



# Preparation And Standardization of Herbal Fruit Juice

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## *Abstract*

### *Preparation And Standardization of Herbal Fruit Juice*

Human nutrition science has moved from a focus in the prevention of nutrient deficiencies to an emphasis on health maintenance and reduce the risk of chronic diseases. Fruits have formed an essential dietary supplements since early times, providing nutritionally valuable components. The most significant contribution that fruit makes to our diet is by the way of vitamins, being rich in both ascorbic acid, Beta carotene( precursor of vitamin A). Fruits have high content of water and contain various minerals like sodium, potassium, iron and other elements in small amount. On the other hand herbs have played an important role in man's life. Spices are termed with magical powers probably due to medical value. The Juice is prepared by blending pineapple juice with Amla juice, Aloe Vera juice, Honey, Lemon juice, Mint juice, Ginger juice and common salt. Mature and ripe fruit were selected subjected to washing, sorting and trimming followed by peeling, juice extraction and straining. Pineapple juice was taken addition of Aloe Vera, Amla, Lemon, Ginger and Mint juice was done. Then honey and common salt were added and mixing of the ingredients was done. Then straining of the blended juice was done with the help of muslin cloth to remove suspended particles present. Then bottling and capping of bottles was followed by pasteurization (65°C for 15minutes) Cooling was done, Bottles were sealed labelled and storage of juice done at 5 – 6°C

Keywords:- Blending, Sorting, Extraction, Pasteurization.

## Introduction

Fruits have formed an essential dietary supplement since the early times, providing nutritionally valuable components. The most significant contribution that fruits make to our diet is by the way of vitamins, being rich in both ascorbic acid, Beta-carotene, ( precursor of vitamin A). Fruits have high content of water and contain various minerals like sodium, potassium, iron and other elements in small amounts. That is the reason why most fruits can be eaten in unlimited amounts without any undesirable effects on health.

On the other hand herbs have played an important role in the man's life for countless years. Some herbs are assumed to have magical properties, probably because of their medical values. Like Ginger has found effective against cold, coughs etc. and mint is used in medicines for stomach disorders and in cough drops etc. Aloe Vera is rich source of minerals and has an anti-inflammatory benefits and can help in blood and lymph circulation.

Since ages, scientists and horticulturists have been exploiting the use of several fruits and vegetables for the betterment of mankind. India is the world's second largest producer of fruits and vegetables but hardly 15% of produce is processed. Post harvest losses of fruits and vegetables are up to 50% of the produce. One of the ways of processing fruits is juice preparation. A fruit juice is defined as the clear or uniformly cloudy, unfermented liquid obtained from sound fruits by pressing or other mechanical means.

One can prepare juice from one or more fruits or sometimes juices of different fruits and vegetables are blended to obtain the new rightly balanced flavored, highly palatable and refreshing drink. Different juices can be mixed to utilize too sweet, bitter or a acidic fruits which are usually not acceptable or palatable but are nutritionally rich.

Hence to develop a product which has a nutraceutical properties and a blessing for the consumer, combination of fruits and herbs was prepared. In this product different ingredients i.e. Pineapple, Honey, Aloe Vera, Amla, Ginger, Mint, Lemon and Salt are mixed in right proportion to obtain a healthy and refreshing drink.

