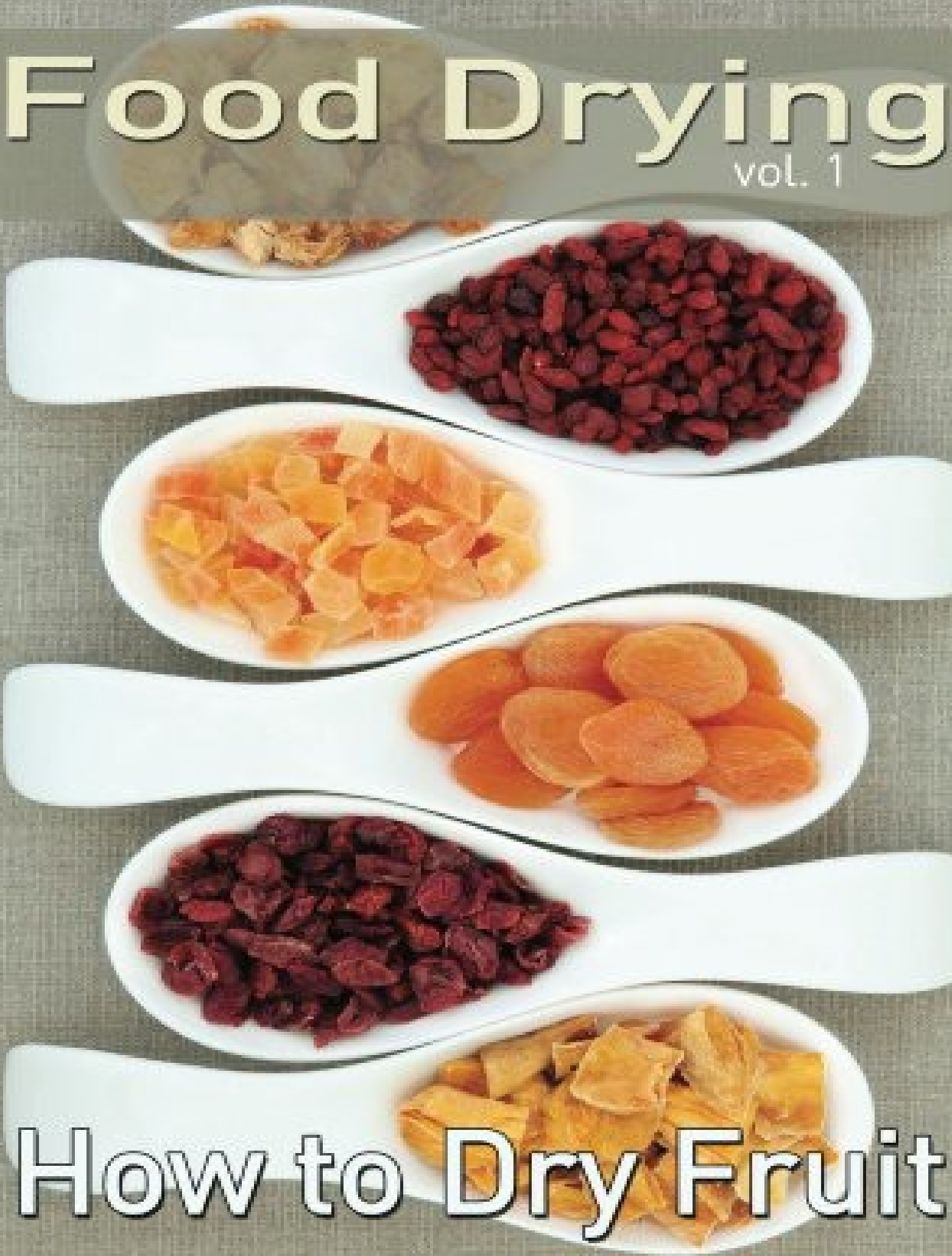
Food Drying

vol. 1



How to Dry Fruit

Food Drying vol. 1: How to Dry Fruit

by Rachel Jones

Disclaimer:

This information is provided for consumer informational and educational purposes only and may not reflect the most current information available. This book is sold with the understanding the author and/or publisher is not giving medical advice, nor should the information contained in this book replace medical advice, nor is it intended to diagnose or treat any disease, illness or other medical condition. Always consult your medical practitioner before making any dietary changes or treating or attempting to treat any medical condition.

This information does not cover all possible uses, precautions, interactions or adverse effects of the topics covered in this book. Do not disregard, avoid, or delay seeking medical advice because of something you may have read in this book.

While we endeavor to keep the information up to date and correct, we make no representations or warranties of any kind, express or implied, about the completeness, accuracy, reliability, suitability or availability with respect to the book or the information, products, services, or related graphics contained book for any purpose. Any reliance you place on such information is therefore strictly at your own risk.

It's important that you use good judgment when it comes to dried food. Do not consume food you think may have gone bad because it looks, smells or tastes bad. The author claims no responsibility for any liability, loss or damage caused as a result of use of the information found in this book.

Dedication:

This book is dedicated to all the food dryers and homesteaders out there. What you're doing is rapidly becoming a lost art. It's your responsibility to pass your knowledge on to others, lest it be lost forever.

Contents

- Why Dry Fruit?
- How Does Drying Preserve Food?
- What Happens When Fruit Dries?
- Are Nutrients Lost During Drying?
- Pretreating Fruit and Vegetables
  - Saltwater Bath
  - Honey Dip
  - Fruit Juice Dip
  - Ascorbic Acid
  - Water Blanching or Checking
  - Steam Blanching
  - Syrup Blanching
  - Microwave Blanching
  - Sulfite Bath
  - Sulfuring
- Sun-Drying Fruit
  - Building a Solar Dryer
- Oven-Drying Fruit
- Using a Food Dehydrator
  - Building Your Own Dehydrator
- Freeze-Drying
- Microwave Drying
- Conditioning
- Pasteurizing
- Specific Fruits and Vegetables
  - Acai Berries
  - Apples
    - Apple Fruit Leathers
  - Apricots
    - Apricot Fruit Leather
  - Bananas

Bilberries
Bitter Melon
Blackberries
    Blackberry Fruit Leathers
Blood Orange
    Strawberry Blood Orange Fruit Leather
Blueberries
    Blueberry Fruit Leather
Cantaloupe
Cherries
    Cherry Fruit Leather
Coconut
Cranberries
    Cranberry Fruit Leather
Currants
    Currant Fruit Leather
Dates
Dragon fruit
    Dragon Fruit Leather
Elderberries
Figs
    Fig Fruit Leather
Grapes (Raisins)
Guava
Kiwi
    Kiwi Fruit Leather
Lemons
Limes
Lychee
Mulberries
    Mulberry Fruit Leathers
Mangoes
    Mango Fruit Leather
Nectarines and Peaches

        Peach or Nectarine Fruit Leather
    Oranges
    Papaya
        Papaya Fruit Leather
    Pears
        Pear Fruit Leather
    Persimmons
        Persimmon Fruit Leather
    Pineapple
        Pineapple Fruit Leather
    Plums (Prunes)
        Prune Juice
        Plum Fruit Leather
    Raspberries
        Raspberry Fruit Leather
    Strawberries
        Strawberry Fruit Leather
    Tomatoes
    Watermelon
        Watermelon Fruit Leather
Storage of Dried Fruit
The End
Other Books You May Be Interested In

Why Dry Fruit?

Food drying is one of the oldest known methods of preserving food. Way back before there were grocery stores in every town and refrigerators in every almost every home in the Western world, people had to come up with ways to make the harvest last into the winter months.

Our not-so-distant ancestors didn't have the convenience of grocery stores packed full of food imported in from all over the world. If they wanted something, they had to grow it, buy it or trade for it, and they were largely at the mercy of Mother Nature. Fruits and vegetables weren't available year-round like they are now, so if people wanted to eat healthy food during the winter they had to figure out ways to preserve the harvest to make it last year-round.

Back then, learning to dry and otherwise preserve food was something people had to know in order to survive, especially in places with harsh winter climates where it was impossible to grow produce during the winter. Once the first frost set in, the ground would soon freeze solid. Intense cold and heavy snow made working the fields impossible. Having food put away for the winter literally meant the difference between going to bed with a full stomach and slowly starving to death.

Fast forward a couple hundred years and we've become spoiled by the availability of fresh fruit and vegetables in stores any time we want them. If the local harvest is over, rest assured there's somewhere in the world harvesting fruit and vegetables and they can be flown and trucked in from distant lands. Sure, off-season produce costs more, but it's right there if you want it.

The availability of produce year-round has led to food drying and other food preservation techniques becoming a lost art, practiced only by a select few, namely those looking to preserve food in case of emergency and those seeking to preserve their heritage.

In this day and age of fast food and instant gratification, most people don't want to be bothered with food drying. It takes a long time by today's standards to dry food, even using modern techniques, and prepping and drying food requires more work than most people are willing to put forth.

Most people are irritated when they have to wait more than 5 minutes to get fast food and a drive through window. Why would they want to be bothered waiting hours or even days for fruit to dry?

There are a number of good reasons to learn to dry food.

For one, dried fruit is a healthy snack you don't have to feel guilty about feeding to your family. Yes, it does contain sugar in concentrated amounts, but it's natural sugar that is OK for most people to consume as long as they don't eat too much. Dried fruit contains nutritious vitamins, minerals and other nutrients the body needs to thrive.

Some of the vitamins are lost during prepping and drying, but it usually isn't enough to be of much concern, especially when drying food at home.

Drying fruit and vegetables allows you to save produce long after it normally would have gone bad. This isn't as important in this day and age, but it does have its benefits. You can grow your own produce and preserve much of your harvest to save both time and money in the future. This allows you to grow more produce than you can consume before it would naturally go bad because you know you can preserve any extra fruit you end up with. It also gives you a way to prevent large amounts of fruit from going bad when you have fruit trees that produce way more fruit than you and your family can handle.

You can take advantage of good deals during the local harvest, when prices are at their cheapest. Buying produce when prices are low and preserving it to be used when prices go up in the winter allows you to save on your grocery bill year-round. Instead of paying top dollar for fruit that has to be shipped in to your local stores, you can break out your preserved fruit and eat it instead.

Additionally, learning to dry foods is a great homesteading technique that can be used to prepare for and to survive an extended emergency situation. We all hope we don't find ourselves in the midst of an emergency, but if we do, it's best to be prepared. Having a good supply of dried foods on hand ensures you'll have food in a short-term emergency. Knowing how to grow and preserve food will go a long way toward ensuring long-term survival in an extended emergency situation.

There's one more reason to dry your own fruit and vegetables and it's a big one. Sure, you can buy produce that's already been dried, but you often get more than you bargained for. Food producers are more often than not more worried about the bottom line than they are about actually putting healthy food on your table. You get additives, added sugar, preservatives and all sorts of extras when you buy commercially-dried products. The dried fruit sold in stores has sugar added to make it sweeter, so it creates cravings in the people who consume it. The preservatives are strictly there to improve shelf life and add no value to the food.

Drying fruit and vegetables at home gives you ultimate control over what is added to your dried food. That alone should be reason enough to start drying fruit and vegetables at home.

How Does Drying Preserve Food?

Drying works to preserve food by removing moisture from it. Dangerous pathogens like mold, yeast and harmful bacteria require moisture to grow. Properly dehydrated foods don't have enough moisture left in them for pathogens to easily grow. To be clear, drying doesn't completely eliminate the possibility of pathogens forming, but it's much less likely to happen in properly dried and stored foods.

Additionally, the ripening process is slowed, but not completely stopped, when fruit is dried. The enzymatic reactions that take place during ripening that cause fruit to degrade are slowed to a crawl. This, combined with the absence of moisture, is the reason dried fruit lasts months—or even years—and untreated fruit only last a few days on the counter or a week or two in the fridge. This enzymatic reaction can be slowed even further by blanching or otherwise pretreating the produce prior to drying.

Proper storage of preserved food is important because improperly stored foods can take up moisture from the air and partially rehydrate themselves. This can give pathogens the moisture they need to grow and can jumpstart enzymatic action, causing rapid degradation of the food.

What Happens When Fruit Dries?

There are a number of things that happen to fruit as it dries.

The most obvious is the loss of volume, which comes about as a result of the loss of moisture from the fruit. Fruit is largely made up of water, with some produce being comprised of more than 95% water. Since drying removes much of the water from the fruit as it dries, dried fruit often weighs a fraction of what equal amounts of unprocessed fruit weighs.

To properly dry food, you need three things:

- **Warm, but not overly hot, temperatures.**
- **Air with low humidity.**
- **Proper circulation.**

Food is usually dried using low heat. The heat applied to the food causes moisture to rise from within the food to the surface. As the moisture rises to the surface, it evaporates into the air that comes in contact with it as long as the air is able to take up moisture and isn't already too humid. Proper air circulation is important during drying because it speeds the process up by ensuring there's always fresh air coming in contact with the produce.

Warm air, generally in the 120° to 140° F range, draws moisture from food without cooking it. Too high of temperatures will cause food to cook, or case-harden, while too low of temperatures up the risk of harmful pathogens forming. *Case-hardening* occurs when drying food is exposed to too much heat and develops a hard outer shell, trapping moisture deep within.

Air with low humidity is able to pull water off the surface of the food as it rises from within. If the air around the food has high humidity, it won't be able to take up the water. The water will instead condense on the food, increasing the likelihood of spoilage. The goal of food drying is to completely remove most of the moisture from the food being dried. This isn't possible when the air around the food is too humid.

Air circulation moves air that's full of moisture away from the food and allows new air to come in contact with it. Without proper circulation, the air in the dehydrator or oven would soon fill with water and be unable to continue pulling water away from the food. Keeping new air moving across the food helps ensure the air in the dehydrator or oven doesn't get too humid.

As the produce dries, it becomes smaller and often takes on a tough, leathery texture as the cellulose material bunches up and undergoes physical changes. The more moisture removed from the food, the denser and harder it gets. The moisture content of dried fruit usually falls between 8 and 18 percent once drying is complete. This range of moisture being left in the fruit allows it to be eaten without it having to be rehydrated first. This is a good thing because most fruits don't rehydrate well.

Are Nutrients Lost During Drying?

There are some nutrients lost during pretreatment and drying. Any time the food is exposed to heat, light or oxygen, there will be some degradation of nutritional value. The longer the exposure, the greater the damage. Most fruits start degrading as soon as they're harvested. This degradation is sped up by cutting into them or otherwise exposing the flesh to oxygen.

Many fruits contain enzymes that react to the air and cause browning and nutrient loss to begin as soon as they're cut into. If you've ever left an apple or a banana out for a while and seen it turn brown, you've seen these enzymes in action. This reaction to the oxygen in the air can be slowed to a crawl by pretreating or blanching the fruit after it's been cut. More on that in a later chapter.

The following vitamins can be damaged by too much heat, light or air exposure:

- **Folate (heat).**
- **Riboflavin (heat).**
- **Thiamine (heat, light).**
- **Vitamin A (air, light).**
- **Vitamin B12 (heat, light).**
- **Vitamin C (air, heat).**
- **Vitamin E (air, heat, light).**
- **Vitamin K (light).**
- **Vitamin B6 (air).**

Commercial foods that undergo intense treatment lose a lot more nutrients than fruit dried at home. While commercially dried foods can lose up to 80% of certain vitamins, foods dried at home usually don't come anywhere near that magnitude.

Take the following precautions to reduce the amount of vitamins lost while treating and drying produce:

- **Work on small batches of food at a time.** When you work on large batches and try to get a lot of fruit done at once, the pieces you cut into first are left to sit out while you process the rest of the produce. This can result in the earlier pieces degrading a lot faster than those cut later on.
- **Move food into pretreatment shortly after it's been cut.** Time is of essence when treating fruit that's prone to discoloration. It's important to slow down enzymatic reactions as early as possible to avoid nutrient loss.

- **Carefully regulate heat.** High heat can accelerate nutrient loss, so it's important heat is monitored closely. Using a dehydrator allows you the most control over the amount of heat drying food is exposed to. Blanching also exposes food to heat and can damage nutrients, but may be critical to ensuring food can be properly stored. Blanching isn't as critical of a process with fruit as it is with vegetables.
- **Store dried food in an airtight container.** This will minimize the amount of air the food comes in contact with. If air is allowed into the container, the food can take up moisture from the air, drastically shortening how long the food will last.
- **Drying food in the sun exposes it to UV rays that can damage light-sensitive vitamins.** When vitamin retention is of concern, a dehydrator may be the better choice for drying.
- **Store food in small, single-serving containers.** Every time you open a container, more air is let in. Using single serving containers only exposes the food you plan on eating to new air.

No minerals are lost during the drying process, but pretreatment can cause some mineral loss. Boiling or otherwise exposing fruit to water may cause some of the minerals to leach out into the water. This can happen during blanching and again during rehydration. The drying process itself doesn't affect minerals.

Calories and sugar are largely unaffected by the drying process, but they will be concentrated into a smaller package. A raisin has the same caloric content and amount of sugar as it did when it was a grape, but it's now packed into the smaller raisin. Dried produce has more calories and more sugar than regular produce when compared by volume. For example, 100 grams of grapes have 15 grams of sugar and 70 calories. 100 grams of raisins have 60 grams of sugar and 300 calories. Raisins have 3 times the sugar and more than 4 times the calories than grapes when compared by volume.

For this reason, it's important not to overeat when it comes to dried fruit and vegetables. They can be a healthy part of most diets, but only if consumed in moderation.

Pretreating Fruit

Pretreating your produce is an important step in the drying process because it helps extend the shelf life of dried foods by slowing enzymatic action and helping ward off harmful microorganisms. It helps food retain its natural color and goes a long way toward prevent premature spoilage due to enzymes acting on the food.

There are a number of effective pretreatments used to treat fruit. The rest of this chapter discusses the most common pretreatment techniques.

Saltwater Bath

Fruits can be soaked in a saltwater solution to slow enzymatic action and to prevent discoloration. Adding salt to drying foods creates an environment in which harmful bacteria have trouble growing and good bacteria can thrive. Iodized salt doesn't work well for saltwater baths because the added chemicals can react to the acids in the produce and may have unintended results.

This is one of the least-invasive treatments because it uses only additive-free salt and water. It isn't ideal for long-term storage, but will work in the short-term if you plan on consuming dried food shortly after drying is complete.

