

The Lost Book of



Long-Lasting Foods

By Charlie Evans

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BY CHARLIE EVANS



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Introduction

So, you have found yourself in a survival scenario. For whatever reason you are stuck in your home with no access to fresh foods. What you do have to eat is what you have on hand. In addition, utilities are down. This means no refrigeration or freezing for your foods. Of course, you will eat what you can from your fridge and freezer before it spoils, but that food will run out within a few days. It could be a natural disaster, and EMP blast, or any other number of threats that caused this situation. This could even be caused by a bad snow storm.

Do not kid yourself. This type of thing does happen. Over the last few years, I have had several friends forced to survive on their current food supply due to various natural disasters. Unfortunately, once the storm hits it is typically too late to stock up on food. Even if you can drive to the grocery store, the shelves would be empty. If you find food, they may not have power or internet to take credit cards. This very well could be a life-threatening scenario. So, what do you do to prepare?

The answer is to have a good supply of superfoods that would not be affected by downed electricity. We are not talking about superfoods like kale and quinoas. In this case superfoods have several characteristics that make them perfect for survival.

- 1) Preservation – The average survival scenario is estimated to last three weeks. That being said, even being snowed in for a week can be deadly. These foods should be able to be stored on a shelf much longer than that. Ideally, these are foods that could sit on your shelf for over six months so you have them prepared well in advance. If you have a good stockpile of superfoods, you will be prepared when disaster strikes.
- 2) Nutrition – Superfoods must provide some aspect of nutrition vital to survival. The two primary nutrients needed are carbohydrates and proteins. In addition, vitamins and minerals are an added plus but not quite as important. If a food can provide multiple types of nutrients, that is even better. Remember that these foods must keep you alive. Nutrition is everything.
- 3) Simplicity – An ideal superfood should only have a handful of simple ingredients. It must be easy to create and easy to eat in order for it to serve its purpose. These foods are either ready to eat as is, or they only need water and heat for preparation. If you are prepared for survival, you should always have a source of clean water and heat.



- 4) **Storability and Mobility** – These foods should be compact and lightweight. Remember that you are aiming to store large amounts of these foods over long periods of time. Keeping them small and light makes storage in a dark, dry spot much easier. In addition, in the rare event that you decide to leave your home you can easily pack these foods to take with you.
- 5) **Cost** – There is no way we could call these foods “superfoods” if they were not cost effective. These foods require simple, inexpensive ingredients with no specialized equipment. Literally anybody should be able to afford to make these foods and add them to their food supplies. You may not be able to stock up for several years of supplies, but even enough superfoods to last you a few weeks is better than the average person will have. Most people will start to go hungry after just a few days.

So now you can start to see that it could be hard to find these superfoods in your grocery store. Canned food is heavy and bulky, and must be used on a regular basis or will likely go bad. There are plenty of boxed dry meals that provide nutrition, but they are bulky and expensive. You can stock up on flour, rice, beans, oatmeal, and pasta, and you probably should. However, these items do not fit our parameters. They also are prone to contamination by insects if you are not careful. Dairy, meat, and produce is all out of the question because it will spoil. So where do you find these so-called superfoods?

In order to determine which foods can sustain us in scenarios without electricity or fresh supplies, we must look at societies that have lived in similar scenarios. This includes civilizations of the past and the present. We can look at ancient Egyptians, Native Americans, European sailors, Civil War soldiers, and the tribes of the Middle East. All of the wisdom that we need to survive can be provided by our ancestors. These people travelled great distances with minimal supplies and no refrigeration, and yet they were able to survive on rations packed in a small bag.

In this article we will identify several superfoods that have been effective sources of nutrition for our ancestors. We will also walk you through how to make these superfoods step by step so that you can start to build up your food supplies. Keep in mind that some of these foods do require some elbow grease to get a finished product. Trust me when I say it will be well worth it in the end.



Preservation Methods

You may think that the process of preserving food is complex, but it is actually quite simple. The goal is to eliminate the potential for bacteria to form in the food and for insects to lay eggs in the food. There are several primitive ways to keep food from spoiling, but the most efficient methods always involve eliminating moisture. A truly dry food cannot be affected by bacteria and insects in most cases. Each of the preservation methods that are used in these recipes is designed to dehydrate the food for longevity. In some cases, other ingredients are added for flavor, nutrition, or further insect deterrence. However, before we focus on these recipes, I want to cover all of the different preservation methods to consider. Here are the basic preservation methods that have been used for millennia to make food last longer without refrigeration:

Fermentation

The process of fermentation is one that is not discussed much, but is used by most civilizations. It is accomplished by combining yeast and sugars in a way that preserves the liquid and produces alcohol. Whether used for trading or for yourself, knowing how to complete this process is valuable. You can ferment fruits, vegetables, sugar, or milk. You simply add more sugar or honey until the yeast can no longer survive in the alcohol produced. The products produced can range from medicinal wines to products used to kill bacteria in water or wounds.