Among the various fruits available one of the juiciest fruit that is absolutely a delight to eat is the pineapple. Pineapple juice is delicious and refreshing and is one of the most favorite drink of many people during hot weather. Honey which is collected from the various beehives has been found to bestow a number of health and nutritional benefit on the users. The Aloe leaf contains 20 minerals, 18 amino acids, 12 vitamins. It is also a natural fighter against all sorts of infections, acts as an efficient antioxidant, helps in all digestion related problems, arthritis, stress, cold, diabetes. It's juice is not much acceptable as such but by blending it with some other juice its nutraceutical properties can be utilized. Amla is the fruit of a deciduous plant. It is very good source of vitamin C and has been found to have a good antioxidant properties. A part from helping to cure the number of ailments, it also boost the immune system of an individual. Infact, amla is regarded as a widely used herb in case of ayurvedic medicines owing to its high nutritional and medical values. Lemon is either squashed as lemonade or simply used as a cooling or garnishing ingredient. Lemons are very high in nutritional value. Due to their therapeutic properties, lemons are also popular in the field of traditional medicines. Mint has a distinct flavor with cooling effect. Both fresh and dried mint finds its usage in preparing a large numbers of recipes, including curries, soups, chutneys, salads, juices, candies and ice creams. Ginger has been in the use since ages, both as a spice as well as a herb. The nutrients present inside ginger, especially its volatile oils-gingerol and shogol, accord a number of health benefits to its users. Infact, ginger has also been fined to be an effective in fighting against some fatal ailments like cancer. Salt is used for its preservative and dehydrating property. Another purpose of using salt is to remove the rawness (off-flavors) that is common in some cereals, to enhance the flavor and to improve the palatability.

Flow Chart for Preperation of Pineapple Juice

Pineapple  
(Mature, Ripe and Fresh)

↓  
Washing

↓  
Peeling

↓  
slicing

↓  
(Juice Extraction)

↓  
Filtration

↓  
Pasturization  
(65° for 15min)

↓  
Pineapple Juice

Flow Chart for Preperation of Amla Juice

Amla  
(Ripe and Fresh)

↓  
Washing

↓  
Sorting

↓  
Crushing

↓  
Removal of Seeds

↓  
(Juice Extraction)

↓  
Filtration

↓  
Amla Juice

Flow Chart for Preperation of Lemon Juice:-

Lemon

↓  
Cut into Halve

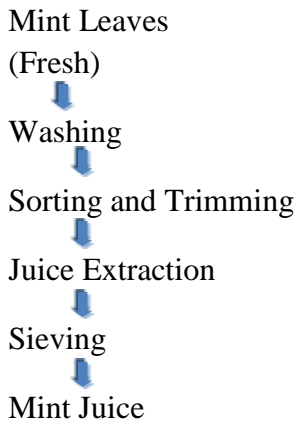
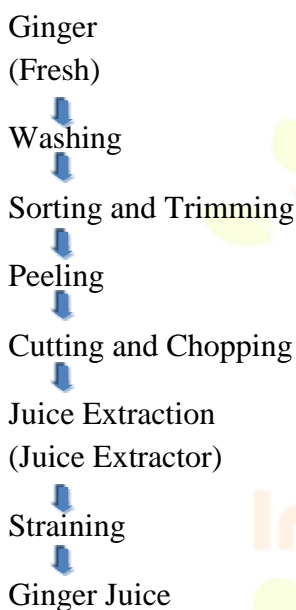
↓  
Removal of Seed

↓  
Juice Extraction

↓  
Straining



## Lemon Juice

Flow Chart for Preperation of Mint Juice:-Flow Chart for Preperation of Ginger Juice:-PREPERATION OF HERBAL FRUIT JUICE:-

Pineapple Juice was taken, addition of Aloe VERA, Amla, Lemon, Ginger and Mint Juices was done. Then honey and common salt were added and mixing of the ingredient was done.. Then straining of the blended juice was done with the help of muslin cloth to remove suspended particles present. Then bottling and capping of bottles was followed by pasteurization (65 °C for 15 min) cooling was done, sealing of bottles, labelling and then storage of Juice at 5-6 °C

Flow Chart for Preperation of Herbal Fruit Juice:-

Pineapple Juice

Addition of  
Aloe Vera, Amla, Lemon, Ginger, Mint JuicesAddition of  
Honey, Common Salt

Mixing



Filtration



Bottling and Capping



Pasteurization(65 °C for 15 min)



