

Smart Food Millet Recipes

GOOD FOR YOU | GOOD FOR THE PLANET | GOOD FOR THE SMALLHOLDER FARMER



Citation: ICRISAT. 2016. Smart Food Millet Recipes. Patancheru 502 324, Telangana, India: International Crops Research Institute for the Semi-Arid Tropics. 32 pp.

© International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), 2016. All rights reserved. ICRISAT holds the copyright to its publications, but these can be shared and duplicated for non-commercial purposes. Permission to make digital or hard copies of part(s) or all of any publication for non-commercial use is hereby granted as long as ICRISAT is properly cited. For any clarification, please contact the Director of Communication at icrisat@cgiar.org. ICRISAT's name and logo are registered trademarks and may not be used without permission. You may not alter or remove any trademark, copyright or other notice.

Smart Food Millet Recipes

GOOD FOR YOU

GOOD FOR THE PLANET

GOOD FOR THE SMALLHOLDER FARMER



**International Crops Research Institute
for the Semi-Arid Tropics**

About Smart Food – the triple benefits

Smart Food is a new concept that brings together solutions for different key global issues. Smart Food is defined as food that is:

GOOD FOR YOU | GOOD FOR THE PLANET | GOOD FOR THE SMALLHOLDER FARMER

Some of the biggest global issues are: poor diets (malnutrition to obesity); environmental issues (climate change, water scarcity and environmental degradation); and poverty.

Smart Food is one of the solutions that contributes to addressing all these issues in unison.

The UN has identified the need for **Sustainable Diets** they define as “diets with low environmental impacts which contribute to food and nutrition security...”, and believes that it is essential to set targets to strive towards this.¹

Smart Food is a key solution to sustainable diets.

Millets, often termed nutri-cereals, are a Smart Food as they are:

Good for you as millets are not only highly nutritious but target some of the highest malnutrition problems. For example,

- Pearl millet is high in iron, zinc and folic acid which is not only among the highest micronutrient needs but also particularly important for adolescent girls and women.²
- Finger millet has three times the amount of calcium as milk – also critical for women and babies.³
- Millets are also high in antioxidants and important for fighting diabetes and heart disease which are at significantly increasing levels in India.

Good for the planet reflecting the low water footprint and fewer pesticides and fertilizers needed and hence lower carbon footprint. This is not only better for the environment but means there is less financial investment risk for farmers.

Good for the smallholder farmer Millets are naturally climate smart. They are typically the last crop standing in times of drought. Some pearl millets have been known to withstand up to 64° Celsius. Millets can be a good risk management strategy for the farmers. The multiple untapped uses (fodder, biofuels, food products, brewing and more) also can be good value for farmers if developed. Millets also have a large scope for further yield development.

However, compared to other major crops, millets receive very little funding and attention, less government support, less developed value chains, less developed processing industry, and overall less awareness and knowledge about their value.

The Smart Food Initiative

Millets need to be brought into the mainstream along with the other major staples. It is therefore proposed to establish a Smart Food initiative with the overall goal to accelerate and popularize investments and support for the research and development of value chains for millets.

Approach

An initiative has been designed around ‘Smart Food – good for you, good for the planet and good for the smallholder farmer’. The approach is based on creating a demand pull by the consumer.

Efforts will focus on building a stronger scientific case for more support to millets. We will also highlight the issues and promote the value of millets along with building a new modern image around what have been the traditional crops and foods in many areas. Complementary to this will be promoting the need for new modern and exciting products made with millets.

¹ Macdiarmid J. 2016. Shifting to Sustainable Diets. United Nations. <https://academicimpact.un.org/content/shifting-sustainable-diets>

² <http://www.icrisat.org/newsroom/latest-news/happenings/happenings1676.htm#1>

³ <http://millets.wordpress.com/health/calcium/> ; Upadhyaya. 2011. <http://oar.icrisat.org/22/1/HDU1.pdf> ; Kannan S. 2010. Finger millet in nutrition transition: an infant weaning food ingredient with chronic disease preventive potential. British Journal of Nutrition, 104:1733-1734. doi:10.1017/S0007114510002989.

MILLETS^{are} SMART FOOD

GOOD FOR YOU

MULTIPLE HEALTH BENEFITS¹

Their low glycemic index helps manage blood glucose levels and prevent diabetes.

