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PREPARATION AND ENRICHMENT OF MILK CAKE BY ROSE PETAL AND GOAT MILK POWDER

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ABSTRACT:

Milk cake is an Indian milk dessert made with goat milk powder, condensed milk, rose petals and cardamom powders. These 4 ingredients help sweets are very tasty and very health benefits of body. Milk cake is present in calcium, and it is also beneficial for maintaining healthy bones and teeth. And it can help them lose weight and control blood sugar levels better. Milk cake is a low-calorie snack that is packed with minerals, such as dietary fiber, phosphorous, and vitamin B12. Milk cake and kalakand are not the same. Coming to appearance, milk cake has a brownish gradient shade and kalakand is white. Goat milk powder is one of the nutraceutical health drinks and is rich in oligosaccharides (Derived from lactose). It is widely used to produce different types of cheese and yoghurt. The goat milk powder helps have anti-inflammatory effects, which may benefit people suffering from chronic inflammatory conditions such as arthritis, asthma, and allergies. Goat's milk contains several types of protein, including caseins, whey proteins, and immunoglobulins. Condensed milk is a good source of nutrients such as calcium, vitamin D, vitamin B12, vitamin A, riboflavin, phosphorus, and protein. These nutrients are necessary for healthy teeth and bones, a robust immune system, and a cardiovascular system. The rose petals powder can be used in various wonderful ways, giving innumerable benefits to the skin and hair, and helping to maintain healthy nerves. Ghee is a rich source of vitamins, antioxidants and healthy fats and it is also good for the heart. Cardamom can help the easily digest, freshness of breath and to manage diabetes. The product can help the many health benefits compared to the market product. And helps increase the shelf life of the product.

KEY WORDS: Cardamom, condensed milk, ghee, goat milk powder, rose petal powder.

INTRODUCTION:

Goat milk powder, also known as dehydrated goat milk, is a convenient and versatile dairy product made by evaporating the water content from fresh

goat milk. It retains all the essential nutrients found in goat milk, including proteins, vitamins (A, B2, B12, and D), and minerals (calcium, magnesium, and phosphorus).

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Known for its digestibility is easier to digest than cow's milk due to smaller fat globules and lower lactose content, making it suitable for those with lactose intolerance and hypoallergenic properties, goat milk powder is often used as an alternative to cow's milk, especially for those with lactose intolerance or allergies. Additionally, its higher content of medium-chain fatty acids (MCFAs) makes it beneficial for metabolism and energy production. Goat milk powder can be reconstituted with water for drinking or used in various recipes to enhance nutritional value. The goat milk powder is easy to use and has a long shelf life, making it convenient for both home and commercial uses. It can be utilized in various applications such as beverages, cooking and baking, infant formula, skincare products, smoothies, coffee, tea, cheese, and yogurt.

Rose petal powder, made from finely ground dried rose petals, is a natural fragrance and imparts a mild, floral flavor. Rose petals are valued not only for their sensory qualities but also for their nutritional benefits; they contain antioxidants and are rich in vitamin C and vitamin and polyphenols. They possess anti-inflammatory, antimicrobial, and anti-cancer properties. In herbal medicine, rose petals are traditionally used for treating various ailments due to their medicinal properties. Condensed milk is a thick and sweetened dairy product made by evaporating most of the water content from milk and adding sugar. It has a rich, creamy texture and a caramelized flavor due to the caramelization of sugars during the heating process. Condensed milk is commonly used in desserts, confections, and beverages to impart sweetness and enhance texture. It can be found in both regular and low-fat varieties and is a versatile ingredient in

baking, cooking, and as a coffee or tea creamer. Due to its long shelf life and concentrated sweetness, condensed milk is a popular choice for adding richness and flavor to a wide range of culinary creations.

Cow ghee, also known simply as ghee, is a type of clarified butter that is highly revered in Indian and Ayurvedic cooking traditions. It is made by simmering unsalted butter until the milk solids separate from the golden liquid. These milk solids are then strained out, leaving behind a pure, golden-yellow liquid known as ghee. Milk cake is a unique and aromatic dessert. This milk cake incorporates goat milk powder and rose petal powder, along with condensed milk, creating a unique flavor on the classic dessert. Goat milk powder adds a creamy, slightly tangy flavor and is packed with essential nutrients such as calcium and medium-chain fatty acids. These ingredients create a flavorful sweet that is more nutritious. The rich sweetness of condensed milk elevates this dessert to a new level of indulgence, making it a perfect choice for special occasions or a delightful treat to enjoy anytime.

MATERIALS AND METHODS:

The materials that are required in the preparation of milk cake are goat milk powder, rose petal powder, condensed milk, lemon drops and elachi powder.

Preparation of milk mixture:

Take a large mixing bowl. Add 8 spoons (40g) of goat milk powder to the bowl. Gradually add 1 cup of water to the milk powder while stirring continuously. Use a whisk or an electric mixer to blend the mixture thoroughly. Ensure there are no lumps, and the mixture is smooth. This mixture is now perfectly prepared and ready to be used in the recipe for making milk cake.



