# PROCESS FOR MAKING A BREAD PREMIX

Specification

## TECHNICAL FIELD

The present utility model relates to a process in making an improved bread premix.

## BACKGROUND OF THE UTILITY MODEL

A bread premix is a carefully formulated blend of dry ingredients designed to simplify and standardize the bread-making process. It typically contains essential components such as flour, yeast, sugar, salt, and bread improvers, and may also include milk powder, fats, enzymes, or other functional additives depending on the desired bread type. By combining these ingredients in precise proportions, a bread premix ensures consistency in quality, flavor, texture, and volume across batches while reducing preparation time and minimizing formulation errors. This ready-to-use mixture is widely employed in both commercial bakeries and small-scale operations, offering convenience, efficiency, and reliability in producing a variety of bread products.

Bread premixes present several advantages and practical uses in the field of baking. Foremost among these is the assurance of consistency in product quality, as premixes are formulated with precise proportions of essential ingredients, thereby minimizing variations in flavor, texture, and volume. They also provide convenience and efficiency, since the need to individually measure and combine multiple components is eliminated, streamlining the preparation process. Furthermore, bread premixes frequently contain functional additives and improvers such as enzymes, emulsifiers, or stabilizers, which enhance dough handling properties, improve loaf volume, and extend shelf life. In commercial settings, they are particularly valuable in maintaining uniformity across large-scale production, while in smaller bakeries and household use, they serve as a reliable means of producing high-quality bread with reduced effort and technical expertise.

Prior arts have provided for preparing different bread premixes depending on the purpose and utilized in combination with other ingredients to make bread products.

One such prior art that provides this is PH22023051538Y1. This utility model concerns a bread dough comprising a filling suitable for baking, wherein the filling comprises squash puree, white sugar, skim milk powder, margarine, hard wheat flour, and iodized salt; and the dough comprises hard wheat flour, squash puree, white sugar, skim milk powder, margarine, vegetable shortening, water, evaporated milk, instant yeast, iodized salt, Moringa oleifera leaf flakes, bread improver, and calcium propionate. The bread dough of the utility model contains sufficient energy and nutrients including iron, calcium, zinc, and vitamin A, to provide approximately 16-70% of the recommended energy and nutrient intake of school-age children.

However, this prior art failed to provide additional nutritional source that is now commonly found in other products.

Thus, the present utility model provides this solution to the prior art and will be described further in the next sections.

## SUMMARY AND OBJECT OF THE UTILITY MODEL

The present utility model relates to a process in making an improved bread premix comprising of: weighing of the ingredients; mixing the milk powder and white sugar; mixing of the dry ingredients in a mixer; and placing all the ingredients in a blender and mixing to make the bread premix.

It is the object of the present utility model to provide a process in making an improved bread premix that may be incorporated further with vegetable ingredient to make a nutritious bread product, especially for children's consumption.

## DETAILED DESCRIPTION OF THE UTILITY MODEL

The present utility model will be further described herein based on its embodiments.

The present utility model relates to a process in making an improved bread premix wherein the steps are comprised of weighing of the ingredients; mixing the milk powder and white sugar; mixing of the dry ingredients such as iodized salt, bread improver, calcium propionate, calcium carbonate, and potassium sorbate with hard wheat flour in a mixer for at least 2 minutes; and placing all the ingredients in a blender and mixing for at least 15 minutes to make the bread premix.

The ingredients that are weighed and used in making the improved bread premix are summarized in below table.

| Ingredient | Amount (%w/w) |
|---|---|
| Hard wheat flour | 65-75 |
| White sugar | 10-20 |
| Milk powder | 7-8 |
| Whey protein isolate | 3-5 |
| Bread improver | 0.5-1.0 |
| Iodized salt | 0.5-1.0 |
| Calcium carbonate | 0.1-0.5 |
| Calcium propionate | 0.1-0.5 |
| Potassium sorbate | 0.05-0.1 |

*Utilizing the bread premix*

In other specific embodiments, the present utility model may be incorporated with vegetable ingredients to produce vegetable-supplemented bread products made via straight dough method.

