



# HOME MADE FLOUR COMPILATION AND FOOD STORAGE



SAINTS OF YAHAWAH

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## HOW TO MAKE CASSAVA FLOUR (OPTION 1)

There several methods to reduce the cyanogenic compounds (cyanide) in cassava. If you eat these compounds raw they have a toxic effect. There are also varieties with low cyanogenic compounds. One method of reduction is cooking by boiling, steaming or baking. Soaking the cassava in water also reduces the cyanide. Industrial producers of cassava flour rely on the drying and milling process to reduce cyanide levels. In the more traditional version of cassava flour, they ferment the grated cassava to reduce it's toxicity, and then dry.

### Equipment

Sharp butchers knife / Cleaver

Mesh bag for straining food

Food processor with shredder/grater

Dehydrator

High speed blender

Flour sifter

### Materials

About 20 pounds Freshly harvested cassava root

### Instructions

Peel, wash and core the cassava

With a sharp butcher's knife, cut the cassava into pieces about 2 inches long (this will make it easier to peel and core. If your cassava is freshly harvested you can wash the cassava before you cut it to avoid dirt all over your counter, but I usually skip this step and wash it after peeling.

Using a smaller knife like a paring knife, make a deep incision in the thick peel of the piece, working around the cassava remove the peel

Wash the cassava and place it in a bowl/pot of cool water. This will aid in reducing the toxic compounds, while you prepare the remaining cassava

If your cassava is larger than  $1\frac{1}{2}$  diameter it will probably have a woody core. To ensure your end product is digestible, it is best to take action to remove this. Simply cut the 2 inch piece into 4 pieces and slice a "triangle" off of each where you see the cassava sort of change color and texture, almost like a ring of a tree inside.

Grate and ferment the cassava

Grate your cassava in a food processor with the grater attachment.

If you choose to, you can ferment the cassava at this stage to get a slightly nutty and more pronounced flavor. Using a mesh bag, hang the cassava for 5 - 24 hours, moving it around every once in a while to aerate the surface areas.



### **Dry Cassava**

If you are using your oven, set it to the lowest temperature (mine goes to 170° F) I Spread the cassava out in a thin layer on baking sheets and prop a spoon in the door to let air escape (or use lever that is meant for broil). Depending on how thin the layer is you may need to mix the shreds every few hours. Should be done in 5-10 hours depending on thickness\*

If you are using a dehydrator, place on trays in a thin layer and dehydrate on the highest setting ~159° F. For even results you should rotate the trays 1-2 times. The top trays dry quicker than the bottom.\*\*

### **Mill the cassava shreds**

If you have a small batch you can try putting directly into your high speed blender, pulse and shake it up every few pulses to achieve an even texture

For larger batches I recommend, using your food processor to chop the shreds into finer particles and then process in your blender.

To mill in your blender, fill the blender 1/3 full and pulse the first few times before putting on high speed for about 30 seconds. Make sure to have your counters clean without clutter because the flour particles will get everywhere when you open the blender.

At this stage there still may be gritter particles. You can sift them out now or sift them out according to the recipe you use. I've made bread with 1/4 homemade cassava flour and have used the flour in veggie burgers and never noticed the gritty parts. But If I was making something from just the flour I would probably sift out the grits and re-blend. For best result, in a tropical climate store in airtight bag in the fridge or freezer.



Notes

\*The last batch I did was 13# of shredded cassava. It took using both my dehydrator and my oven full in relatively thick layers (1/2 inch). The oven cassava was done after 7 hours. You can subtract time from this if you are doing a smaller batch with thinner layers. Be aware if you over cook the cassava you will be roasting it. Which may have a nice flavor depending on what you plan to use it for.

\*\*For my dehydrator -again my layers were thick - and it took about 10 hours after mixing up the shreds a little and rotating the trays).

Video below on how to make cassava flour

[HOW TO MAKE CASSAVA FLOUR AT HOME WITH JUST ONE INGREDIENT 2 EASY WAYS | YUCA FLOUR - Bing video](#)

[How To Make Tapioca Flour From Scratch | Tapioca Starch | Starch - Bing video](#)

## **MAKING CASSAVA FLOUR IN 5 EASY STEPS (OPTION 2)**

### **Step 1. Harvest and Peel the tubers**

After harvesting remove any soil clinging to the skin of the roots before peeling. The freshly harvested roots need to be thoroughly peeled. The skin is actually quite thick, up to 2mm, and tough and can often be readily separated from the flesh. The skins need to be discarded, don't use them for cooking or making stocks, however they can be used for mulch or put through the compost heap.

### **Step 2. Grating**

Once the roots have been peeled and cleaned, they need to be grated. You can do this with a standard kitchen grater or an electric food processor. The finer you grate the roots, the better for several reasons. Firstly, the smaller and finer the grated pieces are the more surface area you've created, which in contact with the air will oxidise and help break down the prussic acid. Secondly, finer particles will dry faster and when dry will be easier to grind into flour.

### **Step 3. Hanging**

Place the freshly grated flesh on a large clean cloth or tea towel then tie the corners and hang it overnight or for at least 5 hours. I usually hang mine over the kitchen sink. The hanging serves two purposes. One is to allow any excess moisture to drain off, the other is to allow a brief fermentation to occur, which further breaks down the prussic acid. Wring out any moisture before drying

### **Step 4. Drying**

Spread the grated cassava out to dry, no thicker than a few millimetres. Ideally you want the cassava to be fully dry within 2 or 3 days otherwise it may start to mould. In dry sunny weather I'll spread the cassava in thin layer on flat surfaced containers, such as baking trays or winnowing baskets, to dry in the sun. The drying can take several days. If you don't have an enclosed solar dehydrator and are drying in direct sun out doors, make sure you bring the trays in overnight and cover the cassava with dry tea towels. If the weather is too humid or wet I'll either use an electric food dehydrator or put the trays in the oven to dry. If you're drying in the oven make sure it's on the lowest temperature setting and have the oven door

slightly ajar to let the moisture escape. I usually put the handle of a wooden cooking spoon in the oven door to keep it ajar.

### **Step 5. Grinding and Storing**

Once the grated cassava is completely dry and crisp it needs to be immediately put into airtight storage, preferable large airtight glass jars. You can grind it as soon as it's dry and put the ground flour into airtight storage, however even if you're leaving for a day or so before grinding make sure you keep it in airtight containers to prevent re-humidification. Once it's in an airtight container, you can safely keep the dried grated cassava for an extended period until you're ready to grind it.

Grinding can be simply done with a blender or vitamiser. The drier and crisper the grated cassava is the easier it will grind up into a fine powder. I usually sift the ground flour through a fine kitchen sieve to separate any large or coarse bits and add them back into the next batch to grind.