Cooling



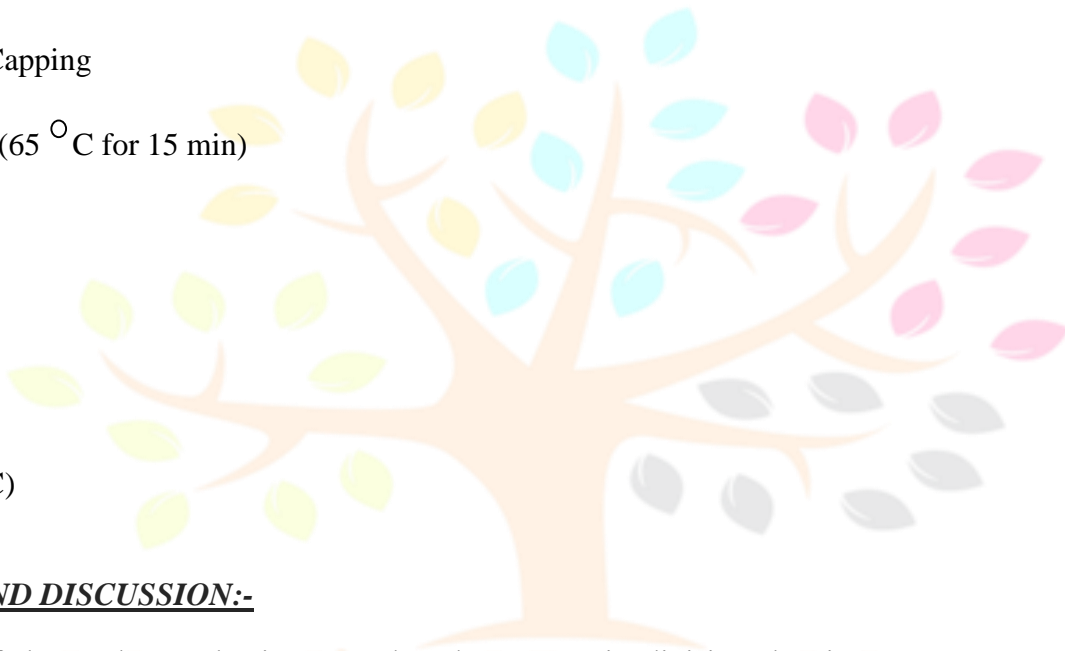
Sealing



Labeling



Storage(5-6°C)

RESULTS AND DISCUSSION:-

The result of the study can be interpreted under two main division that is “SENSORY AND PHYSICO CHEMICAL ANALYSIS”.

1.Sensory Characteristics:- The sample was subjected to sensory evaluation by panel of 10 members drawn from the faculty and students of department. The product was evaluated for appearance, flavor and overall acceptability. The evaluation was carried out by numerical scoring test. The sample questionnaire for a numerical scoring test was given to the panelists. For sample questionnaire refer figure No. 7

2. Chemical Analysis:-

The sample of juice was analysed to find out its acidity.

Titration acidity:- It was determined by titrating the juice against freshly prepared 0.1 N NAOH using phenolphthalein as an indicators

$$\text{Percentage acidity} = \frac{\text{titrable value} \times \text{normality} \times \text{equivalent weight} \times 100}{\text{Weight of sample} \times 100}$$

Weight of sample x 100

- i) pH- was determined by the digital type of pH meter.
- ii) Total soluble solids (T.S.S.) The T.S.S. is defined as the amount of sugar and soluble minerals present in fruits and vegetables. It was defined by hand refra ctrometer.

Table

S.No.	Parameter	Values
1.	Acidity(%)	0.315
2.	T.S.S. °Brix	23
3.	pH	3.6

$$1. \text{ Titration acidity } \% \text{Acidity} = \frac{\text{titrable value} \times \text{normality} \times \text{equivalent weight} \times 100}{\text{Weight of sample} \times 100}$$

$$= \frac{10.5 \times 40 \times 0.075}{10 \times 1000} \times 100$$

$$= 0.33\%$$

2. T.S.S. of the product was found to be 23° Brix.

3. The pH of the product was found to be 3.6.

Sensory analysis of the Herbal fruit juice was carried out and the juice was found to be acceptable. Similarly, chemical analysis of the juice was also done. The titrable acidity of the juice found to be equal to 0.33% , T.S.S. was found to be 23° Brix and pH was 3.6. Thus, Herbal fruit juice is chemically also acceptable.

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