Freezing

The practice of freezing food can be much more difficult without electricity. When it comes to meat and fish, freezing is by far the best way to preserve your proteins. To keep the food fresh, you will need temperatures at 32F or below. To do this you will likely need to pile snow or ice to create a chamber for storing your food. This would only work during winter months in most parts of the world. If you are worried about animals and you happen to have weather that keeps the air temperature below 32F, you can hang your food in a bear bag. This would need to be at least 10 feet off the ground.

Canning

When I was a child, I spent my summers at my grandparents' house in the Ozark Mountains. They had an enormous garden that was easily larger than their house. Most of the fruits and vegetables that were yielded ended up in jars lining the walls of their garage. Canning ensured that they would always have a food supply even if the garden had an off year.



Fruits, vegetables, meats, and fish can all be canned if it is done properly. I started my canning career by making sweet pickles and then expanded from there. We have canned everything from tomatoes to peaches to bacon to venison. For any type of canning, you will need mason jars of appropriate size, lids, rings, and jar tongs to remove the jars from hot water. Fruits and vegetables can be canned using a large pot with boiling water. Meats typically require a pressure canner to get a good finished product. It should also be noted that dents in the lids or rings can be an issue along with any nicks along the lip of the jar. If a good seal is not created, the food will not be safe to eat.

Canning is an art form that can take years and years to perfect. By adding sugar, salt, herbs, and spices you can manipulate the flavor of the finished product in several ways. For basic canning of vegetables, you will need to wash the jars, lids, and rings thoroughly.

You will then need to heat all of those elements in a large pot with boiling water. While still hot, add your prepared vegetables and liquids to the jar. Apply your lid and ring and submerge the jars in boiling water with at least one inch of water above the lid. After 10 minutes, use the tongs to remove the jars and set them on a towel. Let them sit and cool for a while and then check to make sure the lid is sucked in versus bulging out. If the jar and lid do not have a good seal, you will need to try and re-submerge the jar to create a better seal.

Cooling

While cooling your foods does not preserve them nearly as well as freezing them, there is always a need to keep foods cool to preserve them for shorter periods of time. Without electricity, your refrigerator is out of the question. Cooling is easy during the winter, but how do you keep your foods cool in the summer months? Try a zeer pot, also known as an evaporation cooler. For years I looked for a way to keep food cool in the summer without electricity, and then I found this method.

This design actually works with the same principle as an electric refrigerator. For this project you will need two large clay pots with one slightly larger than the other. Put a layer of sand in the bottom of the larger pot and set the smaller pot on top. Then fill in the gap between the two pots with sand. Douse the sand with water and place your food inside the smaller pot.

Cover with a white towel and place the whole device in a breezy, sunny area. The evaporating water will cool the contents by about 30F, which should keep it in the safe range to preserve your food for a while. You will need to keep adding water to the sand to keep it moist.



Drying/Smoking

By far my favorite method by which to preserve food is dehydration. By removing moisture from foods, you eliminate the potential for mold and bacteria to grow. It also leaves your food in a form that is lightweight and takes up little space. Not all foods will dehydrate well, so you may have to blanch, boil, or pickle the foods before you dehydrate them. You can dehydrate foods by smoking, sun-drying, and using an electric dehydrator. For this article we will skip the dehydrator and focus on methods that require no electricity.

Sun-drying food is the easiest method by which you can dehydrate. For this process you will need to cut your food as thin as possible. It needs to be $\frac{1}{4}$ inch thick or less. Scoring both sides of the food will further help with the dehydration process. You can either build a rack on which to place your food, or you can string up your strips of food with cordage.

Ideally, you want to put your food in a spot that has direct sunlight but is also breezy. The food should be high enough that animals cannot reach it. Generally, it will take several days to sun dry foods. You will know it is done when it has the consistency of jerky. When you squeeze the food, no moisture should come out. You can speed up the process by adding salt and spices.