## **COCONUT FLOUR**

Coconut flour is rich in fiber, low in glycemic index, and is a perfect staple option for health-conscious individuals. Also, it is low in carbs, making it one of the healthiest alternatives to flour.

### **How to make coconut flour at home?**

Servings: 4

Time required: 30 minutes

### **What you need to make coconut flour**

- 2 cups of fresh coconut pulp
- Parchment paper
- Baking sheet

### **Make coconut flour at home**

Step 1: Preheat your oven to 120°F (50°C).

Step 2: Line your baking sheet with the parchment paper

Step 3: Spread the coconut pulp evenly on the parchment paper and bake for about 45 mins until dried and slightly golden brown.

Step 4: Bring out the coconut pulp from the oven and let it cool for about 10 minutes.

Step 5: Blend the coconut pulp in a mixer or food processor for 2 minutes until you achieve a fine-textured powder.

### **How to store coconut flour?**

Like any other flour available on the market, you need to store your coconut flour in an airtight container to prevent it from gaining lumps due to external

moisture. Ensure no water droplets into the airtight container containing your homemade coconut flour, else the quality might degrade.

You can easily store your coconut flour for six months or more without any compromise in quality.

## **FAQS about coconut flour**

1. Can you use leftover coconut pulp from coconut milk to make coconut flour?

Yes. Instead of throwing away the coconut pulp sourced while making the coconut milk, you can always use this process to prepare your coconut flour at home.

2. How does coconut flour taste like?

Coconut flour typically has a coconut flavor and scent to it. If you want to tone down the smell and taste, use more spices or cocoa powder in your dishes.

3. What is the average measure of coconut flour you should use for your recipes?

Each flour has different contributions of fat, carbohydrates, and proteins.

You can substitute 1 cup of wheat flour for  $\frac{1}{4}$  of coconut flour.

Another thing to keep in mind is that coconut flour does not have the same elasticity as wheat flour, so you will need to add more eggs.

In addition, since coconut flour absorbs a lot of liquid, you will have to adjust the amounts of milk and oil of the recipe

Video on coconut flour

[How to Make Homemade Coconut Flour - Bing video](#)

## OATS FLOUR

### Step 1- Blend the oats

Start by placing your rolled oats into a blender or food processor. Next, blend your oats until roughly chopped. This will take roughly 10 seconds, as you want the oats to be nice and easy to blend. Blend your oats once again, until the chopped oats become even more finely ground.

### Step 2- store the flour

To store: Transfer to a sealable container at room temperature. It will keep fresh for up to 6 months.

To freeze: Place flour in a ziplock bag/vacuum sealed bag and store in the freezer for up to 6 months.

### WAYS IT CAN BE USED

- [Pancakes](#)
- [Cookies](#)
- [Muffins](#)
- [Brownies](#)
- [Banana bread](#)

Video for Oat flour

[How to Make Oat Flour the Simple Way! - Bing video](#)

Video for Oat milk

[OAT MILK Recipe | How To Make Oat Milk | Simply Mama Cooks - Bing video](#)

## PLANTAIN FLOUR

*One 8-inch plantain makes roughly 3 to 4 TBS flour. Use green plantains; they will dry better.*

1. Peel green plantains and slice them into 1/4-inch thick discs.



see the different colors? the darker chips are from riper plantains. the white ones from green plantains are what you want for flour. eat the dark ones as snacks!

2. Lay them out on dehydrator trays with some air space between them. If using mesh trays, don't worry about flipping during drying. If using an oven, use cookie sheets with parchment paper laid down first to avoid sticking. Flip half way through to assure even drying.

3. Dry at 135°F for 8-16 hours, until very dry and crunchy. Dry chips will sound like poker chips knocking against each other. There can be no moisture left (moisture >> damp flour >> spoilage). Drying time will depend on the moisture content in the plantains (riper = moister) as well as relative humidity. If using the oven, test it to make sure it can stay at an even temp the whole time. It helps to prop the oven door open slightly to allow moisture to escape. Monitor the oven temperature, especially with an old oven.

If you are uncertain about dryness: place 2 cups of chips in a glass jar with a tight-fitting lid (package up the rest in an airtight container in the meantime). Leave in a cool dark place for 24 hours; if any condensation occurs in the jar (look in the lid, too), return to dehydrator and dry for at least 2 more hours. Repeat process until you are sure they are dry. You can't over dry them.

4. Once chips are dry, take out of dryer/oven and let them cool *completely* before grinding.



sifting the larger bits out of the flour

5. Using a high-powered (preferably glass) blender, grind the chips in small batches until they are powdered. It may take some time. The powdered parts tend to sink to the bottom and keep the larger bits away from the blades; after every small batch, I sift the flour out with a mesh colander and return the larger bits to the blender with the next batch. Grind, sift, repeat until all the chips are powdered. I prefer glass to plastic. Food for thought: In a plastic blender or food processor, I wonder if those fast-moving, hard plantain chips are likely to scrub plastic into your food. Plastic in the body is bad.

6. Place flour in an airtight container and label with how many plantains went in, and how many TBS per plantain.

7. Store in a dark, cool place.

Video for Plantain flour

[How to make Plantain Flour | Homemade Plantain Flour - Bing video](#)

## **BROWN RICE AND WHITE RICE FLOUR**

### **BROWN RICE FLOUR**

Add brown rice to coffee grinder and grind until you get a fine powder.

Video for Brown Rice Flour

[How to Make Brown Rice Flour at Home | Brown Rice | Gluten Free - Bing video](#)

### **WHITE RICE FLOUR**

Rinse the rice

Allow to sit for one hour in clean water

Strain the rice

Spread out the rice on a kitchen towel and leave to dry for an hour until dried

Rice should be a little bit wet

Grind flour

Video for White Rice Flour

[How to make rice flour at home - Bing video](#)

## BREADFRUIT FLOUR

1. Obtain breadfruit (inspect the breadfruit, test the firmness and ensure there are no sunspots, cuts and brown patches on the skin). Only use the firm-mature and undamaged breadfruit for processing breadfruit flour.
2. Peeling, Cutting, Removing Core, Shredding . Clean and sanitize all the tools and utensils with 200 ppm chlorine solution (1 Tbsp of regular bleach per gallon of water) and air-dry before use. Remove the stem of the fruit and peel the fruit using a knife, a vegetable peeler or an electronic peeler. Then, cut the fruit into quarters and remove the core with a knife. Cut quartered breadfruit into chucks, shred the fruit with a food processor or cut into thin slices ( $\frac{1}{4}$  inch) for drying.
3. Drying. Place a single layer of shredded or sliced breadfruit on trays of a food dehydrator then dry them at 71°C (160°F) for 6-8 hours until breadfruit pieces are crispy. The moisture content and the water activity of dried breadfruit should be less than 10% and 0.65, respectively.
4. Milling and packaging. After dehydration, mill (grind) the dried breadfruit with sifter screens to make particle sizes of flour that meet your application. The larger pieces of breadfruit can be re-milled (grind) to a fine powder. For packaging, fill the breadfruit flour in food-grade polyethylene bags or food-grade containers with lids, which are compatible with flour or dried storage of food products. Seal the bags or containers; label the finished products with the appropriate date.
5. Storage. For long-term storage, store the bags in an air-tight container in a dry and cool area, which have a relative humidity less than 60% and a temperature less than 24 °C. The finished breadfruit flour will have a shelf-life of 6-12 months.

