

Development of Candy Treats: Review

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ABSTRACT

Candy is confectionery goods which as play and important role in cultural tradition and in festa from various decades often tied to their unique histories and custom its continuous to enjoy around the peoples as a treat. Candy is available in various form, flavors and texture. Candy making involves the various processes with the help of enzyme. Candy has been not just evolved in texture and flavor but in the nutritional and medication properties too which can reduce the risk of weight gain and diseases in children's, teenagers and adults. From the recent data on the intake of candy on a usual basis the impact of behavioral nutrition examines psychological social and environmental factors which influencing eating habits and dietary choices for the candy the perspective inspects why the candy is consumed by the people and how it is mark its effect on health and the behavior. Bamboo shoot is highly nutritious and contain a variety of essential nutrients. They are low in calories and fats but rich in amino acid, vitamins. Bamboo shoot is also an excellent source of fiber, which can prevent colon and regulate blood cholesterol levels while being low in calories. Some of the candy and chocolates has the positive effects on the health in terms of psychological and emotional aspects such as dark chocolates and candy during experiencing the mensural pain in women these sweets help in triggering and releasing the hormones which make them feel comfortable and happy. For the sore throat problem lozenges are used which are medicated candy. Peppermint candy is used for oral practices (freshens breath, cooling sensation, stimulates saliva production).

Keywords: Bamboo shoot, traditional treats cuisine, nutritional factors, health benefits, essential content.

INTRODUCTION

Candy is top-rated confectionery product among all group, especially in children, because it has high organoleptic indicators and low price. However, candy has low nutritional value, so it is worthwhile to develop a good quality candy to add functional ingredients according to market demand. These factors influence the confectionery market and are improving their product with technologies and ingredients that meet consumers' needs. (Yadav *et al.*, 2021). Candy is a sweet food prepared from fruits or vegetables by impregnating them with sugar syrup followed by draining of excessive syrup and then drying the product to a shelf stable state. Candy making is fairly simple process in traditional candy production, a mixture of sugar, water, and possibly corn syrup are mixed together and boiled until sufficient water has been boiled out of the candy mass. Current candy preparation techniques are grouped as semi-solid or soft candy (e.g. Chocolates-based, fruit-based, including tamarind, cherry etc.). (Singh 2017). Today the people perspective for looking candy has now changes as there is modification in candy and in there processing style which has set the healthier option in demanding appeal for the consumers.

Bamboo a member of the Poaceae family, subfamily Bambusoideae is edible sprouts of various bamboo species that is highly valued globally due to its ecological significance, versatility, and various human uses. According to the Food and Agricultural Organisation of the United Nations (FAO), 800 million people are currently food and nutrition insecure. To fulfil rising global demand, FAO estimate that worldwide food production must be raised by 60% by 2050. Bamboo shoot is a common vegetable s in Asia, where they are prepared in various way. Bamboo shoot is highly nutritious and contain a variety of essential nutrients. Nutraceutical benefits in bamboo shoot they are rich in fibre, which can prevent colon

cancer and regulate blood cholesterol level while being low in calories. They excellent source vitamins, proteins, amino acid, beta carotene, phenolics. Additionally, they have phytosterol, which promotes in lowering cholesterol level and anticarcinogenic properties and antioxidant action. Incorporating bamboo shoot into one's diet improved overall health and wellbeing. The has shown that containing important bioactive components which supports various pharmacological and nutraceutical action. (Acharya *et al.*, 2023). Bamboo shoot is not only eaten for its flavour and taste by the tribal communities but is also appreciated as an important plant by the nature for its medicinal role. Use of shoots by the tribal people in various forms to eradicate a disease is well known in Ayurveda since ancient times. (Singhal *et al.*, 2013). Jaggery is a natural sweetener obtained by concentrating the juices obtained sugarcane and/or palm trees. It is also used as an energy food having therapeutic advantage Contains selenium and other antioxidants that protect cells from oxidative stress and delay aging. Regular consumption can help ease cramps and mood swings during menstruation due to its ability to relax muscles and improve energy levels. Contains iron, which helps prevent anaemia by boosting haemoglobin levels. Provides small amounts of calcium, magnesium, and potassium, essential for bone health, muscle function, and electrolyte balance.

Manufacturing process

The history of candy can be mark as thousands of years back where the candy has been made by using the honey.

Majorly the candy has made from the flower and fruits having the coating of honey. Early flavoured candy is also made by mixing the different natural ingredients such as fruits, nuts, herbs, spices as well.

The key element used in the candy are bamboo shoots. The shoots are harvest when they are fully mature and in tender form the culm sheath of shoots is removed and unwanted portion is cutoff after that the post-harvest treatment is applied in order to remove the antinutritional factors (cyanide) before consumption. The shoots are diced in smaller form and dipped in the prepared solution. For these two solutions are prepared one is jaggery solution and another is the sugar syrup solution. This process occurs in step wise manner shoot dipped in a solution that are kept for 24 to 48 hours for the absorption of syrup after the syrup is separated from shoots then placed in a dryer for drying (tray dryer) at 125°C around 3-4 hours. Then packed in air tight container.

Harvesting

The bamboo shoots are harvested when they are fully matured as the immature shoots lacking in the edible content and efficient biomass. Depending upon the species the harvesting periods varies. The young bamboo shoots can be harvest when it reaches to 15 to 30 cm long from the surface. Generally, the harvesting time for shoots are best at early morning and late evening. For the harvesting the spade is place near the edge of shoots push down and wedge the shoots from the soil and after digging cover surface with the soil. At the middle of shooting period the shoots are healthier than extreme period of shoots.

