

Studies on chemical analysis of whey based pineapple beverage

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■ **ABSTRACT** : Whey is a nutritious byproduct from cheese, *Chhana* and *Paneer* containing valuable nutrients like lactose, proteins, minerals and vitamins etc., which have indispensable value as human food. The pineapple flavoured paneer whey beverage was prepared with the addition of different level of whey, sugar and pineapple flavour. 9 formulations were prepared for the chemical analysis on an average the pineapple flavoured paneer whey beverage of treatment T₁, T₂, T₃, T₄, T₅, T₆, T₇, T₈, and T₉ contained fat 0.36, 0.36, 0.36, 0.34, 0.34, 0.34, 0.32, 0.32 and 0.32 per cent, protein 0.62, 0.62, 0.62, 0.58, 0.58, 0.58, 0.54, 0.54 and 0.54 per cent, ash 0.41, 0.41, 0.40, 0.37, 0.37, 0.36, 0.34, 0.34 and 0.34 per cent, total solid 15.51, 15.51, 15.51, 17.30, 17.30, 17.30, 18.45, 18.45 and 18.45 per cent, Lactose 4.02, 4.02, 4.02, 3.85, 3.85, 3.85, 3.75, 3.75 and 3.75 per cent, respectively. The percentage of protein, ash, fat and lactose content of the product decreased with increasing level of sugar but the percentage of total solid content increased with increasing level of sugar.

■ **KEY WORDS** : Pineapple flavour, Paneer, Beverage

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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. Whey possess preventive and curative elements and is especially used to treat a wide variety of ailments such as arthritis, anemia and liver complaints. In India about 3 million tones of whey is produced annually containing about 2 lakh tone of valuable milk nutrients. Data say that, about 2.5 million tones of milk is being processed in nearly 200 dairy plants in India, and processing of 1 litre of milk generates about 8 to 10 litres of waste water depending on the type of products manufactured (Puranik, 1999).

Whey contains 93.94 per cent water hence it is too bulky and creates problem during storage and handling. Also the high lactose content cause rapid increase in acidity of raw whey, which complex for its utilization immediately after it is generated. There is an inversed awareness all over the world and the potential utilization of whey, primarily because of

pollution prevention regulation, economic conditions and future needs to ease world food shortage (Horton, 1995).

Lactose in whey is suitable substrate for acidophilic flora in the intestine for inhibit the growth of basophilic and putrefying micro-organisms. Lactose as compared to sucrose has low sweetness and low glycemic index and promotes healthy intestinal flora (Lifran *et al.*, 2000).

Chakka whey from cow milk contains minerals like Ca, Mg, P, Na, K, Cl, Cu, Fe and Zn at 113.50, 10.76, 73.62, 38.36, 130.20, 115.27, 0.0119, 0.057 and 0.370 mg/100 g, respectively. Buffalo milk chakka whey has higher concentration of Na, P and Cu and lower concentration of K and Cl than cow milk chakka whey. Total mineral contents of products ranges from 0.32 per cent for cow milk chakka whey to 0.65 per cent for buffalo milk chakka whey (Boghra *et al.*, 1998).

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.