Smoking is my favorite method for preserving food. This process dries out the food and also adds a pleasant smoky flavor. The smoke also helps eliminate bacteria, and the heat dries out the food faster. To smoke your food, you will still want to cut it into strips that are less than $\frac{1}{4}$ inch thick. Build a fire and let it burn down to coals.

Build a tripod above the coals and either build racks or use cordage to suspend the food. You want the heat to be mild enough to avoid actually cooking it. You should be able to hold your hand above the coals at the height of the food for eight seconds before having to move it. It typically takes eight to ten hours to smoke most foods. You can add salt and spices to speed up the process.

If you want to hold in the smoke better, you can wrap a blanket or tarp around the tripod. Just be careful that it does not melt or catch fire. Of course, using an actual smoker or building one will always give you more control over the finished product.

There are two other ways to dry meat that are a not quite as common. Curing meat is the process of using salt and sodium nitrate to draw moisture out of meat. A mixture of salt, curing salt, and spices are rubbed all over the meat, and then it is

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cooled for a week. The meat is then rinsed, wrapped in cheesecloth, and hung for anywhere from a few weeks to several years to dry and age the meat.

Salting is the process of completely encasing meat in a thick layer of salt for several days. The salt draws the moisture out of the meat creating a hard shell of salt or a brine in some cases. After the meat is done drying, the shell is broken and the meat rinsed and dried.



Hardtack

Hardtack is basically a dried biscuit that fits the profile of a good survival food. If kept dry hardtack can last up to 150 years, so it is ideal for your pack or your food stockpile. Because it is dried, it is compact and lightweight. It is also high in calories and carbohydrates. Those are two commodities that are hard to come by in a survival situation. Another benefit of hardtack is that it is easy to make in almost any conditions.

History

This survival food has a long and proud history of proving its value. Both the ancient Roman and the ancient Egyptian civilizations used hardtack, and typically gave it to their soldiers as rations. It is ideal as a ration for soldiers for the same reasons it is ideal for survival situations. Sailors crossing vast oceans would take hardtack with them for the journey. It was baked four times to be sure it would survive the moisture from the sea. Often the biscuits would have to be soaked in pickle brine, coffee, or water to soften them enough to eat.

Civil War soldiers were rationed several large biscuits per day and often used them as plates to eat perishable food. They would then snack on the biscuits as they hiked. The Union Army would bake the biscuits twice and then let them sit for six months before issuing them to soldiers. This would ensure they were properly dried. Southern states were short on flour because of blockades put in place by the North, so when flour was available they made huge batches.

Making Hardtack

The process of making this food is incredibly simple. This is one of the reasons it makes for a great survival food. You can make hardtack with only two ingredients, and you can make it in almost any conditions. Whether you have a gourmet kitchen, a gas grill, a camp stove, or a rustic campfire you can make this staple.

- 1) Start with two cups of flour and slowly add water. Your goal is to make it into a consistent dough that you can roll out and cut. If it gets too watery, add more flour. There is no point in kneading the dough since we are not making bread.
- 2) On a floured table, roll out your dough with a floured rolling pin until it is about $\frac{1}{4}$ inch thick. Then you can cut it into whatever shapes and sizes you like. Think about storage and purpose. You will want larger pieces if you might use it as a plate for other food. If you are packing it into a small space



in a pack, you will likely want smaller pieces. It is important that all the pieces be the same shape and size so they cook at the same rate. You can use a ruler to cut a straight edge, or you can use cookie cutters, a jar, or a glass to cut various shapes.

- 3) Preheat the oven to 250F.
- 4) You next need to dock the biscuits. This means poking holes in the dough so it will dry properly and will not rise. You can use a fork, a nail, chopsticks, or a knife to poke evenly spaced holes all the way through the dough. As a general guide, you should cut 16 holes in a 3 inch by 3-inch square. This is the recipe used during the civil war.
- 5) Place the biscuits on an ungreased baking sheet, and make sure they are evenly spaced. Cook them for two hours and then flip them over to cook for two more hours.
- 6) Remove the biscuits from the baking sheet and place them on a cooling rack until they are room temperature.
- 7) Repeat the baking process cooking for another two hours on one side and two hours on the other side at 250F. Move back to the cooling rack until room temperature.

Variations

Hard tack in this form has very little flavor. There are things you can do to make the finished product more flavorful. However, keep in mind that the lack of moisture is what makes hardtack last as long as it does. You cannot modify the recipe in any way that adds moisture or it will spoil sooner.