Add ¼ cup of salt to a gallon of warm water and stir it in until the salt has dissolved into the water. Cut the produce being dried into pieces and soak them in the solution for 10 to 20 minutes. Soak the produce for too long and you'll start to damage the nutritional value, so keep the saltwater bath to less than 20 minutes.

Add vinegar to the water to up the acid content even further. A couple tablespoons of vinegar will further slow enzymatic action and prevent spoilage. Lower the soaking time to less than 10 minutes if you add vinegar to your saltwater bath.

This technique is more commonly used on vegetables than it is fruit. It can be problematic with fruit in that both the salt and the vinegar can drastically change the flavor of the fruit. It also can add sodium to the fruit as it soaks up the saltwater, making it a bad choice for people looking to lessen their sodium intake.

Honey Dip

Here's another dip that'll help prevent browning and premature spoilage for the short-term. This dip is a decent choice for sour fruit you'd like to sweeten up a bit, but isn't ideal for fruit that already has a lot of sugar. It adds sugar and ups the caloric value of your dried fruit, so it isn't a good choice for those on a diet.

Honey is naturally antibacterial, so it'll help prevent microbial growth. The effects of dipping fruit in a honey dip are relatively short-lived, so it isn't a good solution for long-term storage.

To make honey dip, mix two parts honey with three parts warm water and stir until the honey dissolves. Add cut fruit to the dip and let it soak for up to 5 minutes. Remove the fruit from the dip and move it onto the drying tray.

Fruit Juice Dip

Fruit can be soaked in fruit juice to prevent browning, at least in the short-term. It isn't a great long-term solution, but fruit juice works well as a bath for dried fruit that'll be consumed in a week or two.

Any fruit juice that's naturally high in vitamin C can be used. Orange, lemon, pineapple and grape juice are all popular choices. When trying juices for the first time, only dip a small batch and test it out. This dip will add the flavor of the juice to the finished product, which can have unpredictable results.

To make a fruit juice dip, place 4 cups of a fruit juice of your choice in a bowl. Soak the fruit in it for 5 to 10 minutes before draining it and setting it out to dry.

Ascorbic Acid

Those new to the world of drying are often hesitant to use *ascorbic acid* because it sounds like a harsh chemical. It's really just a fancy word for vitamin C and is a relatively safe way to slow enzymatic browning of fruit. It's a longer-lasting treatment than saltwater, honey or fruit juice.

Ascorbic acid comes in a number of forms. There are ascorbic acid blends sold specifically for drying that are mixtures of ascorbic acid and sugar. These mixtures tend to be on the expensive side. You can buy regular ascorbic acid from both grocery stores and drug stores and it should be a little cheaper than the mixtures. It's sold in powder or tablet form.

To make an ascorbic acid bath, mix 5 to 6 500 mg tablets or 1 teaspoon of ascorbic acid powder with 2 to 3 cups of water and stir it in. Place the fruit in the bath and let it soak for 5 to 10 minutes before placing the fruit on the drying tray. If using an ascorbic acid mixture, follow the directions on the package.

Water Blanching or Checking

Water blanching is done by placing produce in boiling water for a short while. There are a couple reasons to blanch produce. For one, it's a pretreatment technique used to get fruit ready for drying because it blocks enzymatic action and slows spoilage. It helps cut fruit keep its color and retain flavor and at least some vitamins while drying. It's one of the lesser used methods for treating fruit because the heat can damage the fruit and cause it to lose nutrients.

Boiling water is most often used to crack open fruit with thick, shiny skin like cherries and plums to give moisture an avenue through which it can easily escape. Dipping fruit in boiling water to split the skin is known as *checking*, and is done to ensure even drying when drying whole fruit. Unchecked fruit will take significantly longer to dry and won't dry as evenly as fruit that's been checked.

To blanch fruit, bring a pot of water to a boil. Place the fruit in the pot and start the timer as soon as the water starts to boil again. Different types of produce require different blanching times. This will be indicated in the chapter with instructions for drying specific types of produce.

After blanching or checking is complete, place the fruit into a bowl of ice cold water. This prevents the fruit from continuing to cook after it's been removed from the boiling water.

Steam Blanching

Steam blanching is less destructive than blanching with boiling water because the items being blanched never come in contact with the water. This helps retain vitamins and minerals that would leach out during boiling.

The most common method of steam blanching involves using a double broiler. This is a deep pot that has a metal basket that fits inside it. Water is placed in the pot and brought to a boil. The metal basket is filled with food and placed in the pot. The basket sits in the pot in a manner that ensures the contents of the basket don't come in direct contact with the water. The water level is kept below the bottom of the basket. The steam rising off the water blanches the food.

Steam blanching is primarily used to stop enzymatic action in vegetables. It can also be used on fruit, but it changes the taste and texture of the final product, so it isn't one of the more popular pretreatment techniques.

Syrup Blanching

Syrup blanching uses boiling syrup to blanch fruit. It works well to preserve fruit, but does add sugar and calories to the final product. It's a good way to sweeten fruit that's too sour to be eaten on its own.

To make simple syrup that can be used for blanching, combine 1 ½ cups of sugar, 1 cup of corn syrup and 3 cups of water and place them in a pot. Bring the syrup to a boil and add cut fruit to it. Let the fruit boil for 10 to 15 minutes before pulling it out and placing it in an ice water bath. Pat the fruit dry and place it on the drying trays.

Microwave Blanching

Microwave blanching is quick and easy, but it's the least reliable method of blanching because food blanched in the microwave tends to get heated unevenly. It isn't recommended that you blanch food using the microwave because the other options work better.

If you do decide to blanch fruit in the microwave, add a tablespoon or two of water to each cup of fruit and put them in a microwavable container. Microwave them for a few minutes, until they start to soften a bit, but aren't cooked all the way through.

Sulfite Bath

A *sulfite bath*, or *sulfite dip*, may be necessary if you're looking to preserve fruit that's prone to enzymatic browning for longer-term storage. It slows enzymatic browning to a crawl and will allow you to store fruit for longer than any of the pretreatments discussed thus far. Use food-grade sodium sulfite or sodium bisulfite to create the dip. This grade of sodium sulfite can be found in grocery stores and anywhere wine-making supplies are sold. Don't use lower grades because they can contain harmful additives.

Use 1 to 2 teaspoons of sodium sulfite or sodium bisulfite per 4 cups of water. Prep the fruit and add it to the sulfite dip. Let it soak for up to 15 minutes, depending on the size of the fruit. Rinse off the fruit and discard the sulfite solution after a single use.

Be aware that some individuals may be sensitive to sulfites and can have a negative reaction when they eat food that has had sulfites added to it. Sulfite sensitivity is common amongst asthma sufferers and it can trigger a potentially fatal asthma attack.

Sulfuring

Sulfuring food involves burning sulfur and letting the smoke infuse into the fruit being sulfured. It's an old technique used to help preserve dried fruit. The fruit is usually placed in a wooden or cardboard box with vent holes at the top and the bottom. The sulfur is lit and placed in the bottom of the box and the box is closed. The fruit gets sulfured as the smoke permeates the box.

This is the most dangerous method of pretreating fruit because sulfur smoke is toxic and can make you sick when inhaled. Proper ventilation is a must. Never attempt to sulfur fruits indoors because the smoke needs to vent into an open area where it will dissipate quickly.

Be aware that, like sulfite baths, sulfuring leaves sulfites on the fruit. These sulfites can cause serious health problems in sensitive individuals, so use them at your own risk.

Sun-Drying Fruit

Sun, or solar, drying is a popular drying technique used to dry fruit.

Fruit is better-suited to solar drying than vegetables are because of the high sugar and acid content in fruits. Vegetables are more prone to spoilage during sun-drying than fruits.

Hot, sunny days with little to no cloud cover are required to dry fruit. Temperatures over 90° F will allow you to dry fruit, with temperatures approaching 100° F being the best. Depending on the type of fruit you're drying and the moisture content of the fruit, you may need up to 5 sunny days in a row. If you live in an area where cloud cover and cool temperatures are the norm, oven-drying or using a dehydrator is probably a better choice.

Breezy days with low humidity are best. A fan can be set up to blow air across the food on those dead still days in the middle of summer. Humidity below 60 percent is preferable. Any more than that and you run the risk of condensation on the food. If humidity is high, keep air moving across the drying fruit.

Even if you plan on using your oven or a dehydrator to do most of your drying, it's good idea to learn how to dry food using the sun. In an emergency situation, electricity may not be a luxury you're lucky enough to have and solar drying could be the only drying technique you're able to use. Using the power of the sun to dry food isn't hard, but there are a few things you need to be aware of.

Solar drying can potentially expose food to a number of dangers. Here are some of the items you have to worry about when drying food outdoors:

- **Animals.** Wild animals and pets may decide to make a snack of the fruit you're drying. Cats, dogs, raccoons, deer and even bears will all make a meal of drying fruits.
- **Insects.** Flying insects will quickly find drying food and will land on it to both eat it and lay eggs in it.
- **Wind.** Powerful winds can upend your drying trays and spread your hard work all over the yard. Less-powerful winds can blow particulate contaminates like dirt and dust onto the food.
- **Rain.** Rainwater can contain contaminants that can infect your food. Heavy rains, mists and fogs can all add moisture to your food, increasing the likelihood of it spoiling before it dries.
- **Nightfall.** Drying pretty much grinds to a halt when the sun goes down. Moisture in the air can wreak havoc on your foods and animals are more likely to come out at night.

The good news is you can avoid most of these problems by taking a handful of precautions. Here are some tips to help you protect yourself and your food while

drying it outdoors:

- **Keep a close eye on drying foods.** Most wild animals are more scared of you than you are of them and won't approach if they know a human is nearby. Pets and neighborhood kids are a different story, but are also less likely to attack your food if they know you're watching.

- **Cover the trays.** A thin layer of cheesecloth or netting will protect your food from all but the smallest of animals and particulate contaminants. Make sure the holes in the netting are small enough to keep insects out and don't leave any open spaces through which critters can fly or crawl.

- **Weight the trays and the covers down.** Place a weight or two on the trays to keep them in place when the wind picks up. Be sure to figure out a way to attach the cheesecloth or netting you place over your food to the trays because otherwise it'll blow away as soon as the wind picks up.

- **Watch the weather report.** If it looks like inclement weather is on the way, bring the food inside. You can finish drying it in the oven or in a dehydrator if you have to.

- **Bring the drying trays in at night.** Nothing good comes from leaving the trays out at night. There's nothing more frustrating than waking in the morning to damaged trays and missing food. Return the trays outside after the morning dew is gone.

Now that we've discussed the hazards and how to avoid them, let's take a look at the basic steps required to dry fruit and vegetables using the power of the sun:

1. **Wash and prepare the food for drying.** We'll discuss specific preparation methods for various types of fruit later on in the book.

2. **Pretreat the fruit, if necessary.**

3. **Place the fruit on a tray.** Leave space between each piece of food to allow for air circulation. Use a plastic tray or a tray made of a non-reactive material that won't react to the acids in the fruit. I've found screened trays work the best because they allow for more circulation around the food and it doesn't have to be turned as often as solid trays. Cheesecloth stretched across a wooden frame works well. I've also heard of people stretching nylon screening across a wooden frame and using it. Avoid screens made of galvanized metal, aluminum and copper because they can react to the food.

4. **Cover the fruit with cheesecloth or some other type of screening.**

5. **Place the tray(s) in direct sunlight in a well-ventilated area.** The trays should be set up so they're at least a couple feet off the ground. Avoid placing the trays over dirt or grass because moisture

can evaporate up into the drying food. Place the trays on concrete or on top of metal sheeting that'll reflect heat back up at the food as it dries.

6. **Flip the fruit over every few hours to ensure both sides dry evenly.**

7. **Once the fruit is almost done drying, move it to a shaded area for a couple hours to finish drying.** This step is optional, but it can help make sure fruit completely dries without getting scorched by the sun.

8. **Condition and pasteurize the food, in that order.**

9. **Store the food in airtight containers, preferably in a cool, dark area.**

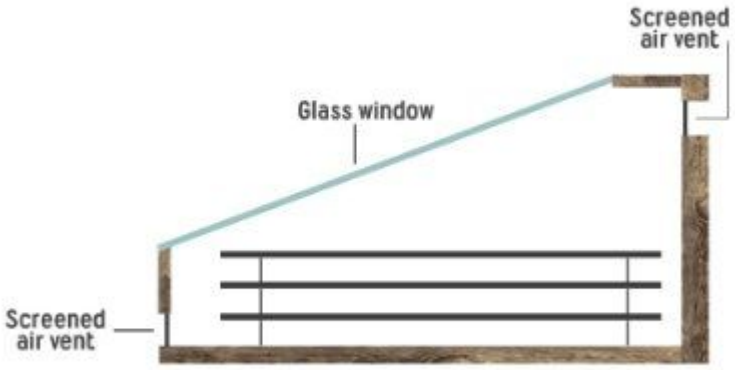
If you're new to the world of drying, conditioning and pasteurizing may be terms you aren't familiar with. We'll cover them both in-depth later on in the book. Here's a quick rundown of what each of the terms means.

Food dried in the sun should be *pasteurized* to kill off insect eggs and harmful microorganisms. To pasteurize fruit, put it in the freezer for a couple days or place it in an oven that's been preheated to 175 degrees F and let it sit for 15 to 20 minutes.

Conditioning is also a good idea, as it evens out any moisture left in the food. To condition dried fruit, place it in a glass container with a cloth lid and let it sit for 5 to 7 days. The moisture left in the food will even itself out amongst the pieces of food in the jar.

Building a Solar Dryer

NOTE: Those of you who have purchased my other book "*Food Drying: How to Safely Dry and Store Food*" may notice this section is copied from that book. This solar dryer works well to dry produce, so I didn't think there was a need to reinvent the wheel.



The image above illustrates a simple solar dryer that can be built out of plywood and glass or Plexiglass. The advantage of using a solar dryer is the temperature inside the box is consistently warm and food dried in a solar dryer will dry faster than food simply placed on racks out in the sun.

As long as the box has screens over the air vents, bugs and small animals are kept away from the food. Bigger animals may still be able to force their way in, but at least you'll have some level of protection against critters.

The cost of all the materials needed to build a small solar dryer like this one should clock in at less than $50. Your biggest expense will be the glass to cover the top. If you want real glass, I suggest finding someone selling used windows and then building the solar dryer around the glass in the window. The glass needs to be clear, flat and should not have UV coating on it. Curved glass can intensify the rays of the sun in one area and shouldn't be used.

Here's how a solar dryer works:

1. As the glass window heats up from the sun hitting it, the inside of the box will get hot.
2. Air will be pulled in through the screened vent at the bottom and will travel through the solar dryer, exiting out of the screened vent at the top.
3. This will ensure air is constantly circulating through the box. Temperatures can really start to climb inside the box when the sun is shining bright outside, so be sure to monitor the temperature closely. If temperatures get too high, move the

box to a partially shaded area or set a fan up in front of the bottom vent to cool the inside of the box down.

4. If you live in a cool climate and want the box to be warmer inside, try painting both the inside and outside of the box black. Black absorbs more heat and may help you reach the temperatures you need.

Make sure you use tight enough screening to keep flying insects and small animals like birds and rodents at bay. Flies and mice will squeeze in through tiny openings, so your solar dryer needs to be built so there aren't any holes or gaps.

When you build the box, you can either attach hinges to the glass window that allow you to swing it up and out of the way to get at the trays or you can make the back or one of the sides of the box removable. I prefer a removable panel in the back because it gives me easy access to the trays of food when I'm ready to remove them.

If you plan on doing a lot of sun drying, building a solar dryer is a good expenditure that'll allow you more control over the drying process. You'll be able to keep most animals and insects out and the food will be largely protected from the elements and from contamination.

Drying times while drying food in the sun can vary greatly from region to region. The times in this book are simply estimates of what it normally takes food to dry under optimal conditions. Heat, humidity, cloud cover and a number of other variables can come into play that may affect drying times. The drying times listed herein are only loose guidelines and not something you should strictly adhere to.

Oven-Drying Fruit

Fruits can be dried using a conventional oven. If you're only planning on occasionally drying a small batch of produce, this method is a passable way to get the job done. On the other hand, if you plan on drying large batches of food and doing it often, you'll appreciate the niceties of owning a dedicated dehydrator. Oven drying takes longer and uses more energy than the other drying methods.

To use an oven as a dehydrator, it's going to take a bit of ingenuity. Remember, the three things you need to dry produce are low heat, fresh air and air circulation. Ovens don't typically provide any of these.

Ovens aren't generally designed to be set to the low heat needed to dry food. In order to dry food instead of cooking it, you have to get into the 130° to 140° F range.

Only a select handful of ovens can be set to temperatures below 140 degrees F. Some ovens have a Warm setting that'll get you into the right range. Gas ovens that don't use electronic ignition have a pilot light that might provide the right amount of heat when left to heat the oven on its own. You may even be able to get away with swapping out the light in your oven to an incandescent bulb of a higher wattage to get the oven hot enough. As a last resort, you can play around with propping the oven open and using fans to blow enough air into the oven to bring temperatures down to the right range.

Don't count on the temperature setting on your oven to be completely accurate. I've seen ovens that were as much as 20° F off from what the oven said the temperature should be. A good oven thermometer is invaluable, as it can be placed on the rack to provide an accurate measure of the temperature in the oven.

Convection ovens work best for drying because they have a fan that circulates air through the oven. If you don't have a convection oven, fresh air can be let into the oven by propping it open from 2 to 4 inches. Be aware that this will lower the temperature inside the oven and make it even more critical that an oven thermometer is used to tell the temperature inside the oven. Hot air will rise out of the oven and cool air will enter near the bottom. If you have small children or pets, propping the oven open is dangerous and can result in severe burns, even at the low temperatures used for drying.

To improve air circulation, place a small fan in front of the opening and set it to low. This will further circulate fresh air into the oven. It'll also lower the temperature inside the oven, so monitor the temperature closely. The wider open you have the oven and the more air you're blowing into it, the more variance you'll have in temperature. You may find you have to turn the oven up after turning on a fan.

Drying trays should fit in the oven with a few inches to spare all the way around the tray. To fit more trays in the oven, remove the top rack. Place a tray full of food on the bottom rack. Place a couple wooden or metal blocks on the tray and place another

tray on top of the blocks. Continue stacking trays in this manner until you get close to the top of the oven. There should be at least 3" space between each rack to allow for proper circulation.

