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Studies on estimation of cost of *Sanwa* (*Echinochloa frumentacea,* the barnyard millet) *Kheer* prepared with rose petal powder

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Abstract
Traditional Indian foods have been made by utilizing locally available fuels and consumed over the time immemorial. The traditional dairy products have a great assortment of sweets having social, cultural and economic importance and ethnic value. In view of the growing health consciousness, people are always in search of health promoting products in the market. The present investigation was aimed at estimation of cost of Sanwa (*Echinochloa frumentacea,* the barnyard millet) *kheer* prepared by adding rose petal powder. The *kheer* was prepared by using cow whole milk, barnyard millet flour, sugar and rose petal powder. The cost analysis per kg of the finished product was calculated and found to be Rs. 75.96, Rs.98.31, Rs.99.11 and Rs. 99.85, respectively for the treatments T_0, T_1, T_2 and T_3.

Keywords: Cost analysis, *Sanwa*, Barnyard millet, *Kheer*, rose petal powder

Introduction
The milk is complete ideal food due to its nutricontent. The people utilize it since immemorial time either in as liquid or the products thereof in daily diet. Milk is good source of proteins, fats, vitamins, mineral and other micronutrients. The milk production of India during the year 2020-21 is 208.3 million tones (NDDB: 2020) [2] and contributes for 22% of the world milk production. We are enjoying the *numero uno* position in milk production since last two decades. The milk lacks in fiber and antioxidants which are important in maintenance of good health. In view of filling this deficiencies an attempt was made to convert milk into value-added products by fortifying it with non-dairy ingredients, which are rich in iron, fiber and antioxidant content to make it an extraordinary food. Sanwa (*Echinochloa frumentacea,* the barnyard millet) *kheer* was prepared by adding rose petal powder. In India human population is estimated to be 1.38 billion, from this nearly 70-75 per cent people were living in rural area and they are facing problem of malnutrition which is condition of lacking the nutrient. According to the recent National Family Health Survey (NFHS) 2019-21, the 5th in the series India could not demonstrate significant improvement in health and nutritional status among its population. Around 7.7% of children are severely wasted, 19.3% are wasted and 35.5% are stunted and 44% children under the age of 5 are underweight. The research embodied in this manuscript reports a milk-based product value added with barnyard millet containing 12.5% protein and 3.6% fat makes it an excellent choice for fortification for under- nourished population. It has been demonstrated in several studies that introduction of millets into the diet had resulted in a statistical improvement of the stunting and body mass index of the children. Thus, the millets can be used as a potential fortificant for combating malnutrition and at the same time, exerting health-promoting benefits (Seetha *et al.*, 2022) [4]. The rose petals are used in decoration purposes and disposed off by neglecting the fact that it contains invaluable micronutrients *viz*. antioxidant, minerals and vitamin A, C, D, B3 and E (Nadaf *et al.*, 2012) [3]. Currently the Indian organized dairy sectorprocess about 22 million tons per annum, so as to increase the production of value added dairy productsthere is an urgent need to strengthen the infrastructure bypublic, private and cooperatives (Gauraha *et al*., 2018) [1].

Material and Methods
The present investigation was aimed at estimation of cost of production in development of *Sanwa* (barnyard millet) *kheer* withrose petal powder. The work carried out in the Department of Dairy Technology, Dairy Science & Food Technology College, D.S.V.C.K.V., Raipur (CG).

The *Kheer* was prepared by using ingredients like whole milk (fat 6% & SNF 9%), Basamati Rice, *Sanwa* (barnyard millet flour), sugar and rose petal powder. The cost analysis of the product was worked out by considering the cost of all the variables of different commodities, energy and miscellaneous used in preparation of the product.

Method of preparation of Rose petal powder added *Sanwa* (Barnyard Millet) *Kheer*

*The b*arnyard millet *kheer* withrose petal powder was prepared by using aforementioned ingredients as per the proportion given in Table 1. The product thus prepared was good source of protein, iron, fiber and antioxidants.

Table 1: Ingredients (g/100 g product) used in preparation of the product

Treatment	T0	T1	T2	T3
Milk	88	89.5	88.5	87.5
Rice/Sanwa	6	3	4	5
Rose Petal Powder	-	1.5	1.5	1.5
Sugar	6	6	6	6
Total	100	100	100	100

