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Traditional Recipes from Finger millet

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**Revalorizing small millets : “Enhancing the food and
nutritional security of women and children in rain fed regions
of South Asia using underutilized species”.**

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Preparation of Beverage

- Add 150ml of water in a vessel and boil it.
- Add malted Finger millet flour, water, sugar and mix well without lumps.
- Pour this mixture to the boiling water.
- Cook until the malt thickens.
- Serve hot or cold

Nutrient Content (Per 100 g)	
Carbohydrate	77.48 g
Protein	5.86 g
Fat	1.04 g
Fibre	2.88 g
Iron	31.51 mg
Calcium	277.60 mg
Phosphorous	226.40 mg
Niacin	0.88 mg
Folic acid	14.64 µg

HEALTH DRINK FROM FINGER MILLET

FINGER MILLET MALT

Ingredients:

- Finger Millet - 800 g
- Sugar - 200 g
- Water - 1 litre



Method

Preparation of malt

- Wash finger millet seeds thoroughly in water.
- Soak the seeds for 5 hours
- Drain the excess water and tie in a muslin cloth.
- Allow the seed to sprout at room temperature ($27\pm 3^{\circ}\text{C}$) for 24 hours
- Shade dry the germinated seeds for 48 hours.
- Roast the seeds at 120°C and allow it to cool.
- Grind the germinated seeds to fine flour.
- Pack the flour in air tight bags or containers.



INTRODUCTION

Finger millet is a versatile source of carbohydrate, protein and minerals that is comparable to other common cereal grains. Ragi also called finger millet or African millet is grown in the dry areas of Africa and Asia. It is grown commonly in the foothills of Himalayas, Zharkhand, Maharashtra, Rajasthan, Karnataka, Tamil Nadu and Andhra Pradesh. Grains contain protein ranging from 6 to 14 per cent, 1 to 1.4 per cent of minerals and food energy around 1350 to 1450 kj. Grain has promising quantity of essential amino acids such as tryptophan, cystine, methionine with high biological value crucial to health and growth. Finger millet is also a rich source of minerals having significant amount of calcium, iron and phosphorus.

Finger millet has got good malting properties and hence is being used in the preparation of weaning foods. Ragi malt and millet based beverages are very popular in South India. Many traditional foods are made from finger millet. It is one of most nutritious millet and it is easy to digest as well. Since it does not contain gluten, it is a wonderful grain alternative for people who are gluten-sensitive. It is low fat cereal and most of the fats are in the unsaturated form.

Health Benefits of Finger millet

- Helps in bone development.
- Helps in weight reduction.
- Acts as a relaxant.
- Reduces blood glucose levels.
- Acts as a good source of protein/aminoacids.
- Lowers blood cholesterol levels.

Nutritional Composition of Finger millet (Per 100g)

S.No	Nutrients	Quantity
1	Moisture	13.1 g
2	Carbohydrate	72.0 g
3	Protein	7.3 g
4	Fat	1.3 g
5	Energy	328 Kcal
6	Fiber	3.6 g
7	Minerals	2.7 g
8	Calcium	344 mg
9	Phosphorus	143 mg
10	Niacin	1.1 mg
11	Folic acid	18.3 µg
12	Lysine	3.5 g
13	Methionine	3.4 g
14	Cystine	2.2 g
15	Tryptophan	1.6 g
16	Isoleucine	6.4 g

7. HOT KOLUKKATTAI

Ingredients

Finger millet flour	-	600g
Onion	-	150g
Green chillies	-	50g
Curry leaves	-	20g
Coriander leaves	-	20g
Asafoetida	-	20g
Mustard	-	20g
Black gram dhal	-	20g
Oil	-	100ml
salt	-	20g



Method

- Add required quantity of water to the finger millet flour and mix thoroughly without lumps.
- Season the ingredients and add to the finger millet flour mix.
- Boil the mixed with the continuous stirring till it reaches the thick dough consistency.
- Form the dough into oval shapes and steam for 15-20 minutes in idli cooker.
- Serve hot.