The heat distribution inside a propped-open oven can be wildly different from top to bottom and from front to back. Food trays must be rotated and moved from top to bottom every couple hours to ensure even drying.

Because of the uneven distribution of heat, it typically takes much longer to dry food in an oven than it does in a dehydrator. It can take up to twice as long to dry food in an oven, which is a long time to have your oven tied up so it can't be used. Some fruit types can take as long as 36 hours in the oven.

Here are the basic steps required for drying fruit using a conventional oven:

1. **Wash and prepare the food for drying.**
2. **Pretreat the food, if necessary.**
3. **Place the food on a tray.** Leave space between each piece of food to allow for air circulation.
4. **Preheat the oven to the proper drying temperature.**
5. **Place the tray(s) in the oven.** The temperature will drop when the trays are placed in the oven, but should stabilize after a short while.
6. **Rotate the trays from top to bottom and turn them around once every couple hours.** Check the oven temperature to make sure it's in the right range when you rotate the trays.
7. **Check the fruit regularly to see if it's done drying.** Once it looks done, condition the food and pasteurize it, if you want to.
8. **Store the food in airtight containers, preferably in a cool, dark area.**

Pasteurization and conditioning are done in the same manner as when foods are sun-dried. Conditioning of foods dried using the oven is especially important because oven-dried produce will not evenly dry, even when rotated regularly. Conditioning helps even the moisture out and makes it less likely spoilage will occur.

Using a Food Dehydrator

Food dehydrators are dedicated food dryers designed specifically to dry food. They're efficient machines that heat food evenly and circulate air into and out of the machine through use of fans. While they aren't perfect, a good dehydrator will do a much better job of drying food than a conventional oven and will get the job done in roughly half the time. Food dehydrators work faster than oven-drying and solar drying and can dry most fruit types in a matter of hours instead of days.

All food dehydrators aren't built the same and, generally speaking, you get what you pay for. At a bare minimum, you're going to want the following features for drying fruit:

- **A built-in thermostat and heat controls.** Make sure the thermostat is adjustable and can reach heats of at least 160 degrees F.
- **A large heating element capable of heating the entire machine and keeping it warm.** Generally speaking, the higher the wattage, the more powerful the heating element.
- **A fan that circulates air through the machine.** There are dryers sold that don't have fans. These dryers usually have the heater on the bottom and rely on the heat rising to the top of the dehydrator. Drying will be uneven in these dryers and the food at the top can spoil before it dries.
- **At least 4 racks for drying.** Buy the biggest machine you can afford to buy and have space for. The smaller 4 to 5 rack machines are nice, but it's nicer to have an 8 to 10 rack machine when you're working on large loads of produce.

The following items are nice to have, but aren't necessary:

- **A high-limit switch that will shut the dehydrator off if it malfunctions.**
- **Dishwasher-safe trays.** These trays are easy to clean and make clean-up a breeze.
- **Solid trays designed for making fruit leathers.**
- **A timer that automatically shuts down the dehydrator when drying is complete.**
- **An extended warranty in case you have problems with the dehydrator.**

Expect to spend $150 to $200 minimum to get one with all these features. Top of the line dehydrators will run well into the thousands, with commercial machines

capable of processing huge loads running into the tens or even hundreds of thousands of dollars.

Using a dedicated dehydrator is as simple as preparing the food, placing it on trays and then placing the trays in a preheated dehydrator. Most dehydrators come with multiple heat settings and will have instructions as to which heat ranges are best-suited for certain food types.

Try to find a dehydrator with fans in the side that circulate air from side-to-side instead one with fans in the bottom used to circulate air from top to bottom. This is especially important if you plan on drying multiple types of fruit and vegetables at the same time, because fans that circulate air from top-to-bottom can cause flavors and scents to mingle. The smaller round dehydrators usually have the fan and heat controls in the top or the bottom of the machine. Keep in mind when choosing a dehydrator that anything in the bottom of the dehydrator will end up covered in drippings. Rectangular dryers often have the heating element and fans in a separate box on the side, which goes a long way toward protecting them from damage.

Here are the basic steps required to use a food dehydrator to dry fruit:

1. **Wash and prepare the fruit for drying.**
2. **Pretreat the fruit, if necessary.**
3. **Place the fruit on the trays that came with the dehydrator.** Leave space between each piece of fruit to allow for air circulation.
4. **Preheat the dehydrator to the proper drying temperature.**
5. **Place the tray(s) in the dehydrator.**
6. **Turn on the fan if it didn't come on automatically when you preheated the dehydrator.**
7. **Rotate the trays and flip the fruit halfway through the drying process.**
8. **Once the fruit is done drying, condition and pasteurize it, as you see fit.**
9. **Store the dried fruit in airtight containers, preferably in a cool, dark area.**

Pasteurization and conditioning aren't as critical when produce is dried in a dehydrator because they tend to dry food quickly and evenly. You can still do it if you want to, just to be on the safe side.

Building Your Own Dehydrator

You may have come across a tutorial online that shows you how to make a dehydrator. These tutorials typically involve building a wooden box to use as a dehydrator and using anything from a hair dryer to a light bulb to heat it.

I've never built one of these homemade dehydrators, so I can't attest to how well they work, but I will say this. Wood isn't the best material to use to make a dehydrator because it's difficult to clean and to keep free of harmful pathogens. There are a lot of nooks and crannies in wood into which bacteria can creep, creating an environment much more likely to contaminate your food.

You'll also end up spending more money on energy in the long run. After energy costs, supplies and labor are factored in, you're better off spending a few bucks on a good dehydrator that's already been built.

The last concern is potentially the most dangerous. Fire. Wood burns readily and you're using heat to dry the food. If something goes wrong with your heating element, there could be a fire. Those who decide to use a homemade dehydrator would be wise to use it outside their homes, somewhere a fire isn't of much concern.

Freeze-Drying

If, and this is a big if, you can afford a freeze-dryer—or you know someone who has one and is kind enough to let you use it—this is by far the best method of drying produce.

Here's what happens during the freeze-drying process. Food is placed in a freeze dryer and is quickly frozen. Ice crystals form on the outside of the food. A vacuum is created that causes the ice to evaporate into thin air without first turning into water and the air is pulled away from the food, leaving food that has up to 99% of the moisture removed from it. This process takes place quickly and with little damage done to the food. Freeze-dried food doesn't sustain the same level of damage as foods dried using other techniques and doesn't lose many nutrients. The quality after rehydration is usually pretty close to what the food was before it was freeze-dried.

The problem with freeze-drying lies in the cost of the machines. You can expect to spend thousands of dollars on a cheap freeze-dryer and even more on a good one. They tend to be big and bulky and require a lot of space for storage. Most home food dryers either can't afford or don't have space for a freeze-drying machine.

For a passable machine, expect to pay more than $4,000. The cost can be offset by charging others to use it, by selling freeze-dried foods or you can find a group of family members or like-minded friends who are willing to pitch in to make a group purchase. If you decide to sell freeze-dried food, preppers and backpackers love it because it's light-weight, easy to store and lasts forever and a day.

Don’t be fooled by the many tutorials online claiming to allow you to freeze-dry food at home with a vacuum cleaner, dry ice or your freezer. While these methods may allow you to preserve food short-term, they fall well short of food freeze-dried using a dedicated machine and are not good choices for drying food.

Microwave Drying

There are a select few microwaves on the market that are capable of drying food. These microwaves come equipped with fans that move air across the food and vent it out of the microwave.

Check the documentation that came with your microwave to see if it's suitable for drying fruit and vegetables. If it is, it should have instructions on how to do it. If your microwave doesn't have food drying instructions, it shouldn't be used to dry anything other than herbs and spices.

Conditioning

When you dry fruit, there is bound to be hot and cool spots in the dehydrator. Even if you rotate the trays and flip the pieces of fruit being dried regularly, there will be pockets of moisture left in some of the pieces. These pockets of moisture can harbor bacteria and may be the pathway harmful pathogens need to get into your food.

Conditioning is a process that takes the moisture left in dried fruit and vegetables and spreads it evenly across all the pieces. To condition your dried produce, place it in a jar or a container with an open top. Cover the container with a cloth lid or some other sort of breathable material. Let the food sit in the container for up to 5 days. The moisture in the food will evenly distribute amongst the pieces in the container.

To ensure conditioning and drying are complete, place a tight lid on the container. Let the container sit for a couple more days and check on it regularly. If moisture condenses on the inside of the container, the food needs more drying time.

Pasteurizing

Pasteurization is a treatment that kills off any insect eggs and harmful microorganisms that may be left in the produce after drying. It won't make dried fruit and vegetables 100% safe, but it will make them safer than if pasteurization is ignored. A lot of home food driers skip this step, but it's an important step that should be done for foods that are dried outside and those you're looking to store long-term. The pasteurization process is especially important for sun-dried foods because there's more of a chance of insect egg contamination in produce dried outdoors. Food dried indoors can be pasteurized as well, just to be on the safe side.

To pasteurize dried fruit and vegetables, use one of the following techniques:

- **Freeze the dried food for a couple days.**
- **Heat the dried food to 175 degrees F and keep it there for at least 20 minutes.**

To be clear, there's no guarantee pasteurization will rid dried produce of harmful pathogens, but dried fruit and vegetables are more likely to be safe after the pasteurization process than before.

Specific Fruits

This chapter gives you instructions for dehydrating specific types of fruit. It includes handy recipes you can use, dehydration times for solar, oven and electric dehydration and handy hints and tips designed to help you get the most from your dried foods.

Keep in mind when using the information in this section that the drying times are estimates and may vary outside the recorded range due to a number of factors. It's up to you to determine when your food is dry. Don't assume it's going to be done just because you're approaching the top end of the times listed in this book.

Acai Berries

Acai berries come from the acai palm tree and are widely considered to be one of the most powerful superfoods in existence today. They resemble blueberries or small grapes, but don't let the looks fool you. Acai berries are packed with antioxidants known as *anthocyanins* that prevent oxidative damage in the body and are thought to help the body ward off everything from heart disease to the effects of aging.

The berries need to be processed within 24 hours of being harvested from the trees to ensure their nutritional value remains intact. Freeze-drying is the most popular drying method used to preserve acai berries commercially, but they can be dried using conventional drying methods at home for those lucky enough to live in a locale where fresh acai berries are available. Acai palms are primarily grown in tropic regions in the Central and Southern Americas.

Selection:

Ripe acai berries will be a dark purple color and are approximately the size of a blueberry.

Acai berries can rarely be purchased fresh in the United States. The next best thing for drying is freshly frozen berries. When you buy frozen berries, no pretreatment is required.

Preparation & Pretreatment:

Follow these steps to prepare fresh acai berries for drying:

1. Wash the berries and remove them from their stems.
2. You can cut the berries in half and remove the large seed inside or they can be dried whole with the seed intact.
3. Check the berries by blanching them in boiling water for 5 to 7 minutes. This is especially important when drying whole berries.
4. Place the berries on the drying tray. Trying to leave space between each berry is an exercise in frustration and the berries will shift every time you move the tray. Place the berries in a single layer on the tray and space will be created between the berries as they dry and shrink.

Drying Temperature:

115° to 125° F.

Electric Drying Time:

12 to 24 hours in a dehydrator or 24 to 48 hours in the oven.

Solar Drying Time:

24 to 48 hours.

How to Tell When Dry:

Dried acai berries will be leathery to the touch.

Storage:

Condition and pasteurize before storing. Store in an airtight container in a cool, dark place. Properly stored dried acai berries can be stored for 6 to 8 months.

How to Rehydrate:

Soak in warm water. Acai berries don't rehydrate well enough to eat on their own, but can be used in a number of recipes. They can also be consumed in their dehydrated state like raisins.

Apples

Apples are one of the most widely cultivated fruits in the world. They grow on small- to medium-sized trees that blossom in the spring and are harvested in the fall. There are more than 7,000 types of apple trees known to exist at this time. Red and green apples are the most common, but yellow, pink, brown and mottled apples are also cultivated.

We've all heard the saying, "An apple a day keeps the doctor away." There's a lot of truth to that statement because there are a number of health benefits associated with eating apples. The polyphenols in apples help regulate blood sugar and stimulate insulin production. They also have antioxidant capabilities and apples are thought to have anti-cancer p. Apples have a decent amount of fiber and are high in vitamin C. Some experts recommend consuming at least one apple a day.

Selection:

The best apples for drying are ripe, but not overly ripe. Look for firm fruit with vibrant colors. There are a number of apple types to choose from, ranging from sweet to sour and everything in-between. It's your call as to what type of apples you want to dry.

Get rid of bruised or damaged apples immediately because they release ethylene gas that can accelerate ripening and damage other apples in the bunch.

Preparation & Pretreatment:

Follow these directions to prepare apples for drying:

1. Wash the apples in cold water.
2. Peeling the apples is optional. You can peel them if you'd like or you can leave the skins on. The skin will be chewy once dried.
3. Core the apples. Make sure all of the seeds have been removed.
4. Cut away any bruises and soft spots.
5. Slice the apples into rings or slices.
6. Pretreat the apples to slow enzymatic browning.
7. Place the apples on the drying tray(s). Leave space for circulation between each slice.

The following pretreatment options can be used to slow enzymatic browning in apples:

- **Ascorbic acid bath.**
- **Fruit juice dip.**
- **Steam the apples for 5 minutes.**
- **Blanch the apples in syrup for 10 minutes.**

- **Sulfite dip.**
- **Sulfuring.**

The last two will leave sulfites on the apples that may cause problems in sensitive individuals.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

12 to 24 hours in a dehydrator or 18 to 36 hours in the oven.

Solar Drying Time:

1 to 2 days.

How to Tell When Dry:

Dried apples will take on a leathery texture when drying is complete. Thin slices can be dried into crunchy apple chips.

Storage:

Condition apples for a couple days prior to storage. Pasteurize them with heat or cold, if you'd like. Store apples in an airtight container in a cool, dark place for best results. Dried apples can last up to a year, if stored properly.

How to Rehydrate:

Dried apples do not need to be rehydrated. Eat them in their dried form.

Apple Fruit Leathers

Gather these ingredients:

8 cups apple slices

4 cups of water

2 tablespoons lemon juice

Sweetener, to taste (optional)

Cinnamon, to taste (optional)

Here are the instructions for making apple fruit leathers:

1. Wash the apples and core them. Make sure you get rid of all the seeds.
2. Slice the apples.
3. Place the 4 cups of water in a pot and bring them to a boil.
4. Add the apples to the pot and cook them for 15 to 20 minutes.
5. Drain off the water.
6. Place the softened apples in a blender or food processor and blend them until they're a smooth consistency.
7. Add the lemon juice and blend it in.
8. Add sweetener, if necessary, and blend it in.
9. Line a baking tray or drying tray with plastic wrap.
10. Spread the puree evenly across the sheet. You want the leather to be approximately 1/8" thick.
11. Sprinkle cinnamon on top of the fruit leather. This step is optional and can be omitted.
12. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
13. Wrap the leather in plastic for storage.

An easier way to make apple fruit leathers is to use applesauce. All you have to do is spread the applesauce on the drying tray and set it out to dry.

Apricots

Apricots grow on small- to medium-sized trees that sport bright white or pink flowers in the spring. They're grown all over the world in places with a cool enough winter climate to allow the trees to go dormant and an early enough spring to keep the flowers from being killed by frost.

Dried apricots are nutritional powerhouses. A single 100 gram serving of dried apricots contains more than 3 grams of protein, 23% of the daily recommended dosage of vitamin A, 17% of niacin, nearly 30% of vitamin E and 20% of iron. They contain a good balance of other nutrients as well. Mothers tell their children to eat carrots because they're good for their eyes, but there's evidence that seems to indicate apricots are even better. The vitamin A and carotenoids found in apricots combine to protect eyesight and healthy vision.

Selection:

Select ripe apricots that are a deep orange color, but haven't yet started to go soft. They should slightly yield to pressure, but shouldn't feel overly soft when squeezed.

Preparation & Pretreatment:

Follow these steps to prepare apricots for drying:

1. Wash the apricots.
2. Cut them in half and remove the pits.
3. Pretreat the apricots, if desired.
4. Pop the backs of the apricots by pushing the skin from the back and turning the apricots inside-out. This step is optional, but will help ensure even drying.
5. Place the apricots on drying trays, leaving space between each apricot half.

The following pretreatments can be used to prevent enzymatic browning:

- **Ascorbic acid bath.**
- **Fruit juice bath.**
- **Syrup blanching.**
- **Sulfite bath.**
- **Sulfuring.**

Be aware the last two options leave sulfites on the fruit and can cause problems in sensitive individuals.

Drying Temperature:

125° to 135° F.

Electric Drying Time:

12 to 24 hours in a dehydrator or 18 to 36 hours in the oven.

Solar Drying Time:

2 to 4 days.

How to Tell When Dry:

Dried apricots will be leathery to the touch, but still pliable. Let a couple apricots cool and cut them open. Check to see if any visible moisture remains. Visible moisture indicates the apricots need to be dried for a longer period of time.

Storage:

Condition for a couple days in a cloth-covered glass jar. Pasteurize the apricots, if desired using heat or cold treatment. Store in an airtight container in a cool, dark place. Dried apricots will last 1 to 2 years when stored in the fridge.

How to Rehydrate:

Eat dried apricots in their dehydrated state. There's no need to rehydrate them.

Apricot Fruit Leather

Gather these ingredients:

3 cups apricots

2 teaspoons lemon juice

Sweetener, to taste (optional)

Here are the directions for making apricot fruit leather:

1. Wash the apricots.
2. Cut them in half and remove the seeds.
3. Place the apricot halves in a blender with the lemon juice and blend into a puree.
4. Add sweetener, to taste.
5. Line a baking tray or drying tray with plastic wrap.
6. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
7. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
8. Wrap the leather in plastic for storage.

Bananas

When you picture a banana, you probably picture the yellow variety that has a slight curve and is the shape of a crescent moon. You might be surprised to find out there are more than 400 known varieties of banana in existence today, some of which look very different from the bananas you're accustomed to. There are red bananas, green bananas and even bananas that have flesh that's a bright orange color, all of which are consumed somewhere in the world.

