

# Sensory evaluation of whey based pineapple beverage

D. REVATHI AND VINITA SINGH

Whey as a by-product of the cheese industry is a source of biological and functional valuable proteins. The investigation was conducted on utilization of pineapple flavour for the preparation of whey based pineapple beverage (WBPB), with a view to assess the possibility of paneer whey beverage using pineapple flavour in the preparation of beverage. 9 formulations were prepared with different level of whey, sugar and pineapple flavour. The different levels of sugar and pineapple flavour had a definite effect on improving the sensory quality of the beverage. The beverage prepared by utilizing paneer whey with 12 per cent sugar and 0.2ml of flavour (T<sub>3</sub>), had secured the highest sensory score (8.37) and ranked as most acceptable product followed by T<sub>4</sub> with 8.15 points sensory score. The overall organoleptic quality was observed in case of fresh beverage made from 12 per cent sugar with 0.2ml of pineapple flavour.

**Key Words :** Pineapple flavour, Paneer, Beverage

**How to cite this article :** Revathi, D. and Singh, Vinita (2012). Sensory evaluation of whey based pineapple beverage. *Food Sci. Res. J.*, 3(2): 229-231.

## INTRODUCTION

Soft beverage industry has made significant progress during last several years in terms of production, but there is only a limited range of flavours available in India. Many types of syrups, sherbets and soft drinks containing artificial fruit flavours are well known through out the world. At present fruit beverages are generally synthetic flavoured, bottled and sold in the market. Beverages based on whey continue to receive a considerable amount of attention reflecting a growing awareness of the potential of these products in the market place. These beverages have high nutritional quality and increased energy value. These could be particularly useful in place where there is lack of food and improper nutrition leading to deficiencies of certain nutrients.

Whey possesses preventive and curative elements and is especially used to treat a wide variety of ailments such as arthritis, anemia and liver complaints. Whey is the watery liquid remaining after milk has been curdled and strained. It contains

about half of the total solids of milk and source of precious nutrients like whey proteins, lactose, milk salts and most of water-soluble vitamins, lactoflavin which is responsible for green yellow colour of whey.

In recent years, the success of whey drink "Revella" gained through its first introduction in Switzerland in 1952 has been extended to Netherland also (Hoogstraten, 1987). Chocolate drink based on acid whey "Thumps up" is marketed in USA. In India also a number of refreshing and low cost whey drinks "Whevita "Acidowhey" have been developed. These drinks are prepared from paneer and chhana whey which is acidic and low protein content.

For better utilization of whey on small scale an attempt has made, to produce a soft drink, in the department of Animal Husbandry and Dairying, C.S.A. University of Agriculture and Technology, Kanpur (U.P.). Since this could be produced at house hold level.

## METHODOLOGY

### Extraction of whey:

Good quality fresh cow milk was procured and then strained through muslin cloth. Then the milk was transferred to stainless steel vessel and brought to boiling by heating. The vessel was then removed from the fire. The coagulant like citric acid (2.0%) was added slowly and stirred to have uniform mixing.

Then the mass was poured over stretched piece of clean

---

### MEMBERS OF RESEARCH FORUM

---

#### Author for correspondence :

**D. REVATHI**, Department of Food Science and Nutrition, College of Home Science, Chandra Shekhar Ajad University of Agriculture and Technology, KANPUR (U.P.) INDIA  
Email: revathi.je@gmail.com

#### Associate Authors' :

**VINITA SINGH**, Department of Food Science and Nutrition, College of Home Science, Chandra Shekhar Ajad University of Agriculture and Technology, KANPUR (U.P.) INDIA

---

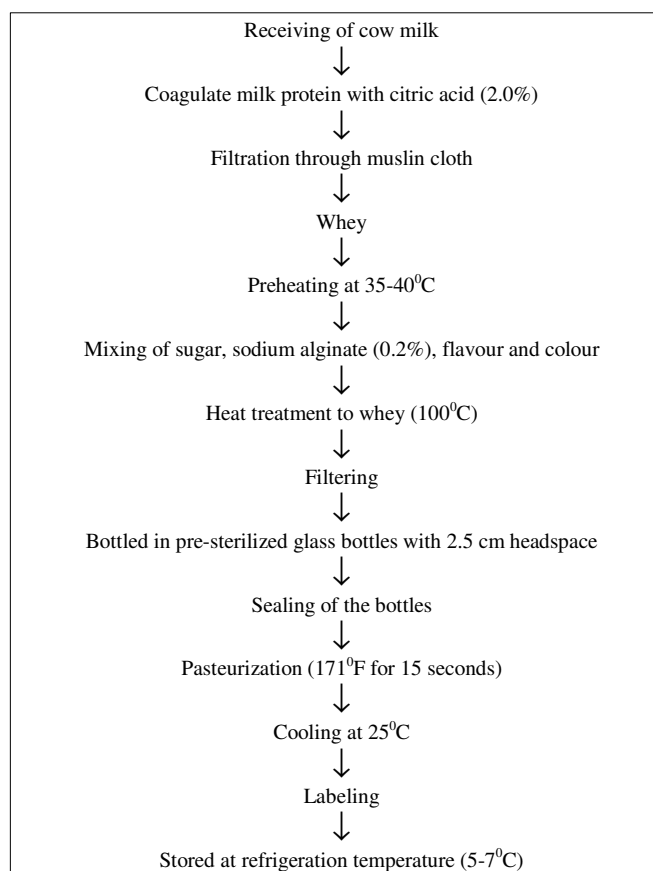
muslin cloth over another vessel to drain the whey. The clear drained whey was collected in vessels. The yellowish whey was used for preparation of whey beverage.