In the other specific embodiments wherein the present utility model is utilized in making vegetable-supplemented bread products, the steps in making said product are comprising of: mixing the bread premix with vegetable shortening, margarin, and instant yeast at low speed for at least 2 minutes in a mixer; adding vegetables and water into the mixer and mixing at medium speed for at least 5 minutes; reducing the speed of the mixer to low speed and continue mixing for at

least 8 minutes or until the dough is fully developed; scaling and rounding the dough; proofing the scaled and rounded dough for at least 1 hour and 30 minutes; brushing the top of the dough with evaporated milk; baking the dough to make the bread product; spraying the bread product with potassium sorbate solution; and cooling the bread product for at least 1 hour and 30 minutes.

Example 1: Squash-supplemented bread product

Bread premix of about 1.5kg is prepared in accordance with the disclosed method.

Bread premix is mixed with 80-90g vegetable shortening, 30-35g margarine, and 10-15g of instant yeast in a spiral mixer and mixed at low speed (about 100 rpm) for 1-3 minutes.

Squash puree of about 600-650g, with 90% moisture content is added, and the mixture is mixed at medium speed (about 200 rpm) for 3-8 minutes.

The mixing speed is decreased to low speed (about 100rpm) and mixing is continued for 8-10 minutes or until dough is fully developed. The dough is flattened, scaled into 85g portions, and placed on greased baking sheets. The baking sheets are placed in a cabinet proofer and proofed for 1-2 hours. After proofing, the dough is removed and top coated with evaporated milk. The top-coated dough is placed and baked in an oven pre-heated at about 160°C for 10-15 minutes. After baking, the bread product is removed from the oven, and the surface is sprayed with 10% (w/w) potassium sorbate solution. The sprayed bread product is allowed to cool for 1-2 hours before packing.

Example 2: Carrot-supplemented bread product

Bread premix of about 1.5kg is prepared in accordance with the disclosed method.

Carrots are prepared by washing in running water and scrubbing to remove the dirt. They are then peeled and shredded. About 150-200g of these carrots are required, and mixed with 300-400g of water, and then set aside.

Bread premix is mixed with 80-85g vegetable shortening, 30-35g margarine, and 10-15g of instant yeast in a spiral mixer and mixed at low speed (about 100 rpm) for 1-3 minutes.

Shredded carrots in water are added and mixed at medium speed (about 200 rpm) for 3-8 minutes.

The mixing speed is decreased to low speed (about 100rpm) and mixing is continued for 8-10 minutes or until dough is fully developed. The dough is flattened, scaled into 85g portions, and placed on greased baking sheets. The baking sheets are placed in a cabinet proofer and proofed for 1-2 hours. After proofing, the dough is removed and top coated with evaporated milk. The top-coated dough is placed and baked in an oven pre-heated at about 160°C for 10-15 minutes. After baking, the bread product is removed from the oven, and the surface is sprayed with 10% (w/w) potassium sorbate solution. The sprayed bread product is allowed to cool for 1-2 hours before packing.

Example 3: Yellow Sweet potato-supplemented bread product

Bread premix of about 1.5kg is prepared in accordance with the disclosed method.

Yellow sweet potato is prepared by washing in running water and scrubbing to remove the dirt. They are then peeled, and undesirable parts are removed. Afterwards, they are thinly sliced and arranged on steamer trays, and steamed for 12-15 minutes or until fully cooked. After cooking, they are allowed to cool and mashed by passing through a meat grinder. A predetermined portion of mashed sweet potato is then weighed and mixed with water, and then set aside.

Bread premix is mixed with 80-85g vegetable shortening, 30-35g margarine, and 10-15g of instant yeast in a spiral mixer and mixed at low speed (about 100 rpm) for 1-3 minutes.

Mashed sweet potato in water are added and mixed at medium speed (about 200 rpm) for 3-8 minutes.