Many varieties of bananas lend themselves well to the drying process. Most bananas can be dried, but there are some wild banana varieties that would be rather difficult to prepare and dry due to the hundreds of seeds found in each banana.

Bananas don't grow on trees, contrary to what you might think. Banana "trees" are actually giant perennial herbs. They're a tropical plant that prefers average temperatures around 80 degrees F and high levels of moisture in the air and the soil. Most bananas are grown near the equator and are then exported across the globe. They're picked green and are placed in ripening rooms where they're treated with ethylene gas to artificially ripen them. Ethylene is thought to be safe when applied to bananas to induce ripening. It's a natural gas that's emitted during the ripening process.

Homemade dried bananas taste much better than the banana chips you buy from the store. They have a stronger flavor and can be dried until they're chewy and leathery or until they're crunchy like the chips you're used to. Once you've tried homemade banana chips, you probably won't want to eat the commercial ones again.

Selection:

Choose ripe, yellow bananas. Avoid bananas with brown spots on the skin because this indicates damaged bananas or bananas that have been left to ripen for too long. The best bananas for drying will be ripe, but not overripe.

Preparation & Pretreatment:

Follow these instructions to prepare bananas for drying:

1. Remove the peel.
2. Cut the banana into coins or strips. The thicker the coins or strips, the chewier the final product will be. Thin pieces can be dried hard and crunchy like the banana chips sold commercially.
3. Pretreat the bananas, if desired.

Pretreatment of bananas before drying is done to keep the bananas from turning brown due to enzymatic activity that starts to take place as soon as the banana is exposed to oxygen. It isn't a necessary step if the dried bananas will be eaten quickly, but is a good idea for bananas that are going to be stored for more than a few days.

Here are your pretreatment choices for dried bananas:

- **Ascorbic acid dip.**

- **Lemon juice dip.**
- **Honey dip (doesn't store well).**
- **Sulfite bath.**

After pretreatment, arrange the coins or strips on drying trays, leaving space between each piece.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

8 to 24 hours in a dehydrator or 12 to 36 hours in the oven. Longer drying times will result in crunchy banana chips.

Solar Drying Time:

2 to 4 days.

How to Tell When Dry:

Depending on how thickly they've been cut, banana chips will either be leathery and somewhat pliable or hard and crunchy when they're done drying.

Storage:

Condition the dried banana pieces and store them in an airtight container in a cool, dark place. Thicker pieces will need longer conditioning times than banana chips. Pasteurize by preheating an oven to 175 degrees F and placing the dried banana in the oven for 15 to 20 minutes. Bananas stored in an airtight container in a cool, dark place can last up to 6 months. They'll last longer if stored in the fridge or the freezer.

How to Rehydrate:

Do not rehydrate dried banana. Eat it as-is.

Bilberries

No, I didn't misspell blueberries. Bilberries are close relatives to the blueberry, but they aren't the same. They grow on bushes in subarctic and temperate areas of the world and don't grow in the same clusters as blueberries. Bilberries are a purple color that's so dark people often think they're black. Bilberries commonly found growing wild in a number of European countries. In some countries, it's a right of the people to collect bilberries, even when they're growing on private property.

The consumption of bilberries is thought by many to improve night vision. Studies have debunked this theory, but there are those who swear by it. It is believed bilberries can help with some eye disorders.

Selection:

Ripe berries will be dark purple and firm to the touch.

Preparation & Pretreatment:

Follow these preparation and pretreatment steps to get bilberries ready for drying:

1. Remove the bilberries from their stems.
2. Wash the bilberries.
3. Puncture each bilberry or check the bilberries in boiling water for 3 to 5 minutes until they crack open.
4. If you checked the bilberries in boiling water, place them in an ice water bath to cool them down.
5. Move the bilberries to a drying tray. Keep them in a single layer, but don't worry about trying to keep them separate. Space will be created between the berries as they shrink during the drying process.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

12 to 24 hours in the dehydrator or 18 to 36 hours in the oven.

Solar Drying Time:

48 to 72 hours in the sun.

How to Tell When Dry:

Dried bilberries will look and feel like raisins when they're done drying.

Storage:

Pasteurize and condition bilberries prior to storage. Place them in an airtight container and keep them in a cool, dark place. Dried bilberries can last up to a year when properly stored.

How to Rehydrate:

No need to rehydrate. Use them like raisins.

Bitter Melon

Bitter melon, also known as bitter gourd, is a strange-looking gourd that's rarely seen in the United States. It's grown and consumed in large amounts in Asian and African countries and is popular in the Caribbean. Bitter gourd lives up to its name and is extremely bitter in flavor.

The fruit of the bitter melon plant looks like a cucumber with deep ridges in it. The unripe fruit is green in color and has white pith. Both the skin and the flesh are edible in unripe fruit, which is how the fruit is usually consumed. The flesh of the fruit gets too tough to eat as the fruit ripens. When the fruit reaches maturity it turns a vibrant yellow color and splits open, revealing bright red pulp and seeds.

Consuming large amounts of the seeds could be toxic. I wasn't able to find any information that indicated smaller culinary doses were harmful, but some literature does indicate the seeds are toxic to children.

Dried bitter melon is commonly used to make bitter melon tea, which is believed to boost metabolism, give the immune system a helping hand and detoxify the body. It is also thought to be effective for diabetics. To make bitter melon tea, place 3 to 4 slices of dried bitter melon in with your favorite tea blend and steep in boiling water for 5 minutes.

Selection:

Unripe bitter melons are best for drying. Use bitter melons that are green or just starting to yellow and are firm to the touch.

Preparation & Pretreatment:

Prepare bitter melons in the following manner:

1. Wash the melon.
2. Cut it in half lengthwise.
3. Remove the seeds.
4. Cut the melon into thin slices.
5. Place the slices on the drying tray, keeping a bit of space between each piece.

There is no pretreatment required because of the high heat and quick drying time.

Drying Temperature:

Bitter melons are dried at higher heat than most fruits. This drastically reduces the amount of time it takes to dry them. Dry bitter melons in an oven preheated to 400 degrees F.

Electric Drying Time:

Use an electric oven for drying. Dry at 400° F for 25 to 35 minutes.

Solar Drying Time:

None. Do not dry in the sun.

How to Tell When Dry:

The slices of bitter melon will be hard and crunchy.

Storage:

Because of the heat used while drying, there is no need to pasteurize the bitter melon. Condition the dried bitter melon pieces for a couple days. Store the bitter melon in an airtight container in a cool, dark place. Dried bitter melon will last 6 to 12 months when properly stored.

How to Rehydrate:

Bitter melon can be rehydrated by soaking it in boiling water for 20 to 30 minutes.

Blackberries

Blackberries are perennial plants, often found growing alongside country and mountain roads in the United States, Europe and a number of temperate countries the world over. While similar to the raspberry in shape and size, the blackberry is differentiated in that the stem usually stays with the blackberry when it's picked. Raspberries shed the stem and have a hollow hole in the middle once they've been pulled off the plant.

Be careful when harvesting blackberries because young stems have prickles that can tear clothing and scratch the skin. Blackberry brambles are usually impenetrable webs of branches, stems and leaves. They grow prolifically and can seemingly handle most any soil type.

Drying blackberries isn't the best method for preserving whole blackberries because they tend to have a lot of seeds. Once the moisture dries out of them, you're left with what amounts to seeds that taste like blackberries. Freeze-drying works better to preserve blackberries. They can also be preserved as fruit leathers to good effect.

Selection:

Choose ripe blackberries that are dark in color and are relatively firm to the touch. Discard any berries with visible damage. Berries that have started to go soft can be used to make fruit leather.

Preparation & Pretreatment:

Follow these instructions to prepare blackberries for drying:

1. Remove the stems from the blackberries.
2. Wash the berries.
3. Pretreat the berries by dipping them in an ascorbic acid bath for up to 5 minutes.
4. Place the berries on the drying tray(s). Leave space between each berry.

Blackberries have a lot of moisture and can take a long time to dry. To speed up the drying process, either freeze the blackberries for a couple days or steam blanch them for 5 minutes. Alternatively, frozen blackberries can be used. They require no pretreatment. Simply open the bag and dump them on the drying trays.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

18 to 24 hours in a dehydrator or 24 to 36 hours in the stove.

Solar Drying Time:

2 to 3 days.

How to Tell When Dry:

Dried blackberries will be completely dry to the touch when drying is complete. Try crushing a berry between your fingers to see if there's any moisture left. If there is, continue drying the rest of the berries until the moisture is gone.

Storage:

Pasteurize by heating the berries to 175 degrees F and holding them there for 15 minutes. Condition the berries for 3 to 5 days in a shaded area. Shake the container regularly to keep the berries from sticking to one another. Store dried blackberries in an airtight container in a cool, dark location. They'll last up to a year when properly stored.

How to Rehydrate:

Unlike most dried fruit, dehydrated blackberries are usually rehydrated before consumption. This can be done by soaking them in hot water for 15 to 20 minutes prior to use. Rehydrated blackberries aren't great for eating on their own, but they can be added to dishes that call for blackberries.

Blackberry Fruit Leathers

Gather these ingredients:

4 cups of blackberries

Sweetener, to taste (optional)

Here are the directions for making blackberry fruit leathers:

1. Select ripe fruit that's started to darken to a deep purple color.
2. Wash the blackberries and remove the stems.
3. Place the berries in a blender or food processor and blend them until they're a smooth consistency.
4. The seeds can be strained out, if you'd like, or you can leave them in.
5. Add sweetener, if necessary, and blend it in. Honey or agave nectar works well.
6. Line a baking tray or drying tray with plastic wrap.
7. Spread the puree evenly across the sheet. You want the leather to be approximately 1/8" thick.
8. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
9. Wrap the leather in plastic for storage.

Try adding other fruits for interesting flavor blends. Applesauce and peaches work well as additions to blackberry fruit leathers.

Blood Orange

A blood orange looks like a regular orange, but has flesh that's a crimson red color, almost as if the orange is filled with human blood. The flesh gets its dark color from *anthocyanins*, which are pigments that have antioxidant qualities. Blood oranges taste similar to regular oranges, but have a hint of raspberry flavor when you bite into them.

Like regular oranges, blood oranges are a great source of vitamin C. A single medium-sized blood orange contains nearly 30% of the fiber the average person should be consuming daily.

Dried blood orange slices are sour enough you probably won't want to eat them on their own. They can be added to culinary dishes that call for citrus fruit. You can also drizzle melted chocolate over them to make a delicious sweet and sour snack. They can also be added to a cup of water to add the flavor of the blood orange to the water. Try adding a slice or two to your favorite tea.

Selection:

Choose heavy oranges with a little give when you press on them. Avoid oranges that feel soft to the touch.

Preparation & Pretreatment:

To prepare blood oranges for drying, follow these directions:

1. Blood oranges can be dried either with the peel on or the peel off. They'll dry faster with no peel and will taste sweeter. If you dry them with the peel, the peel can be removed and used as zest to add flavor to culinary dishes.
2. Slice the oranges into thin slices.
3. Place the orange pieces on the drying tray(s). Blood orange slices will drip a lot of juice, so it's a good idea to line your drying trays with parchment paper.

Blood oranges do not require pretreatment.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

6 to 12 hours in the dehydrator or 12 to 24 hours in the oven.

Solar Drying Time:

1 to 2 days.

How to Tell When Dry:

Dried blood oranges will feel crisp to the touch.

Storage:

Condition the blood oranges and place them in the freezer for a couple days to pasteurize them. Store in an airtight container in the fridge. Dried blood oranges can

be ground to a powder before storage. This powder can be used to flavor anything you want to add a hint of citrus to. Properly stored blood oranges will last up to a year in storage.

How to Rehydrate:

No need to rehydrate these dried oranges unless you're adding them to water or a smoothie for added flavor. Then they rehydrate themselves.

Strawberry Blood Orange Fruit Leather

Blood orange on its own doesn't work well to make fruit leather. Combine it with strawberry or another fruit that makes a good fruit leather for best results.

Gather these ingredients:

3 cups ripe strawberries

1 cup blood orange pulp

1 teaspoon vanilla

Sweetener, to taste (optional)

Follow these directions to make a blood orange and strawberry fruit leather:

1. Wash the fruit.
2. Peel the blood orange and hull the strawberries.
3. Place the strawberries and blood orange in a blender or food processor and blend until smooth.
4. Add 1 teaspoon of vanilla extract and blend it in.
5. Add sweetener, if desired, and blend it in.
6. Line a baking tray or drying tray with plastic wrap.
7. Spread the strawberry blood orange puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
8. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
9. Wrap the leather in plastic for storage.

Blueberries

Blueberries grow on perennial flowering plants and are from the same genus that includes cranberries. They are small fruits that start off green and mature to a deep blue color when ripe. Blueberries are cultivated and sold commercially in countries spanning the globe and can often be found growing wild in temperate areas across the United States.

Blueberries are said to be a superfood. The antioxidants in blueberries help boost the immune system and fight off free radicals. They've also been shown to improve cognitive function. A single cup of blueberries gives you 35% of your daily recommended intake of vitamin K, 25% of manganese and 24% of vitamin C. They're low in calories and high in fiber.

Perhaps because of their designation as a superfood, blueberries have seen an explosion in popularity in recent years. In 1995, North Americans consumed just over 280 million pounds of blueberries. Consumption more than tripled by 2011, when blueberry consumption swelled to more than 850 million pounds.

Selection:

Choose firm blueberries that are a deep blue color. Ripe blueberries will usually have a chalky, wax-like substance covering them. Blueberries can vary widely in how sour they are. Whenever possible, try to find berries that are sweet.

Preparation & Pretreatment:

Follow these steps to prepare and pretreat blueberries:

1. Wash the berries.
2. Sort out any damaged or rotting berries and get rid of them.
3. Remove any remaining stems from the berries.
4. Check the berries in boiling water to crack the skins. Alternatively, poke a hole in each of the berries. If you don't blanch or poke a hole in the berries they will dry unevenly and take a lot longer to dry.
5. If the blueberries are too sour, they can be blanched for a couple minutes in syrup to sweeten them.
6. Transfer the berries to an ice water bath to stop cooking.
7. Place the berries on a drying tray. Don't worry about trying to leave space between each berry. They'll shrink as they dry, creating space.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

18 to 24 hours in the dehydrator or 24 to 36 hours in the oven.

Solar Drying Time:

2 to 4 days.

How to Tell When Dry:

Blueberries will shrivel up and feel leathery to the touch when they're done drying. They'll be similar to raisins in shape and texture.

Storage:

Condition blueberries for 3 to 5 days once drying is complete. Pasteurize the berries and store them in an airtight container in a cool, dark place. They'll last 6 to 12 months when properly stored.

How to Rehydrate:

Dried blueberries aren't usually rehydrated before consumption.

Blueberry Fruit Leather

Gather these ingredients:

4 to 6 cups blueberries

Sweetener, to taste (optional)

Follow these directions to make blueberry fruit leather:

1. Select ripe blueberries.
2. Wash them.
3. Place the berries in a blender or food processor and blend until smooth.
4. Add sweetener, if necessary, and blend it in.
5. Line a baking tray or drying tray with plastic wrap.
6. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
7. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
8. Wrap the leather in plastic for storage.

Cantaloupe

Cantaloupe is the number one most popular melon in the United States, surpassing even watermelon. It has a dull exterior and pale orange flesh that can be sickeningly sweet if allowed to sit for too long.

There are large amounts of vitamin A (in the form of carotenoids) and C in cantaloupes. Cantaloupes also contain antioxidants, namely polyphenols that scavenge free radicals.

Because of its high water content, cantaloupe isn't the first fruit most people think of when they think of drying foods. Drying isn't the most popular method of preserving cantaloupe, but it can be done. Dried cantaloupe is a tasty all-natural snack loved by grown-ups and children alike.

Selection:

Smell the cantaloupe first. Ripe cantaloupe has a strong cantaloupe scent. Check the bottom of the cantaloupe to see what color it is. If it's green, it isn't ripe. A golden yellow bottom indicates a ripe cantaloupe. Cantaloupe should have a little give when squeezed, but shouldn't be soft to the touch.

Preparation & Pretreatment:

Follow these steps to get cantaloupe ready for drying:

1. Wash the cantaloupe.
2. Cut off the top and the bottom.
3. Cut the rind off the cantaloupe and throw it away.
4. Cut away and green flesh left on the cantaloupe.
5. Slice the cantaloupe in half.
6. Scoop out the seeds.
7. Slice the cantaloupe into ½" slices. Alternatively, cut the cantaloupe into chips.
8. Place the slices on the drying tray(s).

Try sprinkling sea salt or cinnamon on the cantaloupe pieces before drying to add interesting flavors to the mix.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

8 to 12 hours in the dehydrator or 10 to 24 hours in the oven.

Solar Drying Time:

1 to 2 days.

How to Tell When Dry:

Dried cantaloupe will be leathery to the touch.

Storage:

Condition the cantaloupe for 2 to 3 days. Pasteurize the cantaloupe using heat or cold, if desired. Store in an airtight container in a cool, dark place. Dried cantaloupe will last 6 to 8 months when properly stored.

How to Rehydrate:

Dried cantaloupe isn't usually rehydrated. It's eaten as a healthy snack.

Cherries

There are two common types of dried cherries: sweet and sour. Sweet cherries that are good for drying include Lambert, Royal Ann and Bing. Sour cherries that can be dried include Montmorency and Early Richmond varieties.

Dried cherries are expensive to buy from the store. They can run as much as $10 to $15 a pound when purchased already dried. It'll cost you a lot less to purchase regular cherries when they're in-season and dry them yourself. If you're lucky, you know someone with a cherry tree or two who's willing to let you pick as many cherries as you want in exchange for a bag or two of dried cherries.

Cherries have a number of health benefits associated with them. The antioxidants in cherries fight off free radical damage and, in doing so, help the body battle inflammation. Cherries contain a number of nutrients thought to help the body ward off cancer, including carotenoids, vitamin C and anthocyanins. Cherries are also a good source of potassium.

Selection:

Ripe cherries will be firm to the touch. The color depends on the type of cherry. Bing cherries will be a bright red color that's just starting to turn dark when they're prime for drying. Generally speaking, the darker the cherry, the sweeter it will be after it's dried. Discard damaged or rotten cherries.

