

BAMBOO AS FOOD AND MEDICINE

As Food

Bamboo is one kind of idle vegetable for its being pollution free, low in fat, high in edible fiber and rich in mineral elements. Bamboo shoot is brittle, tender, delicious and nutritive. It is shown by chemical determination that fresh shoot contains about 88.8 % of water, over 3.9% of protein, 17 amino acid.

The chemical analysis of bamboo shoot shows its constituent as follows:

Moisture	88.8%
Protein	3.9%
Fat	0.5%
Carbohydrates	5.7%
Minerals	1.1%

Amino acid content of bamboo is much higher than found in other common vegetable such as cabbage, carrot, onion and pumpkin. Eight kinds of amino acids that are not synthesize in the human body have to be supplied from food items and almost all these are available in bamboo shoots. Bamboo shoots contain 17 different types of enzymes and over ten kinds of mineral elements such as Chromium, Zinc, Manganese, Iron, Magnesium, Nickel, Cobalt, Cupper etc. and particularly Selenium content is very important because, lack of this element in the body can cause 40 sorts of diseases. Another important thing is bamboo shoot content Germaclinum, which can activate human body. So, it can be concluded that bamboo shoot is one kind of idle vegetable for its being pollution free, low in fat, high in edible fibre and rich in mineral elements.

Some of the common edible bamboos are from which shoots can be extracted are *Bambusa bambos*, *Bambusa tulda*, *B. polymorpha*, *B. balcooa*, *Dendrocalamus hemiltonii*, *D. gigentius*, and *Melocanna baccifera*.

Edible bamboo shoot is a traditional vegetable for many people. Nowadays bamboo shoot is getting popular as a food for people than earlier. However the actual availability of the edible fresh bamboo shoots is very limited in most of time in a year and in many places of the world. Since shooting season for a bamboo generally lasts only from 1 – 4 months.

Bamboo shoots are used as food in various ways. Different types of preparation like bamboo candy, bamboo chutney, bamboo canned juice, bamboo beer are also available .Bamboo vinegar is also used as biofertilizer, bio-insecticide and as medicine for stomach disorders.

The bamboo shoot industry, using shoots from both natural forests and plantations, makes a substantial contribution to the economy and development of

rural communities, in which people use bamboo shoots as food and also earn substantial income from bamboo shoot cutting.

Shoot Preservation:

When the bamboo shoot is dug out, it is still an active organic body performing metabolic activities. The external factors of temperature, humidity, microbes and storing conditions impose an effect on the storage span of bamboo shoot. Water is necessary to keep bamboo shoot physiologically active and fresh. If it loses water, it loses the fresh outlook and quality degrades. Water loss results in more enzyme activity and saccharine content is prone to hydrolysis by which the shoot is exposed to infection and rotting.

A low temperature storage condition is therefore required to inhibit water transpiration and microbial activity. Thus the water content, temperature, humidity and enzymatic activity are all interrelated for shoot respiration and have to be taken into account in the industrial techniques of shoot storage. Some methods of storage and preservation introduced areas follows-

- 1) Storing in cold depots: In Japan and China, the raw shoot is stored in cold depot where the temperature maintained at about 5^o C with relative humidity at 86%
- 2) Salt method: This method is to control enzyme activity by saline water.
- 3) Alcohol coating: Shoots can also be kept for 40 days by applying alcohol coating.
- 4) Fruit preservation Method: Using an English fruit preservation method the shoot can be stored upto 4 days.
- 5) Using sodium thio –sulphate as a preservative: The shoot is kept in a sealed plastic bag with sodium thio –sulphate and can be kept for nearly half a year.

As Medicine

The juice of the pressed bamboo shoots possesses protease activity that helps digestion of proteins. The boiled bamboo shoot or pickle is served as an appetizer.

Decoctions of tender shoots is also used for cleaning wounds and maggot infected sores, ulcers etc. Mixed with Palms jaggery, it is used to cause abortions or to induce labour and expulsion of placenta after childbirth and to prevent excessive loss of blood.

It is also reported that bamboo leaves are rich in Hydrocyanic and Benzoic acids. Bamboo leaves are stimulant aromatic and tonic. They are

useful in counter acting spasmodic disorder and secretion of bleeding. They are also an effective aphrodisiac.

Decoction of bamboo leaves are used for treating stomach disorders, diarrhea and for promoting stomach functions, promote and regulate menstrual cycles and killing of intestinal worms. *Tabashir* or *banslochan* is a siliceous secretion found in the culms of various species of bamboo. It is the residue of the watery liquid occasionally found in hollow internodes. It is used as a cooling tonic and aphrodisiac, in asthma, cough and other debilitating diseases etc.