MILLETS ARE HIGH IN ANTIOXIDANTS

Pearl millet has the highest folic acid content among cereals, which lowers heart disease and cancer risks and is recommended to pregnant women.



Highest
Folic acid
46 mcg/100g

Milletts are
Highly Digestible
Gluten-free

Fight against
Cancer, diabetes
heart disease

NUTRIENT DENSE GRAINS

Milletts are high in protein, vitamins and micronutrients

Finger millet^{2,3,4}

340mg/100g Calcium
3 times more than milk

Pearl millet⁵

iron 75mg/kg zinc 43mg/kg



“Mothers from Mali to Mumbai use finger millet as baby porridge due to its richness in calcium”

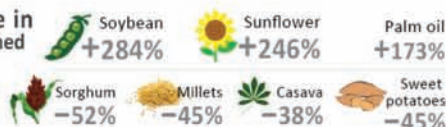
CRITICAL NEED FOR DIET DIVERSITY

Fewer crop species are feeding the world than 50 years ago, with a stark decline in millets and other traditional crops.⁶

This globalized non-diversified diet of energy dense crops fuels the rise in diabetes and heart disease. Millets are part of the answer to reverse this trend.⁷



Average change in the calories consumed from key crops worldwide (1961-2009)



GOOD FOR THE PLANET

In drier and warmer climate
millets are more adapted.

HARDY AND DROUGHT-TOLERANT^{8, 9, 10, 11}

Millets are often the only cereal crops that can grow in arid lands



Only needs
350-400mm
annual rain



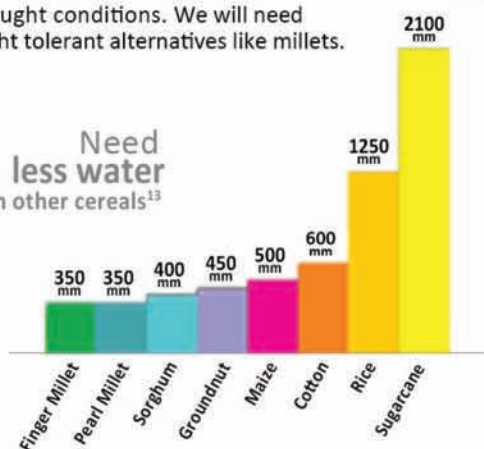
FOOD SOLUTION IN A CHANGING CLIMATE

With global warming, 40% of land where we grow maize in sub-Saharan Africa may not support that crop by 2030.¹²

Millet survives better than maize in drought conditions. We will need drought tolerant alternatives like millets.



Need
less water
than other cereals¹³



HEAT TOLERANT¹⁴

Some pearl millets survive at temperatures up to 64°C



64°C

GROW FASTER

Some millets need 60-65 days to mature against 100-140 days for wheat

100-140
days



Millets can grow with no or little fertilizers and pesticides

A CROP TO BRING DIVERSITY ON FARM FOR SUSTAINABLE AGRICULTURE

Easier to grow for poor farmers with difficult access to inputs.

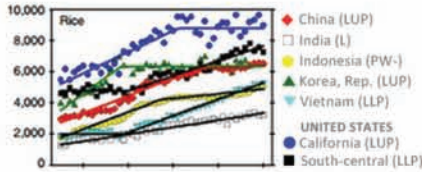
Greater crop diversity on farm reduces pests, climate risks, improving farmers' overall resilience



GOOD FOR THE SMALL HOLDER FARMER

NEW SOLUTIONS NEEDED TO FEED 9 BILLION BY 2050

A third of rice, maize, and wheat growing areas have experienced yield plateaus or decrease in yield gain in the last decade¹⁴



HUGE SCOPE FOR GROWTH IN MILLETS

Better seeds, better inputs and farm practices can boost millet production to significant levels, eg +55% in Niger, if using microdosing

microdosing can boost millet production



GREAT YIELD GAIN POTENTIAL FOR MILLETS

Average rainfed sorghum yield is as low as 600kg/ha, when realistic potential is three times higher. Significant impact is already proven



Traditional crop for **2.5 billion** people living in the drylands

CRUCIAL STAPLE FOR MILLIONS IN THE DRYLANDS

Family nutrition: Millets are well-known traditional crops for most of the 2.5 billion people living in the drylands. 80% is eaten by the farmers' family