### Usage of breadfruit flour

Breadfruit flour can be used in a variety of ways. Regular flour can be substituted with breadfruit flour or blended with wheat flour to make breakfast meals, pastries, bread, cookies, cakes, pancakes, and pizza dough. It can also be used as coating ingredients or batter for frying, as well as gluten-free flour to make nutrition bars.

Video for Breadfruit Flour

[How To Make Breadfruit Flour | Breadfruit Flour Production - Bing video](#)

### Recipe to make breadfruit nutrition bar.

#### Main Ingredients

1 cup breadfruit flour

$\frac{1}{2}$  cup ground dates

$\frac{1}{2}$  cup raisins

$\frac{1}{2}$  cup rolled oats

$\frac{1}{4}$  cup chia seeds

$\frac{1}{3}$  cup honey

$\frac{1}{2}$  tsp salt

#### Optional Ingredients

$\frac{1}{4}$  cup sliced almonds (toasted)

$\frac{1}{4}$  cup sunflower seeds (toasted)

1tbsp drizzled honey

2-4 tbsp water as needed

1tbsp melted butter

#### Method

1. Preheat oven to 177 °C (350 °F);
2. Mix all ingredients of the recipe, spread evenly in pan;
3. Place mix on a cookie sheet (1/2 inch thick) in a 9x9 baking pan;
4. Drizzle (1 tbsp.) honey on top of mix for coating the top;
5. Bake for 20-25 min or until the color turns to a golden brown
6. Remove the pan from oven and cool it for 30 min; and
7. Upside the pan, remove and cut the baked mix into a nutrition bar for consumption



## Recipe to make breadfruit cake

### Ingredients

$\frac{1}{2}$  cup breadfruit flour

1 cup all purpose flour

$\frac{3}{4}$  cup sugar

2 eggs

$\frac{1}{2}$  cup butter

2 tsp vanilla bean

1  $\frac{3}{4}$  tsp baking powder

$\frac{1}{4}$  -  $\frac{1}{2}$  cup water

$\frac{1}{2}$  milk

### Method

1. Preheat oven to 177 °C (350 °F);
2. Grease and flour a 9x9-inch pan or muffin pan;
3. Cream sugar and butter together in a medium bowl; beat in eggs, one at a time; then stir in the vanilla;
4. Combine flour and baking powder, add to the creamed mixture, and mix well;
5. Stir in the milk and water until the batter is smooth;
6. Pour batter into prepared pan;
7. Bake for 30 min in the preheated oven (20-25 min for cupcake) until the cake springs back to touch; and 8. Remove the pan from the oven for consumption after cooling.

## DASHEEN FLOUR

1. Before peeling Dasheen, coat hands with vegetable oil or vinegar. Cut in half and peel.
2. Before grating coat with vegetable oil. Grate dasheen
3. Place on dehydrator tray or baking tray. Dry for 8 hours in dehydrator
4. Grinding. Use blender, food processor or coffee grinder.
5. Sift flour
6. Weigh and store. Add date to vacuum sealed or bottled flour.

Video for Dasheen Flour

[How to Make Dasheen \(Taro\) and Tannia \(Malanga\) Composite Flour at Home From Scratch - SURPRISE END! - YouTube](#)

## SWEET POTATO FLOUR

1. Obtain sweet potatoes and wash them thoroughly
2. After peeling, place sweet potato in vinegar and water to prevent oxidation and prevent discoloration.
3. Grate sweet potatoes
4. Drying. Use dehydrator, kitchen oven on low heat or sunlight. Spread evenly and allow to dry.
5. Grinding. Use your blender, food processor or coffee grinder.
6. Sift until larger particles are left behind.
7. Storing. Plastic food grade, or bottle. Vacuum sealing will add life to sweet potato.

Video for Sweet Potato Flour

[How to Make Sweet Potato Flour at Home From Scratch - YouTube](#)

Note that Sweet Potato leaves are also edible and can also be used in smoothies.

Below is a video on how to cook it.

Clean tuna are black fin, yellow fin or blue fin tuna. The can tunas may not be of this variety. You can substitute canned tuna for smoke herring or another clean fish, maybe even use chicken.

[How to Cook Sweet Potato Leaves - Tuna and Veggie Sauté - YouTube](#)

## YAM FLOUR

Obtaining Yam; inspect yams before selecting.

·Washing; the yam tubers are washed properly in order to get rid of sand and other extraneous materials.

·Peeling and slicing; the washed yams are peeled and then sliced thinly.

·Parboiling; the sliced yam are then put into boiling water for three minutes depending on the thickness of the slices.

Drying; the parboiled yam are dried in a dehydrator, oven or via sunlight.

·Grinding; the dried yam are grinded directly into flour.

Sift to ensure large pieces are removed..

·Packaging; the instant pounded yam flour is the finally packaged in moisture proof nylon bags.

Videos for Yam Flour

[How to make Yam Flour for home and commercial use - YouTube](#)

## BEANS FLOUR

1. Decide on the beans to be used
2. Wash the beans
3. Drying of the beans. You can use dehydrator, oven on low heat or sunlight
4. Grind beans. Grinding will be preferred.
5. Store in container or vacuum seal with date and type of flour. This must be stored in cool dry place

Video for Beans Flour

[How To Get Beans Flour - YouTube](#)

## NUTS FLOUR

1. Prep the nuts: Fill a pot half full of water and bring to a boil. Rinse the nuts to remove any debris or dirt.
2. Leave the nuts in boiling water for 10 seconds. Remove nuts from the water and remove the skin by rubbing together.
3. Grind the nuts: Use a nut grinder or blender to break the nuts down until they look like breadcrumbs. Be careful not to over blend or the nuts will turn to butter.
4. Store: Keep in an airtight container and store in the refrigerator or freezer. You can also vacuum seal with date and type of flour written on it.