The mixing speed is decreased to low speed (about 100rpm) and mixing is continued for 8 minutes or until dough is fully developed. The dough is flattened,

scaled into 85g portions, and placed on greased baking sheets. The baking sheets are placed in a cabinet proofer and proofed for 1 hour and 30 minutes. After proofing, the dough is removed and top coated with evaporated milk. The top-coated dough is placed and baked in an oven pre-heated at about 160°C for 10-15 minutes. After baking, the bread product is removed from the oven, and the surface is sprayed with 10% (w/w) potassium sorbate solution. The sprayed bread product is allowed to cool for 1-2 hours before packing.

*Test Results*

Tests were conducted on the bread premix to check for the physico-chemical properties.

| **Moisture content (AOAC method)** | **Water Activity (Novasina water activity meter)** | **Color assessment (Spectrophotometer CM5)** | | |
|---|---|---|---|---|
| Mean value | Mean value | L* | a* | b* |
| 9-11% | 0.500-0.700 | 90-92 | 0.30-0.70 | 10-12 |

Table 1. Physicochemical properties of the utility model

Note: L* is a measure of the brightness from black (0) to white (100); a* describes red-green color with positive a* values indicating redness and negative a* values indicating greenness; b* describes yellow-blue color with positive b* values indicating yellowness and negative b* values indicating blueness.

| Nutrition Facts | | | | |
|---|---|---|---|---|
| Serving Size 52 g | | | | |
| No. of Servings per container/pack: about 19 servings | | | | |
| | | | Amount per Serving | %RENI/RNI* |
| Calories (kcal) | 189 | Calories from Fat | 5 | 12 |

| | | | | |
|---|---|---|---|---|
| Total Fat (g) | | | 1 | |
| Saturated fat (g) | | | 0 | |
| Trans fat (g) | | | 0 | |
| Cholesterol (mg) | | | 5 | |
| Sodium (mg) | | | 85 | 7** |
| Total Carbohydrate (g) | | | 40 | |
| Dietary fiber (g) | | | 1 | |
| Sugar (g) | | | 11 | |
| Total Protein (g) | | | 6 | 21 |
| Calcium (mg) | | | 135 | 19 |
| Iron (mg) | | | 2 | 25 |
| Potassium (mg) | | | 132 | 8*** |
| Zinc (mg) | | | 1 | 10 |
| Vitamin A (mcg) | | | 202 | 50 |

Table 2. Nutritional content of the utility model. *Percent REI/RENI values are based on PDRI 2015 for Children, Male 6-9 years old. **Sodium RNI is based on WHO Guideline on Sodium Intake for Adults and Children (2012). ***Adequate Intakes

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| Analyte | Amount per 100 g sample |
|---|---|
| Moisture, g | 8.57 |
| Ash, g | 1.83 |
| Crude Protein, g | 11.85 |
| Total Fat, g | 1.10 |
| Carbohydrates, g | 76.65 |
| Calories, kcal | 363.90 |
| Calories from Fat, kcal | 9.90 |
| Saturated Fat, g | 0.84 |
| Trans Fatty Acid, g | ND |

| | |
|---|---|
| Cholesterol, mg | 8.75 |
| Sodium, mg | 163.15 |
| Total Dietary Fiber, g | 1.71 |
| Total Sugars, g | 21.05 |
| Vitamin A, µgRE | 388.15 |
| Vitamin A (as beta-carotene), µg | 4658 |
| Iron, mg | 4.83 |
| Zinc, mg | 1.03 |
| Calcium, mg | 259.18 |
| Potassium, mg | 252.68 |

Table 3. Proximate nutritional content per 100 g sample

| Parameter | Result | | Reference Method |
|---|---|---|---|
| | Month 0 | Month 6 | |
| Aerobic Plate Count (CFU/g) | 780 | 830 | Petrifilm |
| Yeast and Mold Count (CFU/g) | 50 | 50 | Petrifilm |
| Total Coliform Count (CFU/g) | <10 | <10 | Petrifilm |
| *Salmonella* spp. (per 25 g) | Negative | Negative | Conventional Method |

Table 4. Microbiological test results