MULTI USES EXIST WITH UNTAPPED MARKETS

Fodder: Pearl millet straw, with up to 50% dry matter, is the main animal feed for dryland herders in the dry season



Biofuels & fermentation industries not fully developed

Consumer Product: Health foods, sanitizers and more are untapped markets





Sorghum

Pearl millet

Finger millet

1. **Saleh Ahmed SM, Zhang Qing, Chen Jing and Shen Qun.** 2013. Millet Grains: Nutritional Quality, Processing, and Potential health Benefits. Pages 281-295 in *Comprehensive Reviews in Food Science and Food Safety* 12(3):281-295.
2. <http://millets.wordpress.com/health/calcium/>
3. **Upadhyaya.** 2011. <http://oar.icrisat.org/22/1/HDU1.pdf>
4. **Kannan S.** 2010. Finger millet in nutrition transition: an infant weaning food ingredient with chronic disease preventive potential. *British Journal of Nutrition*, 104:1733-1733doi:10.1017/S0007114510002989.
5. **Nambiar VS, Dhaduk JJ, Sareen N, Shahu T and Desai R.** 2011. Potential Functional Implications of pearl millet (*Pennisetum glaucum*) in Health and Disease. *Journal of Applied Pharmaceutical Science* 01 (10):62-67.
6. <http://www.bbc.com/news/science-environment-26382067>
7. **Khoury CK, Bjorkman AD, Dempewolf H, Ramirez-Villegas J, Guarino L, Jarvis A, Rieseberg LH and Struik PC.** 2014. Increasing homogeneity in global food supplies and the implications for food security. *Proceedings of the National Academy of Sciences of the United States of America* 18 March 2014, Vol 111 no.11:4001-4006.
8. http://shodhganga.inflibnet.ac.in/bitstream/10603/11053/11/11_chapter%202.pdf
9. **Vadez V, Hash T, Bidinger FR and Kholova J.** 2012. Phenotyping pearl millet for adaptation to drought. *Frontiers in Physiology* 3:386.
10. **Schill SR.** 2012. Sorghum acres to grow due to drought tolerance, new varieties. *Ethanol Producer Magazine*, 27 December 2012. Available at <http://ethanolproducer.com/articles/9408sorghum-acres-to-grow-due-to-drought-tolerance-new-varietie>
11. **Rai KN, Reddy BVS, Saxena KB and Gowda CLL.** 2004. Prospects of breeding sorghum, pearl millet and pigeonpea for high forage yield and quality. Paper presented at the 4th International Crop Science Congress, 26 September-1 October 2004.
12. **The World Bank.** 2013. Turn Down the Heat: Climate Extremes, Regional Impacts, and the Case for Resilience. A Report for the World Bank by the Potsdam Institute for Climate Impact Research and Climate Analytics. Washington DC: World Bank.
13. **Millet Network of India, Deccan Development Society, FIAN India.** Millets: Future of Food and Farming. Available at <http://www.swaraj.org/shikshantar/millets.pdf14>.
14. **Grassini P, Eskridge KM and Cassman KG.** 2013. Distinguishing between yield advances and yield plateaus in historical crop production trends. *Nature Communications* 4 Article number: 2918.

Contents

2	About Smart Food
3	Millets are Smart Food
8	Millet Dosa
10	5-Grain Soup
12	Sorghum Salad
14	Millet Stir Fry
16	Millet & Chickpea Stuffed Peppers
18	Millet Couscous With Roasted Carrots
20	Millet Shots
22	Millet Cookies
24	African Millet Patties
26	Millet Sushi
28	No Yeast Pizza
30	Sorghum Muffins
32	Photo credits



Millet Dosa

[Recipe >](#)



Extra Bites

Pearl millet has the highest folic acid content among cereals. It lowers heart disease and cancer risks and is recommended for pregnant women.