Video for Nuts Flour

[How to Make Nut Flour At Home | Sincerely Nuts - YouTube](#)

**Differentiating between best before”, “best use by” or “sell by” date.**

### **What Does Shelf Life of Food Mean?**

Shelf life is a period of time when a food product remains safe and suitable for consumption when properly stored at recommended conditions. This means that food should retain its desired quality and doesn't lose its nutrients [1]. This period is calculated since production, distribution, sale, and until finally stored in your kitchen.

As consumers, we can maintain and extend the shelf life of food products we buy with proper storage as instructed by the manufacturers.

### **Perishable food**

Perishable foods include fresh or minimally processed foods or not otherwise preserved, such as pasteurized milk, ready-to-eat salad, fresh sauce, raw meat. These foods typically have a short shelf life and rely on refrigeration to reduce the deterioration rate.

### **Shelf-stable food**

Shelf-stable foods have a longer shelf life and can be safely kept at room temperature. These foods are preserved with different methods, for example, heat treatment, canning, modified atmosphere packaging, etc.

Canned foods are shelf-stable. They should be properly stored at a cool, dry place, away from sources of heat and sunlight. Commercially prepared high acid foods such as canned tomatoes and fruits maintain their peak quality for at least 12 - 18 months. Low acid food such as canned fish or meat last longer up to 2 - 5 years. Meanwhile, home-canned foods are generally safe up to a year. Never purchase and consume canned food if the packaging is damaged; leaking, dented, bulging, or if the container smells off and spurts liquid upon opening. This food may pose a risk to botulism poisoning.

### **How Long Do Dairy Products Last?**

Most dairy products require refrigeration, except ultra-pasteurized milk and powder milk. Their shelf life can vary significantly. Shelf life for typical dairy products with proper storage in the refrigerator are as follows

- Pasteurized milk: 1 - 2 week
- Soft cheese (ricotta, brie, cream cheese): 1 - 2 weeks
- Hard and semi-hard cheese (gouda, parmesan): depending on the cheese, from several weeks to months
- Buttermilk: 1 - 2 weeks

These shelf lives may be shortened if your refrigerator is too warm. The ideal temperature should be below 40 °F or 4 °C.

### **How Long Does Cooked Food Last?**

Cooked foods are perishable and should be stored in the fridge. Cool temperature slows down microbial growth but doesn't stop it.

Unless frozen, cooked food should be consumed within 3 - 4 days. If food has sat in the fridge for too long, it may have spoiled and is unsafe for consumption. Some pathogenic bacteria such as *Listeria monocytogenes* can survive chilling temperatures and cause food poisoning if consumed.

### **What is the Expiry Date?**

Shelf life is indicated on food packaging as what most people know as an "expiry date" or "expiration date". This date comes in different terms (depending on the food). It can be a "best-before" date, "use-by" date, or "sell-by date".

### **What Is The Difference Between Shelf Life and Expiry Date?**

Shelf life refers to a period during which a food product stays in the desired quality and suitable for consumption. To indicate the end of food shelf life, food manufacturers print "expiry date" on the label.

An expiry date is an estimate from the manufacturer as a practical guide for retailers and consumers. But, the actual shelf life can be longer or shorter than this date.

When stored properly, food may stay edible beyond this date. On the other hand, subject to poor storage or damaged packages, the shelf life may be ended even before the date on the label.



## **Do Food Expiration Dates Really Matter?**

Date marking is an estimate from the producers. Use this date as a guide for your purchase and consumption. Food does not necessarily and instantly go bad after the date, if the instructed storage conditions are followed.

Below are the most common date terms and how you should interpret them:

### ***Best-before / Best-use-by date***

This is an estimate from the manufacturer to guarantee the quality and not a safety concern. This date is usually for shelf-stable food that can last for more than one or two years, for example on canned food, frozen foods, dried food, biscuits, pasta, etc.

### ***Sell-by-date***

This guides the retailers how long they can display the food for sale. Food may still remain safe to eat although the quality has passed its peak. This date term is commonly found in the US and usually stamped on fresh products such as eggs, pasteurized milk, raw meat, or chicken.

### ***Use-by date***

This indicates the latest date food should be consumed . This date marking is usually for highly perishable food such as ready-to-eat salad and cooked meats.

### **Are expired foods safe to eat?**

Provided with proper storage, foods with "best-before" and "sell-by" dates generally remain safe, but the quality (flavor, texture, taste) may not be the best.

A recent study confirmed that six months after their "best before" dates, food products including milk, pasta, mayonnaise, and jam remained safe, but changed in flavor, taste, or texture .

You may want to pay more attention to highly perishable products which usually come with a "use-by" date, such as ready-to-eat salad or cooked meats. You should avoid consuming the food past the date. If you're reluctant to waste the still-looking-good food, don't do it longer than 1 - 2 days.

**Is it OK to eat expired canned food?**

It is possible to eat expired canned food as long as the packaging is in perfect condition. Make sure the can is not leaked, dented, bulged, or spurt liquid when opened.

**Can Expired Food Cause Food Poisoning?**

Food poisoning is caused by the contamination of pathogenic/ harmful bacteria. This contamination does not exclusively happen after food has expired. Even before the date, contamination can happen due to poor handling. For example when food is left at room temperature for too long, cross-contaminated with other food, or when the package is damaged.

Shelf-stable food is generally safe after the date on the label. However, for perishable foods, you may want to look carefully. Most pathogenic bacteria causing food poisoning are odorless or flavorless. Always check spoilage signs before eating food, particularly for expired food. If you are doubtful, you probably better stay on the safe side.

## Common Methods to Extend Shelf Life

Food, by its nature, will deteriorate over time. However, the speed can be slowed down by different methods of food preservation. The following methods are worth trying if you need to prolong your supply and to avoid unnecessary food waste.

### 1. Fermentation

Fermentation might be the oldest food preservation method and can last months. Any food ingredient containing sugar can be fermented with the help of microorganisms, either lactic acid bacteria or molds/ fungus.

Milk, fruit juice, vegetables, and soybean are the most common items for fermentation. Fermentation does not only preserve food but also imparts flavor, taste, texture, and nutritional value of the food which are desirable for many people.

Many of today's food items were made by the fermentation process. These food items make up a significant part of the regular diet in most of the world's population. Examples of fermented food are:

- Cheese
- soy sauce
- Beer, wine, vinegar

Requirements for fermenting food:-

Vessel-Wood, glass or ceramic

Fermentation Weight or Airlock



You need to make sure whatever you're fermenting isn't exposed to air, and there are a few ways to achieve this. Pictured above is an [airlock](#), which uses a small amount of liquid to ensure that gas buildup can escape, but nothing can get inside. Fermentation weights are another option, and they work by keeping food submerged under water. While there are [weights specially designed for fermentation](#), you can use anything that fits nicely in your vessel, like a ramekin.