Preparation & Pretreatment:

Use the following method to prepare cherries for drying:

1. Wash the cherries and remove the stems.
2. Cut the cherries in half and remove the pits. A cherry pitter will really speed up pitting.
3. This step is optional, but it's a good way to speed up the drying process. You can squeeze the juice out of the cherries prior to drying. The moisture in the cherries is going to evaporate and go to waste if you don't squeeze out the juice. This step allows you to save at least some of the juice before it evaporates.
4. Pretreat the cherries.
5. Place the cherries on the drying tray(s). Leave space between each cherry.

Pretreatment depends on whether you're using whole cherries or cherry halves. Whole cherries need to be checked in boiling water until the skins start to crack. Move them to an ice bath after checking. Cherry halves don't need pretreatment unless you want to make sour cherries sweeter by blanching them in syrup. If discoloration is of concern, dip the cherry halves in an ascorbic acid bath for a few minutes prior to drying.

Cherries dry better once they've been frozen. You can buy bags of frozen cherries and use them for drying. Frozen cherries don't need to be pretreated or prepared. All you have to do is dry them. You can also place fresh cherries in the freezer for a

couple days prior to drying them. Fresh cherries that have been frozen will still need to be prepped and pretreated. Try sprinkling sugar on top of sour cherries before freezing them to sweeten them up a bit.

Drying Temperature:

125° to 135° F.

Electric Drying Time:

12 to 24 hours in a dehydrator or 18 to 36 hours in the oven.

Solar Drying Time:

2 to 4 days.

How to Tell When Dry:

Dried whole cherries will be similar to raisins in texture and appearance. Dried cherry halves will dry flat and leathery. They'll be slightly tacky to the touch.

Storage:

Condition the cherries and pasteurize them in the freezer. Store them in an airtight container in a cool, dark place. Dried cherries will last up to a year when properly stored.

How to Rehydrate:

No rehydration necessary. Eat them like you would raisins.

Cherry Fruit Leather

Gather these ingredients:

5 cups of cherries

Sweetener, to taste (optional)

Here are the directions for making cherry fruit leathers:

1. Select ripe fruit that's started to darken to a deep red.
2. Wash the cherries and remove the stems.
3. Remove the pits from the cherries.
4. Place the cherries in a blender or food processor and blend them until they're a smooth consistency.
5. Add sweetener, if necessary, and blend it in. Honey or agave nectar works well. Sweet cherries that are slightly overripe don't usually need sweetener. Sour cherries will probably need some sweetener added.
6. Place the cherry puree into a pot and bring it to a simmer. Let it simmer for 3 to 5 minutes.
7. Line a baking tray or drying tray with plastic wrap.
8. Spread the puree evenly across the sheet. You want the leather to be approximately 1/8" thick.
9. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
10. Wrap the leather in plastic for storage.

Coconut

Dried coconut is known as *desiccated coconut*. Much of the commercially-sold desiccated coconut is harvested and dried in the Philippines. Most of the desiccated coconut sold in stores today has been sweetened with syrup and may have had propylene glycol added. Propylene glycol is one of the active ingredients in anti-freeze. Why it's allowed in food is beyond me.

Dried coconut is high in fat, so consume it in small amounts. A single ounce of dried coconut contains nearly 20 grams of fat. Dried coconut is high in fiber and contains small amounts of iron, vitamin C and calcium.

Dried coconut can be used in many recipes that call for coconut. It can be added to pastries, cookies and cakes to add flavor. It can also be sprinkled on top of fruit leathers. Try adding it to cereal or granola to add sweetness and flavor. If you're a fan of coconut, you'll probably like dried coconut.

Selection:

Hold the coconut up to your ear and shake it up and down. If you hear liquid sloshing around, the coconut should be good. If not, it may be too ripe and isn't a good candidate for drying (or eating, for that matter). Look for cracks or damage to the coconut. Check each of the eyes to make sure liquid isn't leaking out.

Even after all this, the coconut may not be fresh when you open it. If it's still bad, wrap it up and return it to the store.

Preparation & Pretreatment:

Here are the instructions for preparing a coconut for drying:

1. Drill or poke a hole in one of the eyes.
2. Drain the liquid out of the coconut through the hole.
3. Break the coconut apart by tapping it with a blunt object at the seams that run between the eyes.
4. Separate the meat from the shell.
5. Slice it into thin slices or shred it with a grater.
6. Place the meat on dehydrator trays, leaving space between each piece. If you're drying shredded coconut, you're going to need thin screening to prevent it from falling through.

If you want sweetened coconut, try blanching it in syrup for 5 minutes.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

8 to 10 hours in a dehydrator or 12 to 24 hours in the oven. Shredded coconut will take approximately half this time to dry.

Solar Drying Time:

16 to 24 hours. Shredded coconut will take approximately half this time to dry.

How to Tell When Dry:

Dried coconut can be dried until it's leathery and pliable or it can be dried for a longer period of time until it's crunchy.

Storage:

Condition by placing the dried coconut in a glass jar with a cloth lid for a couple days to even out the moisture. Pasteurize with heat. Store in an airtight container in a cool, dark place. Dried coconut will last 1 to 2 years when properly stored.

How to Rehydrate:

Dried coconut is normally consumed in its dried state. It can be rehydrated by letting it soak in warm water for 20 to 30 minutes.

Cranberries

Cranberries grow in waterlogged areas called *bogs*. Commercial bogs are created by building dykes to hold the water in and filling them with cranberry plants. Contrary to what most people believe, cranberry bogs aren't filled with water year-round. The bogs are drained during the growing season and have to be irrigated to keep the soil moist. They're filled with water during the harvest and during cold winter months to protect the vines.

Most cranberries are harvested by flooding the beds and using a harvester that pulls the berries off the vines. As the cranberries are removed from the vines, they float to the surface and can be collected easily. Roughly 90% of the cranberry crop is harvested in this manner. There are a select few growers who hand-pick dry crops, but this method is much more time-consuming. It's less damaging to the cranberries, so they can be sold fresh at a premium price.

Cranberries are high in dietary fiber, vitamin C and manganese. They're also thought to help with urinary tract infections and bladder health and may have anti-cancer properties.

Selection:

Choose bright red cranberries that are firm and undamaged.

Preparation & Pretreatment:

Follow these instructions to prepare and pretreat cranberries:

1. Wash the berries.
2. Remove any remaining stems.
3. Discard any damaged berries.
4. Bring a pot of water to a boil. Turn the heat off and place the berries in the pot. Don't leave them too long or they'll get soft.
5. Transfer the berries to an ice bath to stop cooking.
6. Place the berries on a drying tray. Don't worry about trying to leave space between each berry. Space will be created as they shrink.

Dried cranberries will be tart. If you want to sweeten them like the ones sold in stores, you can blanch them in syrup instead of water. You can also cut each berry in half and drizzle it with honey or some other sweetener.

Frozen cranberries can be used instead of fresh cranberries. If using frozen cranberries, all you have to do is dump the bag on the drying tray and dry the berries.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

18 to 24 hours in the dehydrator or 24 to 36 hours in the oven.

Solar Drying Time:

2 to 4 days.

How to Tell When Dry:

Cranberries will shrivel up and feel leathery to the touch when they're done drying. They'll be similar to raisins in shape and texture.

Storage:

Condition the cranberries by placing them in a glass container with a cloth cover on it for a few days. Pasteurize the berries in the freezer or by heating them. Store them in an airtight container in a cool, dark place. The freezer is a great place to store dried cranberries and they'll last indefinitely when stored in the freezer.

How to Rehydrate:

Dried cranberries don't need to be rehydrated before use.

Cranberry Fruit Leather

Cranberries are too tart on their own to use to make fruit leather, unless you add a lot of sweetener. Combine them with apples or another sweet fruit to reduce the amount of sweetener you have to add.

Gather these ingredients:

1 cup cranberries

3 cups apple slices

2 teaspoons lemon juice

Sweetener, to taste (optional)

Here are the directions for making cranberry fruit leathers by combining cranberries and apples:

1. Use firm, ripe cranberries and apples.
2. Wash the cranberries and apples.
3. Peel and core the apples.
4. Place the cranberries and the apples in a blender or food processor and blend them until they're a smooth consistency.
5. Add sweetener, if necessary, and blend it in. Honey or agave nectar works well.
6. Ad 2 teaspoons of lemon juice and blend it in. This will help prevent the apples in the puree from browning.
7. Line a baking tray or drying tray with plastic wrap.
8. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
9. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
10. Wrap the leather in plastic for storage.

Currants

Currants are a relatively unknown berry in the United States. They're popular in England and other temperate areas of the world, but have failed to catch on the way some other berries have. The berries taste great fresh and, in my opinion, are even better when dried. They have a sweet flavor with a slightly acidic aftertaste that balances out the sweetness.

When buying commercially dried currants, don't be fooled by Zante currants, which are actually small grapes that are dried into raisins. These aren't actual currants, even though they're marketed as such.

Real red, white and black currants are tougher to find, unless you have a local source. Real currants are semi-translucent. Currants prefer a cool climate and moist soil that's well-drained. If you grow and harvest your own currants, be careful. You're going to want to wear gloves, because the plants have sharp thorns that can tear your hands up pretty good.

Currants pack of potent blend of nutrients. They're packed full of antioxidants and are rich in vitamin A and high in fiber. They're also a good source of potassium and manganese.

Selection:

Choose currents that are a deep color and are still firm to the touch.

Preparation & Pretreatment:

Follow these instructions to prepare currants for drying:

1. Wash the currants.
2. Remove them from the stems.
3. Check the currants in boiling water for a couple minutes to crack the skins.
4. Transfer the currants to an ice water bath to stop cooking.
5. Place the currants on a drying tray. Don't worry about trying to leave space between each currant. They're too small and this is all but impossible.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

8 to 12 hours in the dehydrator or 10 to 16 hours in the oven.

Solar Drying Time:

1 to 2 days.

How to Tell When Dry:

Dried currants will shrivel up and look like a small raisin when drying is complete.

Storage:

Condition dried currants for a couple days and pasteurize them with heat or in the freezer before storing them. Store in an airtight container in a cool, dark place. They will last up to a year in storage when properly stored.

How to Rehydrate:

Dried currants can get pretty hard during the drying process. They can be rehydrated and used in recipes that call for currants by soaking them in cool water for a half hour.

Currant Fruit Leather

Gather these ingredients:

4 cups ripe currants

¼ cup honey

Here are the directions for making currant fruit leather:

1. Wash the currants and pat them dry.
2. Blend the currants into a puree.
3. Add the honey and blend it into the puree.
4. Line a baking tray or drying tray with plastic wrap.
5. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
6. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
7. Wrap the leather in plastic for storage.

Dates

Dates come from date palms, which are palm trees that grow giant clusters of dates. A single cluster can hold up to a couple hundred dates. Dates are thought to have originated in the Middle East, where they've been a dietary staple for thousands of years. There are a wide variety of cultivars, ranging in color from pale yellow to black. Some are sickeningly sweet when ripe, while others are a bit bitter or astringent.

Be careful when harvesting dates, as they have a thick 3" to 5" thorn that can do serious damage if you aren't careful. Your best bet is to remove the thorns before you start messing with the dates.

Here's an interesting fact about dates. Date seeds are long-lived and can last an amazingly long time in storage. A date seed found in the Masada ruins in Israel was radiocarbon dated and found to be 2,000 years old. It was planted and soon grew into a healthy date palm dubbed the Judean Date Palm.

Dates are nearly 80% sugar, making them one of the sweetest dried fruits because drying further concentrates their natural sugar. They contain a decent amount of protein and fiber and are a good source of pantothenic acid, vitamin B6, magnesium, manganese and potassium.

Selection:

Dates will go from hard to soft as they ripen. Select dates that are just starting to soften for best results.

Preparation & Pretreatment:

Prepare dates for drying by following these instructions:

1. Wash the dates.
2. Remove any remaining stems.
3. Sort and discard any spoiled dates.
4. Dates can be dried whole, but will dry faster and more evenly if you cut them in half and remove the pit. If drying whole dates, check them in boiling water until they start to crack and move them to an ice water bath.
5. Place the dates on the drying tray(s). Leave space between each piece.

Drying Temperature:

120° to 130° F.

Electric Drying Time:

8 to 12 hours in the dehydrator or 10 to 18 hours in the oven.

Solar Drying Time:

1 to 2 days.

How to Tell When Dry:

Dried dates will be wrinkled and leathery to the touch.

Storage:

Condition the dates for 3 to 5 days. Pasteurize them using heat or cold and store them in an airtight container in a cool, dark place. Dried dates will last up to a year when properly stored.

How to Rehydrate:

No need to rehydrate. Dried dates are consumed in their dehydrated state.

Dragon fruit

Dragon fruit is an interesting looking fruit that comes from a handful of cactus varieties. The most common dragon fruit in the Americas is the white-fleshed pitaya, which has bright red skin with green shoots coming off of it. When you cut into one, the flesh is a white color and is speckled with edible seeds. There are also dragon fruit varieties in existence that have red skin and red flesh or yellow skin and white flesh.

One look at a dragon fruit will have you marveling at the exotic flavors that must await when you bite into it. Surprisingly, this book has a beautiful cover, but a rather dull interior. The flesh is slightly sweet, while the seeds add a light nutty flavor when chewed. They'll pass straight through your digestive system if they aren't chewed. Don't get me wrong—dragon fruit tastes good. It just doesn't live up to the expectations set by the way it looks.

Nutrients are derived from both the flesh of the dragon fruit and the seeds, as long as you chew at least some of them. Dragon fruits are low in calories and high in fiber. The flesh contains vitamin C and a number of B vitamins, as well as a balanced selection of minerals and antioxidants. The seeds contain a variety of fatty acids the body needs to function at a high level.

Selection:

Ripe dragon fruit is brightly colored. The fruit will have a little give when it's ripe, but it won't be overly soft. Avoid fruit with bruises or dry spots. Dry spines indicate a fruit that been allowed to dry out.

Preparation & Pretreatment:

Follow these steps to prepare dragon fruit:

1. Cut the dragon fruit in half.
2. Use a spoon to dig around the edges and scoop out the flesh. Ripe dragon fruit will be easy to detach from the skin.
3. Slice the dragon fruit into thin slices.
4. Dip the fruit into a lemon or lime juice dip made by adding 3 teaspoons of juice to 4 cups of water. Let it soak for 10 to 15 minutes.
5. Place the slices on the drying tray(s). Leave space between each slice.

Drying Temperature:

125° to 135° F.

Electric Drying Time:

8 to 12 hours in a dehydrator or 12 to 24 hours in the oven.

Solar Drying Time:

1 to 2 days.

How to Tell When Dry:

Dried dragon fruit will be brittle enough to break when it's bent. It should be dry all the way through and have no visible moisture.

Storage:

Condition dried dragon fruit for a couple days. Pasteurize it in the freezer or by heating it and store it in a cool, dark place in an airtight container. Dried dragon fruit lasts 6 to 12 months when properly stored.

How to Rehydrate:

No need to rehydrate dried dragon fruit. Eat it in its dehydrated state.

Dragon Fruit Leather

Gather these ingredients:

3 to 4 cups dragon fruit

Sweetener, to taste (optional)

Here are the directions for making dragon fruit leather:

1. Wash the dragon fruit.
2. Cut them in half and remove the flesh with a spoon.
3. Place the dragon fruit in a blender and blend into a puree.
4. Add sweetener, to taste, and blend in.
5. Line a baking tray or drying tray with plastic wrap.
6. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
7. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
8. Wrap the leather in plastic for storage.

Elderberries

The elderberry plant is a flowering plant that was originally thought to be a member of the honeysuckle family, but was recently reclassified into the adoxaceae family. There are a variety of plants in the elderberry family that bear fruit ranging in color from dark purple to bright red.

Not all varieties of elderberry are edible. Common elderberry, which has dark purple berries and is found growing all over the United States and Europe, is the variety that's most commonly consumed. Avoid red-berried bushes, as they can be toxic to humans when consumed raw. It's important only ripe berries of any type are used because unripe berries contain elevated levels of cyanide glucosides. It's also a good idea to avoid eating raw berries, as they're more likely to contain toxic compounds.

Selection:

Ripe elderberries will be a deep purple color. The bunches will droop downward as the elderberries ripen.

Preparation & Pretreatment:

Follow these steps to prepare and pretreat elderberries:

1. Wash the berries and remove them from the stems.
2. Check the berries by placing them in boiling water for 4 to 5 minutes.
3. Move the berries to an ice water bath to stop cooking.
4. Place the berries on a tray. Don't worry about trying to keep them separated. They're separate as they shrink while drying.

Drying Temperature:

115° to 125° F.

Electric Drying Time:

8 to 16 hours in a dehydrator or 16 to 36 hours in the oven.

Solar Drying Time:

24 to 36 hours in the sun.

How to Tell When Dry:

Elderberries will be leathery and wrinkled when dry. Let a couple berries cool and cut them in half to ensure they're dried all the way through.

Storage:

Condition and pasteurize before storage. Seal dried elderberries in an airtight container and store them in a cool, dark place. Dried elderberries will last 6 to 12 months when properly stored.

How to Rehydrate:

Soak in cool water for 1 to 2 hours to rehydrate. Dried elderberries can be eaten like raisins without rehydration.

Figs

Aside from Fig Newtons, most people don't have much experience with figs. Ask the average person on the street what a fig looks and/or tastes like and you'd probably get a blank stare. Most people have at least heard of them, but they have little to no experience with figs unless they grew up in one of the few households in the United States that still consumes figs regularly.

Figs are small, wrinkled fruits that grow on deciduous trees. The trees are grown in temperate regions across the globe, with Turkey being the nation that produces the most figs. Figs can be eaten fresh, but most people prefer the way they taste dry. There are a wide variety of fig types grown for consumption, and they come in a number of colors and sizes. Luckily, most of the figs grown for consumption can be dried using the instructions in this section.

If you've never tried a fresh it's something you need to try. Figs are eaten whole, so all you have to do is wash the fig and bite into it. The seeds are crunchy and the flesh of the fig is tantalizingly sweet.

There are a number of health benefits associated with eating figs. Figs are high in fiber and have a good mixture of soluble and insoluble fiber. *Soluble fiber* slows the time it takes to process food in the stomach, allowing you get more nutrients from your food and to feel full for longer after eating. *Insoluble fiber* helps your stools move along through your intestines. Be careful, because you can have too much of a good thing. Too much fiber can cause constipation, especially if your body isn't used to it.