#### Preparation of beverage:

Process flow chart for the preparation of whey based pineapple beverage

#### Sensory evaluation:

The sensory evaluation of flavoured milk samples was carried out by a panel of judges. Scoring of samples was done on 9 point Hedonic scale as recommended by Moroney (1975).



**Fig. A.** Process flow chart for the preparation of whey based pineapple beverage

Table A. Average chemical composition of paneer whey	
Constituents	Composition (%)
Fat	0.37
Protein	0.48
Lactose	4.74
Ash	0.37
Total solid	5.97

#### Statistical method:

The data obtained in the present investigation was tabulated and statistically by using Factorial Completely Randomized Design.

### OBSERVATIONS AND ASSESSMENT

The finished product from all the treatment combinations was served to the judges. The scores given for various parameters for the sensory evaluation were analyzed and results are presented in Table 1.

#### Sensory evaluation:

##### Flavour:

The data pertaining to flavour score of beverage as affected by different levels of sugar and pineapple flavour are presented in Table 1. It is observed that the highest score for flavour 8.37 was observed for the treatment T<sub>5</sub> beverage prepared with 12 per cent sugar and 0.2ml of flavour. The lowest score 7.40 was observed for the treatment T<sub>9</sub> beverage made with 14 per cent sugar and 0.3ml of pineapple flavour. The flavour score of WBPB was significantly influenced due to addition of pineapple flavour.

##### Colour and appearance:

The data pertaining to colour and appearance score of WBPB as influenced by different levels of sugar and pineapple flavour. It is observed that the highest score for colour and appearance 7.95 was observed for the treatment T<sub>5</sub> beverage prepared with 12 per cent sugar and 0.2ml of flavour. The lowest score 7.33 was observed for the treatment T<sub>9</sub> beverage made with 14 per cent sugar and 0.3ml of pineapple flavour. The flavour score of WBPB was significantly influenced due to addition of pineapple flavour.

##### Sweetness:

The data pertaining to flavour score of beverage as affected by different levels of sugar and pineapple flavour are

**Table 1.** Effect of different levels of sugar and pineapple flavour on sensory quality of beverage

Treatments	Flavour	Colour and appearance	Sweetness	Overall acceptability
T <sub>1</sub>	7.75	7.60	8.13	7.68
T <sub>2</sub>	8.10	7.55	8.23	7.73
T <sub>3</sub>	7.72	7.85	8.10	7.55
T <sub>4</sub>	8.15	7.83	8.27	8.05
T <sub>5</sub>	8.37	7.95	8.32	8.08
T <sub>6</sub>	7.90	7.82	8.13	7.85
T <sub>7</sub>	7.52	7.55	7.95	7.28
T <sub>8</sub>	7.67	7.58	7.88	7.35
T <sub>9</sub>	7.40	7.33	7.68	7.25

presented in Table 1. It is observed that the highest score for sweetness 8.32 was observed for the treatment T<sub>5</sub> beverage prepared with 12 per cent sugar and 0.2 ml of flavour. The lowest score 7.68 was observed for the treatment T<sub>9</sub> beverage made with 14 per cent sugar and 0.3ml of pineapple flavour. The sweetness of WBPB was significantly influenced due to addition of different level of sugar.

*Overall acceptability:*

The overall acceptability of WBPB was significantly affected by addition of pineapple flavour and sugar. Beverage prepared with 12 per cent sugar and 0.2 ml of pineapple flavour for the treatment T<sub>5</sub> was significantly superior in respect of acceptability over rest of the treatments.

The better flavour, colour and appearance and sweetness in this product and was liked very much by the panel of judges. It indicates that WBPB prepared with 14 per cent sugar and 0.3ml of flavour for the treatment (T<sub>9</sub>) decreased the score for overall acceptability and it might be due to high intensity of colour, dense flavour and high concentration of sugar.

**Conclusion:**

It can be concluded that whey is found excellent for the development of whey based pineapple beverage with optimum sensory characteristics. The overall organoleptic quality was

observed in case of fresh beverage made from 12 per cent sugar with 0.2ml of pineapple flavour and stored at zero days. WBPB has excellent flavour, colour and overall acceptability and it was estimated to be high which means that pineapple flavour covered unpleasant taste of whey very successfully. The sweetness of the product seems to be highly appreciated characteristic that must be related to the consumer habits.

**LITERATURE CITED**

- De, Sukumar** (1993). Outlines of dairy technology. Oxford University, Press Delhi, 2(24): 98-100.
- I.S. 6273** (1971). Guide for sensory evaluation of foods. Part-1 optimum requirements, Indian Standard Institute, Manak Bhawan, NEW DELHI (INDIA).
- Minhas, Sonia and Sood, Sangita** (2011). Organoleptic and microbiological evaluation of cheese-whey and soy-whey based pear beverage. *J. Dairying Foods & Home Sci.*, 30(2): 90-93.
- Pawar, Sakhale and Ranveer** (2012). Studies on the development and storage of whey based RTS beverage from mango cv. KESAR. *J. Food Process Technol.* pp. 3-8.

■ **WEBLIOGRAPHY**

[www.arccjournal.com/indianjournals.com](http://www.arccjournal.com/indianjournals.com)

**Received :** 04.07.2012; **Revised:** 28.08.2012; **Accepted :** 12.09.2012