

Preparation Of Cheeps From Cactus Fruit

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ABSTRACT: The aim of this study is to determine preparations of cheeps from cactus fruits. Cactus (opuntiassp), cactaceae family is well adapted to arid and hot dry lands, where the plants have a marked capacity to withstand prolonged drought. Cactus fruit have many uses such as: - food popular, in medicine, for water treatment, for consumer health and etc. Re cactus pear also cactus apple, prickly pear Barbary, which is the genus opuntia and member of the cactus family (cactuaceae). It is most commercially mechanically de-pricked but some stinging invisible hairs remain and pears must be peeled before serving. And this cactus fruit is an excellent source of vitamin-C-and provides one dietary fiber as well, which has been shown to help regulate blood sugar levels. About 5 kg of cactus was taken and the moisture content was calculated (60-80) % indicate good agreement with the previous study. Finally, cheep was prepared that can stay for morethan 5 days without any problem.

Keywords: Cheeps, Cactus fruit, Peel, Opuntiassp, Mucilage, Glochids, tuna, Flesh, Priculy Pear.

1 INTRODUCTION

cactus(opuntiassp) cactaceae family is well adapted to arid and hot dry, lands,where the plants has a marked capacity to with stands prolonged drought. The ability of cactaceae to retain with under an unfavorable climatic condition is due to, in part to the water binding capacity mucilaged [1]. Mucilage is complex carbohydrate [2] with a highly branched structure which contains varying proportions of L-arabinose, D-galactose, L-rhamnife and D-xy lose, as well as galactonic acid indifferent proportions [3,4]. However, the mucilage composition was found to differ among different cactus species and among different areas with species [5]. It was reported that cactaceas family has over 400 species, [6] wich some of the more traditionally used for many purposes. Since recent times there are literatures that suggest on the potential use of cactus mucilage as floccucatin agent [7] and thickening agent [4]. Cactaceas has wider applications in the day to day activity of human being such as, nutritional value, medicinal value, for preparation of different juice, for preparation of health care soaps as well as for the preparation of different losions.[12] Even though percentages yield few physico-chemical properties has been determined elsewhere [1,4,8], most of them are done on the mucilage of opuntia ficuse indica species type while little is done on the rest of opuntia spp. More over the yield and quality of mucilage varies as to the above sources. This variation is attributed to species type, age of the clauded, the season of collection and also topography variation like, rain distribution[2],Temperature[8], soil type etc, for which the previous works were done. Hence this work focuses on the characterization, comparision of the physico-chemical characteristics acquit toxicity and microbial load study on the mucilages extracted from the place abundantly growing cactus species around Adigrat Northern Ethiopia.

1.1 Objective

1.1.1. General Objective

- To prepare cheeps from cactus fruit from the available area.

1.1.2. Specific objectives

- To determine moisture contents of cactus fruit
- To prepare cheep from cactus fruit.
- To test properties of cheeps

2. METHODOLOGY

2.1. Study area

This study was conducted (carried out) in eastern zone of Tigray at Adigrat rural area. Adigrat rural area is found in western part of Ethiopia at 921km far aparat from Addis Ababa, which is capital city of Ethiopia and 115km from Mekelle city of Tigray regional state. it is located at altitude from 2000-3000 meter above sea level and also located at 14°16' 34N latitude and 40°27'5"E longitude. Adigrat rural area has annual rainfall of the area most of time occurs from May to July.

2.2. Sample analysis

The study was conducted by the method which is by the field study and laboratory methods. In field study method the site of cactus fruits in the appropriate area selected first by the researcher and collected from the market. While in laboratory method cactus fruit collected from market transport laboratory for laboratory activity.

2.3 Material and chemical

No	Materials	Chemicals
1	Knife	Ripe fruit
2	Beaker	Salt
3	Mixer	Lemon juice
4	Ovendryer	Sugar
5	Spoon	
6	Bunsen burner	

2.4 Moisture contents.

The results of cactus analysis are to be calculated on the basis of oven dried sample weight.

Moisture content = $\frac{WTBD - WTAD}{WTBD} \times 100\%$ where; WTBD = wait before drying

WTBD

WTAD = wait after drying

M. Content= moisture content

2.5 Sampling site selection

The sample covered in Adigrat rural area due to the most prominent place in cactus harvesting areas from the country and this sample was stored in deep-freeze.

