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RESEARCH ARTICLE

FORMULATION AND QUALITY CHARACTERISTICS OF MOCKTAIL SQUASH

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ABSTRACT

The current study is aimed at formulating a mocktail squash and to assess its physico-chemical and sensory characteristics. The squash was formulated using watermelon and pineapple. Fresh watermelon and pineapple juice were extracted. The fruit juices were mixed in the ratio of 3:2. Squash was formulated from juice, sugar and distilled water in the ratio 1:1.5:1. The formulated squash was evaluated on its physico chemical properties like pH, titratable acidity, reducing sugars and total sugars using standard protocols. The results of the physico chemical analysis were as follows: The pH of the squash was found to be 4.26 ± 0.02 . The titratable acidity was $4.14 \pm 0.53\%$. Reducing sugar content was 11.36% while the total sugars present were found to be $10.83 \pm 1.4\%$. The product was found to be sensorially well accepted by semi trained panellists and had an overall acceptability of 8.1. Thus this study reveals the possibility of preserving watermelon and pineapple juice in the form of a squash.

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INTRODUCTION

Fruit squashes are becoming very popular these days mainly because of their extended shelf-life, nutritive value and taste. Mocktail is a non-alcoholic beverage containing a mixture of fruit juices. Fast growing health conscious population demand a lot of health benefits in every new product that is launched in the market. This demand paves way for the formulation of this mocktail squash. A watermelon contains about 6% sugar and 91% water. It is a good source of vitamin C and is low in fat and sodium. The amino-acid citrulline is produced in watermelon rind. Watermelon pulp contains carotenoids, including lycopene. Pineapple is rich in manganese and vitamin C and it helps in preventing cough and cold. It also strengthens bones and improves digestion. The main objective of the study was to formulate a mocktail squash which will be a ready to serve product when mixed with any carbonated beverage. The next objective was to analyze the physico – chemical properties and sensory acceptance of the product.

MATERIALS AND METHODS

Procurement of ingredients: Fresh and sound fruits of Watermelon (*Citrullus lanatus*) and Pineapple (*Ananas Comosus*), sugar and sodium benzoate were procured from local market in Chennai.

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Fruit juice extraction

Fresh watermelon and pineapple were taken and the peels were washed. The peels were removed and the edible portion was sliced (2 cm long and 0.5 cm thick). The juice was extracted using a domestic blender. The juices were then clarified thrice using muslin cloth into a clean container.

Squash formulation

The extracted watermelon and pineapple juice were mixed in the ratio of 3:2. Squash was formulated from juice, sugar and distilled water in the ratio 1:1.5:1. The portable water was heated to 100°C to which sugar was added. This mixture was heated until the total soluble solid content reached 40° Brix. The sugar syrup was cooled to room temperature (32°C) and juice was stirred into it. Finally sodium benzoate (1g/L) was added and the resulting squash was stored in a sterilized, airtight bottle. The bottle was refrigerated (4°C) until further analysis.

The formulated squash was reconstituted with carbonated water in the ratio 2:3 to obtain a mocktail.

ANALYTICAL PROCEDURES:

The experimental squash was tested for its pH, titratable acidity, reducing sugar and total sugar.

The physico – chemical analysis were carried out using standard procedures for the squash. The tests conducted are as follows : the pH of the squash was found using a pH meter (Ranganna, 1986), the Titratable acidity of the squash was found using approved acid- base titration method (Ranganna, 1956), Brix was found using a refractometer, Reducing sugars and total sugars were found using approved methods as given in Ranganna , 1986 (Lane and Eon method) Sensory analysis was carried out for the product using a nine – point hedonic scale.(9= like extremely and 1 = extremely dislike) using 30 semi- trained panellist and the product was evaluated for attributes like color, flavor, taste, mouth feel, sweetness, after taste and overall acceptability of the product.

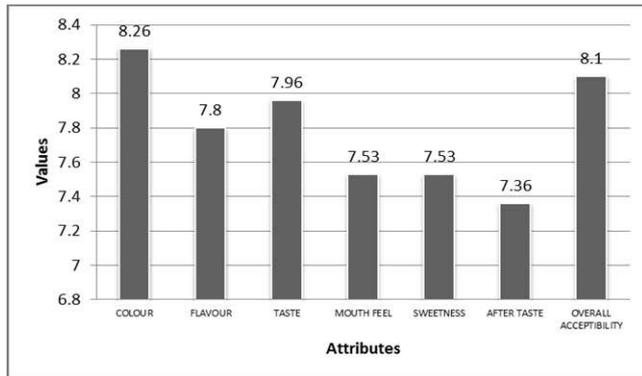


Figure 1. Results of sensory analysis for mocktail squash

RESULTS AND DISCUSSION

Data pertaining to pH, Titratable acidity, reducing sugar, total sugar and dispersibility was determined. The results are as follows: The pH of the squash was found to be 4.26 ± 0.02 . The titratable acidity was $4.14 \pm 0.53\%$.

Reducing sugar content was 11.36% while the total sugars present were found to be $10.83 \pm 1.4\%$. The pH range for a squash is from 3.0 to 5.90. The product has a pH of 4.26 which is acceptable. For a pH of 4.26 the product has an acidity of 2.035 which is acceptable. The total and reducing sugar content for normal squashes are 10- 14. The formulated product falls under that category. It also has a high dispersibility of 3 seconds. The product was tested for various attributes like color, flavor, taste, mouthfeel, sweetness, after taste and over all acceptability. The product received a good response from all panelists and had an overall acceptability of 8.1 on a 9 point hedonic scale. The colour of the product was rated as 8.26. This reveals that the formulated squash was visually well accepted.

Conclusion

The squash was formulated using fresh fruits making it a preferred product for health-conscious consumers. As the number of working population is increasing, people's preferences are increasing moving towards convenience goods. The product is in par with other squashes in all the tests that were performed. Also, the product has an overall acceptability of 8.1 on a nine point hedonic scale. Thus this study reveals the possibility of preserving watermelon and pineapple juice in the form of a squash.

REFERENCES

- Codex Standard, 1999. for Sugars1, CODEXBSTAN 212 – 1999.
- Ranganna 1986. Manual of analysis of fruit and vegetable products. Tata Mc Graw Hill 2nd edition. New Delhi.
