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Velvety root cupcake

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Abstract

Cupcake is a short form of cake. Cupcake is a baked product which was prepared by the use beetroot powder. This product comes under “public health nutrition”. Beetroot is used in the manufacturing of natural food colouring agent. The major ingredient of the product is gram flour, wheat flour, sugar and beetroot powder. Beet fibre has also been a nutrient of increasing interest in health research. As beetroot powder is not used in cupcake forms and cake is something loved by people of all ages, this product was made. Beetroot ingestion can be considered a factor in disease prevention. It is incorporated in cakes with different proportion of beetroot powder for the preparation of cake is named as trials. A, B, C, D trials. C trials scored best in overall all trials on the basis of organoleptic analysis. The consumption of beetroot powder on a low nitrate diet may lower blood pressure (BP) and therefore reduce the risk of cardiovascular events.

Keywords: Velvety root, cupcake, beetroot powder

Introduction

The demand of bakery products witnessed an incredible increase in the later part of 20th century. With rapid growth and changing eating habits of people, bakery products have gained popularity among masses. The sector, typically, constitutes cakes, breads and biscuits. Major contributing factors for this increase are urbanisation, increased demand for ready-to-eat products at reasonable costs, better shelf life, satisfying taste and ease of portability. The flours and protein products of legumes, other cereals and tubers can be used effectively as vegetable protein and fibre sources for nutritional enrichment of these bakery products. The insufficiency of fibre, iron, calcium, antioxidant and folic acid in bakery products especially, in high sugar items such as cakes made of refined wheat flour needs a search for new natural nutrient rich source. Beetroot is a rich source of potent nutrients and possess many health benefits but is a seasonal crop in India, due to its high moisture content one of the way of ensuring beetroot preservation is drying powder or extracted pigments are used. Beetroot (*Beta vulgaris*) is an excellent source of calcium, iron, fiber, and folic acid. Beetroots are rich in valuable, active compounds such as carotenoids, glycine, betaine, saponins, betacyanines, folates, betanin, polyphenols and flavonoids. Factors, the main reason behind supplementation of bakery products from beetroot powder. It also contributes to consumer’s health and wellbeing because it is known to have antioxidants because of the presence of nitrogen pigments called betalains. Keeping in view, the nutritional composition and seasonal availability of beetroot crop the present study was designed to formulate the cup cakes by beetroot powder incorporation and to determine their sensory, physical characteristics and nutritional composition.

Wheat flour

The major species wheat species (*Triticum aestivum*). Wheat is the most important staple crop in temperate zones and is in increasing demands in countries undergoing urbanization and industrialization. It is a major source of energy it is beneficial for health it provides proteins, vitamins, (Vit B), dietary fibre and photochemical. It can contain 85% of carbohydrate in wheat grain (starch). It is mainly called as it is endosperm. The proteins of wheat may be divided into two major groups (Gliadins, glutenins). The bran and germ are rich in essential amino acids. The total lipid content of Indian wheat varies from about 0.97 to 2.28%. It can control obesity, prevent metabolic disorder, prevent gallstones, prevent chronic inflammation, improves metabolism. High in fibre content.

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Gram flour

Gram flour is a pulse flour made from a variety of ground chickpea known as Bengal gram. Gram flour due to their amino acids composition & fibre contents are ideal ingredients for improving the nutritional value of bread & bakery product. If you have celiac disease or a gluten intolerance. You must avoid flour containing gluten, gram flour is free from gluten,

They are used because of good for your heart, lower diabetes (Lower level of glycemic index), and fight allergies, helps in weight loss.



Materials and Methods

Procurement of raw materials

Commercial beetroot, gram flour, wheat flour, sugar, baking powder, rice bran oil all of these ingredient should be

procured from local market of Gwalior.

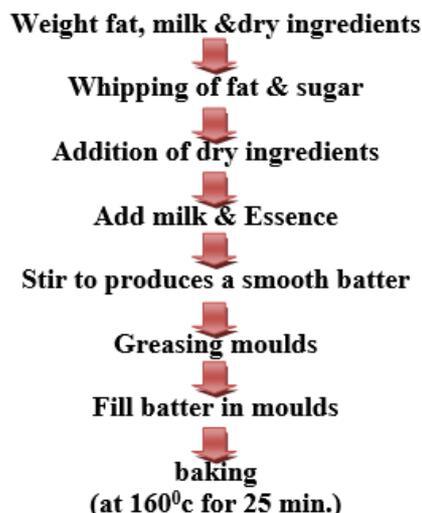
Processing of beetroot powder

For processing beetroot were first washed, peeled and grated it. They were sun dried for about 2-3 days. The dried beetroot were subjected to grinding in grinder. The ground material were passed through the sieve and packed in dark air tight coloured bottles for further use.

Product formulation

Beetroot cup cakes were prepared by substituting wheat flour, gram flour, sugar, beetroot powder, baking powder, rice bran oil. Various blends were prepared using gram flour, sugar, beetroot powder in the ratio of 20:30:0, 24:18:8, 25:25:5, 32:15:6. Cup Cakes were baked at 160 °C for 25 minutes in a conventional oven which was pre-heated.

Basic procedure



Variation in velvety root cupcake formulation

Trials	Wheat flour	Gram flour	Beetroot powder	Sugar	Rice bran oil
Trial 1	15	25	10	30	20
Trial 2	24	18	8	30	15
Trial 3	25	25	5	30	20
Trial 4	32	15	6	20	30

Sensory characteristics

The sensory characteristics of cup cakes were judged by the members from the department. The members were asked to evaluate the product for different sensory attributes namely colour, flavour/taste, texture, appearance, aftertaste, overall acceptability. Nine-point Hedonic.

Scale and Score Card method were used for evaluation of sensory characteristics of different trials.

S. no	colour	Flavour	Texture	Mouth feel	After taste	Overall acceptability
Trial 1	6	7	5	5	6	6
Trial 2	7	7	8	6	7	7
Trial 3	8	9	8	9	8	9
Trial 4	7	7	6	6	6	6

After sensory analysis by prescribed number of panelist using hedonic scale rating it was decided that “Trial 3” was satisfactorily accepted.

Problems observed during cupcake preparation

Formulation with less than 20 ml of rice bran oil and less than 30 gram of sugar so the cupcake will not be puffed properly. And if the ratio of both the flour is not equal so it can cause the problem during binding resulting the texture of cupcake will fall down. (Loose the texture).if the pouring should not be properly in the moulds so the air bubble enter in molds so it can cause problem at the time of baking.

Conclusion

Velvety root cupcake is good mainly for anaemic patient. In present study velvety cupcake was developed successfully. Many trials were formulated. Which were concluded best in sensory evaluation the trial no.3 was finalize. The velvety root cake has to be popular among all the grope. Standardization of beetroot powder in cupcake was done. Formulation of beetroot powder cupcake scored highest in sensory evaluation with 8 overall acceptability.

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