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**Research Article.....!!!**

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## **QUANTITATIVE DETERMINATION OF ASCORBIC ACID AND CHEMICAL PARAMETERS OF VARIOUS FRESH FRUIT JUICES**

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### **Keywords:**

Fruit juices, ascorbic acid, citric acid, juice yield, specific gravity

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### **ABSTRACT**

Ascorbic acid acts as an antioxidant and helps to protect the body. The juice yield, specific gravity, density, pH, ascorbic acid content and acidity of apple, pineapple, watermelon, orange and pomegranate are determined. High ascorbic acid content is observed in apple and pomegranate.

## INTRODUCTION

Fruit juices are refreshing drinks and are rich sources of many vitamins. These are the necessary dietary food items and cheaper when compared to other sources. To prevent tissue damage vitamin C is very important because it has antioxidant properties. It is recommended that a minimum daily intake of 400g of fruits and vegetables is necessary for proper maintenance of health by WHO(1). It is essential to determine the physico-chemical parameters of various fresh fruit juices in order to know nutritional values and to know which fruit is superior.

## MATERIALS AND METHODS (2-7)

Sodium hydroxide, iodine, sulfuric acid, phenolphthalein and oxalic acid are used and all these are of analytical reagent grade.

### Juice yield:

The percentage of juice yield is calculated by using Tressler and Joslyn mathematical expression.

$$J_y = 100 Q_p / (Q_p + Q_R)$$

### Specific gravity and density:

By using specific gravity bottle, specific gravity and density of juices are determined by using specific gravity bottle. These parameters are calculated by using the following formulas

$$SG = W_J / W_W$$

$$\text{Density} = 1000SG$$

### pH determination:

By using pH meter, pH values are recorded.

### Ascorbic acid content:

By using Hartely's method the ascorbic acid content of juices are calculated.

### Total titratable acidity:

By using Ishiwu and Oluka mathematical expression it is calculated after performing the titration with 0.1N standardized sodium hydroxide and phenolphthalein as an indicator.

## RESULTS

The physico chemical parameters of apple, pineapple, watermelon, orange, and pomegranate are listed in the table.

Fruits	Juice Yield (Jy)	Specific Gravity(SG)	Density	pH	Ascorbic acid	Acidity
Apple	65.4668	1.013892	1013.892	5.76	0.621086	0.0224
Pine apple	67.7029	1.014655	1014.655	4.70	0.061134	0.0518
Water melon	31.9694	1.02648	1026.48	6.03	0.042528	0.0546
Orange	54.7035	1.0133	1013.3	5.10	0.09303	0.0224
Pomegranate	24.2252	1.020990	1020.990	4.27	0.675132	0.0147

## DISCUSSION

Traditionally consumed portions of fruits are taken to determine physico chemical parameters(8,9).L-Ascorbic acid is the active form of vitamin-C. The present study reports that more ascorbic acid content is noticed in apple and pomegranate. High juice yield is noticed for apple and pine apple. Watermelon showed pH value nearer to 7.Total titratable acidity is less for pomegranate and high for pine apple and watermelon.

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