Nutrient Content (Per 100 g)	
Carbohydrate	45.10 g
Protein	6.25 g
Fat	10.30 g
Fiber	6.40 g
Calcium	68.90 mg
Phosphorous	216.65 mg
Iron	6.95 mg
Niacin	3.56 mg
Folic acid	18.25 µg

6. THATTU VADAI

Ingredients

Finger millet flour	- 700g
Chena dal	- 60g
Vanaspathi	- 200g
Curry leaves	- 20g
Chilli powder	- 20g
Water	- as required
Salt	- to taste



Method

- Add all the ingredients to the flour and mix thoroughly.
- Prepare thick dough by adding required water.
- Flatten the dough to thin round shapes on a polythene sheet.
- Deep fry it in hot oil till they turn golden brown.
- Allow it to cool and pack in air tight container.

Nutrient Content (Per 100 g)	
Carbohydrate	49.18 g
Protein	6.46 g
Fat	31.34 g
Fibre	2.28 g
Iron	2.87 mg
Calcium	8.24 mg
Phosphorous	202.90 mg
Niacin	0.90 mg
Folic acid	25.73 µg

BREAK FAST RECIPES

1.IDLI

Ingredients

Finger millet	- 780g
Black gram dhal	- 200g
Fenugreek	- 20g
Salt	- as required



Method

- Soak finger millet rice and black gram dhal separately for 4 hours and grind coarsely.
- Add salt, mix it evenly and allow it to ferment overnight.
- Pour batter into idli plates and steam cook for 10-15 minutes.
- Serve hot with chutney.

Nutrient Content (Per 100 g)	
Carbohydrate	68.96 g
Protein	11.02 g
Fat	1.4 g
Fibre	3.12 g
Iron	3.93 mg
Calcium	302.32 mg
Phosphorous	305.14 mg
Niacin	1.27 mg
Folic acid	42.35 µg

2.DOSA

Ingredients

Finger millet	- 780g
Black gram dhal	- 200g
Fenugreek	- 20g
Salt	- as required



Method

- Soak finger millet rice and black gram dhal separately for 4 hours and grind into fine batter
- Add salt, mix it evenly and allow it to ferment overnight.
- Apply oil on the hot plate and pour batter and cook till crisp dosa is obtained
- Serve hot with chutney.

Nutrient Content (Per 100 g)	
Carbohydrate	68.96 g
Protein	11.02 g
Fat	1.4 g
Fibre	3.12 g
Iron	3.93 mg
Calcium	302.32 mg
Phosphorous	305.14 mg
Niacin	1.27 mg
Folic acid	42.35 µg

5. MURUKKU

Ingredients

Raw rice flour	- 400g
Finger millet flour	- 400g
Roasted Bengal gram flour	- 100g
Chilli powder	- 20 g
Cumin seeds	- 20g
Hydrogenated fat	- 50g
Asafoetida	- 10g
Salt	- to taste



Method

- Mix rice flour, finger millet flour blends and roasted Bengal gram flour.
- Sieve (60 BS mesh sieve) and mix uniformly with other ingredients.
- Add required quantity of water and prepare the dough to a thick consistency
- Extrude the dough in a hand extruder with 4mm diameter orifice .
- Deep fry in hot oil 180°C till they turn golden brown.
- Cool and pack in polythene covers.

Nutrient Content (Per 100 g)	
Carbohydrate	67.53 g
Protein	7.83 g
Fat	6.67 g
Fibre	12.52 g
Iron	3.04 mg
Calcium	178.90 mg
Phosphorous	228.42 mg
Niacin	1.68 mg
Folic acid	25.27 µg

4. OMAPODI

Ingredients

Finger millet flour - 800g
 Rice flour - 160g
 Chilli powder - 20g
 Pepper powder - 20g
 Salt - to taste
 Water - as required



Method

- Mix together finger millet flour and rice flour and sieve.
- Add water to get a thick dough like consistency.
- Extrude the dough in a hand extruder through omapodi dye. Deep fry the extruded omapodi till they turn golden brown.
- Allow to cool and pack in polythene covers.

Nutrient Content (Per 100 g)	
Carbohydrate	69.37 g
Protein	10.68 g
Fat	2.73 g
Fibre	3.87 g
Iron	4.55 mg
Calcium	266.75 mg
Phosphorous	279.24 mg
Niacin	1.78 mg
Folic acid	41.16 µg

3. IDIAPPAM

Ingredients

Finger millet flour - 1 kg
 Salt - as required



Method

- Steam the finger millet flour for five minutes.
- Blend steamed flour with salt and water thoroughly and extrude in idiappam machine.
- Steam the extruded dough for 20-25 minutes
- Serve hot with coconut milk and sugar.