PREPARATION OF MILK CAKE USING MILK POWDER:

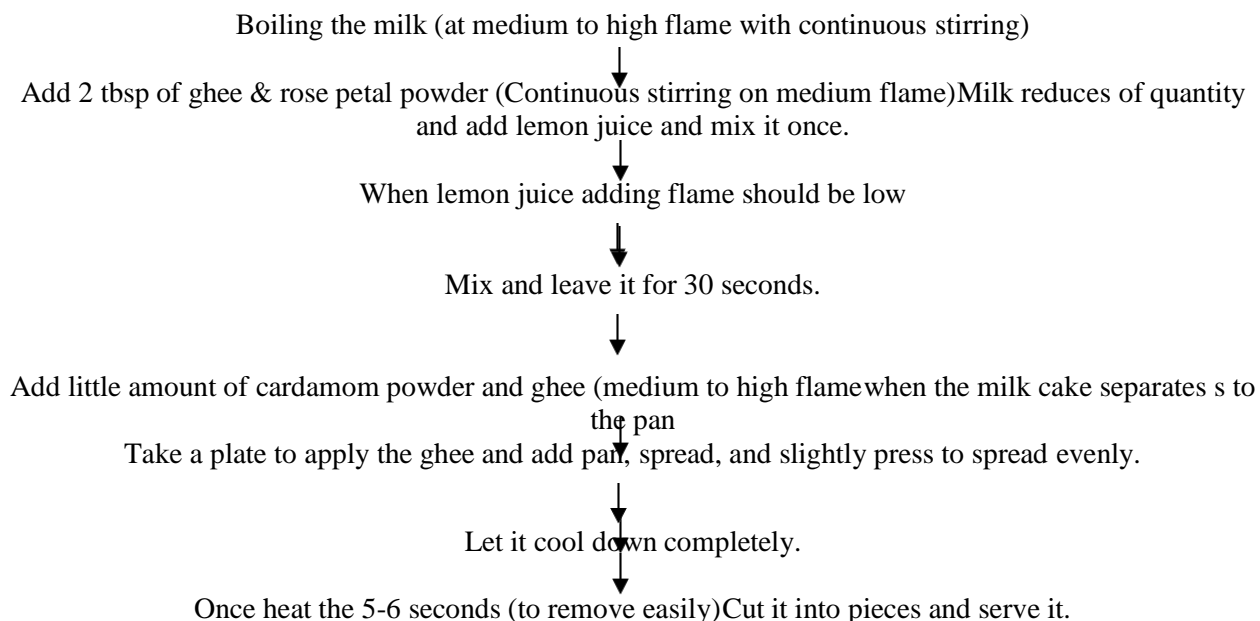


Figure 2: preparation of milk cake

The milk cake can be prepared with three different compositions of ingredients. Table 1 provides the detailed formulations for each composition.

Ingredients	sample 1	sample 2	sample 3
Goat milk powder	400ml (8gm)	400ml (8gm)	400ml (8gm)
Rose petal powder	15gm	10gm	5gm
Condensed milk	60gm	50gm	45gm
Cow ghee	15gm	15gm	15gm
Cardamom powder	2gm	2gm	2gm
Lemon	1ml	1ml	1ml

RESULTS AND DISCUSSION:

Sensory evaluation: Table-1: The sensory evaluation provides valuable into consumer preferences and helps in determining the quality and marketability of milk cake by assessing its sensory attributes such as color, taste, appearance, odor, flavor, texture, and overall acceptability.



Sensory Attributes	Control	Sample 1	Sample 2	Sample 3
Colour	7	7.5	8	9
Appearance	7	7	8	8.5
Flavor	7	8	8	8.5
Texture	8	7	7	8
Taste	7	7	9	9
Overall acceptance	8	8	8.5	9

Among the three samples 3 were selected for further analysis. The analysis includes:

Physio-chemical analysis:

Moisture Content:

Moisture content in the product can be measured using a hot air oven method in a TS analyzer. This method provides accurate and consistent results by drying the sample to a constant weight.

Titrateable acidity:

To calculate the acidity of the product.

Fat:

The fat content can be determined by using the Gerber method, which is widely used in the dairy industry.

Protein:

The protein content can be measured by the using kjeldhal method. Protein content can be calculated by using the following.

$$\text{Protein content (\%)} = \frac{(N \times 6.25) \times 100}{w}$$

Ash:

The ash content can be determined by using the muffle furnace method.

Carbohydrates:

The carbohydrates content can be determined through Fehling Solution. Table-2: Nutritional composition of milk cake in table 3.

Nutrition	Control	Sample
Moisture	17%	14.27%
Ash	2.29%	3.36%
Fat	23%	24.5%
Protein	25%	27%
Carbohydrates	15%	20%
Acidity	0.895%	0.675%



CONCLUSION:

Preparation and enrichment of milk cake by rose petal and goat milk powders not only enhances its nutritional value but also helps a unique flavor and health benefits and helps good source of nutrients for bone health and, it may be better for cholesterol levels and blood pressure than cow's milk. This milk cake is easily digested, especially for those with diseases that cause absorption issues. The milk cake has more health benefits like antioxidant properties and anti-inflammatory effects than compared to the normal milk cake.

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