If you don't want to buy an airlock or have anything that works as a weight, I'll show you how to keep your veggies safe with a sandwich bag full of water below.

## Digital Scale

You'll need a scale to calculate how much salt your projects need. With fermentation, salt is key to creating a safe environment where the right bacteria can flourish. Since we are talking about your health, the precision of a digital scale is definitely worth it. They are easy to find online or in stores like Bed, Bath, and Beyond.

## Salt

Almost all fermented recipes call for salt, and you need a good quality, chemical-free salt. Don't use iodized salt or table salt, which contain substances that might kill the good bacteria.

What can you use instead? Here are a few choices:

- Pickling Salt
- Kosher Salt
- Real Salt
- Celtic Sea Salt
- Himalayan Salt

## Creating the Right Environment

This is something fundamental to understand about fermenting foods. You need to have an oxygen-free environment, and as you learn how to ferment, you'll see the term anaerobic, which means "in the absence of oxygen."

An anaerobic environment is essential because the lactic acid we are developing in our vessels thrives in a low or no oxygen environment. When you expose your ferments to oxygen, it stops the growth of the good bacteria, leaving it vulnerable to mold. You create this environment by using airlocks and having airtight vessels, as mentioned above.

Aside from keeping oxygen out of your ferments, you need to keep everything at an ideal temperature. Veggies ferment best at 68-72° F, but milk ferments handle temperatures up to 90° F.

## How to Ferment Any Vegetable With Lacto-Fermentation

Are you ready to start fermenting? All you need is one vegetable. Try to go for something organic or use a veggie from your garden. We don't want any chemicals

interfering with the fermentation process. And obviously don't use anything that's bordering on going bad or has major blemishes.

I promise once you go through this process a couple times, it becomes second nature, and you won't even have to think about the individual steps or calculations. Just bear with me if it seems a little tedious the first time through.

### Step 1: Prepare Your Scale and Vessel



Here's where your scale comes into play. Turn it on and set the units to grams. Place your empty vessel on your scale and zero it out.

### Step 2: Add Veggies and Water



Next, add your vegetables, and then enough water to cover them. We are only interested in the weight of the veggies and water combined, so don't worry about how much the veggies weigh alone.

### Step 3: Calculate How Much Salt You Need



Now it's time to calculate how much salt is needed to keep your fermentation safe. Typically you'll want between two and three percent, so multiplying your weight by .025 is a pretty safe bet. Peppers are an example of a vegetable that's prone to mold, so you'll want to be in the 3%-5% range. If you're making fermented pickles from cucumbers, [5% is often recommended](#). But for the majority of harder veggies that aren't super high in moisture content, 2.5% does the trick.

#### Step 4: Weigh Out Your Salt





Now grab a bowl and weigh out the salt that you calculated in grams.

Step 5: Add Water to Salt and Mix



Next pour the water from your jar into your salt, and mix the salt until it dissolves.

**Step 6: Add Saltwater Mixture Back to Original Vessel**



Now just add that saltwater back to your jar. I know it might seem like we are going in circles taking out water and adding it back in, but this way we know the exact amount of water through the entire process. Mixing the salt separately also ensures that it is evenly evenly distributed and fully dissolved.

Step 7: Submerge Your Veggies



Yes, that is a sandwich bag on top of the cauliflower in the last photo. Specifically, it's a sandwich bag full of water. If you don't have fermentation weights or an airlock, this is a great way to keep your vegetables under water. You might be wondering why an airtight lid is a no-go, and that's because gas needs to escape. Your jar can and will explode if you don't let air escape.

**Step 8: Keep at Room Temperature and Taste**



Now just find any room temperature space that doesn't get direct sunlight, and you're officially fermenting! Check on your ferment around day 3. You can taste it and decide if you like the flavor. If you don't, wait another day or two and taste again. Continue this until it has developed a flavor that you enjoy.

### Step 9: Put in Cool Storage

Once you're satisfied with the flavor, it's time for cold storage. You want to store it somewhere that is consistently below 55°F. The colder it is, the longer your ferment will hold the same flavor.

For many people, the best place is the refrigerator, but you can use a cellar, a chilly basement, or somewhere else that is always cold.

## Problems and Frequently Asked Questions on Fermentation

### On Mold and Kahm Yeast



Source: [Fermenting for Foodies](#)

All fermenters will, at some point, encounter mold, but there is a difference between mold and Kahm yeast. You have to learn the difference.

Kahm yeast (pictured above) is a white film that covers the top of your fermented foods, and it can be hard to distinguish from mold. The good thing is that Kahm yeast doesn't harm your ferment at all. Instead, it's an aerobic yeast that forms when the sugar is used up and the pH level in the ferment food drops. You can tell the difference because mold is more raised and fuzzy, and it can be white, black, pink, blue, or green. Typically, mold starts as spots on the surface and gradually spreads into a thicker layer.

**White mold is harmless, and all you need to do is scrape it off of the top.** Unfortunately, if you find any other mold with a different color, you have to toss it all out.

### **My Brine Got Cloudy - Is It Okay?**



Yes, cloudiness is common with lacto-ferments, just like in the photo above. In fact, it's a good sign of the bacteria doing their thing.

### **Is It Normal for My Brine to Bubble or Foam?**

Yes, absolutely! Some veggies create more foam, while others have none at all. The foam tends to come from vegetables with higher sugar content, like carrots. Foaming is entirely harmless, and bubbles develop as gases form through the fermentation process. So long as the ferment smells and tastes okay, bubbling and foaming are fine.

Videos on Fermenting

[Fermenting Foods DIY - YouTube](#)

## 2. Pickling

Pickling is also a popular way to preserve vegetables by fermenting them in a solution consisting of water, vinegar, salt, sugar, and spices. Many people find it easy to do at home. While cucumber is the most common vegetable to pickle, other pickled vegetables taste great as well. Distilled white vinegar is the best for pickling.

### **How do you preserve pickles for a long time?**

Pack tightly into a jar small enough that the pickling liquid (125ml fresh cider vinegar to 1 tbsp boiled and cooled water) covers the veg. Seal and store them in a cool dark place for at least a month and keep in the fridge once opened.

Video on Pickling

[How To Make Pickles Without A Recipe - YouTube](#)



### 3. Refrigeration and Freezing

Most food items belong in the fridge. Room temperature is a real enemy to most food items since it provides a favorable condition for microorganisms to grow and spoil your food. Perishable food should not stay at room temperature for too long.

However, some fruits and vegetables do not need refrigeration, such as onion, garlic, coffee, potato, sweet potato, banana, honey, cucumber.