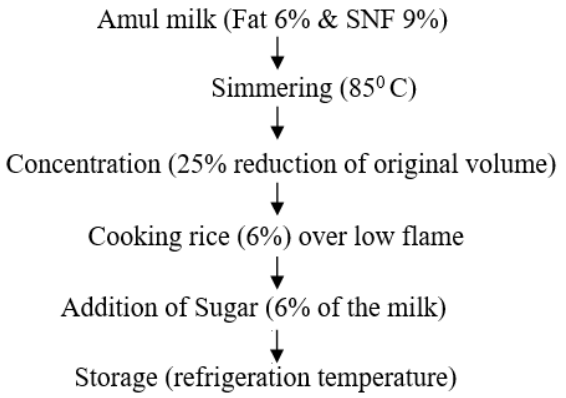

Fig 1: Flow diagram of preparation of rice *kheer* (control, T_0)

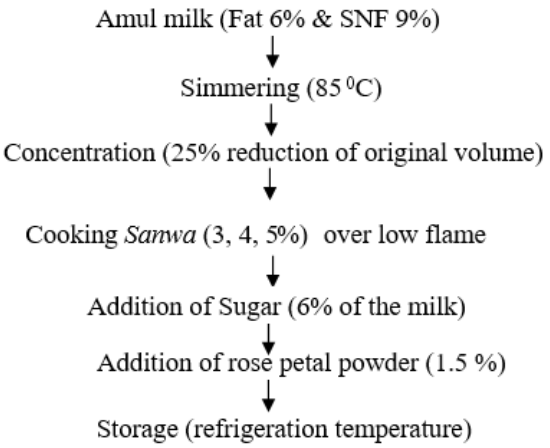

Fig 2: Preparation of *Sanwa* (*Barnyard millet*) *kheer* with rose petal powder

Table 2: Cost analysis of production of *Sanwa* (*Barnyard millet*) *kheer* with rose petal powder

Particular	Cost Rs /kg	T0		T1		T2		T3	
		Qty. (g)	Amount(Rs)	Qty. (g)	Amount(Rs)	Qty. (g)	Amount(Rs)	Qty (g)	Amount(Rs)
Milk	60/kg	880	52.80	895	53.70	885	53.10	875	52.50
Rice	85/kg	60	5.10	-	-	-	-	-	-
Sanwa	140/kg	-	-	30	4.20	40	5.60	50	7.00
Sugar	51/kg	60	3.06	60	3.06	60	3.06	60	3.06
Rose petal powder	1490/kg	-	-	15	22.35	15	22.35	15	22.35
Fuel Charges	Rs 5		5		5		5		5
Miscellaneous Charges	Rs 10		10		10		10		10
Total			75.96		98.31		99.11		99.85

Results and Discussion

The cost calculation for *Sanwa* (barnyard millet) *kheer* containing rose petal powder on account of raw materials used i.e. cost of milk, Basamati rice, Sanwa (barnyard millet), Sugar and rose petal powder was estimated simply by considering the price of each ingredients and the utilities. The cost estimated includes the raw materials, fuel and miscellaneous charges their cost incurred in the preparation of 1 kg of final product is displayed in the Table 2. The cost per kg of rose petal powder added *Sanwa* (barnyard millet) *Kheer* was calculated to be Rs. 75.96 (T_0), Rs. 98.31 (T_1), Rs. 99.11 (T_2) and Rs. 99.85 (T_3).

Conclusion

Sanwa (barnyard millet) *kheer* containingrose petal powderwas prepared by utilizing high fat milk, rice, *sanwa* (barnyard millet), sugar and rose petal powder. Rose petal powder is good source of antioxidant with flavor and millets are good source of iron and fiber. Very scanty scientific information is available on Sanwa and its use in dairy products. The present study was carried out to develop rose petal powder added *Sanwakheer*. The cost per kg of rose petal powder added *Sanwakheer* was calculated to be Rs. 75.96 (T_0), Rs. 98.31 (T_1), Rs. 99.11 (T_2) and Rs. 99.85 (T_3). The major cost items were milk and rose petal powder. It was concluded that excellent quality value-added *kheer* can be prepared with negligible enhanced cost from barn yard millet and rose petal powder.

References

1. Gauraha A, Goel BK, Kartikeyan S. Economics of Chhatisgarhi Churma. Journal of Pharmacognosy and Phytochemistry. 2018;7(3):759-761.
2. NDDB. Statistical database. National Dairy Development Board, Anand, 2020. (http://www.nddb.org/statistics.html.)
3. Nadaf NY, Patli RS, Chaitanya HZ. Effect of addition of gulkand and rose petal powder on chemical composition and organoleptic properties of *Shrikhand*. Mokashi College of Food Technology, (Rajmachi) Karad, 2012;4(10):52-55.
4. Seetha A, David I, Kowsalya, Upadhyay K. Can Feeding a Millet Based Diet Improve the Growth of Children?-A Mousa. Nutrition Systematic Review and Meta-Analysis. Nutrients. 2022;14:225. https://doi.org/ 10.3390/nu14010225