

Development of Steam Cooked Porridge cake

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Abstract:- Cakes are popular bakery products consumed by nearly all because of their ready to eat nature, affordable cost and appreciable shelf-life. These products are generally high in sugar and fat contents, there by making them unfit for health conscious population groups. Replacement of sugar in such products with jaggery is a need of hour. The research was carried out at different stages: cake with no porridge(control), 50:50(50% maida & 50% porridge),60:40(60% porridge & 40% maida),40:60 (40% porridge & 60% maida), 70:30(70% porridge & 30% maida), 80:20(80% porridge & 20% maida) to develop wholesome and nutritious cake of which the ratio which gain maximum acceptability level on the basis of sensory evaluation was 70:30. The use of porridge in cake resulted in increase in fiber content and ash content , decrease in fat content.

I. INTRODUCTION

Cakes are popular and are associated in the consumer's mind with a delicious sponge product with desired organoleptic characteristic (Matsakidor et al.,2010). Not only wheat flour but also other flour types have been investigating for developing cakes of lower cost & better quality in terms of consumer acceptance (Turbaï et al.) Dietary fibre is not only used for its nutritional properties, but also for its functional and technological properties and 25-30 g/day has been recommended. Dietary fibre inserted into bakery products provides benefits on the health of heart, gastrointestinal pain, prevent constipation, reduce fat absorption from digestive tract as well as favouring the absorption of toxins(Cristina *et al.*,2016).

Porridge is one of the important processed foods made from grains. It was a traditional food in most of Northern Europe but its growing popularity has made it truly a healthy food worldwide. It was primarily a savory dish, with a variety of meats, root crops, vegetables, and herbs added for flavour. Wheat porridge which is a good source of protein(14.6 g) , dietary fibre (2.3 g), fat (2 g) , carbohydrates(79.8 g) which lowers the cost and improve the quality of cake (Eapen, 2017). Porridges are used as breakfast foods for adults as well as complementary foods for infant and are also dietary adjuncts for convalescents (Michaelsen, 1998; Ojijo and Shimoni, 2004) and made by boiling oats or sometimes another cereal in water, milk, or both. In addition to oats, cereal meals used for porridge include rice, wheat, barley and corn (Gandhi and Singh, 2015). Acceptability and nutritional attributes are frequently enhanced by added ingredients and sophisticated processing

and packaging (Fast,1987). Porridge can be used as good vehicle to improve nutritional composition and enhance appeal. Hence, the present investigation was proposed to introduce a new Ready-To-Eat product i.e. wheat porridge cake using Steam cooking.

II. MATERIALS AND METHOD

Wheat flour, porridge, jaggery, butter, baking powder, baking soda were procured from the local market of Chandigarh. Chemicals used were of analytical grade obtained from Hi-media, Mumbai, Central Drug House, New Delhi.

➤ Preparation of Cake

All the raw material was properly measured according to the ratio required in cake. The refined flour were sieved through fine sieves to avoid the dirt and unwanted particles. The weighed jaggery, milk and melted butter were beaten properly using beater for 10 min. The porridge was boiled with water in a pressure cooker for about 20 min. It was further processed by addition of weighed maida, porridge, jaggery, dark chocolate, baking powder, baking soda and again proper mixing was done for 10 min. The batter obtained was poured in greased baking pan and even settling was done using spreader. After the settling of batter it was baked inside a cooker by removing the whistle for 40-50min.

➤ Formula for Preparation of Porridge Cake

In formulating the cake, five different types of cake were prepared by using different ratios of porridge and maida. The quantity of other ingredients such as butter, jaggery, dark chocolate, baking soda, baking powder was kept in same proportion.

Ingredients	Control	Cake (40:60)	Cake (50:50)	Cake (60:40)	Cake (70:30)	Cake (80:20)
Porridge(g)	-	40	50	60	70	80
Maida(g)	100	60	50	40	30	20
Butter(g)	60	60	60	60	60	60
Jaggery(g)	50	50	50	50	50	50
Baking soda(tsp)	1	1	1	1	1	1
Baking powder(tsp)	½	½	½	½	½	½
Dark chocolate(g)	50	50	50	50	50	50
Milk(ml)	40	40	40	40	40	40
Oats(g)	20	20	20	20	20	20

Table 1:- Different Formulations Tried

III. SENSORY ANALYSIS

A sensory evaluation was done using Hedonic scale in order to know and choose one most suitable Cake. A selected panel of ten untrained panelists was asked to evaluate and grade the four formulations. On the whole the preparation which was made using 70 gm of porridge and 30g of maida was liked by almost all the members.

Quality parameters	Control	Cake (40:60)	Cake (50:50)	Cake (60:40)	Cake (70:30)	Cake (80:20)
Appearance	9	7	6	8	8	5
Flavour	8	8	7	6	8	7
Texture	8	6	4	6	7.5	6
Overall acceptability	8.3	7	5.5	6.6	7.6	6

Table 2:- Sensory Analysis

➤ Evaluation of physico-chemical properties of cake

The cakes were analyzed for their proximate parameters like moisture, fat, dietary fibre and total ash following the procedure given in (AOAC 2000).



Fig 1:- Porridge Cake

Sample	Moisture(%)	Ash(%)	Fat(%)	Dietary fibre(%)
Control	19	7.8	13.2	10.2
Porridge cake	23.3	12.6	9.90	22.17

Table 3:- Chemical Composition of Control and Porridge fortified Cake (g/100g).

IV. CONCLUSION

The porridge cake prepared in the concentration of 70:30 had good acceptability with increase in fibre content and ash content.

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