#### *Tips for refrigeration*

Separate fruits and vegetables. Some fruits and vegetables emit ethylene gas, including apple, onion, pear. Unless you want to speed up the ripening process of your avocado or banana, this gas is a real enemy for most vegetables. Separate these foods from your vegetables, such as when storing broccoli.

Don't place milk and dairy products on the door

Dairy products are very sensitive to temperature change. If you open the fridge frequently, milk spoils faster due to sudden temperature change. Place them at the back of the fridge, except if you plan to empty the bottle immediately.

While freezing is an easy yet effective way to prolong the shelf life of food items, the flavor and texture may change after defrosting. Most foods do freeze well, but some don't. These include, coleslaw, egg white, mayonnaise, sour cream, etc

#### *Tips for freezing:*

- Divide the food into portion size
- For paste, sauce, or liquid, consider freezing them on ice cubes trays. This comes handy when you only need a small amount to thaw. This trick works well with lime and lemons juice, pesto, and beef broth.

#### 4. Curing

When it comes to preserving meat, curing might be the oldest method invented. Curing process involves adding salt (salting), or combined with spices and nitrite/nitrate.

This mixture effectively inhibits the growth of microbes by pulling out the water content. Some popular cured meats are chicken ham/beef ham (using chicken or using beef) or salted fish.

Aside from meat preservation, curing also refers to a natural process to heal physical wounds of root and tuber crops, such as sweet potato, potato, and cassava. The curing process forms new skin over scratches, consequently, prolongs the shelf life.

Additionally, during the process, starch is converted to sugar, thus developing a sweet flavor. Curing process should be completed before storage or sale

##### Steps for Curing

Curing is achieved by either **rubbing salt and other preservative chemicals into the meat (salting)** or by **soaking meat in a solution of these chemicals (brining)**. Depending on the process, the shelf life of cured meats is increased by several months (e.g. dried meats).

Video on Preserving Food in ancient times

[Preserving Food in Ancient Times - YouTube](#)

Only clean foods should be used no eel, catfish, pork etc.

## 5. Drying

Drying is a common way to preserve food, both at home and commercial production. Removal of water inhibits bacterial growth, consequently, prolongs shelf life. Traditional drying uses sunlight, smoking, or as simple as air drying.

It's not difficult to find dried foods in our kitchen. These include sun-dried tomatoes, herbs, spices, dried meat, salted codfish, coconut flour, etc.

If you have to deal with your fruit/ vegetable harvest, drying them is a worth to make the most out of your produce. Drying food is easy and can be done in some different ways using a dehydrator, oven, sun drying, air drying, even in a microwave. Whatever the method used, the prepared food should be place carefully on trays so that air can circulate around the product and between the trays.

Video on Drying Foods

[Food preservation | Dehydration | Methods of drying | B.Sc | M.Sc | BTH | Syllabus | foodscienceandnutrition - YouTube](#)

## 6. Vacuum packing/sealing

Vacuum packing aims to remove air from food containers to limit the growth of anaerobic bacteria and slow down oxidation, consequently, prolong shelf life. This method is commonly used for meat, fish, cheese, vegetables, nuts, and many more.

Vacuum packaging does not replace the need for cold storage for perishable foods. Thus, always keep these foods in the refrigerator or freezer.

### **Benefits of vacuum sealing:-**

- Protects food from freezer burn and dehydration.
- Food will taste just as good as when it was originally sealed.
- Preserve food 3-5 times longer than food stored in plastic bags or containers.
- Keeps items free from dirt, mold, germs, improper handling and any other environmental contaminants.

Video on How to cut, seal and vacuum seal

[Perfect vacuum food sealer \(amazon.com\)](https://www.amazon.com)

## 7. Sugaring

The preserving mechanism of sugaring is similar to salting. Water content is removed to limit bacterial growth. Sugaring works perfectly for fruits, such as apples, pears, mango, ginger, and many more. Making them into jam, marmalade, or candied fruits will significantly extend fruit shelf life.

Sugaring is a method of food preservation that requires the food to be dehydrated and then to be packed with either crystallized sugar or with the liquids containing high amount of sugar such as honey or molasses

### **Steps for Sugaring:-**

Clean, wash, then peel and cut into pieces

Add sugar to pot and mix it in

Place on stove with low heat and continue to stir

When cool transfer to container

Video on Sugaring various foods

[How to Preserve Fruits by Sugar Concentration at Home - YouTube](#)

## 8. Canning

Canned products are very easy to find, from canned meat, fish, fruits. Almost any food items can have their canned version. Canning is highly effective to extend shelf life and make perishable foods become shelf-stable, making them safe to keep at room temperature.

Home canning is also getting more popular to prolong homemade food items, such as applesauce or pickles. Make sure you follow the canning procedure correctly to keep your food safe

### Steps for Canning:-

Wash foods, peel and cut into pieces

Add pieces into sterilized cans/bottles and add brine

Add bottle to hot water and remove after 6 minutes

Video for Canning

[CANNING.   canning of fruits and vegetables. Types of cans process of canning. - YouTube](#)

## 9. Smoking

Smoking, as a mode of food preservation, is probably as old as cooking with fire. Heat and smoke infuse a delicate flavor into fish, poultry and meat and can prevent the growth of microbes. While smoking done right is a very effective form of food preservation, care must be taken to avoid contamination and food-borne illness.

### Steps to smoke meat/fish

1. Prepare the meat before smoking. If the meat is frozen, defrost well in advance of cooking.
2. Soak the meat in marinade or cover them in a sauce of your choosing before cooking.
3. Prepare the smoker while the meat is marinating. Place some balled-up newspaper into the bottom of the charcoal chimney and fill the chimney with the lump charcoal. Light the newspaper and allow the fire to ignite all of the charcoal for 10 to 15 minutes.
4. Wait until the charcoal is ready, then place it into the charcoal pan in the bottom of the smoker.
5. Place about one quart of water into the water pan and place the grate over the smoker.
6. Place the meat onto the smoker and close the lid on top.
7. Open the access door on the side of the smoker and place about 6 pieces of wood on top of the heated coals.
8. Smoke the meat for about 2.5 to 3 hours, depending on the type of meat and how hot your grill is.
9. Check the internal temperature of the meat to see if it's safe to eat. Beef is safe to eat at 145 degrees Fahrenheit, according to FoodSafety.gov. Remove the meat from the smoker once done, allow them to cool before serving.

### Video for Smoking

[Meat Preservation by Smoking - The American Frontier - YouTube](#)

## How To Tell If Your Food Has Gone Bad or Spoiled

Food, either plant-based or animal-based, will break down naturally. Deterioration can be as quick as raw meat spoils after several hours.

The changes can also occur slowly over days or weeks, like how bread goes stale or sesame oil becomes rancid. Meanwhile, spoilage is mostly attributed to microbial activities.

