

# **MULTIGRAIN PREMIX INCORPORATED RECIPES FOR PRE-SCHOOLERS**



**Dr Swati Dhruv**

**Ms. Sheetal Pasi**

**Department of Food and Nutrition  
Faculty of Family and Community  
Sciences**



**For any queries related to Multigrain premixes,**

**Contact:**

**Dr. Swati Dhruv**

**Assistant Professor,**

**Department of Food and Nutrition,**

**The Maharaja Sayajirao University of Baroda,**

**Vadodara, Gujarat, India.**

**(M) 9898078988**

**E-mail: [swati.dhruv-fn@msubaroda.ac.in](mailto:swati.dhruv-fn@msubaroda.ac.in)**

**MULTIGRAIN PREMIX  
INCORPORATED RECIPES FOR  
PRE-SCHOOLERS**



**Dr Swati Dhruv**  
**Ms. Sheetal Pasi**  
**Department of Food and Nutrition**  
**Faculty of Family and Community Sciences**  
**The Maharaja Sayajirao University of Baroda,**

## PREFACE

In children belonging to the pre-school age group (3-6 years) there is rapid growth and development both, physically and mentally. Thus, it is important to fulfil their nutritional requirements, on failure of which they are more vulnerable to developing malnutrition especially undernutrition and micronutrient deficiencies. One of the ways to ensure supply of all essential nutrients through diet is to increase dietary diversity. Therefore, this is an attempt for promoting dietary diversity among pre-schoolers through introduction of these multigrain premixes and premix incorporated premixes with an intention of improving their nutritional status.

Thus, an attempt has been made to develop a multigrain premix incorporated recipe booklet for pre-schoolers which would ready reckoner for mothers/caregivers for the preparation of nutritious recipes which would help in taking care of their daily nutritional requirements

Dr. Swati Dhruv

Assistant Professor, Dept. of Food and Nutrition,  
Faculty of Family and Community Sciences,  
The M.S University of Baroda, Vadodara.

SR. NO.	TOPIC	PAGE NO.
1.	Premixes	1 - 2
3.	Multigrain premixes	3 - 4
4.	List of recipes	5
5.	Cheela recipe	6 - 7
6.	Gud roti recipe	8 - 9
7.	Handva recipe	10 -11
8.	Idli recipe	12-13
9.	Kothimbirvadi recipe	14 -15
10.	Seviyaan kheer recipe	16 – 17
11.	Thalipeeth recipe	18 – 19
12.	Tikki recipe	20 - 21

## PREMIXES

Premix is defined as “A substance or product consisting of ready-mixed materials.” or “A mixture of ingredients designed to be mixed with other ingredients before use.” Premixes when manufactured using food items belonging to various food groups so that they are a wholesome meal in themselves can help in increasing nutrient intake and improving dietary diversity among preschoolers.

Development of multigrain premixes and their incorporation in recipes which can be included in diet of pre-schoolers is found to be beneficial as it aids in reducing prevalence and development of undernutrition.

Dietary diversity is defined as the number of different foods or food groups consumed over a given reference period. The following are the classified food groups which should part of the daily diet:

- Cereals
- Root and tubers
- Vegetables
- Fruits
- Meat, poultry and offal
- Eggs
- Fish and seafood
- Pulses, legumes, nuts
- Milk and milk products
- Oil and fats
- Sugar and honey
- Miscellaneous

Estimation of dietary diversity is used as an indicator of nutrient adequacy. Increasing dietary diversity in one's diet helps fulfilling daily nutrient requirement and reduces the risk of all forms of malnutrition.

## MULTIGRAIN PREMIXES

Five multigrain premixes were developed with wheat flour (cereal) and soybean flour (legume) as the common ingredients. The varying ingredient were millets, four millets (Bajra, Jowar, Ragi and Kodari) and one pseudo millet (Amaranth) were used.

Following is the list of the five developed premixes:

Premixes	Cereal	Legume	Millet
Bajra premix	Wheat (8g)	Soybean (8g)	Bajra (15g)
Jowar premix	Wheat (8g)	Soybean (8g)	Jowar (15g)
Ragi premix	Wheat (8g)	Soybean (8g)	Ragi (15g)
Kodari premix	Wheat (8g)	Soybean (8g)	Kodari (15g)
Amaranth premix	Wheat (8g)	Soybean (8g)	Amaranth (15g)

Note: Eight recipes were made using each of these developed multigrain premixes.