Post-harvest treatment

After the harvesting process the bamboo shoots goes under different chemical changes, enzymatic degradation and microbial spoilage etc. To make safe for the consumption it is necessary to remove the antinutritional factors (cyanide). By applying or giving the pre-treatment the bitterness\cyanide can be removed. post-harvest treatment is must to avoid the effect of internal and external factors on the nutritional composition and shelf-life content of bamboo shoots.

Peeling/washing/cutting

The freshly harvested bamboo shoots are cleaned with fresh water this process is carried out till the all dirt and soil particle are removed fully. Further the hard outer scaly layer is peeled off to obtained the soft edible portion. The obtained soft edible portion of the bamboo shoots are cut into the lengthwise or longitudinal section.

Pre-treatment In these various processes are carry out in order make it consumable. Shoots contain anti-nutritional factors that causes the adverse effect on the human health if it is consume without the pretreatment the anti-nutritional factors are

(cyanide). By applying the pretreatment such as boiling in hot water, steaming, soaking, etc. Due this treatment there is slightly change in the sensory and nutritional component and texture. For boiling 10-15% of NaCl solution is used after the boiling the water is drained off and further cooled down. Steaming is done by keeping the cut pieces in the steamer for different timeline. Soaking is carried out by dipping the cut pieces of the shoot in the salt solution overnight.

Preservation

the preservation is a technique used to preserve the bamboo shoots in order extend their shelf life and avoid the contaminations from the various factors. Different preservation methods are used such as caning, blanching, pickling, fermentation. For the preparation of the candy both forms can be used first is canned another one is raw form. The canning process is carryout by harvesting the tender shoots cutting the top and bottom portion then peeling unwanted culm sheath. The shoots are cleaned with water and chopped into two halves further cut in medium size pieces. The pieces boiled in a hot water then drained it off and moved for canning. The canned bamboo shoots are filled with brine solution and allowed to evaporate. The cans are now sealed and heated at extreme high temperature retort (100-230 °C). After the cooling the can are labelled and packed.

Nutritional aspects

Shoots are low in the calories, high in dietary fibre, and rich in various nutrients. Mainly rich in both macro and micro nutrients inorganic salts, even dietary fibre. Protein is almost 1.49 and 4.04 (average 2.65g) per 100 gm of fresh bamboo shoots. The total sugar content is 2.5% on average. The water content is 90%, or more. Act as a nutraceuticals element which are ordinary foods with components or ingredients having a specific medical benefits other than nutritional effects bamboo shoots contain phytosterols which is lowering the cholesterol levels. (**Chongtham *et al.*, 2011**). They also have the anti-microbial and anti-inflammatory. Bamboo shoots having the detoxifying effect on the body which help eliminating the toxins from the body, which reduce the risk of the acne, eczema and other skin related issues.

Nutrient/ Property	Benefit
Low in calories	Supports weight management and provides a healthy option for calorie- conscious diets.
Rich in Fiber	Promotes digestive health, prevents constipation healthy gut bacteria.
High in Potassium	Helps regulate blood pressure, supports heart health, and maintains electrolyte balance.
Antioxidant Properties	Reduces oxidative stress, may lower the risk of chronic diseases, and supports overall health.
Low in Fats	Contributes to a heart-healthy diet and reduces the risk of obesity-related health issues.
Rich in Vitamins	Contains vitamins like B6 and E, which support energy metabolism, immunity, and skin health.
Contains Phytosterols	May help reduce cholesterol levels and support cardiovascular health.
Anti-inflammatory	Potential to reduce inflammation, supporting joint and overall health.
Rich in Minerals	Contains calcium manganese, and zinc, essential for bone strength, immune function, and overall health.
Boosts Immunity	Compounds like polysaccharides and vitamins help strengthen the immune system.

**Process flowsheet of bamboo shoot:**

Harvested bamboo shoot



Removal of external culm sheaths



Cleaning, scaling, trimming of bamboo shoot



Boiling for 20 min in an uncovered pan



Draining of water



Boiling with a pinch of salt



Drain of water and cooling



Preservation in brine solution

**Process flowsheet of candy:**

Bamboo shoot



Peeling



Cleaning



Cutting



Boiling



Make a jaggery syrup



Addition of cubes in jaggery syrup



Rest it for 24-48 hrs.



Drying (5-6 hrs.)
(tray dryer)



Packaging



Storage

Conclusion:

Candy has been a beloved treat for centuries, bringing joy to people of all ages. While it should be enjoyed moderation, its variety of flavors, texture, and cultural significance make it a timeless indulgence. While candy can be a fun and tasty treat, it's important to consume it in moderation to maintain good health. Bamboo shoot are the young, edible sprouts of bamboo plants. They are primarily harvested from species in the bambusoideae. Bamboo has been widely used in traditional medicine across various cultures, particularly in Chinese, Ayurvedic and southeast Asian Medicine Different parts of the bamboo shoot, including shoots, leaves, resin, and sap, have medicinal properties. It is found that all these plants have ethnos medicinal uses. This candy is an innovative and unique product that involves appealing taste and health factor by using bamboo shoot as a primary ingredient it offers nutritional alternatives to a sweet which lower in calories and healthier component to each individual.

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