Food spoilage degrades the appearance, smell, and taste of foods. To tell if food has gone bad, the rule of thumb is to carefully examine these aspects. Your senses are quite reliable tools to judge. If you're still doubtful, the simple rule is to throw the food.

### **Damaged packaging**

First thing first, don't purchase or consume a food item if the packaging is compromised, e.g. broken seal, dented, bulged, rusty. The packaging is the last barrier to protect food from the outside environment.

When packaging is compromised bacteria will easily contaminate and grow. Nobody can guarantee if the food is still suitable and safe for consumption.

### **Mold**

The presence of mold is a common sign of food going bad. Molds can grow in a wide array of food products. Molds don't need much water to grow, therefore even food with low water content is prone to molds. These include peanuts, pistachio, corn, oatmeal, pumpkin seeds, bread, etc.

Some nuts and grains are susceptible to mold contamination that produces toxins called aflatoxins which are carcinogenic to humans.

Molds also tolerate sugar, salt, and acid. Thus, molds can grow on cured meats, jam, and cheese.

If molds grow on porous, soft material like your pesto, casserole, bread, these foods must be trashed. Molds may have penetrated further than you can see.



Fortunately, not all moldy foods must go to waste. If molds grow on a hard, dense surface you can cut off at least 1 inch around and below the affected part and save the rest.

These foods include hard cheeses (including a block of parmesan, not grated one), firm fruit, or vegetables (such as bell peppers, carrots). If molds appear on hard salami and dry-cured hams, simply scrape the molds off the surface as these products are common to have surface mold [16].

### **Discoloration**

Foods should be in the color they are supposed to be, like broccoli should be green or banana should be yellow. If you notice a change in color or your food turns darker, it's a sign that it has past its prime.

Bruises cause discoloration on fruit and sweet potato. Unless the bruises are all over the surface, it is okay to remove the affected part and eat the rest.

### **Smell**

An unpleasant smell is an apparent indication that food is spoiled and unfit for consumption. Each food has a distinct smell when it's still fresh. If your food smells different in any way than it's supposed to be, it has probably gone bad.

Dairy products turn sour, whole foods with high oil content smell rancid. Some foods like yogurt and coleslaw are naturally sour, but when they smell awfully sour, it's also time to discard them.

### **Texture**

A change in texture is the next thing to observe. Milk tends to thicken and curdle, fruits get mushy when spoiled. Some foods also get slimy. These are clear signs to throw foods away. Foods that are high in oil tend to separate when put in cool temperatures, like your Nutella or peanut jam. This is normal, give it a good stir to get the consistency back.

### **Sprouting**

Tuber and root vegetables, like potatoes and sweet potato, will begin sprouting after a while. You can easily remove the sprout and save the rest. But if the

vegetable has severely shriveled, there's no good in consuming it since the nutrients are already gone.

## SHELF LIFE OF FOODS

| <b>Baking Supplies</b>          |  |
|---------------------------------|--|
| Ingredient                      | Shelf Life   |
| Baking powder                   | 18 months (to be used up before Passover)                                |
| Baking soda                     | 2 years (to be used up before Passover)                                  |
| Chocolate, baking               | 6 to 12 months   |
| Chocolate chips, semi-sweet     | 2 years  |
| Chocolate chips, milk chocolate | 16 months  |
| Cocoa                           | 1 year   |
| Cornmeal                        | 6 to 12 months   |
| Cornstarch                      | 18 months  |
| Cream of tartar                 | 2 to 3 years   |
| Flour, all-purpose              | 1 Year   |
| Flour, self-rising              | 6 to 8 months (to be used up before Passover)                            |
| Flour, wheat                    | 6 to 8 months  |
| Honey                           | Indefinitely   |
| Milk, evaporated                | 1 year   |
| Milk, powdered                  | 1 year   |
| Milk, sweetened condensed       | 1 year   |
| Molasses                        | 2 years  |
| Nuts, shelled                   | 4 months   |
| Nuts, unshelled                 | 6 months   |
| Oil, canola                     | 2 years unopened, 1 year opened  |
| Oil, olive                      | 6 months   |
| Oil, vegetable spray            | 2 years  |
| Salt                            | Indefinitely   |
| Sugar, brown                    | Indefinitely   |
| Sugar, granulated               | Indefinitely   |
| Sugar, powdered                 | Indefinitely   |
| Yeast                           | Follow expiration date on the package<br>(to be used up before Passover) |

| Herbs & Spices (dried and ground) |                   |
|-----------------------------------|-------------------|
| Ingredient                        | Shelf Life        |
| Allspice                          | 2 to 3 years      |
| Basil                             | 1 to 3 years      |
| Bay leaves                        | 1 to 3 years      |
| Black pepper                      | 2 to 3 years      |
| Chili powder                      | 2 to 3 years      |
| Cinnamon sticks                   | 3 to 4 years      |
| Cinnamon, ground                  | 2 to 3 years      |
| Cloves, ground                    | 2 to 3 years      |
| Coriander seed                    | 3 to 4 years      |
| Coriander, ground                 | 2 to 3 years      |
| Cumin                             | 2 to 3 years      |
| Dill                              | 1 to 3 years      |
| Dry mustard                       | 2 to 3 years      |
| Garlic (minced)                   | 2 years, unopened |
| Garlic (whole)                    | 3 to 4 months     |
| Garlic powder                     | 2 to 3 years      |
| Ginger, ground                    | 2 to 3 years      |
| Marjoram                          | 1 to 3 years      |
| Nutmeg                            | 2 to 3 years      |
| Onion powder                      | 2 to 3 years      |
| Oregano                           | 1 to 3 years      |
| Parsley                           | 1 to 3 years      |
| Rosemary                          | 1 to 3 years      |
| Sage                              | 1 to 3 years      |
| Savory                            | 1 to 3 years      |
| Thyme                             | 1 to 3 years      |

| <b>Dried Goods/Dry Goods</b>          |   |
|---------------------------------------|---|
| <b>Ingredient</b>                     | <b>Shelf Life</b>                             |
| Beans, dried                          | 1 year  |
| Cereal                                | 6 to 12 months unopened, 2 to 3 months opened |
| Dried fruit (raisins, apricots, etc.) | 6 to 12 months                                |
| Jerky, commercial packaged            | 12 months                                     |
| Jerky, homemade                       | 1 to 2 months                                 |
| Lentils                               | 1 year  |
| Oatmeal                               | 1 year  |
| Pasta                                 | 2 to 3 years                                  |
| Popcorn, kernels                      | 2 years                                       |

