetables to emerge in temperate climates. Each plant can have anywhere from 3 to 12 fiddleheads, which are harvested by hand to protect the fern's delicate nature and ensure sustainable harvesting. They are widespread in Canada and the Northern United States and are a preferred choice among chefs because they have a delicate and fresh taste when cooked lightly.

Nutritional Profile

Fiddleheads are a good source of potassium, Vitamin K, folate, and iron. Raw ferns contain 34 calories per 100 g serving. 100 g of fiddlehead fern contains 0.4 g of fat, 4.6 g of protein and 5.5 g of carbohydrate, 181.00 mg of vitamin A, 26.6 mg of Vitamin C, 0.04 mg of Vitamin D as

Fiddlehead ferns (<i>Matteuccia struthiopteris</i>), Fresh, raw, Nutrition Value per/ 100 g, (Source: USDA National Nutrient data base)		
Principle	Nutrient Value	Percentage of RDA
Energy	34 Kcal	1.70%
Carbohydrates	5.54 g	4%
Protein	4.55 g	8%
Total Fat	0.40 g	2%
Cholesterol	0 mg	0%
Vitamins		
Niacin	4.980 mg	31%
Riboflavin	0.210 mg	16%
Thiamin	0.020 mg	1.50%
Vitamin A	3617 IU	120.50%
Vitamin C	26.6 mg	44%
Electrolytes		
Sodium	1 mg	<1%
Potassium	370 mg	8%
Minerals		
Calcium	32 mg	3%
Copper	0.320 mg	35.50%
Iron	1.31 mg	16%
Magnesium	34 mg	8.50%
Manganese	0.510 mg	22%
Selenium	0.7 mcg	1%
Zinc	0.83 mg	7.50%
Phyto-nutrients		
Carotene-β	2040 µg	--
Carotene-α	261 µg	--

well as 1.31 mg of iron, 32 mg of calcium, 370 mg of potassium. They contain various vitamins and minerals, as well as omega-3 and omega-6 fatty acids. They are a source of antioxidants and dietary fiber. Fiddlehead ferns are a great addition to the diet for a low-sodium food option and have high levels of potassium. Additionally, they are an excellent source of vitamin C, which is known to boost the immune system. They also contain fiber that helps regulate the digestive tract and maintain balanced fluid levels within the body.

Health Benefits

Fiddlehead ferns are a highly nutritious food. 100 grams of fiddleheads contain only 34 calories. The high fiber content in fiddleheads helps to prevent the release of the hunger hormone ghrelin, which signals the brain the time to eat and can aid in weight loss. The study done by Delong *et al* reveals that ostrich fern tissue is a rich source of ascorbate and β -carotene, as well as lutein, violaxanthin, zeaxanthin, and phenolic compounds. A high biological activity (antioxidant) was suggested due to high ORAC values (Delong *et al*. 2011).

Fiddlehead ferns are a great source of Vitamin C, containing 44% of the daily requirements per 100 grams. Vitamin C is a natural antioxidant that dissolves in water and helps the body build resistance against infections while eliminating cancer-causing free radicals. Some studies suggest that the compounds found in these ferns may have anti-inflammatory properties. These compounds have the potential to decrease inflammation in the body, but further research is necessary to confirm their specific effects on fiddlehead ferns.

Fiddleheads are an excellent source of omega-3 fatty acids, which provide a wide range of benefits such as reducing the risk of heart attack and stroke, protecting against Alzheimer's disease, supporting healthy neurological and eye development for fetuses and newborns, lowering cholesterol, and improving symptoms of rheumatoid arthritis. Studies have also indicated that this fatty acid may even assist with depression and other mood disorders. They are a good supplement of animal-based fatty acids and omega-3s.

Niacin (vitamin B3) is found in fiddleheads. Niacin may help boost good cholesterol levels as well as lower bad cholesterol levels. They contain high levels of potassium, which is an essential mineral and electrolyte that works with sodium to balance the fluid and electrolytes in the body. Potassium also helps keep blood pressure under control and may help reduce kidney stones and bone loss with age. It may even reduce your risk of stroke.

Uses

Ostrich Ferns have several uses, including medicinal and culinary applications. They can be used as a gargle for sore throat, as a laxative, and for treating wounds and boils on the skin. The ferns have a mild, green flavor that is best suited for lightly cooked preparations, such as steaming, braising, boiling, sautéing, or roasting. However, it is important to note that they should not be consumed raw, as they may sometimes contain foodborne bacteria that can cause illness or indigestion. When the ferns are lightly cooked, they develop a subtly sweeter and more pleasant flavor that reflects the freshness of springtime. Before cooking, the brown protective layer should be removed, and the ferns should be rinsed thoroughly several times to remove any dirt or debris that may have become stuck in the coils.