Millet Dosa

(Makes 10-12 dosas)

INGREDIENTS

- Pearl millet – 180 g
- Black gram (without the skin) – 180 g
- Rice – 150 g
- Boiled rice – 40 g
- Fenugreek seeds – 1 teaspoon
- Salt – to taste
- Oil for drizzling

METHOD

1. Rinse the pearl millet and soak it for 4 to 5 hours. Soak separately black gram, rice, boiled rice and fenugreek seeds for 2 hours.
2. Grind all of them together to make a smooth batter, adding water as required.
3. Transfer the batter into a container with a lid and allow it to ferment in a warm place for 5-6 hours.
4. If the fermented batter is too thick, add water to bring it to spreading consistency.
5. Heat a griddle, take a ladle full of batter and keep spreading it in a circular motion outwards.
6. Drizzle oil around the dosa. When one side is crisp and brown, flip it and cook the other side for 30 seconds. Flip over and fold it.
7. Serve with any chutney.

5-Grain Soup

[Recipe >](#)



Extra Bites

The five grains used in this recipe grow in harsh, inhospitable climates with very little rainfall and poor soils. Their resilience under extreme weather conditions is critical to provide food security in the face of climate change.

5-Grain Soup

(Serving Size: Serves 4-6)

INGREDIENTS

- Water – 2 liters
- Bay leaves – 2
- Peppercorns – 5 g
- Carrot – 40 g
- Potato – 50 g
- Onion – 50 g
- Celery – 10 g
- Garlic – 4 cloves
- Olive oil
- Salt & pepper to taste

GRAINS

- Pigeonpea – 100 g
- Pearl millet – 100 g
- Sorghum – 100 g
- Groundnut – 50 g
- Chickpea – 50 g

METHOD

1. Soak all the grains together for 4 to 6 hours.
2. Rinse grains after soaking.
3. Chop the vegetables (save 1 tsp each of onion, celery and 2 cloves garlic) and cook together with the grains in a vessel/saucepan.
4. When cooked, separate the stock and keep aside.
5. Allow the vegetable-grain mixture to cool. Puree in a blender and keep aside.
6. Take a vessel/saucepan and drizzle olive oil. Add the chopped onions, garlic and celery. Fry till brown.
7. Add the vegetable-grain puree and keep stirring so that it does not stick to the vessel/saucepan.
8. When the mixture turns light brown add the stock and bring it to a boil. While boiling remove any scum on the surface.
9. Add salt and pepper to taste. Garnish with boiled grains.
10. Serve hot.

(For a non-veg soup, substitute the vegetables with 150 g of meat or seafood)

Sorghum Salad

[Recipe >](#)



Extra Bites

Sorghum is grown on about 42 million hectares in 98 countries. West Africa produces roughly 25% of the world's sorghum while India produces 20%.

Sorghum Salad

INGREDIENTS

Sorghum

- 1 cup sorghum, rinsed in a fine mesh colander
- 3 cups water

Lemony dressing

- 2 tablespoons olive oil
- 2 tablespoons lemon juice
- ¼ teaspoon red pepper flakes
- ¼ teaspoon fine grain sea salt
- 1 clove garlic, pressed or minced
- Freshly ground black pepper, to taste

Everything else

- 3 cups baby arugula
- ¼ cup crumbled feta
- 2 tablespoons grated Parmesan cheese
- Optional: 1 can (14 ounces) chickpeas, rinsed and drained

Roasted cherry tomatoes

- 1 pint cherry tomatoes
- 1 tablespoon olive oil
- Sea salt

METHOD

1. First, cook the sorghum: Combine rinsed sorghum and three cups water in a small pot. Bring to a boil, then cover and reduce heat to medium-low. Cook until the sorghum is pleasantly tender but still has some chew to it, about 55 to 65 minutes. You can wait until the sorghum is halfway cooked before proceeding with the next steps.

2. To roast the cherry tomatoes: Preheat oven to 200°C (400°F). Line a small, rimmed baking sheet with parchment paper for easy cleanup. Toss the whole cherry tomatoes with one tablespoon olive oil and a sprinkle of salt. Roast until the tomatoes are soft, plump and starting to burst open, about 18 minutes.

3. To make the dressing: Whisk together the olive oil, lemon juice, red pepper flakes, salt and pepper until emulsified.

4. Once the sorghum is cooked: Drain off any excess water and pour the cooked sorghum into a serving bowl. Pour in all of the dressing, all of the cherry tomatoes and their juices, the arugula, feta, Parmesan and chickpeas (optional). Toss well and serve.