Salt is an ingredient that was often added to hardtack. Not only does it add flavor, but the human body needs some level of salt in the diet to keep functioning. Other grains can be added to the flour for texture and flavor. Spices can be added or a little honey can give your hardtack a sweet taste while also adding valuable sugars. Dairy products like butter or cream can be added, but they will likely go rancid within a few weeks.

Storage

There are two primary reasons why hard tack might not last as long as you would like. One would be if moisture gets to the biscuits. Any moisture can cause mold to form which would render the hardtack inedible. You are best to keep your hardtack in an airtight container or bag. Store your containers in a cool, dry place to ensure it keeps as long as possible.



The other potential issue with hardtack is damage from pests. These biscuits are a perfect food source for bugs like weevils or for mice or rats. For this reason, you should try to keep your supply up off of the ground. I also prefer hard, airtight containers to keep out the insects and pests that could ruin my stash.

How to Eat Hardtack

With most recipes there is no need for a section on how to eat the finished product. However, hardtack is an exception. The biscuits are so hard that you often have to get creative to find a good way to eat it. As stated before, hardtack can be softened with liquids. This could be water, coffee, milk, vinegar, or any other liquid. It is sometimes added to stews or gravy to help thicken the dish. Some people have been known to soften hard tack and then fry it in grease or oil. This is one of the tastier preparations of this food.

If you are going to eat hardtack without preparing it in some way, there is a proper way to do it. Break off a small piece and let it sit in your mouth to soften for a while. Eventually you will get a softer consistency that you can chew. Also be sure to have some water on hand as the flour will suck all the moisture out of your mouth.



Jerky

I want to start by walking you through how to make simple beef jerky in your home. First, buy the cheapest cuts of unground beef you can find. Remember that the drying process will break down much of the fat and sinew found in cheap cuts of meat, so there is nothing wrong with saving some money. Let the meat sit out for about an hour to get it to room temperature before working with it.

Next you want to cut all the meat super thin. I suggest getting it as thin as you possibly can, but definitely less than 1/4 inch thick. This will help it to dry out faster. Make sure you have a sharp knife that is large enough for the job. Once it is all cut thin, preheat your oven to 175 degrees F. Then salt and spice your meat however you like. Both salt and spices help draw moisture out of the meat and also add flavor. Remember that make jerky is a drying process, not a cooking process. Do not let your oven get above 175 degrees even if you are in a hurry to finish.

Understand that this is a preservation technique. Bacteria requires moisture to form in meat. By drying it out you prevent that bacteria from growing and avoid getting sick from the meat. If you cook the meat and then try to dry it you give the bacteria time to form. In addition, drying the meat prevents insects from laying eggs just below the surface. Without the drying process your meat would be riddled with maggots after only an hour or two of exposure to insects.

Lay all the meat out on sheet trays, preferably up off the metal. If you have a grate or rack that you can use to elevate the meat, then that is your best bet. Elevating the meat allows air and heat to flow all around it which causes a more even drying. I suggest raising the racks of your oven up as high as they will go to keep the meat away from the hot coil. With the meat cut thin it will take up a great deal of surface area, so you may have to make your jerky in batches.

Allow the jerky to sit in the oven for at least six hours before opening it to check the meat. There is no set time as to how long this process will take. Typically it is somewhere between 8 and 12 hours. To see if the jerky is done, first squeeze a piece between your thumb and finger. If it squishes like the interior is still a bit soft, then it is not done. Also if any juices run out when you squeeze it, then the jerky needs more time. If you are still unsure, bend a piece in half. If the jerky is done it will start to crack at the bend, but it will not come completely apart.

Be aware that homemade jerky looks nothing like what you buy in the store. It will probably be a darker color, and it will probably be more shriveled up verses being



nice flat sheets. Let your jerky cool at room temperature for several hours. Once it is completely cool, store your jerky in an airtight container such as a zipper bag or a Tupperware container. Your finished product should last months if not longer, but it tastes good enough that it will take some restraint not to eat it all right away.

Making jerky outdoors is a bit more difficult. Your biggest challenge is controlling the temperature at the cooking height. As long as you keep the temperature between 100 degrees and 175 degrees you should be fine. To test the temperature place your hand over the fire at cooking height with the palm side down. Count off the seconds you can hold it there. If you have to move your hand before getting to about seven then your fire is too hot. You can remove a log or raise up your cooking height.