Nutrient Content (Per 100 g)	
Carbohydrate	72.0 g
Protein	7.3 g
Fat	1.3 g
Fibre	3.6 g
Iron	3.9 mg
Calcium	344 mg
Phosphorous	283 mg
Niacin	1.1 mg
Folic acid	18.3 µg

4. ROTTI

Ingredients

Finger millet flour	- 650g
Chopped onion	- 300g
Green chillies	- 20g
Chilli powder	- 5g
Cumin seed powder	- 5g
Turmeric powder	- 10g
Chopped curry leaves	- 10g
Salt	- as required
Water	- 500 ml



Method

- Mix finger millet flour and rice flour thoroughly.
- Add other ingredients with required amount of water and mix uniformly to a thick dough consistency.
- Flatten the dough on dosa plate and cook with oil.
- Serve it hot.

Nutrient Content (Per 100 g)	
Carbohydrate	51.04 g
Protein	5.59 g
Fat	1.01 g
Fibre	2.93 g
Iron	3.37 mg
Calcium	251.45 mg
Phosphorous	209.93 mg
Niacin	0.95 mg
Folic acid	13.40 µg

3. RIBBON PAKODA

Ingredients

Raw rice flour	- 200g
Finger millet flour	- 700g
Chilli powder	- 20 g
Cumin seeds	- 20 g
Hydrogenated fat	- 50 g
Asafoetida	- 10 g
Salt	- to taste



Method

- Add all the ingredients to the flour and mix it uniformly.
- Prepare the dough by adding water.
- Extrude the dough in a hand extruder and deep fry in hot oil till they turn into golden brown colour.
- Allow it to cool and pack in air tight container.

Nutrient Content (Per 100 g)	
Carbohydrate	62.62 g
Protein	6.28 g
Fat	25.93 g
Fibre	2.76 g
Iron	2.95 mg
Calcium	244.00 mg
Phosphorous	225.47 mg
Niacin	1.10 mg
Folic acid	15.52 µg

2. PAKODA

Ingredients

Finger millet flour	- 700g
Rice flour	- 150g
Onion	- 100 g
Green chilli	- 200g
Curry leaves	- 200g
Coriander leaves	- 100g
Oil	- 250 ml
Salt	- to taste



Method

- Add all the ingredients and water to the flour and make it into thick dough.
- Deep fry the dough in hot oil (180° C) in different shapes.
- Serve hot.

Nutrient Content (Per 100 g)	
Carbohydrate	62.62 g
Protein	6.28 g
Fat	25.93 g
Fibre	2.76 g
Iron	2.95 mg
Calcium	244.00 mg
Phosphorous	225.47 mg
Niacin	1.10 mg
Folic acid	15.52 µg

5.PUTTU

Ingredients

Finger millet flour	- 750g
Sugar	- 150g
Grated Coconut	- 100g



Method

- Add required amount of water and salt to Finger millet flour and mix it thoroughly without lumps.
- Steam the flour for 20 -25 minutes.
- Add sugar and shredded coconut.
- Serve it hot.

Nutrient Content (Per 100 g)	
Carbohydrate	70.21 g
Protein	5.93 g
Fat	5.13 g
Fibre	3.06 g
Iron	3.11 mg
Calcium	260.80 mg
Phosphorous	236.40 mg
Niacin	0.90 mg
Folic acid	14.97 µg

6.UPPMA

Ingredients

Finger millet rawa	- 600 g
Chick pea	- 100 g
Black gram	- 100g
Carrot (chopped)	- 50 g
Tomatoes (chopped)	- 50 g
Onions (chopped)	- 50g
Green chillies (chopped)	- 20 g
Curry leaves	- 20 g
Coriander leaves	- 10 g
Oil	- for shallow frying
Salt	- to taste



Method

- Grind the finger millet rice into grits (rava).
- Roast the rava till it becomes light brown.
- Fry all the ingredients except rava with oil.
- Add water, salt and allow it to boil.
- Add roasted rava slowly with continuous stirring.
- Cook it for 15-20 minutes.
- Serve hot with chutney.