ACKNOWLEDGMENT

<http://cookieandkate.com/2014/roasted-cherry-tomato-arugula-and-sorghum-salad/>

Millet Stir Fry

[Recipe >](#)



Extra Bites

Millets were the staple grain in Asia before rice. Chinese archeologists found a 4,000-year-old bowl containing long noodles made from millet.

Millet Stir Fry

INGREDIENTS

- 1 cup millet, rinsed
- 3 cups water
- 1 teaspoon sea salt
- 3 carrots, sliced into ribbons with a vegetable peeler
- Handful of asparagus, tough ends snapped off and sliced into 2-inch pieces
- 1 tablespoon or more of organic peanut oil or vegetable oil
- 1 tablespoon toasted sesame oil
- 2 eggs, beaten
- ½ inch fresh ginger, skin removed and finely chopped or grated
- 2 cloves garlic, minced or pressed
- ½ cup or more sliced green onions
- 1 tablespoon tamari, shoyu or soy sauce

METHOD

1. Cook the millet: Bring 3 cups of salted water to a boil in a large saucepan. Add the millet, lower to a simmer and cook, covered, for 20 to 25 minutes. Fluff with a fork and let it rest, covered, for 5 minutes. (You can do this ahead of time and refrigerate the leftover millet until you're ready to heat up the skillet).
2. Over medium-high heat, heat half of the peanut or vegetable oil and sesame oil in a wok or large skillet. Once it is hot, pour in the eggs and swirl the pan to create a thin layer of egg. Let it set (about 45 seconds), then fold the eggs over on themselves and cook for about another 30 seconds and transfer to a plate or cutting board. Let it cool a little and then slice it into strips.
3. Arrange all of your prepared ingredients within easy reach of the stove. Wipe off any remaining egg from the pan and return it to medium-high heat. Add the remaining oil and let it heat up enough so that a drop of water evaporates within seconds. Stir in the ginger and garlic and cook for about 15 seconds. Stir in the green onions and carrots for another 30 seconds, stirring constantly. Stir in the millet and shoyu for 30 seconds, then add the egg and cook for another 30 seconds. Divide into two bowls and top with some fresh cilantro leaves, a sprinkle of red pepper flakes and a little dash of shoyu, sesame oil or tamari, if necessary.

ACKNOWLEDGMENT

<http://cookieandkate.com/2012/springtime-stir-fried-millet/>

Millet & Chickpea Stuffed Peppers

[Recipe >](#)



Extra Bites

Millets are often the only cereal crops that can grow in arid lands since they need very little water and can withstand temperatures as high as 64°C.

Millet & Chickpea Stuffed Peppers

(Makes 4 stuffed peppers)

INGREDIENTS

- 1 cup dry millet
- 3 cups water
- 2 carrots, peeled and diced
- 1 onion, diced
- 1 clove garlic, minced
- 1 tablespoon curry powder
- 1 can chickpeas (garbanzo beans)
- ¼ cup raisins
- 4 bell peppers

METHOD

1. Toast the millet in a pan to give it a nutty corn-like taste. Once the millet is toasted, add 3 cups water, cover, and simmer for 20 minutes – or until all the water has been absorbed.
2. While the millet simmers, take a large non-stick sauté pan. Add a little bit of olive oil, and sauté the onions, carrots, and garlic until they are soft – about 10 minutes or so. Once soft, add the curry powder and chickpeas. Cook for another minute or two, until everything is heated through.
3. Slice the peppers lengthwise. Place the peppers in a glass baking dish with a bit of water added – just enough to cover the bottom. Drizzle a little bit of olive oil, salt and pepper directly to the peppers before stuffing.
4. Once the millet is cooked, add the chickpea mixture and stir it all up to combine. Toss in a few raisins if you like.
5. Put a hefty scoop into each half. Pack the filling in and place the baking dish in a 200°C (400°F) oven for about 30 minutes.