As you add wood to your fire, be aware of what that does to the temperature. Normally you will get a spike in temperature as you add wood. What I like to do when I add a log is wait until it is lit and then move it off to the side so it is not touching the other logs. Then when it has burned down some, I can move it back with the others. Do your hand temperature check frequently to make sure it does not get too hot.

Either before or after starting your fire, you need to build a tripod over the top. It will likely need to be at least five feet tall, but the more meat you need to dry the taller the tripod needs to be. Use green poles so they will not catch fire at the base. Prepare your meat just like the above example. Once you have determined your cooking height you can either build a rack inside the tripod or you can string up the meat. To string it up you would need to run a thin piece of cordage through the middle of the pieces of meat. Then tie it to the tripod at both ends of the string so the strand is parallel to the ground.

If you are going to have multiple racks or strands at different elevations, then your dry time will likely vary. The ones on the bottom will be done the soonest and the ones at the top will take the longest. As a batch is finished, move the next one down to its level to finish the drying faster. When outdoors the smoke from your fire will also help preserve the meat. To trap the smoke near your meat you can wrap a blanket, tarp, or emergency blanket around the tripod. This will also trap more heat, so make sure you do your hand check again. Be careful not to let the corners of your blanket or tarp get too close to the fire.

Because of the fluctuation of the temperature from the fire, making jerky outdoors will take longer. Also, game animals are more likely to have diseases and parasites so it is very important that the process is done correctly. You can use exactly the

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same process in your home or outdoors to make jerky out of fish or fruit. The drying time will vary based on the product you are drying, so give yourself plenty of time. Now that you have the perfect survival food prepared, you are ready to bug-in or bug-out with a full belly.



Pemmican

When Native Americans first started hunting big game animals, they quickly realized that they needed a way to preserve the meat. There were times when a village could eat an entire deer, pig, or elk in one meal, but they were few and far between. Often meat would rot or become infested with maggots. In addition, Native American tribes often sent scouts or hunting parties out for weeks at a time. They needed a protein that could travel with them to provide the energy they needed to keep going. Pemmican was the answer.

What is Pemmican?

Pemmican is a mixture of dried meat, rendered fat, nuts, and dried fruit. It was designed to provide protein, sugars, and fats in a form that could be preserved for months. There are several ways to make pemmican, but all of them provide a way to keep meat preserved longer than cooking alone. The more ingredients you add, the shorter the shelf life. In this article, we will cover a recipe for simple pemmican that will keep in a cool, dry place for months or even years.

The Formula

Pemmican starts with dried meat. It can really be any kind of meat, but it is most often made with venison or beef. The fat is removed from the lean cuts of meat, and the meat is cut thin. It needs to be less than ¼ inch thick in order to dry properly. You can set an oven to 175F and dry the meat on raised racks for six to eight hours. You can also build a tripod over a campfire and dry the meat above. You will need to either build a rack inside the tripod or use cordage to hang meat from the tripod. As a general rule, you want to be able to hold the palm of your hand above the fire at the height of the meat for five to ten seconds before pulling it away. This ensures that you are drying your meat, not cooking it. The meat is done drying when it can be cracked by bending, but it does not fall apart. You should not be able to squeeze any juices out of the meat.

The next step is to grind the meat into a fine consistency. The Native Americans used a mortar and pestle, but I use a food processor. You then need to render the fat into a liquid so it can be mixed into the other ingredients. Nuts and dried fruit need to be chopped into a finer consistency. Mix everything together, but only use enough fat to hold everything together. You do not want the mixture to be watery when mixed. Then lay plastic wrap over a muffin tin and press the mixture into the bottom. This will create discs of pemmican that can be wrapped and then put into

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a large plastic bag for storage. Store all of your pemmican in a cool, dry place to ensure that it lasts as long as possible.



Chuno

Rarely have I seen a way to effectively preserve potatoes for long periods of time. However, potatoes are easy to grow even in especially cold climates. They can also be found wild in most temperate areas. Potatoes offer lots of carbohydrates and minerals which are needed to survive. Chuno is one way to preserve potatoes for later use.

Chuno is a dried potato that comes from the ancient civilizations of Peru and Bolivia. Making Chuno takes several days, but can preserve the potatoes for up to two years. You will need night temperatures below freezing for this process to work.

When you harvest your potatoes, be sure that you cure them so they will last until you have night temperatures below freezing. To cure your potatoes, leave some dirt on the skin after removing them from the ground. Then set them in a cool, dry place out of the sun that is well ventilated. I like to set mine out on cardboard in my garage and then leave the garage door open. You will need to let them set for at least two weeks. At that point they should be good for up to six months if left in a cool, dry place.

