

Development and Analysis of Pomegranate Ice Cream

Shreya Tiwari¹, Dhanya Joseph²

¹M.Sc. Food Technology, Department of Food Technology, PIAS, Parul University Vadodara, Gujarat, India

²Assistant Professor, Department of Food Technology, PIAS, Parul University, Vadodara, Gujarat, India

ABSTRACT

The study was undertaken to check the various parameter tests of sensory evaluation, antioxidant activity, microbial analysis and cost analysis of Pomegranate Ice-Cream. The test of parameters was done of prepared ice-cream after the freezing process. The present study is based upon the determining and collection of sensory evaluation, antioxidant activity, microbial analysis of various parameters. Pomegranates are rich in antioxidants and vitamins. Pomegranate also reduces the growth of cancer cells. Pomegranate is one of top heart friendly fruits. Pomegranate ice-cream is a healthy dessert without any addition of preservatives to it. Icecreams are poor in polyunsaturated fatty acids and phenolics. By adding Pomegranate juice to the icecream it will increase the quantity of fatty acids and phenolics in it. By this the Icecream will become antioxidant and antidiabetic. 3 Types of Ice Creams were made. A was Pomegranate Ice Cream with 2 tsp Stevia, B was Pomegranate Ice Cream with 1 tsp Stevia, C was Pomegranate Ice Cream with No Stevia. Sensory evaluation of Ice Cream samples was carried out for attributes such as flavour, texture, taste and overall acceptability. Results of sensory evaluation shows that sample C is most acceptable.

KEYWORDS: Pomegranate, Antioxidant, Antidiabetic, Pomegranate Ice Cream

1. INTRODUCTION

Ice Cream is a very popular dairy frozen dessert among consumers of all ages in India, including many countries, mainly because of its refreshing coolness and flavour. The ice-creams consumption in India has over the years grown steadily. The development of a natural icecream could provide a dietary alternative to such consumers. Several herbs native to India possess antioxidant properties and have been used as food ingredient. Products have systematic activity, anticarcinogenic, anti-inflammatory and antiviral effects as well as decreasing the production cancer cells and even triggering apoptosis or cell death in cancer cells. The Pomegranate shrub is grown for ornamental purposes as well as for the fruit and has been used as a constituent of antiviral and antifungal preparations. A survey of literature reveals that the tannins from the pericarp of pomegranate exhibit antiviral activity against the genital herpes virus. Pomegranate is also used as a part of fungicidal properties. Pomegranates are low in calories and fat but high in fiber, minerals, and vitamins. The small pink seeds inside a pomegranate, called the arils, are

the edible portion of the fruit. Pomegranates are rich in antioxidants and polyphenolic compounds that offer protection. The main bioactive compounds with antioxidant activity that are found in pomegranates are called punicalagins, anthocyanins, and hydrolysable tannins. Getting antioxidants from vegetable and fruits such as pomegranate is a great way to support overall health and help prevent diseases. Pomegranate peel is a part of preparation used for treating acne, allergic dermatitis and scald for curing diarrhea and dysentery and as a part of the medicine for the treatment of oral diseases. The presence of antioxidant has been reported from pomegranate juice. Pomegranate is used as a remedy for diabetes, it may help decrease insulin resistance and lower blood sugar. Icecreams are poor in polyunsaturated fatty acids and phenolics. By adding Pomegranate juice to the icecream it will increase the quantity of fatty acids and phenolics in it. By this the Icecream will become antioxidant and antidiabetic. The effects on sensory, antioxidant, and microbial analysis of Pomegranate ice cream were also studied.

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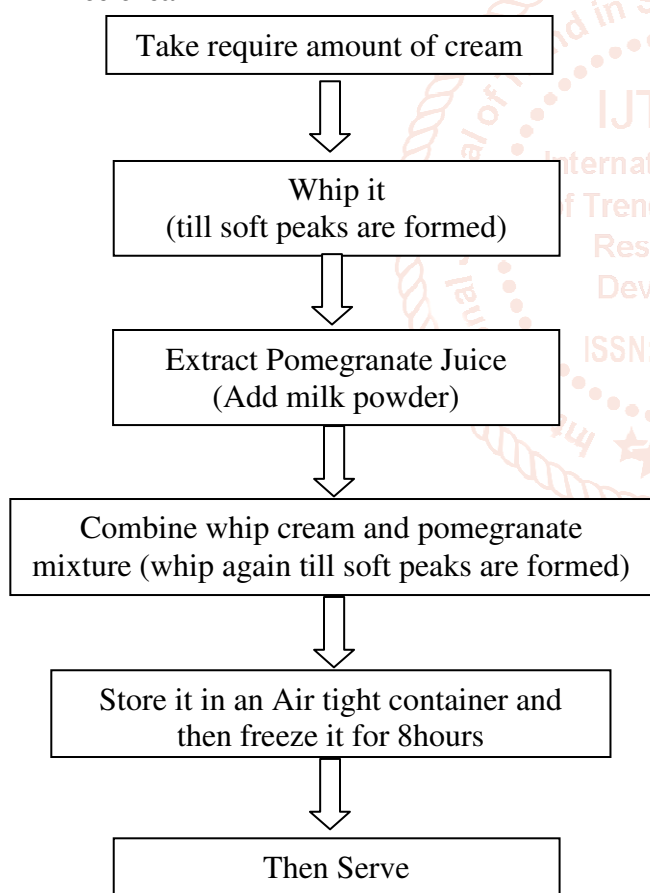
2. MATERIALS AND METHODOLOGY

2.1. PREPARATION OF SAMPLE

Pomegranate fruit, Whipping Cream and Milk Powder were collected from the local market.