Millet Couscous With Roasted Carrots

[Recipe >](#)



Extra Bites

Millets have a low glycemic index, thereby it helps to manage blood glucose levels and prevents diabetes

Millet Couscous With Roasted Carrots

INGREDIENTS

- 4 tablespoons olive oil, divided
- 1 cup millet
- ½ teaspoon cumin seeds
- 2 ¼ cups chicken broth
- 6 medium carrots, peeled, cut into 1" pieces
- ¼ cup roasted almonds, chopped
- ¼ teaspoon cayenne pepper
- Kosher salt
- Freshly ground pepper
- ¼ cup fresh cilantro leaves with tender stems (optional)

METHOD

1. Heat oven to 200°C (400°F). Toss carrots with 2 tbsp. oil on a rimmed baking sheet; season with salt and pepper. Roast until tender and golden brown, 20 to 25 minutes.
2. Heat 1 tbsp. oil in a medium saucepan over medium-high heat. Add millet and cumin seeds and cook, stirring, until it begins to brown, about 2 minutes. Add broth and bring to a boil. Reduce heat, cover, and simmer, stirring occasionally, until millet is tender, 25–35 minutes.
3. Heat remaining 1 tbsp. oil in a small skillet over low heat; cook almonds and cayenne, stirring occasionally, until fragrant, about 2 minutes. Serve millet topped with carrots, cilantro, and almond mixture.

ACKNOWLEDGMENT

<http://bewitchingkitchen.com/2014/10/30/millet-couscous-with-roasted-carrots/>

Millet Shots

[Recipe >](#)



Extra Bites

Finger millet is packed with calcium - containing three times more calcium than milk. Mothers from Mali to Mumbai use finger millet as baby porridge due to its richness in calcium.

Millet Shots

(Serving Size: 2 shots)

INGREDIENTS

- 1 cup milk
- 1 tablespoon finger millet flour
- 2 tablespoons water
- 3 tablespoons chocolate sauce
- 1 tablespoon honey
- 2 tablespoons orange crush
- 2 tablespoons cornflakes
- 1 tablespoon chopped nuts
- 1 tablespoon crushed rice crisps
- 1 tablespoon raisins
- Half an apple cubed
- Pudding/ice cream any flavor (optional)

METHOD

1. Add 1 tbsp chocolate sauce to the milk. Bring it to a boil.
2. Using 2 tbsp of water make a thick paste of the millet flour.
3. Add the millet paste to the milk while it is boiling. Cook it on a low flame until the consistency is similar to porridge.
4. Remove from flame. Let it cool completely.
5. Now refrigerate all the ingredients for 2 hours.
6. Layer the ingredients in two shot glasses. Place orange crush in both the glasses, then add the millet porridge along with a small spoon of chocolate sauce, 1 spoon of cornflakes, a few rice crisps. Then add apple pieces, another spoon of millet porridge, nuts, raisins, etc. Repeat the process until the glasses are full.
7. Garnish with small scoops of pudding or ice cream and decorate with pieces of apple and orange.
8. Glaze the fruits by drizzling a little honey on them.

Millet Cookies

[Recipe >](#)



Extra Bites

Millets, including sorghum, are gluten free. Some millets need 60-65 days to mature while wheat needs 100-140 days.

Millet Cookies

(Serving Size: Makes 25 to 30 cookies)

INGREDIENTS

- 50 g butter
- 50 g icing sugar
- 50 g brown sugar
- 1 egg
- 1 teaspoon vanilla essence
- 40 g pearl millet flour
- 70 g all-purpose flour
- ½ teaspoon baking powder
- Flour for dusting

METHOD

1. Mix butter, icing sugar and brown sugar in bowl, add an egg and vanilla essence. Whip it well.
2. Add the millet flour, all-purpose flour and baking powder and knead it to a smooth dough.
3. Make 25 - 30 balls.
4. Make a depression in the center of each ball and pipe jam into it (optional).
5. Flatten the ball. It should be about 0.5 inch thick.
6. Place the cookies wide apart on a cookie sheet.
7. Bake in a preheated oven at 180°C (360° F) for 20 to 25 minutes.

African Millet Patties

[Recipe >](#)



Extra Bites

Pearl millet is naturally high in iron and zinc. Research shows it can meet daily requirements of iron and zinc for children.

African Millet Patties

(Makes 4-6 patties)

INGREDIENTS

- 1 cup pearl millet
- 2 cups water
- $\frac{3}{4}$ cup tahini or nut butter/raisins
- 1 small onion, finely diced
- 1½ teaspoons celery seed
- 2 tablespoons soy sauce

METHOD

1. Rinse the millet and soak in water at room temperature for 6 hours or overnight.
2. Bring the water and millet to a boil, quickly turn down the heat to low and cover. Simmer for 20 minutes or until the water is absorbed. Remove from heat, fluff with a fork, and let it sit uncovered for a few minutes to cool down.
3. Add all the other ingredients and mix well. Form into patties and shallow fry over medium heat in a lightly oiled pan for a few minutes on each side until brown. Serve with condiments or chutneys.
4. Alternatively, the millet may be served when warm without frying. It's delicious this way as well.