Selection:

Fresh figs will only last a day or two. Choose figs with a deep color. Ripe figs will give a bit when gentle pressure is applied, but they won't be mushy. If a fig has a sour smell to it, there's a good chance it's started to go bad. Figs are very fragile and will often have marks or scars on them. These are fine, as long as juice isn't leaking from the damaged area.

If you have a fig tree, the best way to make sure the figs are ripe is to let them fall off the tree naturally. Gather the figs daily as they fall from the tree.

Preparation & Pretreatment:

Follow these steps to prepare figs for drying:

1. Wash the figs.
2. Remove the stems.
3. Cut the figs in half.
4. Place them on drying trays. Leave space between each fig half.

Figs can be pretreated, but it isn't absolutely necessary. The following pretreatments can be used on figs:

- **Ascorbic acid bath.**

- **Fruit juice dip.**
- **Sulfite bath.**
- **Sulfuring.**

Be aware the last two options will leave trace amounts of sulfites on the figs and could cause problems in sensitive individuals.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

12 to 24 hours in the dehydrator or 16 to 36 hours in the oven.

Solar Drying Time:

2 to 3 days.

How to Tell When Dry:

Figs will be leathery to the touch and dry all the way through when drying is complete.

Storage:

Condition figs for 3 to 5 days. Pasteurize with heat and store in an airtight container is cool, dark place. Dried figs will last 3 to 6 months, if properly stored.

How to Rehydrate:

Dried figs do not need to be rehydrated. Eat them in their dehydrated state.

Fig Fruit Leather

Gather these ingredients:

10 to 15 ripe figs

2 teaspoons lemon juice

½ teaspoon cinnamon

Sweetener, to taste (optional)

Here are the directions for making fig fruit leather:

1. Wash the figs and remove the seeds.
2. Place the figs in a blender or food processor and blend them into a puree.
3. Add the lemon juice and cinnamon and blend it in.
4. Add sweetener, to taste. This step is optional. If you chose ripe figs, you probably won't need sweetener.
5. Line a baking tray or drying tray with plastic wrap.
6. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
7. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
8. Wrap the leather in plastic for storage.

Try adding apples, blueberries, strawberries or raspberries to the recipe for interesting flavor blends.

Grapes (Raisins)

Love them or hate them, pretty much everyone in the Western world has tried a dried grape, also known as a *raisin*, at some point in their life. What most people don't realize is raisins are relatively easy to make at home and the homemade version is much better for you than commercial raisins.

Raisins range in color from gold to deep purple, with the color being dependent on the variety of grape being dried. Thompson seedless grapes are the most common and are used to make the grapes most people are used to eating. Golden raisins are made from sultana grapes and are sulfured or dipped in sulfite solution to help them keep their golden color.

Grapes and raisins are great for humans, but can be toxic to pets. Consumption of raisins can cause renal failure in dogs, which is a condition in which the kidney fails to filter toxins from the blood. They have to eat quite a few of them to do damage, but it's something to keep in mind if you're drying raisins where pets may be able to get to them.

Selection:

Choose ripe grapes that appear clean and free of damage. Exactly what constitutes a ripe grape varies amongst varieties, but they generally should be plump and firm to the touch. Soft grapes typically indicate grapes that are too ripe and may not be a good candidate for drying.

Grapes that are too ripe may rot prior to drying. It's best to use grapes that are just approaching ripeness.

Preparation & Pretreatment:

Follow these steps to prepare and pretreat grapes for drying:

1. Wash the grapes and remove them from the stems. Alternatively, the grapes can be dried while on the stems and then removed after drying.
2. Check the grapes in boiling water to ensure even drying. Grapes can also be cut in half to speed up the drying process. Grapes that have been cut in half will dry into flat discs. Some people prefer to cut seeded grapes and remove the seeds prior to drying. Other people like "crunchy" raisins and want to enjoy the health benefits of the seeds, so they leave them in.
3. Move the grapes to an ice bath to stop cooking.
4. Spread the grapes out on the drying tray.

An alternative method for drying grapes is to wash the grapes and hang each bunch to dry in the sun. Monitor grapes dried in this manner closely and remove any that start to go bad before they're dry.

If discoloration is of concern, grapes can be dipped in a sulfite solution. They don't last long enough at my house for this to be of concern. Sulfite solutions can cause problems in sensitive individuals.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

12 to 24 hours in a dehydrator or 18 to 36 hours in the oven.

Solar Drying Time:

4 to 5 days.

How to Tell When Dry:

Raisins will be wrinkled. They'll look similar to the raisins you buy from the store.

Storage:

Condition and pasteurize the raisins prior to storage. Store in glass canning jars or vacuum-pack small baggies of raisins. Properly stored raisins have a shelf life of up to a year.

How to Rehydrate:

Raisins aren't normally rehydrated. They're consumed in their dried state.

Guava

Guavas are grown on tropical shrubs native to Mexico and Central America. They're currently grown commercially in tropical regions of countries spanning the globe. The apple guava is the most common type of guava grown for consumption.

The fruit of the guava plant can be round or oval. The skin of the guava is usually green when unripe. It ripens to a green, red or yellow shade as it matures, depending on the type of guava. The pulp can range from sweet in flavor to tart and there may or may not be seeds inside the fruit.

Guavas are high in vitamin C and folic acid and they have smaller amounts of a wide range of vitamins. People who eat oranges to get their vitamin C would be better off eating guavas, because they contain 3 to 5 times the vitamin C of oranges. Guavas are high in dietary fiber and they contain a number of antioxidant pigments.

Selection:

Pick ripe guavas that have a heavy, musky scent. A ripe guava will yield to pressure when squeezed, but it won't be overly soft.

Preparation & Pretreatment:

Here's how to prepare and pretreat guavas for drying:

1. Wash the guavas. Use warm water to get rid of any wax they may have been treated with to slow ripening.
2. Cut the guava in half and scoop out the seeds.
3. Slice the guavas into thin slices. The thinner the slice, the crisper the guava will be once dried. Thicker guava will be chewy.
4. Dip in an ascorbic acid bath for 5 minutes.
5. Place the guava on drying trays. Leave space between each piece.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

5 to 10 hours in the dehydrator or 6 to 12 hours in the oven.

Solar Drying Time:

18 to 24 hours.

How to Tell When Dry:

Dried guava will either be leathery or crisp to the touch, depending on how thick the slices were cut and how long the guava was dried.

Storage:

Condition the guava for 2 to 3 days. Pasteurize it in the freezer. Store it in an airtight container in a cool, dry place. Dried guava lasts up to 12 months when properly stored.

How to Rehydrate:

Dried guava is eaten without being rehydrated.

Kiwi

While most of the world calls it *kiwifruit*, in the United States this fuzzy brown fruit is known simply as the kiwi. This wasn't always the case, as less than a hundred years ago it was known as the *melonette*. That name failed to catch on and it was renamed the kiwifruit in honor of New Zealand's national bird, the kiwi.

Don't let the boring brown wrapper fool you. Inside the bland wrapper is a tasty, bright green treat. Kiwifruit is soft and sweet, with a delicious flavor most people find tough to resist. Kiwifruit is high in vitamin C and vitamin K and contains a healthy balance of other nutrients. It also contains a gram or two of protein per serving.

People who are allergic to latex, bananas and certain other tropical fruits may be allergic to the *actinidain* found in kiwi. Other compounds found in kiwi can cause itching, wheezing and a number of other allergic reactions.

Selection:

A ripe kiwi will be firm, but will yield slightly when squeezed. A hard kiwi hasn't ripened enough and one that's overly soft will be too ripe. The skin should be wrapped tightly around the kiwi and the color should be brown with a hint of green showing through. Wrinkled skin indicates a kiwi that's lost a lot of moisture and is starting to lose nutritional value.

Preparation & Pretreatment:

Follow these steps to prepare a kiwi for drying:

1. Wash the kiwi.
2. Peel off the skin.
3. Cut away any bruises or soft spots.
4. Slice the kiwi into ¼" slices.
5. Pretreat the kiwi.
6. Place the kiwi on a drying tray. Leave ample space between each slice.

The following pretreatment options can be used to prevent discoloration:

- **Saltwater bath.**
- **Syrup dip.**
- **Fruit juice dip.** Lemon juice works well.
- **Ascorbic acid bath.**
- **Syrup blanching.**

Drying Temperature:

130° to 140° F.

Electric Drying Time:

8 to 12 hours in the dehydrator or 10 to 16 hours in the oven.

Solar Drying Time:

12 to 24 hours.

How to Tell When Dry:

Dried kiwi should be pliable and feel like leather to the touch. Let a couple pieces cool and cut them in half. Make sure there is no visible moisture left inside the kiwi slices.

Storage:

Condition the dried kiwi for a couple days. Pasteurize it using heat or cold, if so desired. Store in an airtight container in a cool, dark place. Dried kiwi can last as long as a couple years, if stored properly.

How to Rehydrate:

Dried kiwi doesn't need to be rehydrated before consumption.

Kiwi Fruit Leather

Gather these ingredients:

5 cups kiwi

2 tablespoons lemon juice

Sweetener, to taste (optional)

Here are the directions for making kiwi fruit leather:

1. Wash and peel the kiwi.
2. Place the flesh in a blender or food processor and blend it into a puree.
3. Add 2 tablespoons of lemon juice and blend it in.
4. Add sweetener, to taste, and blend it in. Raw honey or agave nectar work well as sweetener.
5. Line a baking tray or drying tray with plastic wrap.
6. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
7. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
8. Wrap the leather in plastic for storage.

Lemons

Lemons are the most popular citrus fruit in the world. They grow on small evergreen trees that rarely reach more than 20 to 30 feet in height. Because of their strong sour flavor, lemons are rarely consumed on their own. They do, however, make great additions to other food dishes to add flavor and an enticing aroma. The mere scent of lemons makes most people happy.

There are a handful of lemon varieties that are sweet instead of sour, including the Meyer lemon. They're tough to find right now, but are rapidly gaining in popularity, so keep your eyes peeled. A dried Meyer lemon slice would make a tasty treat.

Like most citrus fruits, lemons contain high levels of vitamin C. A cup of lemons contains nearly 100% of the daily recommended value of vitamin C. Lemons also contain flavonoids with antioxidant capabilities and limonoids that are thought to help the body ward off cancer and other diseases. Lemon peels contain oxalates that can crystalize and cause problems in the body when consumed in large amounts. Avoid consuming lemon peels if you have gallbladder or kidney problems.

Selection:

Choose lemons that are a bright yellow color and are firm to the touch. The best lemons are the ones that feel hefty and have thin skins. Avoid lemons with green in the skin because they aren't fully ripe.

Preparation & Pretreatment:

Preparation for lemons depends on whether you're drying entire lemon slices or are simply drying *lemon zest*, which is the peel.

To prepare lemon slices for drying, do the following:

1. Wash the lemons.
2. Slice off the ends and discard them.
3. You can optionally remove the peel before slicing the lemon.
4. Slice the lemons into thin slices. ¼" slices work well.
5. Place the slices on the drying tray(s), leaving space between each slice.

To prepare lemon zest for drying, do the following:

1. Peel the lemons.
2. Scrape away as much of the white pith as you can. Don't worry about getting all of it.
3. Place the peels on the drying tray(s), peel side down, leaving room between each piece of peel.
4. Once drying is complete, grind up the lemon zest.

Lemons don't need pretreatment because they're naturally high in vitamin C.

Drying Temperature:

125° to 135° F.

Electric Drying Time:

6 to 12 hours in the dehydrator or 8 to 16 hours in the oven.

Solar Drying Time:

12 to 24 hours.

How to Tell When Dry:

Both lemon slices and zest will be brittle when drying is complete.

Storage:

Condition for a couple days. Pasteurize, if desired, using heat or cold. Store in an airtight container in a cool, dark location. Dried lemon slices will last 6 to 12 months and lemon peels will last a year or longer if properly dried and stored.

How to Rehydrate:

Soak in cool water for 15 to 20 minutes. One of the best uses for dried lemon is to drop a slice or two into a bottle of water and let it infuse the water with lemon flavor.

Limes

Limes are round, green citrus fruits that grow on small trees. I'm not sure why I just told you that, because I'm pretty sure you knew it already.

Like lemons, limes have a high concentration of vitamin C, but it isn't quite as much as their yellow cousins. They also aren't quite as sour as lemons, making them the preferred citrus fruit for some people. Both sweet and sour limes exist, but the sour variety is the type generally found in stores in the Western world. Sweet limes don't contain the citric acid that gives sour limes their tartness.

Limes feature many of the same health benefits as lemons. They contain antioxidants, vitamin C and have trace amounts of other vitamins and minerals. Lemons are a bit better for you, but there's a place for limes in your diet as well. Lime peels contain oxalates that can crystalize and cause problems in the body when consumed in large amounts. Avoid consuming lime peels if you have gallbladder or kidney problems.

Selection:

Choose bright green limes that are firm to the touch. Steer clear of dull-colored fruit and fruit with obvious damage. The best limes for drying will be heavy for their size and will have thin peels.

Preparation & Pretreatment:

Preparation for limes depends on whether you're preparing lime slices for drying or just the zest.

To prepare lime slices for drying, do the following:

1. Wash the limes.
2. Slice off the ends and discard them.
3. Slice the limes into thin slices.
4. Place the slices on the drying tray(s), leaving space between each slice.

To prepare lime zest for drying, do the following:

1. Peel the limes.
2. Scrape away as much of the white pith as you can. Don't worry about getting all of it.
3. Place the peels on the drying tray(s), peel side down, leaving room between each piece of peel.
4. Once drying is complete, grind up the lime zest.

Limes don't need pretreatment because they're naturally high in vitamin C.

Drying Temperature:

125° to 135° F.

Electric Drying Time:

6 to 12 hours in the dehydrator or 8 to 16 hours in the oven.

Solar Drying Time:

12 to 24 hours.

How to Tell When Dry:

Both lime slices and zest will be brittle when drying is complete.

Storage:

Condition for a couple days. Pasteurize, if desired, using heat or cold. Store in an airtight container in a cool, dark location. Dried lime slices will last 6 to 12 months and lime peels will last a year or longer if properly dried and stored.

How to Rehydrate:

Soak in cool water for 15 to 20 minutes. Dried lime slices can be placed in a container of water and left there to create a beverage that has a slight hint of lime flavor.

Lychee

Lychee are known as alligator strawberries in some circles because they have bright red skin that is bumpy and rough like alligator skin. Crack into a lychee, however, and you'll find white pulp that smells like flowers and has a delicate, sweet flavor. The skin and the seed are inedible, but the pulp is considered a delicacy in many areas of the world.

A handful of lychee fruit will give you more than 100% of the daily recommended value of vitamin C. In fact, a single serving of lychee contains more vitamin C than oranges and other citrus fruit, making them a better choice for providing natural vitamin C to the body. Lychee fruits are high in fiber and protein, and they have a balanced array of other vitamins and minerals.

Selection:

Look for lychee with pink or red skin. Green skin indicated unripe lychee. The skin should give a little to pressure, but not be overly soft.

Preparation & Pretreatment:

Lychee fruits do not need any preparation or pretreatment. The best way to dry lychee is to take a cluster of lychee and hang it out to dry in the sun. Alternatively, remove the lychee from the cluster and place them on a drying tray.

Lychee can be blanched in boiling water or dipped in boiling syrup to preserve their color as they dry.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

24 to 36 hours in the dehydrator or 2 to 3 days in the oven.

Solar Drying Time:

Up to 15 days.

How to Tell When Dry:

Dried lychee fruits are called lychee "nuts" because they're dried all the way through and are crunchy.

Storage:

Condition for a couple days in a glass container with a cloth lid. Pasteurize, if desired, using heat and cold. Store in an airtight container in a cool, dark place. Dried lychee will last 3 to 6 months when stored properly.

How to Rehydrate:

Do not rehydrate lychee nuts.

Mulberries

Mulberries grow on trees that thrive in temperate regions around the world. They're much-maligned by home owners and those with cars parked on streets near where the trees are planted because birds love mulberries. They eat them and then leave purple droppings all over the area around the tree. While most car owners get angry about the trees, I get excited when I see the tell-tale signs of a mulberry tree.

The trees grow quickly and prolifically and produce bunches of mulberries once they reach maturity. Mulberries grow in clusters and can be found in a variety of colors, including red, black, white and purple. If you have a mulberry tree or two growing on your property, you're going to have more mulberries than you know what to do with. Learning to dehydrate them will allow you to save them for use year-round.

The ripe fruit of the mulberry bush is used to makes pies, jams, jellies and even tea. Mulberries resemble blackberries or raspberries, but have a distinctly tart flavor.

Ripe mulberries are one of the few fruits that contain high levels of protein. Half a cup of dried mulberries contains 6 to 8 grams of protein. Mulberries are also a good source of vitamin C, calcium and fiber. To top things off, they contain *resveratrol*, which is an antioxidant thought to promote good heart health.

Selection:

Ripe mulberries are easy to harvest. Lay out a tarp or blanket beneath the mulberry tree and shake the branches. Ripe mulberries will fall from the branches onto the tarp.

Preparation & Pretreatment:

Mulberries only last 2 to 3 days after harvest, so be sure to prepare and pretreat them quick. Here are the preparation and pretreatment directions:

1. Wash the mulberries.
2. Dip the mulberries in an ascorbic acid bath for 5 to 10 minutes.
3. Drain the mulberries and pat them dry.
4. Spread the mulberries out on a drying tray.

Do not attempt to check mulberries in boiling water. Their skin is too weak and they will fall apart.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

12 to 24 hours in a dehydrator or 18 to 36 hours in the oven.

Solar Drying Time:

24 to 36 hours.

How to Tell When Dry:

Dried mulberries will be crisp to the touch. Let a couple dry and break them open to ensure there is no visible moisture.

Storage:

Conditioning is critical for mulberries. Place in glass jar with a cloth lid and let sit in a cool, dry area for up to 10 days. Shake the container at least once a day to keep the berries from sticking to one another. Pasteurize the berries before storing them in an airtight container in a cool, dark place. Dried mulberries will last up to 6 months when properly stored.

How to Rehydrate:

Soak in hot water for 15 to 20 minutes.