| <b>Pasta &amp; Grains</b> |                   |
|---------------------------|-------------------|
| <b>Ingredient</b>         | <b>Shelf Life</b> |
| Cookies, packaged         | 2 months          |
| Crackers                  | 8 months          |
| Pasta                     | 2 years           |
| Popcorn                   | 2 years           |
| Pretzels/Chips            | 2 months          |
| Rice, basmati             | 2 years           |
| Rice, brown               | 6 months          |
| Rice, jasmine             | 2 years           |
| Rice, white               | 2 years           |
| Rice, wild                | 6 months          |

| <b>Canned &amp; Jarred Goods</b>     |                   |
|--------------------------------------|-------------------|
| <b>Ingredient</b>                    | <b>Shelf Life</b> |
| Applesauce                           | 12 to 18 months   |
| Beans, canned                        | 2 to 5 years      |
| Broth, beef                          | 2 to 5 years      |
| Broth, chicken                       | 2 to 5 years      |
| Broth, vegetable                     | 2 to 5 years      |
| Canned fruit                         | 12 to 18 months   |
| Canned meats (salmon, chicken, etc.) | 2 to 5 years      |
| Home-canned foods                    | 12 months         |
| Pumpkin puree                        | 12 to 18 months   |
| Soup (except tomato)                 | 2 to 5 years      |
| Soup, tomato                         | 12 to 18 months   |
| Tomato paste                         | 12 to 18 months   |
| Tomato sauce                         | 12 to 18 months   |
| Tomatoes, crushed                    | 12 to 18 months   |
| Tomatoes, stewed                     | 12 to 18 months   |
| Tomatoes, sun-dried (oil-packed)     | 12 to 18 months   |
| Tomatoes, whole                      | 12 to 18 months   |

| <b>Drinks</b>                             |  |
|---|--|
| <b>Ingredient</b>                         | <b>Shelf Life</b>  |
| Coffee, ground and vacuum-packed          | 1 year unopened, 1 to 2 weeks opened                     |
| Coffee beans (roasted). Not vacuum-packed | 1 to 3 weeks   |
| Coffee, freshly ground                    | 1 to 2 weeks   |
| Coffee, instant                           | 1 year unopened, 2 to 3 months opened                    |
| Iced tea mix                              | 3 years unopened, 6 to 12 months opened                  |
| Juice boxes                               | 4 to 6 months  |
| Juice, bottled or canned                  | 12 months  |
| Soda                                      | 3 months after the expiration date                       |
| Tea, in bags                              | 18 months unopened, 1 year opened                        |
| Tea, loose                                | 2 years unopened, 6 to 12 months opened                  |
| Water, bottled                            | indefinite, store in cool dry place, away from chemicals |

| <b>Condiments</b>       |   |
|-------------------------|---|
| Ingredient              | Shelf Life                              |
| Barbeque sauce          | 1 year                                  |
| Hot sauce               | 5 years unopened                        |
| Jam                     | 2 years                                 |
| Jelly                   | 2 years                                 |
| Ketchup                 | 1 year                                  |
| Maple syrup, artificial | 1 year                                  |
| Maple syrup, real       | 1 year unopened                         |
| Mayonnaise              | 3 to 4 months after package date        |
| Mustard                 | 2 years                                 |
| Peanut butter           | 6 to 9 months unopened, 3 months opened |
| Pickles                 | 1 year                                  |
| Salad dressing          | 12 to 18 months                         |
| Salsa                   | 12 to 18 months                         |
| Soy sauce               | 3 years unopened                        |
|                         |   |
| Vinegar, apple cider    | Best used in 2 years, safe indefinitely |
| Vinegar, balsamic       | Best used in 3 years, safe indefinitely |
| Vinegar, malt           | Best used in 2 years, safe indefinitely |
| Vinegar, red wine       | Best used in 2 years, safe indefinitely |
| Vinegar, rice           | Best used in 2 years, safe indefinitely |
| Vinegar, white          | Indefinitely                            |
| Vinegar, white wine     | Best used in 2 years, safe indefinitely |
| Worcestershire sauce    | 1 year                                  |

## TIPS AND TRICKS FOR VACUUM SEALING

When vacuum sealing:-

1. **Macaroni**-Cut across the top of the macaroni bag, next place it in two brown 5lb bags then use vacuum seal bags to vacuum seal. This helps to ensure that the macaroni does not puncture the bag when sealed. Write date sealed and contents on the outside of the bag.

2. **Flour**-Use brown 5lb or 6lb bags and fill bag with flour, then use vacuum seal bags to vacuum seal. Write date sealed and contents on the outside of the bag. After sealing place in deep freeze and leave for three days. After three days remove let thaw, dry and write date sealed and contents on the outside of the bag. This

3. **Lentil Peas/Peas**-Use brown 5lb or 6lb brown bags and fill bag with flour, then use vacuum seal bags to vacuum seal. Write date sealed and contents on the outside of the bag. After sealing place in deep freeze and leave for three days. After three days remove let thaw, dry and write date sealed and contents on the outside of the bag.

4. **Dasheen Bush**-Wash dasheen bush properly (vinegar and water), dry out the water, cut up and vacuum seal. Write date sealed and contents on the outside of the bag.

5. **Vegetables**-Wash vegetables properly (vinegar and water), these can be cut up and dehydrated/sunlight can be used but it must be cut/sliced and trays used to so that all veggies are dried. You can use food covering to ensure flies/insects do not get at your food. Use Vacuum seal bag, vacuum seal and write date sealed and contents on the outside of the bag.



## GO MEAL-ADULTS

You can vacuum seal meals called go meals in one bag where there are different items that will constitute a meal. To achieve this use parchment paper to divide the sections or brown bag cut to divide/even brown paper used for wrapping books. Meals can be cooked first and then added to go bag. After sealing, write date it was sealed and contents in the packet.

### Examples of a GO Meal

#### 1. Split Peas Pack

Boil Split Peas/Blend and dehydrate add powdered seasoning, parshley flakes and ginger powder.

Cook Cassava, strip it, Cook sweet potato, slice thin or strip it, Cook chicken breast.

These can then be added and sectioned off in the one vacuum sealed bag. Write the contents and date vacuum sealed for ease of reference.

#### 2. Soup Pack

Boil chicken and strip, grinded seasoning, dehydrated or grinded pumpkins

#### 3. Porridge Pack

Blend oats, cinnamon, bayleaf, nutmeg

#### 4. Green Fig and Salfish Pack

#### 5. Jam Packs

#### 6. Raisin Packs

## **GO MEAL-KIDS**

Example of a *GO* meal for kids

1. Cornflakes and milk

2. Porridge pack

Blend oats, cinnamon, bayleaf, nutmeg

3. Chocolate Pack

Milk, Chocolate and sugar

4. Macaroni and cheese

5. Jam packs

6. Raisin Packs