Millet Sushi

[Recipe >](#)



Extra Bites

Millet is high in protein, vitamins and micronutrients. Millet's legacy persists in the Chinese language, where the signs for "millet" and "mouth" together make the word "harmony" and contribute to the word for "peace."

Millet Sushi

(Serving portion: Makes 6 - 7 pieces)

INGREDIENTS

- 2 cups pearl millet
- ½ a cucumber or avocado
- 100 g tofu, thinly sliced and marinated in soy sauce with 1 teaspoon ginger
- 1 teaspoon demerara sugar
- 2 tablespoons Chinese sesame, coarsely ground
- Nori sheet (for rolling)
- A pinch of salt
- 2 tablespoons rice vinegar
- 1 liter water

METHOD

1. In a pan, toast the millet on a low flame, stirring it every now and then for about five minutes or until it turns golden and releases its aroma. Let it cool.
2. Transfer the millet to a vessel/saucepan, add 1 liter water and boil. Stir every five minutes or so to ensure that the millet does not stick to the bottom of the vessel/saucepan. Remove from the flame when the mixture is of a uniform sticky consistency.
3. Transfer the millet to a shallow container and allow it to cool.
4. In a bowl mix rice vinegar, demerara sugar (coarse, light brown sugar), pepper and microwave for 5 seconds.
5. Add this mixture to the sticky millet in the container. Mix thoroughly and allow it to cool.
6. Meanwhile, transfer the marinated tofu to a lined baking tray and put it in an oven set to 'grill'. Drizzle a little of the marinade on the top. Grill them till they turn golden and crispy. If you don't have an oven, broil the marinated tofu in a pan.
7. Place a sheet of nori on top of your sushi mat. Spread out a thin layer of millet. At the end closest to you, place a line of tofu and cucumber/avocado. Now roll up tightly, tucking the nori sheet inside, into a nice cylinder.
8. Cut the sushi into 1½ inch thick pieces. Serve with miso soup, wasabi, soy sauce and pickled ginger.

No Yeast Pizza

[Recipe >](#)



Extra Bites

Finger millet has properties that slow down the digestion of carbohydrates and can be regarded as food for long sustenance.

No Yeast Pizza

(Serving portion: Makes 2 pizza bases)

INGREDIENTS FOR PIZZA SAUCE

- 6 tomatoes
- 1 tablespoon chopped garlic
- 50 g chopped onion
- 1 teaspoon sugar
- ½ tablespoon oregano
- 50 g tomato ketchup
- 25 ml oil
- Salt and pepper to taste

METHOD

1. Heat oil in a saucepan.
2. Add chopped garlic, chopped onion, oregano and sauté.
3. After a while add chopped tomatoes, tomato ketchup, sugar, pepper and salt.
4. Heat it until it becomes a thick paste.

INGREDIENTS FOR BASE

- ½ cup pearl millet flour
- ½ cup sorghum flour
- 2 tablespoons cooking oil
- 100 - 150 ml warm water
- Salt to taste

METHOD

1. Make a dough using the millet flour, sorghum flour, oil, warm water and salt.
2. Roll it in the shape of a pizza base.
3. Bake it at 200°C for 15 minutes till it is crisp and keep it aside.

NOTE: This will be a thin, crunchy base

INGREDIENTS FOR TOPPING

- ½ green bell pepper
- ½ yellow bell pepper
- ½ red bell pepper
- 1 tomato
- ½ onion
- 100 to 150 g Mozzarella cheese

METHOD FOR PIZZA

1. Dice the bell peppers, tomato and onion.
2. Coat the base with the pizza sauce and garnish with the diced vegetables and mozzarella cheese.
3. Bake at 200°C (400°F) for 10 to 15 minutes. Serve hot.

Sorghum Muffins

[Recipe >](#)



Extra Bites

Sorghum has an amazing range of multiple uses – the grain is used for food, beer and biofuels. The stalks are used as construction material, as fuel for cooking and as fodder for livestock.