This recipe can be used for any sized potato, but small ones tend to work best. Start by washing the potatoes and setting them out overnight to freeze solid. The next day you will allow the potato to thaw, but you want to keep them out of the sun. If it is warm enough, a shady spot outside is good. Otherwise, they may need to be moved indoors. Once the potatoes are thawed, you will want to use a rock or kitchen tool to mash the potatoes. It is best to do the mashing over an absorbent material such as cardboard, or you can do this over a strainer. The goal is to get as much moisture out of the potatoes as possible.

That night you will want to set your mashed potatoes out to freeze again. It is best to spread the mash thin so that it freezes and thaws quickly. Again, it is good to spread it over cardboard which will continue to absorb moisture. The next day you will again thaw your potatoes. You will then mash them again to remove more moisture. Repeat freezing that night and then thaw and mash again the next day. After three days of this you should have very little moisture left in the potatoes.

Finally, you will need to dry your chuno in the sun. I like to make mine into patties that are about ¼ inch thick and set them out on a rock in the sun. There is no need



to refreeze them at night, so bring them back inside in the evening. It will take several days to get them dry. The drier you get your chuno, the longer it will last. I like to keep drying until I can break my patties in half and feel absolutely no moisture.

For storage you are best to wrap your chuno in plastic wrap and then place them in an airtight container. They will store best in a cool, dry spot in your home. As stated before, if the preparation and storage is done right, they can last up to two years. When ready to prepare them, you can drop them in soup or break them up with water before cooking. They also can be eaten raw if needed. Salt and spices can be added during preservation or when you are ready to eat them. I usually add salt and pepper when I am drying them out because it helps remove moisture. Add some milk and butter and they tasted like mashed potatoes.



Bacalao

Bacalao is fish, traditionally cod, that is cured by dry-salting it. Originally this method was used in Spain, France, and Portugal, but it can be found all around the world. Explorers would often catch fish from the sea and salt cure it to be used later in the voyage or even after they landed. Any fish can be made into Bacalao, but it works best with white, flaky fish that is not too oily.

While this process can preserve fish almost indefinitely, it has other advantages. The main advantage is that the meat absorbs the salt so that no salt need be added later. Almost all food tastes better when salted, and salt is a mineral required for good health and survival. If cooked right, salted fish can even add salt to vegetables or anything else cooked with it.

To prepare the fish, you will start just like you were preparing to cook it. Cut open the abdomen and remove all of the guts. I prefer to leave the fish whole and make a few incisions along the spine so that it will flatten out. This is called butterflying the fish. However, you can remove the filets if you prefer. If leaving the fish whole, be sure to remove the scales. If fileting the fish, you can remove the skin or just the scales. Leaving the skin on will keep the fish from falling apart. Wash it off well and pat dry with paper towels. You are now ready to salt.

Ideally, you will want to use large grain sea salt for this. It can be expensive so buy in bulk if possible. You can use table salt if you need to save money. The overall rule is that you cannot over-salt fish. It can only absorb so much salt anyways, so no worries if you use too much. As a general rule you want to use a 1/5 ratio of salt to fish by weight. If you are curing 40 lbs. of fish, you will want to use 8 lbs. of salt. You will also need a large, stainless-steel container with a lid for this process. Do not use plastic tubs as the plastic can affect the flavor and even make the fish unfit to eat.

You will now start to layer fish and salt in the container. Start with a 1/2 inch layer of salt in the bottom. Next, place fish flat on the salt allowing none of the pieces to touch. Now add another 1/2 inch layer of salt. Put down another layer of fish and so on until all of your fish is in the container. Put a final layer of 1/2 inch of salt on top of the last layer of fish. Put a lid on the container and place it in a cool place like a refrigerator, but never a freezer.

There is much debate regarding how long to let the fish set in the brine. I say brine because the water pulled out of the fish will mix with the salt and create a brine. Some people say 24 hours, while others say one week. The best rule I have heard is 24 hours for every inch of thickness to the fish. For example, if you are curing five



large fish with each being one inch thick at its thickest point you would brine for five days. Watch your brine closely. If at any point you do not see salt crystals in the brine, add more salt.

Drying the fish is all about the right combination of temperature, low humidity, and air flow. The Vikings actually dried cod with no salt, and it was preserved just fine. Cod is unique in that it has almost no fat that could go rancid. You will also need to find a spot to dry your fish that is away from your living quarters and protected from birds and cats. It can create a strong smell, so do your family a favor and dry it outdoors.

