



# DEVELOPMENT OF KODO MILLET (*Paspalum scrobiculatum*) BASED CAKE PREMIX

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**Abstract :** In recent era, most of peoples turns towards RTE food due to globalization and Changing lifestyle. Kodo Millet cake premix is being developed as an easily consumable ready to cook product and incorporated with millet flour gives the nutritional benefits to the final product. The cake is made up of millet flour, wheat flour and jaggery powder. In this premix, the addition of different proportion of millet flours which increases the sensory properties of developed product. The addition of Millet flour shows that, availability of different nutrients and low gluten content. Based on organoleptic properties, we finalized the sample T2 with addition of different flours. This Study shows that, the product prepared from millet flour have good sensorial as well as Nutritional Properties.

## 1. INTRODUCTION

Cake is a product that is often consumed all over the globe as a sweet dish. It is a soft and spongy texture product which is been made from flour, sugar/ jaggery, fat, eggs, and leavening agents.<sup>[1]</sup>

Nowadays all known millet is a superfood with immense numbers of nutritional benefits and specially kodo millet are packed with the goodness of carbohydrates, proteins, and dietary fibres. It contains vitamins like niacin, riboflavin, and minerals like calcium, iron, and phosphorus. The phytochemicals found in kodo millets include antioxidants and phenolic compounds like vanillic acid, gallic acid, tannins, ferulic acid, etc.

## 2. MATERIALS AND METHODOLOGY

The material's are been used in making of the kodo millet cake premix are Kodo millet flour, wheat flour, organic jaggery powder, corn starch, milk powder (Dairy whitener) Baking powder, baking soda, citric acid. All the ingredients are being purchased from the local market.

### 2.1 MILLET FLOUR PREPARATION

Sample T1: This formulation is prepared without soaking the kodo millet grains, in this process the grains are washed with water up to 3-4 times to remove all the dirt, and foreign particles after that the grains are being dried in a tray drier for 2 and ½ hours at 80 degree Celsius. The grains are then cooled and ground, this process is totally the millet processing.

Sample T2: This formulation is made by soaking of the millet grains. The grains are washed again to eliminate all the dirt, foreign particles, and colors and then are soaked for 12 hrs. minimum and 14 hours maximum. The next step is carried out which is that the soaked grains are again washed and brought dried in a tray dryer for 2 ½ hours at the temperature of 80° celcius.

### 2.2 CAKE PREMIX PREPARATION

There are two different kinds of formulations are being prepared in the research, SAMPLE T1 and SAMPLE T2. As there is not much difference in the samples the only difference is T1 is the unsoaked grain sample from which the premix is being made and T2 is the soaked grain sample from which the premix has been made the real benefit of soaking of the millet was as studied shows that, soaking of the millet grain can made it nutritionally enriched.<sup>[2]</sup>

The millet flour is being processed and the addition of other ingredients i.e., wheat flour for the binding property, organic jaggery powder was used as a substitute for the sugar and for enhancing the taste of final product milk powder and corn starch is being added for the binding property of the cake and milk powder is added for the texture and color of the cake.

There are no such flavoring agents and preservatives being added in the premix except of leavening agents like baking powder and baking soda which will maintain the fluffiness of the cake after baking and a negligible amount of citric acid is

being added to maintain the shelf life of the product for a month and most importantly citric acid will react with the baking powder to activate its property to give extra fluffiness in the cake.