2.6 Sample preparation

- ✓ Larg ripe fruits were collected from market and various fruit, juice centers form the surrounding areas of Adigrat city.
- ✓ To remove the lochids, dust and dirt clean cloth was used. Then ends was washed and cuted away.
- ✓ After that the peel was as thinly as possible.
- ✓ The soft peel and keep to onside was removed (if the fruit is cut in half it was easier removed).
- ✓ The juice was flesh and sieved (this can be done blender or mixer was used).
- ✓ The juice was boiled for 20min.
- ✓ The soft peel was added into the juice together with sugar, lemon juice and salt then cook for about two hour.
- ✓ For one kilo gram of peel, 500 gram sugar, 65ml lemon juice and some amount of salt was needed.
- ✓ Then it was pure on to sieve and allows draining.
- ✓ It was cooled
- ✓ Moisture content was measured.
- ✓ The pieces on trays and load in to the oven dryer were arranged.
- ✓ At the last moisture content was also measured [9].

2. RESULT AND DISCUSSION

From the experimental work it was obtained appropriate product. The juice was boiled in 20 min in order to remove unwanted material like bacteria and others. Adding of salts used to produce in small amounts the hydrochloric acid required for the digestion of food, adding of sugar was used to satisfies the human appetite for sweetness and adding of lemon juice was used to as a source of "vitamin C", antioxidant and protect from different disease. The moisture contents was removed it.

3.1 Moisture content

Calculating the moisture content is one parameter that should be calculated during our work. Because, the presence of moisture will leads fruits to become deteriorate after one day. Then how much moisture content was been present in the given fruit can be the main factor in this work. The moisture content of the cactus fruit was calculated as follow.

$$\text{Moisture content \%} = \frac{\text{Wet} - \text{Dry}}{\text{Wet}} \times 100\%$$

$$\frac{93\text{g/ml} - 21\text{g/ml}}{93\text{g/ml}} \times 100\% = 79.5\%$$

Average value was obtained from different trials. This average value shows good agreement with the previous study [12].

3.2 Cheep preparation steps

Cheep is the special food prepared most of time in hotels, as well as in restourants. But also it can be easily prepared in the home as a food. Then the following lists are the optimized cheep preparation procedures that the researcher was used during the preparation time.

- ✓ Sample of cactus fruit was collected from the rural area, from the market as well as from the juice centers for the

preparation of cheeps to be come composite. Of course it has not any difference between those places. The only difference that can be observed was the variety of cactus in different areas. However, due to the shortage of time as well as budget the researcher has not studied yet the variety. Then, only the comen one (red) type of cactus was used for the preparation of the cheep.

- ✓ Cactus fruit in its nature had dangerous lochids; initially the unwanted lochids was removed by using grass from the external peel of the cactus fruit. Then the fruit was washed intially using tape water followed by the distilled water. After that the cactus fruit was peeled its external part to remove the unwanted external part of the fruit.
- ✓ The soft peel should left from the original fruit to ready for the next step.
- ✓ The juice was flesh and sieved (this can be done blender or mixer was used) this is used to obtain the free juice that can be used as a juice. Hence, this study has not any problem in health effect in its raw material.
- ✓ The juice was boiled for 20min to become ready for mixing with the soft peel together with other ingredients. Then after the mixture of sugar (500g), lemon juice (ml) and salt (50g) with the soft peel was then cooked for about two hour to obtain the cheep that was not well dried.
- ✓ The cheep which is not well dried was taken to become dry in un oven for 2 hour finally its moisture content of the cheep was calculated.[9] this dried cheep was become stayed for morethan four days without deterioration.

3.3 Comparison with potato cheep available in the market.

To become scientific and the researcher work reliable it should have to be compared the quality and quantity of cheep prepared in the current study with the cheep available in the market. Therefore, fresh cheep was bought from the Restourant in Adigrat city and had tried to compare with the current cheep. The following similarity was observed in the two cheeps.

- Quality nature: when the researcher compared the quality of the two cheeps. They shown comen property such as; dried enough, they can stay for morethan three days without deterioration, they have the same smile, similarly sweet with certain raw material difference etc.

3. Conclusion and recommendation

4.1 Conclusion

The method chosen to prepare the cheep was very efficient so as to obtain the finished products. Short time, small chemicals, easily preparation in the home are the basic characteristics that make good quality. Good moisture contents was recorded that can be agree with the previos study. Similar quality of cheep was obtained compared with the potato cheep available in the market. Easily and efficient food can be prepared for the rural area as well as for the society.

4.2 Recommendation

Cactus fruit was mostly occurred in Adigrat rural area. Based on this the researcher selects this preparation cheeps from other fruits so as to obtain an alternative food for the society. The, the researcher gave the following comments for the peoples as well as stakeholders of cactus fruit:

- The society should aware the usage of cactus in the form of cheep.

- The farmers as well as peoples who harvest cactus fruit should keep their cactus from wastage.
- The government should educate the peoples harvesting this cactus fruit.
- Other researcher should be egger enough in preparing another innovative invension on cactus as it become rich in nutritional and medicinal value.

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