Rinse the fish off and dry it thoroughly with paper towels. There are two primary ways that people dry fish. You can hang your fish in a shed or on a protected rack outdoors. Be aware that there will be some liquid dripping off of the fish, so you may want to put a pan underneath. You can also wrap the fish in cheesecloth and place it on a baking rack. If you have a spare refrigerator, you can dry it there.

As for the temperature, you can potentially dry fish at any temperature. However, there is more potential for bacteria with warm temperatures. The temperature and humidity will determine how long the drying process will take. I would plan on one to two weeks in most cases. The longer you dry your fish, the longer it will last. When finished, wrap the fish and place it in an airtight container. Keep it in a cool dry place. When ready to eat, soak the fish in water for 24 hours. During that time, you will want to change the water at least twice. This will remove some of the salt while also rehydrating the fish. You can cook it any way you like, but there are plenty of recipes online that are specifically designed for salted fish.



Aaruul

Aaruul is a curd cheese created by Mongolians but consumed by cultures all over Asia and the Middle East. It is predominantly made and eaten by nomadic peoples because of its nutritional value and preserved state. These days it is very hard to find aaruul, and just as hard to find information on the subject. I only learned of it recently myself. Often the summertime is best for seeing a high output of milk from livestock, so this is often prepared in the summer and consumed the rest of the year. Traditionally mare's milk and camel's milk is not used for aaruul as it is made into airag or khoormog instead. This is an unpasteurized and fermented milk. All of these preserved dairy products can be mixed with wild plants, fruits and sugar to sweeten the product and add flavor. Bazmal is another version of aaruul that is shaped with bare hands.

Aaruul is basically flavored cheese curds that are cut into various shapes and then preserved. It is believed by Mongolians that preserved aaruul is healthy in that it strengthens the jaw, teeth, and gums. There are several different versions of aaruul. Milk aaruul is created by boiling curds in milk, slicing, and drying. Airag aaruul has a much stronger flavor. Western aaruul uses unpasteurized milk making it softer and greasy. Ajiin Bor aaruul is a favorite for its velvety taste and texture. All aaruul seems to find a nice balance between sweet and sour.

Traditionally, nomadic people would eat the preserved aaruul by simply breaking off bites from the hard solid. It can also be dissolved in water for the same nutritional value. Many people sucked on it like a hard candy so it dissolved in their mouths. The beauty of the product is that despite being dairy based and providing protein and calcium, it can stay a preserved solid indefinitely if kept in a cool, dry place. I have never seen this in any other dairy product.

To make aaruul, leave your choice of raw milk out to curdle. Next, you will need to use a cloth to remove the curds and let the liquid drip back into the bowl. Use two cutting boards or any flat surfaces to create a patty about an inch thick. You can cut the cake into pieces of any size, but most people keep them less than five inches across. Place all of the pieces on a board with none of them touching, and set them out in the sun to dry. They need to be placed in a spot with good air circulation, and you can put a light piece of cloth over them to keep animals away. The longer you let your aaruul dry, the longer it will last. I suggest they become dry to the point



of being hard all the way through, so eventually you will want to cut one in half to check. Always store them in a cool, dry place for best preservation.

One other option for making aaruul is commonly called “worm aaruul”. This process creates little strands of the product. The fresh curds are not pressed but instead ground in a meat grinder commonly found in Mongolian homes. The grinder presses the curds into small strands that are arranged in little piles for drying. It is easier to chew, but not ideal for travelling as they break apart easily.



Portable Soup

One superfood that most people do not consider is soup. Canned soup is heavy, bulky, and can be expensive. However, dry soup mix is an excellent way to get all the nutrients you need. A good soup mix will have herbs and spices, vegetables for vitamins and minerals, grains or starches for carbohydrates, and sometimes dried meat for protein. Of course, once you add water and cook your soup it helps you rehydrate and warm up from the inside out.

The base for your dried soup mix should always be carbohydrates. For this you can use rice, barley, oats, dried pasta, quinoas, beans, chickpeas, or dried potatoes. Next, you should consider your veggies. You can find dried and flaked carrots, celery, peppers, onions, peas, tomatoes, squash, corn, and leafy greens like spinach and kale. For herbs and spices you can really add anything you like. Salt along with any other flavors will help keep you healthy and help keep your mix dry. For dried meats, your options are limited. You can use jerky or dried fish and be okay. In place of meat, you can always use bouillon for flavor. The great part about these mixes is that you can customize them however you like, and then just add water and boil to prepare them.