Nutrient Content (Per 100 g)	
Carbohydrate	56.78 g
Protein	9.22 g
Fat	1.52 g
Fibre	2.70 g
Iron	3.55 mg
Calcium	245.14 mg
Phosphorous	275.58 mg
Niacin	1.22 mg
Folic acid	41.20 µg

SNACKS

1.VADAI

Ingredients

Finger millet grains	- 300g
Black gram dal	- 600g
Onions (chopped)	- 20g
Green chillies	- 30g
Coriander leaves	- 20 g
Curry leaves	- 30g
Oil	- for deep frying
Water	- as required
Salt	- to taste



Method

- Soak Finger millet rice and bengal gram for 4 hours and grind coarsely to thick consistency.
- Mix all the ingredients into the batter.
- Flatten the mixture into round shapes.
- Deep fry the dough in hot oil till they turn to golden brown colour.
- Serve hot with chutney.

Nutrient Content (Per 100 g)	
Carbohydrate	58.38 g
Protein	16.96 g
Fat	2.52 g
Fibre	2.05 g
Iron	3.66 mg
Calcium	223.88 mg
Phosphorous	322.63 mg
Niacin	1.65 mg
Folic acid	88.37 µg

2. SWEET KOLUKATTAI

Ingredients

Finger millet flour	-	750g
Coconut shreds	-	80g
Jaggery	-	150g
Cardamom	-	20g
Salt	-	to taste



Method

- Add required amount of water and salt to the finger millet flour and mix it thoroughly.
- Prepare Filling by mixing shredded coconut, jaggery and cardamom powder.
- Flatten the dough on a plantain leaf.
- Fill the mixture on the dough and fold it.
- Steam the filled dough in idli cooker for 15 minutes.
- Serve it hot.

Nutrient Content (Per 100 g)	
Carbohydrate	70.13 g
Protein	6.09 g
Fat	4.35 g
Fibre	3.39 g
Iron	3.54 mg
Calcium	273.40 mg
Phosphorous	240.65 mg
Niacin	0.90 mg
Folic acid	14.72 µg

7. ADAI

Ingredients

Finger millet flour	-	600g
Black gram dal	-	250g
Chick pea dal	-	150g
Refined oil	-	for shallow frying
Salt	-	to taste



Method

- Soak finger millet rice, red gram dhal, black gram dhal and parboiled rice for 2 hours.
- Grind the soaked materials into coarse batter.
- Add red chilli powder, asafoetida, curry leaves, cumin seeds and salt to the batter and mix it thoroughly.
- Apply oil on the dosa plate and spread the adai batter and cook.
- Serve hot with chutney.

Nutrient Content (Per 100 g)	
Carbohydrate	67.07 g
Protein	13.50 g
Fat	1.97 g
Fibre	2.56 g
Iron	4.08 mg
Calcium	253.30 mg
Phosphorous	315.70 mg
Niacin	1.52 mg
Folic acid	66.10 µg

8. PORRIDGE

Ingredients

Finger millet powder	- 500g
Jaggery	- 250g
Milk	- 250ml
Water	- 2 litre

Method

- Boil jaggery in water and strain out the impurities.
- Add the finger millet powder in cold water, ensure there are no lumps and mix it with jaggery water.
- Simmer till porridge starts to thicken. Add milk or water to get the required consistency.



Nutrient Content (Per 100 g)	
Carbohydrate	70.75 g
Protein	4.55 g
Fat	1.70 g
Fibre	1.80 g
Iron	1.21 mg
Calcium	222.00 mg
Phosphorous	174.00 mg
Niacin	0.55 mg
Folic acid	11.27 µg

SWEETS

1. HALWA

Ingredients

Finger millet	- 300g
Powdered sugar	- 300g
Ghee	- 300g
Cashewnuts	- 100g
Cardamom powder-	10 pinch

Method

- Fry finger millet flour and wheat flour with half the amount of ghee.
- Add fried flour to the boiled milk and water with stirring continuously to avoid lumps.
- When it solidifies, add sugar, ghee and cook to the required consistency.
- Add roasted cashew nuts and raisins when the solid mass leaves the sides of the pan.
- Spread on a greased tray and cut into pieces.



Nutrient Content (Per 100 g)	
Carbohydrate	53.65 g
Protein	4.33 g
Fat	35.08 g
Fibre	1.21 g
Iron	1.79 mg
Calcium	111.80 mg
Phosphorous	130.20 mg
Niacin	0.45 mg
Folic acid	5.49 µg