## STUDIES ON PHYSICO-CHEMICAL CHARACTERISTICS OF ORANGE BASED PANEER WHEY BEVERAGE

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**Abstract:** Whey is a nutritious by product obtained from paneer, channa, cheese containing valuable nutrients like lactose, proteins, minerals and vitamins etc., which have indispensable value as human food. The orange flavoured paneer whey beverage was prepared with the addition of different level of whey, sugar and orange juice. The paneer whey beverage was prepared by using different levels of orange juice@ 10, 15, 20, 25 and 30 per cent with 8 per cent sugar. The overall acceptability of paneer whey beverage prepared with 25 per cent orange juice level was significantly superior and more acceptable than other levels of orange juice. Also formulations were prepared was studied for the chemical analysis on an average the orange flavoured paneer whey beverage of treatment  $T_1$ ,  $T_2$ ,  $T_3$ ,  $T_4$  and  $T_5$  contained fat 0.49, 0.45, 0.41, 0.33 and 0.23 per cent, protein 0.42, 0.49, 0.54, 0.58 and 0.65 per cent, total sugar 14.48, 15.10, 15.58,15.89 and 16.19 per cent, acidity 0.49, 0.53, 0.57,0.62 and 0.65 per cent, pH 4.71, 4.56,4.33,4.12 and 3.93, respectively. The percentage of fat and pH content of the product decreased with increasing level of orange juice but the percentage of protein, total sugar and acidity content increased with increasing level of sugar.

Keywords: Paneer whey, Orange juice, Beverage

## REFERENCES

Ahmed, E. I., Mamoun, O. A. and Asmahan, A. A. (2011). Microbial and chemical evaluation of wheybased mango beverage. *Advance J.Food Sci. and Technol.* **3** (4): 250-253.

Babar, R. B., Salunkhe, D. D., Chavan, K. D. and Thakare, V. M. (2008). Utilization of pomegranate juice for the preparation of chakka whey beverage. *J. Dairying, Foods & H.S.* **27** (2): 87-93.

**BIS** (1971) **IS: 6273, Part-II**: Guide for sensory evaluation of foods. Methods and Evaluation Cards. Bureau of Indian Standards, Manak Bhavan, Delhi.

**Bothe, M. S.** (2013). Studies on preparation of whey based mango herbal (lemongrass) beverage. Msc.(Agri.) thesis (unpub), M.P.K.V., Rahuri. (M.S.).

**Chatterjee, G., De Neve, J., Dutta, A. and Das, S.** (2015). Formulation and statistical evaluation of a ready-to-drink whey based orange beverage and its storage stability. Revista Mexicana de Ingenieria Quimica, **14** (2): 253-264.

**Divya and Kumari, Archana** (2009). Effect of different temperatures, timings and storage periods on the physico-chemical and nutritional characteristics of whey-guava beverage.*World J. of Dairy & Food Sci.* **4** (2): 118-122.

Flore-Andrade, E., Pascual-Pineda, L.A., Jimenez, M. and Beristain, C.I. (2013). Effect of whey protein –sucrose in the osmotic dehydration of apple. Revista Mexicana de Ingenieria Quimica, 12: 415-424.

Goyal, Nupur and Gandhi, D. N. (2009). Comparative analysis of Indian paneer and cheese whey for electrolyte whey drink. *World J. Dairy & Food Sci.* **4** (1): 70-72.

Gupta, S. K. (1976). Sensory evaluation in food. *Indian Dairyman.* **28** (8): 2931.

Klimczak, M., Malecka, M., Szlachta, A. and Gliszczy'nska-' Swiglo, A. (2007). Effect of storage on the content of polyphenols, vitamin C and the antioxidant activity of orange juices. *Journal of Food Composition and Analysis* 20, 313-322.

**Marshall, K.** (2004). Therapeutic applications of whey protein. Alternative Medicine Review 9, 136-156.

Naik, Y. K., Khare, A., Choudhary, P. L., Goel, B. K. and Shrivastava, A. (2009). Studies on physicochemical and sensory characteristics of whey based watermelon beverage. Asian J. Research Chem. 2 (1): 57-59.

**Panse, V.G. and Sukhatme, P.V.** (1967). Statistical methods for Agriculture Workers. 2<sup>nd</sup> Edn. ICAR, New Delhi.

**Parekh, J. V.** (2006). Emerging new technologies in dairy industry in India.

**Raut, H. K.** (2007). Utilization of orange juice for the preparation of chhana whey beverage. M.sc.(Agri.) thesis submitted to Dr.PDKV. Akola. (MS).

Sakhale, B. K., Pawar, V. N. and Ranveer, R. C. (2012). Studies on the Development and Storage of Whey based RTS Beverage from Mango cv. Kesar. *J Food Process Technol.* **3** (3): 148-152.

Walzem, R. L., Dillard, C. J. and German, J.B. (2002). Whey components: millennia of evolution create functionalities for mammalian nutrition: what we know and what we may be overlooking. Critical Reviews in Food Science and Nutrition 42, 353-375.

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