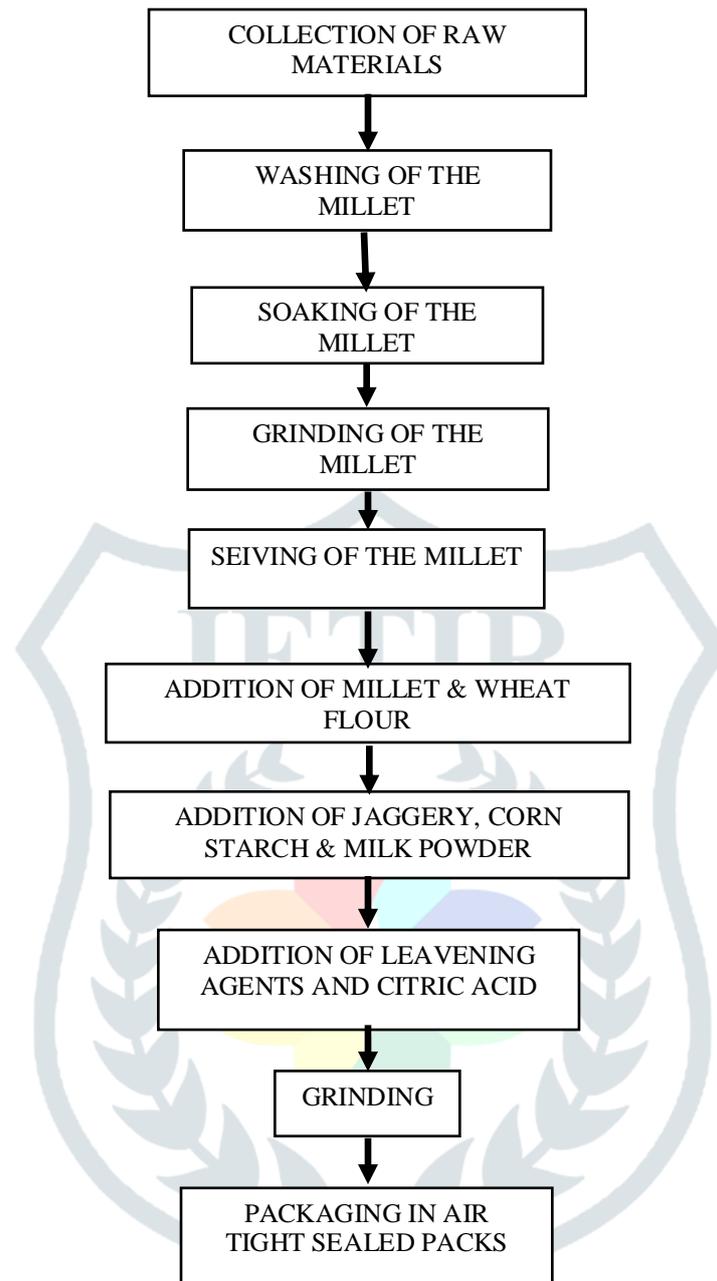


Figure 1. The detailed flowchart of making of the cake premix.

### 2.3 FORMULATION

The cake premix has been prepared with three different kinds of sample in which the first one is a trial sample in which only kodo millet flour, and jaggery powder with leavening agents are been used.

The final formulation samples T1 and T2 has the only difference was that T1 is made up of unsoaked millet and T2 is made up of 12-14hrs soaked kodo millet sample and the other raw materials are exactly in the same amount as T1 and these charts have been depicted in the table below :

Table 1. Formulation

Sr. no	Materials	Quantity (200g)
1	Kodo millet flour	50g
2	Wheat flour	50g
3	Jaggery powder	60g
4	Corn starch	12g
5	Milk powder	24g
6	Baking Powder	1g
7	Baking Soda	1g
8	Citric acid	0.600g

### 3. RESULT AND DISCUSSION

The preparation of the product is fast and easy in the process of making the cake just we need to add 100gm of cake premix into a container add 10 ml of oil in it which will give is texture and consistency while mixing and lastly add 150ml of lukewarm milk into it and mix gently, then bake the cake batter at 180° celcius for 18 minutes.

The critical analysis factors are discussed that overmixing of the cake batter will give a chewy mouthfeel and baking the product with less heat and long time will make it faulty in texture.



Fig 1 : Kodo millet cake premix



Fig 2: Kodo millet cake

#### 3.1 PROXIMATE ANALYSIS

The proximate analysis of the product has been performed which estimates the quantitative factors of the product such as ash content, moisture percentage and crude fiber. The results of these analysis has come to the point for the product as moisture of 8.766%, ash content of 1.913% and lastly crude fiber of 0%. The table depicts the values of these test results are attached below.

Table 2 : Proximate Analysis

S no	Test's	T2
1	pH	5.88
2	Moisture	8.766%
3	Ash	1.913%
4	Crude Fiber	0%

#### 3.2 SENSORY ATTRIBUTE ANALYSIS

The sensory analysis has been performed for both the T1 and T2 samples according to the 9 hedonic scale tests of sensory parameters. A total 17 sensory tests applicants are been done sensory testing based on that it is estimated that T2 sample is the best one based on taste and mouthfeel.

Table 3 : Sensory Analysis

Sample	Average Colour	Average Flavour	Average Taste	Average Mouthfeel	Overall Acceptability
T1	7.5	7.9	7.8	7.8	7.9
T2	8.1	8.1	8.2	8.4	8.2

### 3.3 NUTRITIONAL PARAMETERS

The nutritional analysis was done for the T2 sample in which the percentage of macronutrients are carbohydrates 79.09%, protein 10.13%, and dietary fiber 3.12% whereas micronutrients are calcium 1521mg/kg and folate 23.18%.

Table 4 : Nutritional Parameter

S no	Test's	T2
1	Carbohydrates	79.09%
2	Protein	10.13%
3	Dietary fiber	3.12%
4	Calcium	1521 mg/kg
5	Folate	23.18%
6	Fat	9.696%

### 4. CONCLUSION

We conclude that, cake premix is a ready to cook food product which has great impact on the instant food market now a days and developing a cake premix with kodo millet flour will boost up the nutritional parameters in the cake as these millets are highly rich in macro nutrients like carbohydrates, proteins, and dietary fibers as well as in micro nutrients like vitamin, calcium etc.

Despite being a staple food for the impoverished and rich in nutrients. Once more, millets are becoming more popular in Indian cuisine.<sup>[4]</sup> With improved post-harvesting efficiency and value-addition capabilities, the food processing industry now has additional ways to create premium millet-based products that are more palatable to customers. Thus, there's a fantastic chance to conduct a thorough study to locate higher-quality, flavourful, and health-promoting millet products that are also affordable for consumers of all economic levels.<sup>[3]</sup>

### 5. REFERENCES

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