## Nutrient composition of Five Multigrain Premixes

Multigrain premixes	Energy (kcal)	Carbohydrate (g)	Protein (g)	Fat (g)	Iron (mg)	Calcium (mg)	Vitamin A (mcg)
Bajra premix	108	15.21	5.51	2.48	1.95	22	0.79
Jowar premix	106	16.09	5.37	1.93	1.58	22	0.29
Ragi premix	104	15.96	4.94	1.96	1.68	73	0.12
Kodari premix	106	15.87	5.21	2.05	1.34	20	0.12
Amaranth premix	109	15.16	5.86	2.5	2.19	42	0.08
Average values	107	15.66	5.38	2.18	1.75	35.80	0.28

# LIST OF RECIPES



Cheela



Gud roti



Handva



Idli



Kothimbir  
vadi



Seviyaan  
kheer



Thalipeeth



Tikki

4

# 1. CHEELA

## Ingredients:

<b>Any one of the five multigrain premix</b>	2 tablespoon/ 30g
<b>Curd</b>	1 tablespoon/ 15g
<b>Ground nut</b>	7-8
<b>Ginger paste</b>	1 teaspoon/ 5g
<b>Garlic paste</b>	1 teaspoon/ 5g
<b>Potato</b>	20g
<b>Beetroot</b>	20g
<b>Sesame seeds</b>	2 teaspoon/ 10g
<b>Coriander leaves</b>	10g
<b>Oil</b>	1 tablespoon/ 15g

Note: All amounts depicted in the table are edible portions of the ingredients.



Serving size: 2 Cheelas  
(Diameter: Approximately 15cm)

## Method of preparation:

1. Peel and grate beetroot and potato in a mixing bowl.
2. Add any one of the multigrain premix in the bowl, along with curd, ginger-garlic paste, coriander leaves and crushed groundnuts. Combine them well, add 50-100 ml water for a pouring consistency.
3. Mix it well and let it sit for 10 minutes. Add salt, turmeric and cumin powder.
4. On a heated tava, add 5g of oil and let it get warm. Add some sesame seeds to the oil and let it splutter.
5. Now pour one ladleful of the cheela batter on the tava and let it cook till it gets a little firm.
6. Add some oil to the edges of the cheela and after a few seconds flip it for it to cook on the other side.
7. When both the sides are cooked well, remove the cheela from the tava.
8. Serve it warm with green chutnev.

### **Nutrient composition of Cheela made from different premixes**

Variations	Energy (Kcal)	Carbohydrate (g)	Protein (g)	Fat (g)	Iron (mg)	Calcium (mg)	Vitamin A (mcg)
Bajra premix Cheela	326	24.4	10.9	20.1	4.8	206	98.2
Jowar premix Cheela	324	25.3	10.7	19.6	4.5	206	97.7
Ragi premix Cheela	322	25.1	10.3	19.6	4.6	257	97.5
Kodari premix Cheela	324	25.1	10.6	19.7	4.2	203	99.2
Amaranth premix Cheela	327	24.3	11.3	20.2	5.1	225	99

## 2. GUD ROTI

### Ingredients:

<b>Any one of the five multigrain premix</b>	2 tablespoon/ 30g
<b>Milk</b>	1 tablespoon/ 15g
<b>Banana</b>	Half banana
<b>Coconut (fresh)</b>	1 tablespoon/ 15g
<b>Jaggery</b>	2 teaspoon/ 10g
<b>Ghee</b>	1 ½ teaspoon/ 7.5g

Note: All amounts depicted in the table are edible portions of the ingredients.