One of my favorite dry soup mixes is wild rice soup. Here is a basic recipe for the mix:

Ingredients:

- 2 teaspoons Italian seasoning
- 1/2 teaspoon dried minced garlic
- 1/2 teaspoon ground celery seed
- 1/2 teaspoon pepper
- 1/2 cup medium pearl barley
- 1/3 cup dried vegetable flakes
- 3 tablespoons chicken bouillon granules
- 1/2 cup uncooked wild rice
- 1/2 cup dried minced onion

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If it is convenient, it is best to use a pint mason jar to store soup mixes. The reason why is that you ideally want to layer your ingredients for best preservation. If not possible, a zipper bag is fine. Mix all of your seasoning in a bowl and set aside. Then add your carbohydrates, vegetables, bouillon, and seasoning mix in separate layers. Avoid mixing and store in a cool, dry place. This mix can be stored indefinitely.

To prepare, simply add eight cups of water, bring to a boil, and simmer for one hour. There are thousands of different combinations, so get creative or copy your favorite soup.



Ash Cakes

While ash cakes are a product that does have to be prepared on site, it is so simple and has so few ingredients that I still consider it a superfood. During the civil war, soldiers were initially given bread for their rations. As rations drew thin, soldiers were given hardtack instead because it would last longer. Eventually, they were just given flour and expected to make something for themselves. This is when ash cakes were invented. Unlike hardtack, a properly made ash cake can be quite soft and pleasant to eat. It is also eaten warm and right out of the fire with a smoky flavor. You can add all kinds of flavor ingredients to ash cakes because it is ready to be consumed immediately.

All you need for this recipe is flour, water, and any flavor ingredients you like. This could be sugar, honey, molasses, butter, dried fruit, jam, or seasoning. Your first step is to get an ideal bed of coals. You want the fire to die down to coals, but they cannot be too cold. Grey coals are probably not going to work, but white hot coals are perfect. Flatten out your ashes so you have a flat cooking surface large enough for the number of cakes you are making.

There are two primary ways to make an ash cake. You can either put it straight on the coals, or you can place it on a board that will be placed near the coals. This decision will determine the consistency of your dough. Start with a bowl and some flour. Then slowly add water a little bit at a time and mix until you have the right consistency. You will want more of a sticky paste for cooking on a board. You want it a bit thicker but still sticky to cook on the ash. Remember that you can always add more water, but you can never take it away once it is added. Add water sparingly.

At this point you can add salt, which I highly suggest. In addition, you can add flavor ingredients or they can just be spread over the top after cooking. Honestly, I find it easier to get a good finished product by just adding salt to the dough and then spreading honey and butter on it after cooking.

If cooking on a board, you want to smear your dough on the board as thinly as possible. Then, you are going to prop your board flat on the inside of the rocks surrounding the fire with the dough facing in. Once the bottom edge of the cake starts to turn brown, flip the board around to cook the other side. You want the cake to be brown and just short of charred all over before removing it. Let it cool



and peel it off of the board. It will still be a little sticky on the bottom, but will be nice and crispy on top.

If you are cooking straight on the heat, you want to make a cake about $\frac{1}{4}$ inch thick. Place it directly on the coals. You can leave it that way and flip it after a few minutes, or you can cover the top with coals as well. Total cooking time should be three to five minutes. After you are done cooking, just dust off the ashes and you are ready to eat. A little ash never hurt anybody. If you are squeamish about the ash, you can wrap your cake in leaves. However, be aware that the flavor of the leaf will likely transfer to the cake. If you go this route, you will need to use several layers of green leaves as they will gradually burn through. From there you will cook it the same way as if the dough were naked.



Conclusion

As you can see, we can pull these incredible superfoods from several different cultures, time frames, and scenarios. Some of these foods have been around since the Ancient Egyptians, while others have only been around for the last 50 years or so. It does seem like conflict and adaptation within society has always created these recipes. Whenever we ourselves face challenges, what better knowledge from which to draw.

I strongly suggest that you take the time to try out the recipes for these superfoods. There are some that I really like and some that I do not care for, but I appreciate the value of them all. Once you find the ones that best fit your needs and taste, start stocking up. As stated at the beginning, these are pretty much all preserved to last in a cool, dry place. With a little space in your pantry or a closet, you can store months of food for future use.