Mulberry Fruit Leathers

Gather these ingredients:

4 cups mulberries

Sweetener, to taste (optional)

Here are the directions for making mulberry fruit leathers:

1. Select ripe mulberries.
2. Wash the berries and remove any remaining stems.
3. Place the berries in a blender or food processor and blend them until they're a smooth consistency.
4. Add sweetener, if necessary, and blend it in. Honey or agave nectar works well. Mulberries tend to be on the tart side, so it may take a good amount of sweetener to get the leathers sweet enough for consumption. One trick I use is to combine equal parts applesauce and pureed mulberries to sweeten them up.
5. Line a baking tray or drying tray with plastic wrap.
6. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
7. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
8. Wrap the leather in plastic for storage.

Mangoes

Mangoes are one of the most popular tropical fruits in existence. They're native to South Asia, but are currently grown in a number of tropical and subtropical regions of the world. Mangoes are stone fruits, meaning they contain a large stone in the center.

A single mango tree can provide mangoes to its owners for generations. Mango trees can live for hundreds of years and there are mango trees in existence today that are still providing fruit after a couple hundred years of growth. Plant a mango tree in the right climate and you can realistically expect it to still be providing fruit to your great grandchildren when they grow up.

Mangoes have a good amount of vitamin C and a balanced profile of other vitamins and nutrients, including vitamin A, vitamin B6 and vitamin E. They're thought to provide at least some level of protection against a handful of types of cancer and they promote good ocular health.

Selection:

Mangoes should yield to pressure, but not be overly soft. A bit of skin damage is par for the course with mangoes, but avoid fruit with excessive bruising or damage.

Preparation & Pretreatment:

Follow these steps to prepare mangoes for drying:

1. Wash the mangoes.
2. Peel off the skin.
3. Slice the mango into thin slices. Discard the stone and the fibrous center portion of the mango.
4. Place the mangoes on the drying tray(s). Leave space between each piece to allow air circulation.

If discoloration is a concern, treat your mangoes with ascorbic acid or a lemon juice bath prior to drying.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

12 to 24 hours in the dehydrator or 18 to 36 hours in the oven.

Solar Drying Time:

1 to 2 days.

How to Tell When Dry:

Dried mangoes will be dried all the way through, but still pliable when bent. Don't dry mangoes for too long or they'll become inedible, hard chunks.

Storage:

Condition for 2 to 3 days. Pasteurize with heat or cold, if so desired. Store in an airtight container in a cool, dark place. Dried mango will last 6 to 12 months when properly stored.

How to Rehydrate:

Do not attempt to rehydrate dried mangoes. Eat them in their dehydrated state.

Mango Fruit Leather

Gather these ingredients:

5 ripe mangoes

4 tablespoons lemon juice

Sweetener, to taste (optional)

Here are the directions for making mango fruit leather:

1. Peel the mangoes.
2. Cut them in half and remove the stone.
3. Cut away the fibrous center.
4. Cut the mango into chunks and place them in the blender.
5. Blend the mango into a smooth puree.
6. Add the lemon juice.
7. Add sweetener, to taste, and mix it in.
8. Line a baking tray or drying tray with plastic wrap.
9. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
10. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
11. Wrap the leather in plastic for storage.

Nectarines and Peaches

Peaches and nectarines are so similar, there's no good reason to have them in two different sections of the book. Genetically, they're pretty close to being the same fruit, and they're similar in look and feel, save for a few minor cosmetic differences. The main difference is the easiest way to tell the two apart: peaches have fuzz on their skin and nectarines have smooth skin. Aside from that key difference, there are slight differences in taste and texture, but not much more.

The genetic difference between a peach tree and a nectarine tree is a single recessive gene. If both parent trees have the gene, the seedling will be a nectarine tree. If one of the two parents doesn't have the gene, the seedling will develop into a peach tree.

Both fruits come in what are known as clingstone and freestone varieties. *Clingstone* pits stick to the inside of the fruit when it's cut in half, making it difficult to get the pit out. *Freestone* pits are pretty much loose and will fall right out.

Peaches and nectarines are low in calories. The average peach has less than 49 calories and the average nectarine clocks in at even less than that. Peaches and nectarines don't boast large amounts of any vitamin, but they do have a good balance of vitamins and minerals. They also contain phenolic compounds thought to fight inflammation and obesity.

Selection:

Ripe nectarines and peaches will yield slightly to pressure, but won't be overly soft. Avoid fruit that has visible damage. Green tinges on the fruit indicate peaches or nectarines that need ripening.

Preparation & Pretreatment:

Follow these steps to prepare nectarines and peaches:

1. Wash the fruit.
2. Cut it in half and remove the pit.
3. Slice the nectarines or peaches into thin slices.
4. Pretreat the slices.
5. Place them on the dehydrator tray(s).

The following pretreatment options can be used to treat peaches and help slow browning:

- **Blanch in boiling water for 5 minutes.**
- **Ascorbic acid bath.**
- **Fruit juice dip.**
- **Sulfite dip.**
- **Sulfuring.**

The last two will leave sulfites on the peach slices that may cause problems in sensitive individuals.

Peaches and nectarines can be dried with the skin on or the skin removed. To make them easier to peel, drop the entire fruit in boiling water for a few minutes. The skin should be able to be pulled right off.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

12 to 24 hours in a dehydrator or 18 to 36 hours in the oven.

Solar Drying Time:

1 to 2 days.

How to Tell When Dry:

Peaches and nectarines will be dry all the way through and will feel leathery to the touch when drying is complete.

Storage:

Condition dried peaches and nectarines for 2 to 3 days. Pasteurize them, if desired, and store them in an airtight container in a cool, dark place. Dried peaches will last up to a year in storage.

How to Rehydrate:

Dried peaches do not need to be rehydrated before consumption. They can be rehydrated to be used in dishes that call for peaches. Rehydrate by soaking in warm water for 30 minutes.

Peach or Nectarine Fruit Leather

Gather these ingredients:

4 cups of peaches or nectarines

Sweetener, to taste (optional)

Here are the directions for making nectarine or peach fruit leather:

1. Boil the peaches or nectarines for 5 minutes.
2. Remove the skins.
3. Cut the fruit in half and remove the pits.
4. Process the peaches or nectarines into a puree in a blender or food processor.
5. Add sweetener, if necessary, and blend it in. If you use ripe enough fruit, you probably don't need much sweetener.
6. Line a baking tray or drying tray with plastic wrap.
7. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
8. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
9. Wrap the leather in plastic for storage.

Oranges

Oranges aren't the first fruit most people think of when it comes to drying. They're full of moisture and aren't the easiest fruits to dry, and there isn't a whole lot you can do with them once they're dried. That said, dried oranges are an interesting diversion from the normal oranges you're used to and may be a good way to make an interesting snack for your family. If drying oranges isn't your thing, you might want to save the peels of the oranges you eat and dry them to make dried zest.

It's tough to beat oranges when it comes to vitamin C content. A single serving of oranges contains more than 100% of the daily recommended value of vitamin C. Oranges are also high in fiber and contain flavonoids and phytonutrients that help the body function like a well-oiled machine.

Oranges are divided into two general classes—sweet and bitter. *Sweet oranges* are best for drying when drying orange slices. *Bitter oranges* are good for drying the peels, but you probably aren't going to want to eat dried bitter orange slices, unless you're infusing them into a tea or some other drink.

Selection:

Oranges should be a bright orange color. They should be firm to the touch and yield to slight pressure.

Preparation & Pretreatment:

Preparation for oranges depends on whether you're preparing to dry whole orange slices or just the peel.

To prepare orange slices for drying, do the following:

1. Wash the oranges.
2. Slice off the ends and discard them.
3. Slice the oranges into thin slices.
4. Place the slices on the drying tray(s), leaving space between each slice.

To prepare orange zest for drying, do the following:

5. Peel the oranges.
6. Scrape away as much of the pith as you can.
7. Place the peels on the drying tray(s), peel side down, leaving room between each piece of peel.
8. Once drying is complete, grind up the orange zest.

Oranges don't need pretreatment because they're naturally high in vitamin C.

Drying Temperature:

125° to 135° F.

Electric Drying Time:

6 to 12 hours in the dehydrator and 8 to 16 hours in the oven.

Solar Drying Time:

12 to 24 hours.

How to Tell When Dry:

Both orange slices and zest will be brittle when drying is complete.

Storage:

Condition for a couple days. Pasteurize, if desired, using heat or cold. Store in an airtight container in a cool, dark location. Dried orange slices will last 6 to 12 months and orange peels will last a year or longer if properly dried and stored.

How to Rehydrate:

Soak in cool water for 15 to 20 minutes.

Papaya

Papayas grow on large plants that can grow to more than 30 feet in height. They're widely cultivated in the tropical regions of the Americas, namely Central America and the southern regions of Mexico, and are also grown in the northern regions of South Africa. Since the average papaya sold in stores is rarely larger than a couple pounds, it may surprise you to find out papayas can reach weights of greater than 20 pounds.

Both the fruit and the seeds of the papaya are edible and can be dried. The seeds can be dried and then ground up to be used as a spice that's remarkably similar to black pepper. The flesh of the fruit is high in vitamin C, vitamin A, potassium and folate. Papaya also contains a digestive enzyme known as *papain* that aids with digest and has anti-inflammatory properties.

If you have latex allergies, you may find you're allergic to papayas because they contain a chemical that causes a similar reaction in the body. Those with latex sensitivities should steer clear of papaya.

Selection:

Select ripe papayas with reddish-orange skin that yields to soft pressure, but aren't overly mushy. A few marks on the skin are par for the course, but don't buy papayas with large brown spots or extensive bruising.

Preparation & Pretreatment:

Follow these steps to prepare papaya for drying:

1. Wash and peel the papaya.
2. Cut the papaya in half and remove the seeds. They can be discarded or washed off and dried along with the papaya.
3. Slice the papaya into thin pieces.
4. Place the papaya on the drying tray(s). Leave space between each piece.

The seeds need no preparation other than washing them.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

10 to 16 hours in the dehydrator or 12 to 24 hours in the oven.

Solar Drying Time:

1 to 2 days.

How to Tell When Dry:

Dried papaya will be dry all the way through and slightly leathery to the touch.

Storage:

Condition dried papaya for a couple days. Pasteurize them, if desired, and store it in an airtight container in a cool, dark place. Dried papaya will last up to 12 months under optimal storage conditions.

How to Rehydrate:

Eat dried papaya in its dehydrated state. Do not attempt to rehydrate it.

Papaya Fruit Leather

Gather these ingredients:

2 large papayas

Sweetener, to taste (optional)

Here are the directions for making papaya fruit leather:

1. Wash and peel the papayas.
2. Cut the papayas in half and scoop out the seeds.
3. Cut the papayas into chunks and place the chunks in a blender or food processor.
4. Process the papaya into a puree.
5. Add sweetener, if necessary, and blend it into the puree.
6. Line a baking tray or drying tray with plastic wrap.
7. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
8. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
9. Wrap the leather in plastic for storage.

Pears

Most of the pears grown in the United States are grown in the Pacific Northwest region, where the cool climate is conducive to growing good pears. Nearly 90% of the total pear crop of the United States in grown in Oregon and Washington. The pears are usually picked green and allowed to ripen off the vine as they're transported to stores across the nation.

Pears are a great source of vitamin C and single serving of dried pears will give you a good percentage of your daily fiber needs. The fiber and other nutrients in pears are believed to reduce the risk of cancer. You may have heard the skin of pears contains phytonutrients that have both antioxidant and anti-inflammatory properties. You can dry pears with the skin on them, but they'll be tough to eat because of the gritty texture and tough skin. Most people prefer drying pears with the skin removed.

Selection:

Choose pears that are ripe, but haven't started to go too soft. The color of the pear depends of the variety of pear you plan on drying.

Preparation & Pretreatment:

Follow these steps to prepare pears for drying:

1. Wash the pears.
2. Peel the pears, if desired.
3. Core the pears.
4. Slice the pears into thin slices.
5. Pretreat the pear slices.
6. Place the pear slices on the drying tray(s), leaving space between each slice.

The following pretreatment options are effective on pears:

- **Ascorbic acid bath.**
- **Fruit juice dip.**
- **Sulfite dip.**
- **Sulfuring.**

The last two will leave sulfites on the final product that may cause problems in sensitive individuals.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

12 to 24 hours in the dehydrator or 18 to 36 hours in the oven.

Solar Drying Time:

1 to 2 days.

How to Tell When Dry:

Dried pears will feel leathery to the touch. Let a couple pieces cool and cut them open. If there's visible moisture, the pears need more drying time.

Storage:

Condition in a glass jar with a cloth lid for 2 to 3 days. Pasteurize using heat or cold, if desired. Store in an airtight container in a cool, dark place. Dried pears will last up to 12 months under optimal storage conditions.

How to Rehydrate:

Pears can be consumed in their dried state or they can be rehydrated and used in culinary dishes that call for cooked pears. To rehydrate, soak pears in cool water for 15 to 20 minutes.

Pear Fruit Leather

Gather these ingredients:

4 cups of pear slices

1 teaspoon cinnamon

Sweetener, to taste (optional)

Here are the directions for making pear fruit leather:

1. Wash the pears.
2. Peel and core the pears.
3. Cut the pears into slices.
4. Place the slices into a food processor or blender and blend into a puree.
5. Add sweetener, if necessary, and blend it in.
6. Line a baking tray or drying tray with plastic wrap.
7. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
8. Sprinkle cinnamon on top of the fruit leather.
9. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
10. Wrap the leather in plastic for storage.

Persimmons

Persimmons are a fruit consumed in large amounts in China, Japan and other Asian countries, but are relatively uncommon in the United States. The fruit can sometimes be found in stores and some people cultivate them in the U.S., but they aren't as common as, say, bananas or apples.

Persimmons look similar to a tomato, but they're actually classified as a berry. They grow on trees that can grow up to 25 feet tall. American persimmons are grown in the Midwest and are the size of a plum. Asian persimmons are sometimes found in stores and are larger in size. Some persimmons are *astringent*, meaning they have an extremely bitter taste if consumed before they're ripe. All American persimmons and some Asian persimmons are astringent.

Unripe persimmons aren't palatable because they have a bitter flavor. Persimmons should be allowed to ripen until they start to go soft if you plan on eating them fresh in order to get rid of the astringency. The drying process gets rid of much of the bitter flavor.

Selection:

Choose persimmons that are firm to the touch and haven't yet started to go soft. The drying process will help get rid of some of the astringency, so there's no need to use soft persimmons.

Preparation & Pretreatment:

Prepare persimmons by doing the following:

1. Wash the fruit.
2. Remove the stems by cutting off the top third of the persimmon. This will get rid of the portion of the stem that extends into the fruit.
3. You can peel the persimmons if you'd like, but it isn't necessary.
4. Cut each persimmon into thin slices.
5. Place them on drying trays with room between each persimmon.

Persimmons do not need to be pretreated. If discoloration is of concern, steam or syrup blanch the persimmons for 5 to 10 minutes.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

8 to 16 hours in a dehydrator or 12 to 24 hours in the oven.

Solar Drying Time:

18 to 36 hours.

How to Tell When Dry:

Dried persimmons are leathery to the touch.

Storage:

Condition the persimmons by placing them in a glass jar with a cloth lid for up to 5 days. Pasteurize them by freezing or heating them. Store the persimmons in an airtight container in a cool, dark place. Dried persimmons will last 6 to 12 months in storage when properly stored.

How to Rehydrate:

Rehydrate by letting the dried persimmons soak for 20 minutes in hot water. Dried persimmons can be eaten as a snack without having to be rehydrated.

Persimmon Fruit Leather

Gather these ingredients:

4 cups persimmons

2 tablespoons lime juice

Sweetener, to taste (optional)

Follow these directions to make persimmon fruit leather:

1. Select ripe fruit that is firm and hasn't yet started to go soft.
2. Wash the persimmons and remove the skin.
3. Place the persimmons in a blender or food processor and blend into a puree.
4. Add 2 tablespoons of lime juice to the puree.
5. Add sweetener, if necessary, and blend it in. Honey or agave nectar works well.
6. Line a baking tray or drying tray with plastic wrap.
7. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
8. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
9. Wrap the leather in plastic for storage.

Pineapple

The pineapple is an interesting fruit. Many people think they grow on trees, but they actually grow on 3' to 5' tall perennial plants with tough, fibrous fronds growing from them. A single pineapple plant can grow multiple pineapples in a single growing season. The first pineapple grows up from the middle of the plant and additional pineapples grow on side shoots.

The pineapple itself also has some characteristics that differentiate it from other commonly consumed fruit. A green "tuft" grows from the top of the pineapple. This tuft can be cut off, along with the crown of the pineapple, and planted to propagate more pineapple plants. The fruit itself is created when hundreds of flowers form smaller fruits that then join together to make a whole pineapple.

Pineapple is a nutritional powerhouse. It's high in vitamin C and a single serving contains 45% of the daily recommended value of manganese. Pineapple is also high in fiber and relatively low in caloric content. The *bromelain* in pineapples is thought to aid with digestion and may be able to reduce inflammation in certain areas of the body.

Selection:

It's important to make sure you select a ripe pineapple because pineapples will not continue to ripe once they've been picked. Some stores may be willing to core a pineapple for you, so you can check to make sure it's ripe. If not, you can always return it to the store if it isn't ripe enough. Smell the end of the pineapple to make sure it smells sweet. A sour or rotten smell indicates a pineapple that's starting to go bad.

Preparation & Pretreatment:

Follow these steps to prepare pineapple for drying:

1. Cut off the crown and the base of the pineapple.
2. Slice the skin off the pineapple.
3. Some of the eyes will be deeper than others. Cut out any remaining eyes.
4. Core the pineapple.
5. Cut the pineapple into thin slices.
6. Place the pineapple on the drying tray(s). Leave ample space between each piece.

Some stores have machines that will automatically peel and core pineapples. If you have access to one of these machines, taking advantage of it can save you a good bit of time.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

12 to 24 hours in the dehydrator or 18 to 36 hours in the oven.

Solar Drying Time:

1 to 3 days.

How to Tell When Dry:

Dried pineapple will feel leathery to the touch. Let a couple pieces cool and cut them in half to make sure there isn't any moisture left inside.

Storage:

Condition for a couple days. Pasteurize with heat or cold, if desired. Store in an airtight container in a cool, dark place. Dried pineapple will last up to a year in storage when properly stored.