Sorghum Muffins

(Makes 16 muffins)

INGREDIENTS

- 1 cup sorghum flour
- 1 cup all-purpose flour
- 2 teaspoons baking powder
- ¼ teaspoon baking soda
- 1 tablespoon cocoa powder
- 1 teaspoon vanilla essence
- 1 tin or 400 ml condensed milk
- 1 cup milk
- 3-4 tablespoons melted butter

METHOD

1. Sift the sorghum flour, all-purpose flour, baking powder, cocoa and baking soda in a bowl.
2. In another bowl, mix the condensed milk, milk, vanilla essence and the melted butter and mix thoroughly.
3. Add the wet ingredients to the flour mixture and mix only until the ingredients are well combined.
4. Grease the muffin cups with a little oil and spoon the batter till three-fourths full
5. Place in a preheated oven and bake at 180°C (360°F) for 30-40 minutes or till a toothpick inserted comes out clean.

Cover photo credits

1	2	3		
4	5	6	1, 4, 5, 6, 8, 10, 12, 13, 14, 15	ICRISAT
7	8	9	2, 3, 11, 15	PS Rao A Paul-Bossuet
10	11	12	7, 9	L Vidyasagar
13	14	15		

Photo credits

Page 8	Photo: ICRISAT
Page 10	Photo: ICRISAT
Page 12	Photo: ICRISAT
Page 14	Photo: PS Rao
Page 16	Photo: ICRISAT
Page 18	Photo: PS Rao
Page 20	Photo: PS Rao
Page 22	Photo: PS Rao
Page 24	Photo: ICRISAT
Page 26	Photo: L Vidyasagar
Page 28	Photo: L Vidyasagar
Page 30	Photo: A Diama, ICRISAT

Contributions

ICRISAT would like to acknowledge the help and support of many individuals who compiled the recipes in this booklet that you now hold in your hands.

Core Team:

Vani Anamdas
Recipe Coordination

P Ramanand
Chef

S Kiran
Chef

Joanna Kane-Potaka
Smart Food Initiative Coordinator

Amit Chakravarty
Overall Coordination

Alina Paul and Jerome Bousset
Research and Creative Inputs

M Jemima Margaret
Editorial Coordination

VVS Satyanarayana & MNR Ramesh
Production and Distribution

Popple Design
Design & Layout

Sucharitha Rao
Photographs



**International Crops Research Institute
for the Semi-Arid Tropics**



ICRISAT is a member
of the CGIAR Consortium

We believe all **people** have a **right** to **nutritious food** and a **better livelihood**.

ICRISAT works in agricultural research for development across the drylands of Africa and Asia, making farming profitable for smallholder farmers while reducing malnutrition and environmental degradation.

We work across the entire value chain from developing new varieties to agri-business and linking farmers to markets.

**ICRISAT-India
(Headquarters)**
Patancheru, Telangana, India
icrisat@cgiar.org

ICRISAT-Liaison Office
New Delhi, India

**ICRISAT-Mali
(Regional hub WCA)**
Bamako, Mali
icrisat-w-mali@cgiar.org

ICRISAT-Niger
Niamey, Niger
icrisat-sc@cgiar.org

ICRISAT-Nigeria
Kano, Nigeria
icrisat-kano@cgiar.org

**ICRISAT-Kenya
(Regional hub ESA)**
Nairobi, Kenya
icrisat-nairobi@cgiar.org

ICRISAT-Ethiopia
Addis Ababa, Ethiopia
icrisat-addis@cgiar.org

ICRISAT-Malawi
Lilongwe, Malawi
icrisat-malawi@cgiar.org

ICRISAT-Mozambique
Maputo, Mozambique
icrisatmoz@panintra.com

ICRISAT-Zimbabwe
Bulawayo, Zimbabwe
icrisat-zw@cgiar.org

ICRISAT appreciates the support of CGIAR donors to help overcome poverty, malnutrition and environmental degradation in the harshest dryland regions of the world. See <http://www.icrisat.org/icrisat-donors.htm> for full list of donors.



About ICRISAT:
www.icrisat.org



ICRISAT's scientific information:
EXPLOREit.icrisat.org



/ICRISAT



/ICRISAT



/ICRISATco



/company/
ICRISAT



/PHOTOS/
ICRISATIMAGES



/ICRISATSMCO

Apr 2016