Serving size: 2 Gud rotis  
(Diameter: Approximately 8cm)

### Method of preparation:

1. In a kadhai, add the multigrain premix and dry roast it till aromatic.
2. In a grinder, add banana and puree it with a little water.
3. In a mixing bowl, add the roasted premix, banana puree, grated fresh coconut and jaggery powder. Mix them well.
4. Add 15ml of milk the mixture and knead the mixture into a dough. Add little water if the dough gets too dry.
5. Make two – three small balls out of the prepared dough and roll it into small rotis.
6. Heat a pan, put the roti on it. After few seconds, flip the roti and apply ghee on it.
7. Flip the roti again and apply oil on the other side. Make sure the roti gets cooked on the both sides. Remove it from the tava.
8. Serve it hot

### **Nutrient composition of Gud roti made from different premixes**

Variations	Energy (Kcal)	Carbohydrate (g)	Protein (g)	Fat (g)	Iron (mg)	Calcium (mg)	Vitamin A (mcg)
Bajra premix Gud roti	304	30.1	7.1	16.6	2.7	53.4	3.11
Jowar premix Gud roti	302	30.9	6.9	16.4	2.3	53.3	2.61
Ragi premix Gud roti	300	30.8	6.5	16.4	2.43	104.3	2.4
Kodari premix Gud roti	302	30.7	6.8	16.5	2.1	50.3	4
Amaranth premix Gud roti	305	30	7.5	17	2.9	72.3	3.9

### 3. HANDVA

#### Ingredients:

<b>Any one of the five multigrain premixes</b>	2 tablespoon/ 30g
<b>Chana dal</b>	2 teaspoon/ 10g
<b>Udad dal</b>	2 teaspoon/ 10g
<b>Curd</b>	2 tablespoon/ 30g
<b>Bottle gourd (Dudhi)</b>	25g
<b>Sesame seeds</b>	1 teaspoon/ 5g
<b>Oil</b>	1 ½ teaspoon/ 7.5g

Note: All amounts depicted in the table are edible portions of the ingredients.



Serving size: 4 pieces of Handva  
(Thickness: Approximately 1.5 cm)

#### Method of preparation:

1. Grind chana dal and udad dal to form a coarse flour. Add it in a mixing bowl.
2. To the coarse flour, add the multigrain premix along with curd. Combine them well.
3. Add 50-100 ml water, to make the mixture into a batter with pouring consistency.
4. Leave the batter overnight.
5. Add grated bottle gourd (dudhi) to it along with salt, turmeric and a pinch of garam masala. Mix it well.
6. In a handva pan, add oil and let it get warm. Add sesame seeds and mustard seeds and let them splutter.
7. Pour the batter into the pan and cover it with a plate.
8. After few minutes, check if the handva has got firm on one side. Flip it to the other side and cover the pan again.
9. Insert a toothpick or knife end into the handva after a few minutes, if it comes out clean it means that the handva is cooked completely.
10. Remove it from the pan and serve it hot.

### **Nutrient composition of Handva made from different premixes**

Variations	Energy (Kcal)	Carbohydrate (g)	Protein (g)	Fat (g)	Iron (mg)	Calcium (mg)	Vitamin A (mcg)
Bajra premix Handva	323	34.66	12.92	14.11	3.97	145.66	7.21
Jowar premix Handva	321	35.54	12.78	13.56	3.6	145.66	6.71
Ragi premix Handva	319	35.41	12.35	13.59	3.7	196.66	6.54
Kodari premix Handva	321	35.32	12.62	13.68	3.36	142.26	8.08
Amaranth premix Handva	324	34.55	13.31	14.13	4.21	164.66	8.04



## 4. IDLI

### Ingredients:

<b>Any one of the five multigrain premix</b>	2 tablespoon/ 30g
<b>Curd</b>	¼ cup/ 50g
<b>Semolina</b>	2 teaspoon/ 10g
<b>Carrot</b>	20g
<b>Beetroot</b>	20g
<b>Onion</b>	20g
<b>Oil</b>	1 ½ teaspoon/ 7.5g

Note: All amounts depicted in the table are edible portions of the ingredients.



Serving size: 4 Idlis  
(Diameter: Approximately 5cm)

### Method of preparation:

1. Peel and grate carrot and beetroot in a bowl. Add finely chopped onion to it.
2. In the same bowl, add the premix along with curd and semolina. Mix it well.
3. Add 100 ml of water to the mixture for making it into a thick batter.
5. Add 5 ml of oil into the mixture along with salt. Mix it well and leave it for 15 minutes.
6. Apply little oil on the idli moulds, pour the idli batter into it. Steam it for 7-10 minutes.
7. Remove from the moulds when well-cooked and serve it hot with coconut chutney.

