

Guide to Producing and Packaging Breadfruit Flour



Steps in Producing Breadfruit Flour

- Harvest fruit at the right stage
- Remove stem and drain latex
- Store in cool water until processing begins
- Cut into pieces, and shred or slice thin with shredder or mandolin (peeling not necessary)
- Dry the shreds; must completely dry within 24 hours
- Grind into flour
- Store in airtight, waterproof packages
- Keep all equipment spotless and clean

More details on next few pages

Harvest the Fruit “Fit”

- Not too green but not overripe
- Pick the fruit when you see some white latex on the skin



- Cut out the stem, invert the fruit, drain out excess latex

Cut up and Shred the Fruit

- Wash off the fruit thoroughly
- Cut the fruit into chunks for shredding or slicing
 - Peeling the skin is optional
- Shred finely; recommend 3/16" (or 4 mm) shred teeth



Use smaller or larger equipment, depending on capacity needed. Photos Left to Right: manual mandolin, \$50; Dynacoupe shredder, \$150; Nemco slicer/shredder, \$200; food processor, about \$400; Hobart shredder, about \$400 (needs motor, about \$800).

Dry the Shreds (or Slices)

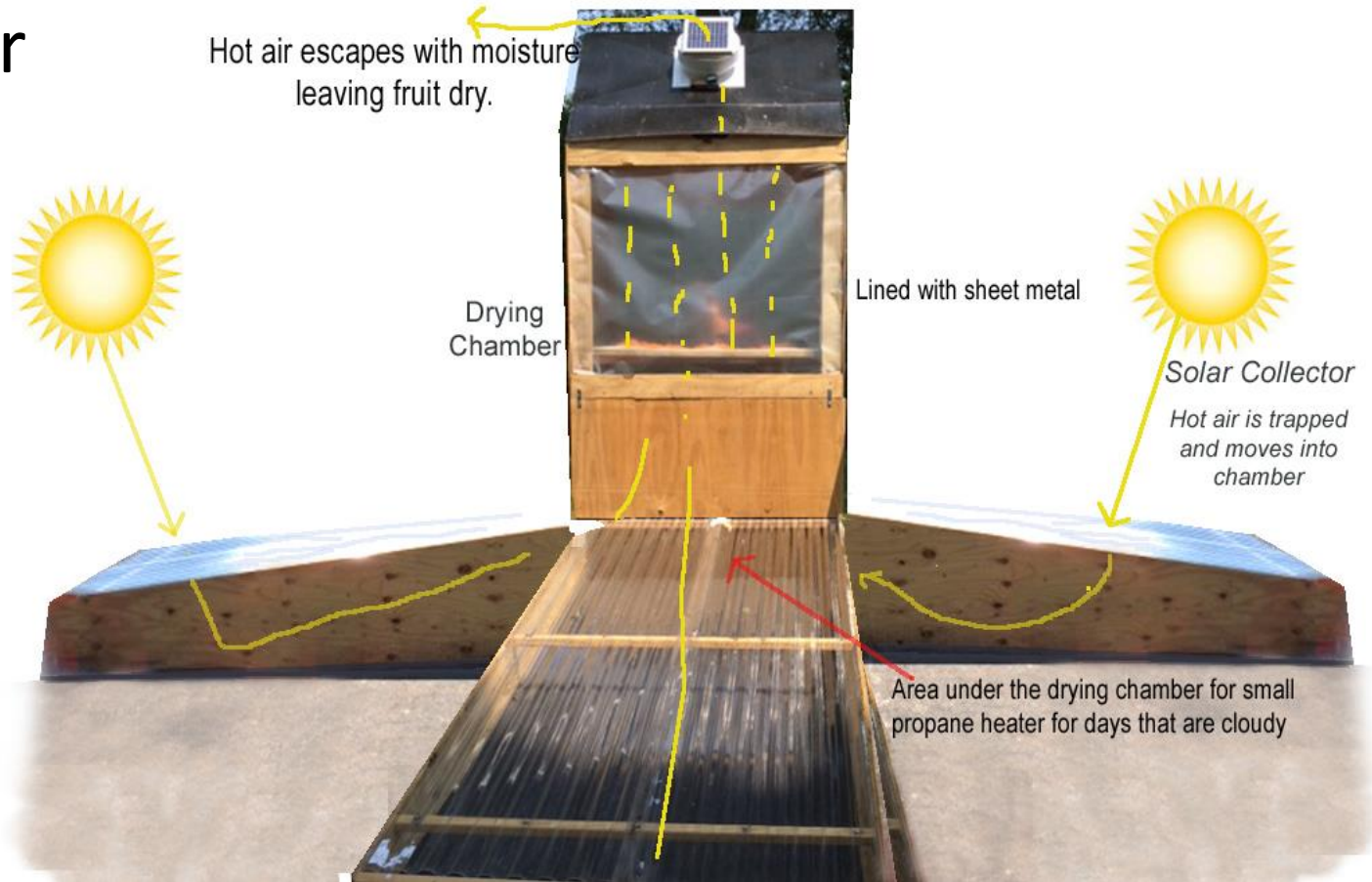
- Critical stage: dry quickly (within 24 hours) to avoid mould
- Shreds will be wet, avoid clumping
 - Spread out on a clean surface, preferably mesh
- Need plenty of air flow
 - Preferably warm, dry air; direct sunlight not necessary
 - Keep dust, insects away



When fully dry, the shreds (or slices) will snap between your fingers. Dry shreds can be safely stored for months, if they are airtight and moisture protected.