3 Types of Ice Cream were made. A was Pomegranate Ice Cream with 2 tsp stevia, 2 cups Whipping Cream and 3 tbsp of Milk Powder. B was Pomegranate Ice Cream with 1 tsp stevia, 2 cups Whipping Cream and 2 tbsp of Milk Powder. C was Pomegranate Ice Cream with no stevia, 2 cups Whipping Cream and 1 tbsp Milk Powder. Take the required amount of whipping cream, start whipping it till soft peaks are formed. Now extract Pomegranate Juice and add the required amount of Milk Powder. Now combine whipping cream and pomegranate juice mixture and fold it and start whipping it again till soft peaks are formed. Store it in an airtight container and Freeze it for 8 hours. All the ice creams were used for testing.

2.2. Flowchart for Preparation of Pomegranate Ice cream



2.3. SENSORY EVALUATION

Sensory Evaluation of Ice Cream samples was carried out for attributes such as flavour, texture, appearance, and overall acceptability by 10 semi-trained members based on a 9-point hedonic ranking scale. It is given here, 9 = like extremely, 8 = like very much, 7 = like moderately, 6 = like slightly, 5 = neither like nor dislike, 4 = dislike slightly, 3 = dislike moderately, 2

= dislike very much, 1 = dislike extremely, for various parameters, including appearance, texture, taste, consistency and overall acceptability. Three samples were coded as A, B and C. The order of presentation of samples was randomised for each panellist. The samples were kept without giving any prior information about the coded samples. They were supposed to taste it and give a score on the scale.

Once the tasting was done panellists were asked to fill the sensory sheet. Most accepted sample was tested for Total Fat, Protein, Reducing Sugar, Antioxidant Test, Storage study and Microbial Analysis.

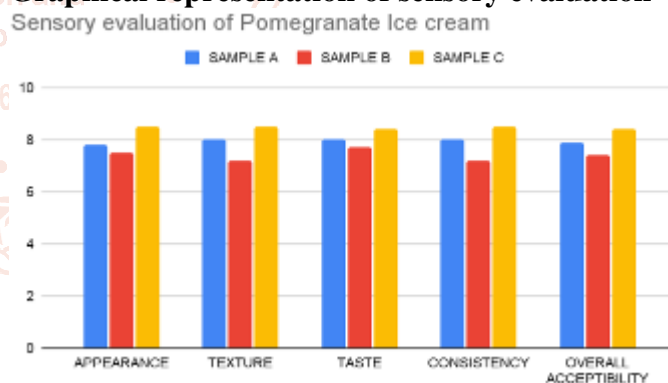
3. RESULT AND DISCUSSION

3.1. Sensory Evaluation Of Pomegranate Icecream

The mean scores for sensory of A, B and C are shown in figure. Sample C containing only pomegranate juice, milk powder and whipping cream had the highest score for appearance, texture, taste, consistency and overall acceptability. The subtraction of stevia from the ice cream has improved its texture, taste, appearance and consistency.

Sample A and B had an acceptable but slightly average flavour. These samples received lower ratings for look and flavour than Sample C, which didnot contain stevia.

Graphical representation of sensory evaluation



3.1.1 Sensory Evaluation Parameters

3.2. Test Results of Pomegranate Ice Cream

TEST	RESULT
Fat	7.9 gm
Protein	3.5gm
Reducing sugar	13%
Antioxidant test	Polyphenol present
E.Coli	Absent
Listeria spp	Absent
TPC	Absent
Storage study	-18°C temperature
Storage study	40-50 days

4. Conclusion

The aim of the study is “To check the Development and Analysis of Pomegranate Ice Cream”. Icecreams

have always been the most popular among all the age groups. It can be concluded from above results and study that Ice creams can also be good for health and heart. Pomegranates are rich in antioxidants and vitamins. Pomegranate also reduces the growth of cancer cells. Pomegranate is one of top heart friendly fruits. Pomegranate ice-cream is a healthy dessert without any addition of preservatives to it. Icecreams are poor in polyunsaturated fatty acids and phenolics. By adding Pomegranate juice to the icecream it will increase the quantity of fatty acids and phenolics in it. By this the Icecream will become antioxidant and antidiabetic. Three Ice cream samples were made, Sample A contains Pomegranate Ice Cream with 2 tsp Stevia, B was Pomegranate Ice Cream with 1 tsp Stevia, C was Pomegranate Ice Cream with No Stevia. The results of sensory evaluation shows that Sample C was most acceptable. Pomegranate Icecream sample C got 8.5 overall acceptability which indicates that the icecream ranged between like very much and like extremely. Ice cream sample C contains Total Fat content is 7.9 gm, protein content is 3.5 gm and in microbial test E.coli, Listeria spp, TPC is absent in sample thus it proves that Pomegranate Ice cream sample C is safe for human consumption. Pomegranate Ice cream is a good healthy alternative as compared to normal ice cream.

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Disclosure of conflict of interest

The authors declare that there is no conflict of interest

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