### **Nutrient composition of Idli made from different premixes**

Variations	Energy (Kcal)	Carbohydrate (g)	Protein (g)	Fat (g)	Iron (mg)	Calcium (mg)	Vitamin A (mcg)
Bajra premix Idli	298	35.3	10.4	12.4	4.7	118	94.1
Jowar premix Idli	296	36.2	10.2	11.8	4.4	118	93.6
Ragi premix Idli	294	36	9.8	11.86	4.5	169	93.4
Kodari premix Idli	296	36	10.1	11.9	4.1	115	95
Amaranth premix Idli	299	35.2	10.8	12.4	5	137	94.9

## 5. KOTHIMBIRVADI

### Ingredients:

<b>Any one of the five multigrain premixes</b>	2 tablespoon/ 30g
<b>Rice flour</b>	2 teaspoon/ 10g
<b>Gram flour</b>	2 teaspoon/ 10g
<b>Coriander leaves</b>	20g
<b>Sesame seeds</b>	1 teaspoon/ 5g
<b>Ginger garlic paste</b>	1 teaspoon/ 5g
<b>Oil</b>	2 teaspoon/ 10g

Note: All amounts depicted in the table are edible portions of the ingredients.



Serving size – 7 pieces of  
Kothimbir vadi  
(Diameter: Approximately 2cm)

1. Clean, wash and finely chop coriander leaves. Add it to a mixing bowl.
2. Sieve rice flour and gram flour and add it to the mixing bowl along with salt and turmeric.
3. Add ginger-garlic paste and sesame seeds with little sprinkle of water.
5. Mix it well and start forming a firm dough. Add water as and when required.
6. After the dough is made, roll it into a cylindrical shape. In a vessel, apply a little oil and place the cylindrical dough in it.
7. Put the vessel into a steamer and steam it for 15 minutes.
8. After 15 -20 minutes, insert a toothpick in the dough to check if it is cooked completely. The toothpick should come out clean if it is.
9. Remove the dough from the steamer and let it cool down a little.
10. Cut the steamed dough into thin slices. On a heated pan, add some oil and place the slices on it. Flip the slices after few seconds.
11. When both the sides of the slices are roasted well remove it from the pan and serve it hot.

**Nutrient composition of Kothimbir vadi made from different premixes:**

Variations	Energy (Kcal)	Carbohydrate (g)	Protein (g)	Fat (g)	Iron (mg)	Calcium (mg)	Vitamin A (mcg)
Bajra premix Kothimbir vadi	304	29.6	10.3	15.5	4.3	120.7	128.2
Jowar premix Kothimbir vadi	302	30.5	10.2	14.9	3.9	120.7	127.7
Ragi premix Kothimbir vadi	300	30.4	9.7	15	4	171.7	127.6
Kodari premix Kothimbir vadi	302	30.3	10	15.1	3.7	117.7	129.1
Amaranth premix Kothimbir vadi	305	29.5	10.7	15.6	4.6	139.7	129

## 6. SEVIYAAN KHEER

### Ingredients:

<b>Any one of the five multigrain premix</b>	2 tablespoon/ 30g
<b>Milk</b>	1 cup/ 200ml
<b>Raisins</b>	5-6/ 10g
<b>Ghee</b>	1 teaspoon/ 5g

Note: All amounts depicted in the table are edible portions of the ingredients.



Serving size: 1 cup (200ml)

### Method of preparation:

1. Add water to the multigrain premix and make a firm dough. Put the dough into seviyaan making instrument and make thin seviyaans.
2. Shade dry the seviyaan overnight.
3. In a vessel take 5g of ghee and heat it, add the seviyaan to it and roast it.
4. After the seviyaan turn slightly brown, add raisins and sugar to it.
5. When all of the ingredients are roasted well, add milk to it.
6. Let the kheer simmer till it becomes a little thick.
7. Serve it warm.