Commercial driers are good, if electricity is convenient; TFF is developing solar driers, in cooperation with Northwestern University.

Solar Dryer



Grind into a Fine Flour

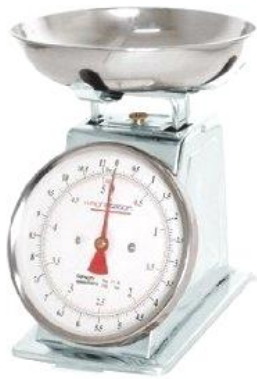
- Shreds must be completely dry, otherwise grinders/mills will clog
- Manual grinding is very heavy work...use electric or other power if possible
- Keep equipment very clean—clean daily



Use smaller or larger equipment, depending on capacity needed. Photos Left to Right: Victorio manual or electric, \$150; Compatible Technology Omega, \$400 plus motor; Nutrimill, electric, \$250; Pleasant Valley Stone Mill, 60 pounds/hour, \$2,500. Hammer Mills are proving to be the best option but expensive.

Package and Distribute

- Use food safe packages, 1 to 5 pounds of flour per package
- Keep clean
- Weigh accurately
- Add labels



Nutrition Facts			
Serving Size 1 cup (100g)			
Amount Per Serving			
Calories 348			
		% Daily Values*	
Total Fat 1.7g			3%
Saturated Fat 0g			0%
Trans Fat 0g			
Cholesterol 0mg			0%
Potassium 1170mg			33%
Sodium 10mg			0%
Total Carbohydrate 76g			25%
Dietary Fiber 4g			16%
Sugars 0g			
Protein 4g			8%
Vitamin C 18.3%	•	Calcium 7.8%	
Iron 22.2%	•	Thiamin 20%	
Riboflavin 18.8%	•	Niacin 16.5%	
Phosphorus 15%	•	Magnesium 25.3%	
Zinc 4.5%	•	Copper 20%	
Manganese 25%			
*Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.			
	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2400mg	2400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Design your own label, print on Avery label stock. Include your contact information. You will need gloves, knives, scale, cleaning brushes, poly food safe bags, dust shields, food safe shelves, food safe storage containers



Breadfruit Cornmeal Coconut Porridge

1 cup breadfruit flour
1 cup cornmeal
 $\frac{1}{2}$ cup coconut milk powder
 $\frac{3}{4}$ cup brown sugar
8 cups water
Nutmeg, cinnamon and/or ginger,
add to taste
Place all in a large pot add water
and bring to a boil.
Simmer 5 minutes. Serve.

If each child receives 6 oz.
this will serve 15 children



Nutrition Facts

Serving Size $\frac{1}{4}$ cup Dry Mix (34g)

Servings Per Container about 13

Amount Per Serving

Calories 150 Calories from Fat 70

% Daily Value*

Total Fat 8g **13%**

Saturated Fat 7g **36%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 10mg **0%**

Total Carbohydrate 22g **7%**

Dietary Fiber 3g **11%**

Sugars 10g

Protein 2g

Iron 6%

Not a significant source of vitamin A, vitamin C,
and calcium.

* Percent Daily Values are based on a 2,000
calorie diet. Your daily values may be higher
or lower depending on your calorie needs:

Calories: 2,000 2,500

Total Fat	Less than	65 g	80 g
Saturated Fat	Less than	20 g	25 g
Cholesterol	Less than	300 mg	300 mg
Sodium	Less than	2,400 mg	2,400 mg
Total Carbohydrate		300 g	375 g
Dietary Fiber		25 g	30 g

Calories per gram:

Fat 9 • Carbohydrate 4 • Protein 4

Breadfruit Flour Recipes

- Breadfruit flour is gluten free, it works a bit different from wheat flour
- You can make pancakes, flatbreads, cookies, fritters, pizelles, flan, ice cream, and more. Here's our favorite...

Breadfruit Banana Cake

½ cup butter, melted
1 cup sugar
2 eggs
1 tsp vanilla extract
½ tsp nutmeg
½ teaspoon cinnamon
1 ½ cups breadfruit flour
1 tsp salt
1 tsp baking soda
1 tsp baking powder
½ cup milk
Juice of 1 lime
3 medium mashed bananas

Preheat oven to 350 degrees. Grease cake pan or loaf pan In large bowl, stir together the melted butter and sugar. Add the eggs and vanilla, mix well. Mix the milk, lime juice and bananas and fold into the batter.

Combine flour, baking soda, baking powder, salt and spices mix well. Add to the batter. Spread evenly into cake pan.

Bake at 350 degrees for 40 minutes or until a toothpick inserted into the center comes out clean. Cool for 10 minutes before removing to a wire rack to cool completely.



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www.treesthatfeed.org

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Contact us at treesthatfeed@aol.com

Telephone +1.312.933.0241