Fiddlehead ferns are a versatile ingredient that can be used in several dishes. They can be cooked, chopped and added to salads, pasta, and toast. The young greens can be used in egg dishes like eggs benedict, frittatas, or quiche, or stir-fried and mixed into noodle dishes. They can also be included in curries, soups, and fried into seasonal tempura. Besides cooking, they can be pickled and served as a savory snack. Fiddlehead ferns can be blanched and frozen for up to nine months for extended use.

In various parts of Asia, young fiddlehead ferns are used in a variety of dishes. In Indonesia, they are cooked in a rich coconut sauce and called 'gulai pakis'. In the Philippines, the young ferns are made into a salad with tomato, salted egg slices, and a simple vinaigrette dressing. In East Asia, fiddleheads of bracken are eaten as a vegetable and are called 'kogomi' in Japan, 'gosari' in Korea, and 'juécài' in China and Taiwan. In Korea, they are often served as a small side dish, which consists of prepared fernbrake fiddleheads that have been sauteed.

Fiddlehead fern is a type of edible fern found in the Himalayan states of North and North Indian of the Indian subcontinent. In the Kokborok language spoken in the state of Tripura, it is known as muikhonchok and is often prepared by stir frying as bhaja, served as a side dish. In Manipur, it is called 'Chekoh' in the local Thadou language and is usually eaten stir fried with chicken, eggs, prawns, or other proteins.

Fiddlehead fern is a popular vegetable that goes by different names in different regions of India. In Mandi, Himachal Pradesh, it is called Lingad and used for vegetable pickling. In the Kullu Valley of Himachal Pradesh, it is known as 'lingri' and is used to make a pickle and consumed as a vegetable. In Assam, it is known as dhekia xak and is a popular side dish.

In Jammu, it is known as 'kasrod' and the most famous Dogra dish is 'Kasrod ka achaar' (fiddlehead fern pickle). In Poonch, it is known as 'Kandor' in the local language. In Kishtwar, it is known as 'ted' in the local language Kishtwari. It is also cooked as a dry vegetable side dish to be eaten with rotis or paranthas. In Ramban district of Jammu and Kashmir, it is called 'Dheed' in Khah language.

Products Made From Fiddleheads

Fiddlehead ferns are commonly used in cooking and are considered a delicacy. They can be prepared in several ways, such as sautéing, steaming, stir-frying, grilling, and pickling. They have a unique flavor and texture similar to asparagus or green beans, making them a versatile ingredient in various dishes.

In some cultures, fiddlehead ferns are used in traditional medicine for their supposed health benefits. They have been used to prepare herbal remedies for several ailments. For instance, they can be brewed into teas, decoctions, or tinctures believed to have digestive, diuretic, or anti-inflammatory properties. Furthermore, they are believed to help with digestion, boost immunity, and alleviate certain ailments.

Fiddlehead fern extracts or poultices can be applied topically to treat skin conditions such as rashes, burns, or insect bites. Fern extracts or powders can also be encapsulated or processed into dietary supplements. These supplements are marketed for their antioxidant content, potential immune-boosting effects, or support for overall health and well-being. The purported anti-inflammatory properties of ferns may help soothe irritation and promote healing. Fiddlehead ferns are also popular choices for ornamental gardens, landscaping, and indoor décor, owing to their lush green foliage and distinctive coiled fronds.

Conclusion

Fiddlehead ferns are a unique and flavorful delicacy enjoyed in various cuisines around the world. With their distinct taste and texture, they offer not only culinary enjoyment but also a range of essential nutrients, including vitamins, minerals, and dietary fiber. While not commonly found in all regions, fiddlehead ferns are harvested seasonally in areas with suitable climates and are appreciated for their cultural significance and culinary versatility. However, it's crucial to exercise caution when harvesting and consuming fiddlehead ferns, as not all fern species are edible, and some can be toxic if ingested. Proper identification and preparation are essential to ensure safety.

Overall, fiddlehead ferns offer a delicious and nutritious addition to diverse dishes, showcasing the richness of local cuisines and the beauty of seasonal foraging traditions.

Whether enjoyed in salads, stir-fries, soups, or other culinary creations, fiddlehead ferns continue to captivate the palates of food enthusiasts worldwide.

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