### **Nutrient composition of Seviyaan kheer made from different premixes**

Variations	Energy (Kcal)	Carbohydrate (g)	Protein (g)	Fat (g)	Iron (mg)	Calcium (mg)	Vitamin A (mcg)
Bajra premix Seviyaan kheer	312	34.5	10.68	14.24	2.61	204.18	4.25
Jowar premix Seviyaan kheer	310	35.38	10.54	13.69	2.24	204.18	3.75
Ragi premix Seviyaan kheer	308	35.25	10.11	13.72	2.34	255.18	3.58
Kodari premix Seviyaan kheer	310	35.16	10.38	13.81	2	200.78	5.12
Amaranth premix Seviyaan kheer	313	34.39	11.07	14.26	2.85	223.18	5.08

## 7. THALIPEETH

### Ingredients:

<b>Any one of the five multigrain premix</b>	2 tablespoon/ 30g
<b>Fenugreek leaves</b>	20g
<b>Peas</b>	20g
<b>Corn</b>	20g
<b>Sesame seeds</b>	2 teaspoon/10g
<b>Groundnut</b>	5-6 pieces/ 5g
<b>Oil</b>	1 teaspoon/ 5g

Note: All amounts depicted in the table are edible portions of the ingredients.



Serving size: 2 Thalipeeths  
(Diameter: Approximately 10cm)

### Method of preparation:

1. In a mixture, grind fenugreek leaves, peas and corn into a fine paste.
2. Add this paste to a mixing bowl. To this paste add premix flour along with crushed peanuts and roasted sesame seeds. Mix it well.
3. Add salt and turmeric along with 1 tablespoon of water and form a firm dough out of this mixture.
4. Divide the dough into two portions. Roll each of the portions into a thick round shapes.
5. On a heated tava, roast the thalipeeth with little oil on both the sides.
6. Remove it from the pan when done and serve hot.

### **Nutrient composition of Thalipeeth made from different premixes**

Variations	Energy (Kcal)	Carbohydrate (g)	Protein (g)	Fat (g)	Iron (mg)	Calcium (mg)	Vitamin A (mcg)
Bajra premix Thalipeeth	308	24.3	13.5	17	6.7	301	410.1
Jowar premix Thalipeeth	306	25.2	13.4	16.4	6.3	301	409.6
Ragi premix Thalipeeth	304	25	12.9	16.5	6.4	352	409.4
Kodari premix Thalipeeth	306	25	13.2	16.6	6.1	298	411
Amaranth premix Thalipeeth	302	24.2	13.9	17	6.9	320	411



## 8. TIKKI

### Ingredients:

<b>Any one of the five multigrain premix</b>	2 tablespoon/ 30g
<b>Bengal gram flour</b>	1 tablespoon/ 15g
<b>Capsicum</b>	2 teaspoon/ 10g
<b>Onion</b>	10g
<b>Peas</b>	10g
<b>Carrot</b>	10g
<b>Cabbage</b>	10g
<b>Spinach</b>	15g
<b>Curd</b>	2 tablespoon/ 30g
<b>Semolina</b>	1 teaspoon/ 5g
<b>Sesame seeds</b>	1 teaspoon/ 5g
<b>Oil</b>	1 teaspoon/ 5g

Note: All amounts depicted in the table are edible portions of the ingredients.



Serving size: 3 Tikkis  
(Diameter: Approximately 5cm)

### Method of preparation:

1. Clean and finely chop capsicum, cabbage, spinach, onion. Peel and grate carrot.
2. Add all the chopped vegetables in a mixing bowl along with peas, premix flour, Bengal gram flour, curd and semolina. Mix well.
3. Add sesame seeds, salt, turmeric and cumin powder along with lemon juice. Combine it well and made small round tikkis out of this mixture.
4. Heat a pan, add little oil and roast the tikkis on both the sides till cooked completely.
5. Serve hot.

### **Nutrient composition of Tikki made from different premixes:**

Variations	Energy (Kcal)	Carbohydrate (g)	Protein (g)	Fat (g)	Iron (mg)	Calcium (mg)	Vitamin A (mcg)
Bajra premix Tikki	296	32.4	13	12.2	4.5	167	121.2
Jowar premix Tikki	294	33.3	12.9	11.6	4.1	167.1	120.7
Ragi premix Tikki	292	33.2	12.4	11.7	4.2	218	120.5
Kodari premix Tikki	294	33.1	12.7	11.7	3.8	164	122.1
Amaranth premix Tikki	297	32.3	13.4	12.2	4.7	186	122



**Department of Foods and Nutrition**  
**Faculty of Family and Community Sciences**  
**The Maharaja Sayajirao University of Baroda,**  
**Vadodara 390 002, Gujarat.**