How to Rehydrate:

Dried pineapple doesn't need to be rehydrated.

Pineapple Fruit Leather

Gather these ingredients:

1 pineapple

Here are the directions for making pineapple fruit leather:

1. Cut off the crown and the base of the pineapple.
2. Slice the skin off the pineapples.
3. Some of the eyes will be deeper than others. Cut out any remaining eyes.
4. Core the pineapple.
5. Cut the pineapple into chunks.
6. Place the pineapple chunks into a blender or food process and blend into a puree.
7. Line a baking tray or drying tray with plastic wrap.
8. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
9. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
10. Wrap the leather in plastic for storage.

Plums (Prunes)

Plums come from the Prunus genus of trees and shrubs, which is the same genus as other popular fruits like cherries, nectarines, apricots and even almonds. The genus is often called the stone fruit genus because of the hard pits found in the middle of the fruit. Another name for fruits of this genus is *drupes*.

Dried plums are often referred to as *prunes*. The name "prune" has the stigma attached to it as being something old people consume to stay continent. Because of the association, many companies have stopped using the term "prune" and have instead switched to "dried plum." When you see the term "prune" and "dried plum," rest assured you're getting the same thing. It isn't clear whether this marketing technique has helped sell more "dried plums" or if it has simply confused those looking to buy prunes.

The truth of the matter is prunes do indeed contain phenolic compounds that have a mild laxative effect on the body. If you're feeling constipated, you could do a lot worse than eating a few prunes or drinking prune juice.

Selection:

The best plums for drying are ripe, but aren't so ripe they're overly soft. They should give a bit when pressure is applied, but the skin shouldn't feel squishy. Choose plums that are free of damage and signs of decay. Wrinkles in the skin indicate plums that may be aged or otherwise deteriorated.

Mature plums will sometimes have a grayish wax-like substance on them. This is normal and appears as plums mature on the tree. Wash this waxy substance off prior to drying, but don't let it be the reason you don't buy prunes.

Preparation & Pretreatment:

Since most plum varieties are already dark in color, pretreatment usually isn't necessary. Here are the steps required to prepare plums for drying:

1. Wash the plums.
2. Cut each plum in half and remove the pit. Larger plums will need to be sliced into smaller pieces.
3. Pop the back of the plum by grabbing the plum and pushing on the skin on the back until it basically turns inside out.
4. Place the plums on the dehydrator tray with the skin side facing down. Leave space between each plum.

Alternatively, plums can be dried whole with the stone still in them. Check whole plums in boiling water for 2 to 3 minutes to crack the skin.

Drying Temperature:

125° to 135° F.

Electric Drying Time:

18 to 36 hours in a dehydrator or 24 to 48 hours in the oven.

Solar Drying Time:

2 to 4 days.

How to Tell When Dry:

Dried plums are done drying when they are wrinkled and feel leathery to the touch.

Storage:

Condition and pasteurize the dried plums. Store them in an airtight container in a cool, dark place. The freezer is a good place to store dried plums. They'll last a year or more in the freezer.

How to Rehydrate:

Prunes aren't generally rehydrated before use.

Prune Juice

Gather these ingredients:

4 cups water

1 cup dried prunes

Follow these instructions to make prune juice from dried plums:

1. Bring 4 cups of water to a boil.
2. Place 1 cup of dried prunes in a glass container.
3. Pour the boiling water over the prunes.
4. Cover the prunes and let them soak for 12 to 24 hours.
5. Place the prunes and the water in a blender and blend until smooth.
6. Strain out the solids.
7. Add 2 cups of water to the juice and stir it in.
8. Taste the juice and add sweetener, if necessary.

Store prune juice in the fridge until you're ready to drink it. It will last 5 to 7 days if kept cold.

Plum Fruit Leather

Gather these ingredients:

4 cups plums

½ cup honey

Follow these directions to make plum fruit leather:

1. Select ripe fruit.
2. Wash the plums.
3. Cut the plums in half and remove the seeds.
4. Place the plums in a blender or food processor and blend until smooth.
5. Add ¼ to ½ cup honey and blend it in.
6. Line a baking tray or drying tray with plastic wrap.
7. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
8. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
9. Wrap the leather in plastic for storage.

You can leave the skin on the plums for this recipe. If you decide to remove the skin from the plums, boil the plums for a few minutes to loosen the skins. This will make them much easier to remove.

Raspberries

Raspberries are a perennial temperate crop grown all over the world. They prefer cool climates, but varieties exist that can be grown in most climate zones. Red raspberries are the most common variety, but there are a number of other colors of raspberries grown and sold on the world market. There are golden, yellow, blue and purple raspberries grown by home cultivars and commercial farms alike.

Raspberries can be an invasive species if allowed to grow wild. They grow in thick brambles that can spread rapidly if they aren't watched closely and kept in check.

Raspberries look similar to blackberries in shape and size, but can be differentiated in that raspberries lose their stems when removed from the plant. There will be a round hole where the stem was attached when you pick a raspberry.

If you're looking to add fiber to your diet, raspberries are the way to go. They can be made up of as much as 20% fiber, making them one of the highest fiber whole foods in the world. They're also high in vitamin C and manganese and contain antioxidants the body needs to help it eliminate free radicals. Studies have shown organic raspberries to contain more antioxidants than traditional crops.

Selection:

Choose ripe raspberries that haven't gotten overly soft. The color depends on the type of raspberry you're drying. Most raspberry varieties will separate easily from the stem when they're ripe.

Preparation & Pretreatment:

Follow these steps to prepare raspberries for drying:

1. Wash the berries and pat them dry.
2. Remove any remaining stems. Most of the stems should have pulled out when the berries were picked. Examine the berries closely when you're washing them because the holes where the stems were can harbor insects.
3. Cut the berries in half if you want them to dry faster.
4. Place the berries in a lemon juice bath containing 2 tablespoons of lemon juice mixed with 4 cups of water. Let them soak for 5 minutes to kill off any remaining insects. Alternatively, boil the raspberries for 5 minutes to check the skins and kill off any bugs.
5. Place them on the drying tray. Be sure to leave space between each berry.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

18 to 24 hours in a dehydrator or 24 to 36 hours in the stove.

Solar Drying Time:

48 to 72 hours.

How to Tell When Dry:

Dried raspberries will be crisp to the touch and will not contain any visible moisture.

Storage:

Condition the berries for 3 to 5 days in a shaded area. Shake the container regularly to keep the berries from sticking to one another. Pasteurize the berries by heating them to 175 degrees F and holding them there for 15 minutes. Store dried raspberries in an airtight container in a cool, dark location. Dried raspberries will last up to a year if properly stored.

How to Rehydrate:

Soak in hot water for 15 to 20 minutes to rehydrate.

Raspberry Fruit Leather

Because raspberries contain a lot of seeds, they're better when dried into fruit leather than when they're dried whole.

Gather these ingredients:

4 cups raspberries

Sweetener, to taste

Follow these directions to make raspberry fruit leather:

1. Select ripe fruit that has ripened to the correct color for the raspberry type you're using to make the fruit leathers.
2. Wash the berries and remove any remaining stems.
3. Inspect the holes in the berries when the stems were for insects that may be hiding in the hole. Remove any insects you find.
4. Place the berries in a blender or food processor and blend them until they're a smooth consistency.
5. The seeds can be strained out, if you'd like, or you can leave them in.
6. Add sweetener, if necessary, and blend it in. Honey or agave nectar works well.
7. Line a baking tray or drying tray with plastic wrap.
8. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
9. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
10. Wrap the leather in plastic for storage.

Try adding pureed apples, applesauce or banana to the raspberry puree to change the flavor.

Strawberries

Strawberries are one of the most widely sowed fruits in home gardens. They prefer full sunlight, but can get by on 4 to 6 hours of light a day. If you're growing strawberries, you're going to have to harvest them at least every couple days to stay on top of your crop. Be careful not to harvest strawberries too early because what you see is what you get. Strawberries don't continue to ripen once they've been removed from the plant.

Strawberries are one of the top sources of antioxidants in the world. The only fruit thought to have more antioxidants per average serving than strawberries are blackberries. Strawberries are an excellent source of vitamin C and also contain decent amounts of manganese, fiber, folate and potassium. Strawberries have to be processed or consumed quickly, as they start to lose nutrients within a day or two.

Selection:

Choose strawberries that are ripe and firm. Good strawberries will be a deep red color and will have the green leaves still attached to the top. Avoid strawberries that are green or have green spots because they were picked too early. A little bit of green near the stem is normal.

Preparation & Pretreatment:

Here are the steps required to prepare strawberries for drying:

1. Wash and drain the strawberries.
2. Remove the leaves and the green portion at the top of the strawberries.
3. Slice the strawberries into ¼" thick or smaller slices.
4. Place the strawberries on the drying tray, leaving space between each slice.

Strawberries do not require any pretreatment. They're full of vitamin C, which helps prevent enzymatic browning. Smaller strawberries can be dried whole.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

10 to 18 hours in the dehydrator or 12 to 24 hours in the oven.

Solar Drying Time:

2 to 4 days.

How to Tell When Dry:

Dried strawberries should be leathery and slightly crisp to the touch. Break a strawberry open and make sure there isn't any moisture left inside.

Storage:

Condition in a glass jar with a cloth lid for 3 to 4 days. Pasteurize using heat or cold, if desired. Store in an airtight container in a cool, dark place. Dried strawberries will last 6 months to a year when properly stored.

How to Rehydrate:

Dried strawberries aren't usually rehydrated before use.

Strawberry Fruit Leather

Gather these ingredients:

4 cups of strawberries

Sweetener, to taste (optional)

Here are the directions for making strawberry fruit leather:

1. Select fully ripe strawberries.
2. Wash and hull the strawberries.
3. Place the strawberries into a blender or food processor and blend into a puree.
4. Add sweetener, to taste, and mix it in.
5. Line a baking tray or drying tray with plastic wrap.
6. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
7. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
8. Wrap the leather in plastic for storage.

Tomatoes

Tomatoes are one of the most ubiquitous fruits in the world. They're grown and consumed worldwide, with thousands of varieties of tomatoes gracing plates in pretty much any country you can imagine. Red, green, yellow, orange, black and even purple. You name a color, there's probably a variety of tomatoes somewhere in the world with at least a touch of that color in it. Tomatoes range in size from small tomatoes the size of marbles to large ones the size of softballs or bigger.

Heirloom tomatoes are popular amongst home gardeners and those looking to preserve their nation's heritage. These are tomato varieties that have been around since World War II and have withstood the test of time. They're usually tailored to a certain region and climate and are grown by local enthusiasts. They have rich flavor profiles and feature brighter colors than commercial tomatoes, which are bred to grow fast and be disease-resistant.

There's quite a debate as to how tomatoes should be classified. For botanical purposes, they're a fruit, but they're used more like a vegetable when it comes to culinary preparation.

Selection:

Any type of tomato can be dried, but the types with less seeds are easier to prepare. Roma tomatoes are a popular choice for drying. Choose ripe tomatoes that are firm to the touch. Discard any damaged or bruised tomatoes.

Preparation & Pretreatment:

Here are the directions for preparation and pretreatment:

1. Wash the tomatoes.
2. Slice them into thin slices. Cherry tomatoes can be cut in half.
3. If you don't want the seeds in the final product, scoop out as many of the seeds as you can. This step is optional.
4. Cut away any bruises or soft spots.
5. Place the tomatoes on the drying tray(s). Leave space between each slice.
6. Drizzle with olive oil and sprinkle salt, pepper and basil on top. This step is optional. It adds flavor to the tomatoes and gives them a gourmet taste.

Tomatoes can be dried with or without the skin on them. To remove the skin, boil the tomatoes for 5 minutes and move them directly to an ice water bath. When done correctly, the skin will peel right off.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

6 to 8 hours in a dehydrator or 8 to 12 hours in the oven.

Solar Drying Time:

10 to 24 hours.

How to Tell When Dry:

Dried tomatoes will feel leathery to the touch. Let a couple tomato slices cool and cut them open to check for moisture inside.

Storage:

Condition and pasteurize the dried tomatoes. Store them in an airtight container in a cool, dark place. Dried tomatoes will last up to 6 months when stored on their own. They'll last even longer if they're packed in oil. Once drying is complete, place the tomatoes in a tightly capped jar full of extra-virgin olive oil.

How to Rehydrate:

Soak the tomatoes in warm water for 15 to 20 minutes, or until they get soft. Dried tomatoes don't rehydrate well enough to eat on their own. They can be added to some dishes without having to be rehydrated. Dried tomatoes that have been packed in olive oil don't need to be rehydrated.

Watermelon

Most people are shocked to find out watermelon can be dehydrated. After all, even the name indicates it should be difficult to dry. Watermelon does indeed contain a lot of water, but it can successfully be dried into a leathery snack that'll elicit oohs and aahs from those lucky enough to get a piece. Watermelons contain more than 90% water by weight, making them one of the trickier fruits to dry.

Watermelon grows wild in Africa, which is where it's believed to have originated from. It's cultivated for culinary purposes all over the world and is one of the more popular melons world-wide. It's grown commercially in 44 states and by home cultivars in all of the states. The warmer states like California, Florida and Texas produce the bulk of the nation's commercial watermelon.

When most people think of watermelon, they think of oval-shaped melons with red or pink flesh in the 4 to 10 pound range. Some varieties of watermelons can get much larger than that, with the record watermelon clocking in at more than 250 pounds. Watermelon skins are usually green, but can be other colors like purple or black and the flesh is usually red, but varieties exist where the flesh is yellow, orange or white. Both seeded and seedless versions of watermelons are sold in stores across the nation. There are even watermelons that have been grown into the shape of a cube. This is done by placing small melons into a glass box. As the melon grows, it takes the shape of the box.

Watermelons aren't just made of water. They're a decent source of vitamin C and vitamin A and contain a balanced mixture of other vitamins and minerals. Watermelon is one of nature's greatest sources of *lycopene*, which is a phytonutrient thought to promote cardiovascular health.

Selection:

Pre-cut watermelons are the easiest to pick from because all you have to do is select a melon with deep red flesh and no white streaks. Avoid melons that have started to go soft.

When purchasing whole melons, first pick the melon up. A ripe melon will be heavier than an unripe melon. Next, look at the bottom of the melon to see if there is any white or green on the rind. This is indicative of a melon that was picked too soon and wasn't allowed to ripen on the vine for a long enough period of time. The top of a ripe watermelon will be a dull green color.

The least accurate method of testing for ripeness is thumping the melon and listening to the sound. There are some experts who claim to be able to determine ripeness by thumping a melon and they say to listen for a deep "THUD," but I've had less than stellar results using this method.

Seedless watermelons are less of a hassle to dry than seeded watermelons because you won't have to try to remove the seeds.

Preparation & Pretreatment:

Watermelon is fairly easy to get ready for drying, as long as you use seedless watermelon. Here are the steps you should follow to prepare watermelon:

1. Cut off the top and bottom of the watermelon. Make sure you cut enough of the top and bottom off to expose the flesh.
2. Stand the watermelon up and "cube" it. This is done by using a sharp knife to cut the rind away from the melon in 4 slices, creating a cube out of the remaining flesh.
3. Cut the watermelon into ¼" to ½" strips.
4. Place it on a drying tray.

For interesting flavor combination, try sprinkling a bit of chili powder or a combination of citrus limón powder and salt over the top. It balances well with the intense sweetness of the dried melon.

Drying Temperature:

130° to 140° F.

Electric Drying Time:

12 to 18 hours in the dehydrator or 18 to 24 hours in the oven.

Solar Drying Time:

Because of the high water content, it isn't recommended watermelon be dried in the sun.

How to Tell When Dry:

Watermelon will dry into a flat strip that feels leathery and slightly tacky to the touch.

Storage:

Condition dried watermelon for 4 to 7 days. Pasteurize it and store it in a cool, dark place. Dried watermelon will last for up to 6 months when properly stored.

How to Rehydrate:

Dried watermelon is usually eaten in its dehydrated state. No need to attempt to rehydrate it.

Watermelon Fruit Leather

Gather these ingredients:

1 large seedless watermelon

3 tablespoons lemon juice

Here are the directions for making watermelon fruit leather:

1. Obtain a large seedless watermelon.
2. Cut the rind off the watermelon and cut the flesh into chunks.
3. Place the flesh in a blender or food processor and blend it into a puree.
4. Strain the liquid from the flesh using a couple layers of cheesecloth. You'll be surprised at how little pulp you actually have left after straining. Save the watermelon juice, as it can be consumed as a tasty beverage.
5. Add 3 tablespoons of lemon juice and blend it in.
6. Line a baking tray or drying tray with plastic wrap.
7. Spread the puree evenly across the plastic. You want the leather to be approximately 1/8" thick.
8. Dry the fruit leather until it thickens and becomes leathery. It should be able to be easily pulled away from the plastic.
9. Wrap the leather in plastic for storage.

You can add sweetener if the watermelon isn't sweet enough, but it's unlikely you'll need it if the watermelon was ripe.

Storage of Dried Fruit

The best storage methods for dried fruit eliminate as much oxygen as possible from the container and seek to keep oxygen from reentering the container. For this reason, *vacuum-packing* dried fruit using a home vacuum-packager is one of the best methods of storage. Vacuum-packed food is placed in a special bag, which is then attached to a vacuum-packing machine that sucks much of the air out of the bag and seals the bag.

A bag of vacuum-packed dried food can last up to 3 times as long as food stored in a regular container. This is because regular containers allow air inside. Even so-called airtight containers can allow small amounts of air in over time. The air has moisture in it and the food in the container eventually rehydrates and starts to go bad.

If you have to use containers that aren't vacuum-packed, remove as much air from them as possible and make sure they're sealed tightly. A plastic baggie that's sealed up with a lot of air in it creates an environment in which food is much more likely to spoil than if the food was placed in a baggie with much of the air pressed out of it.

Store dried food packed in single-serving packages whenever possible. Constantly opening and closing a large container of dried food exposes the food to more air every time the container is opened. This can speed up degradation. Using single-serving packets only exposes the food in each packet to air when it's opened to be eaten. The food inside the package will be fresher, crisper and won't have had the same exposure to air as larger packages.

Some dried fruit may stick together when vacuum-packed into plastic bags. As the air is sucked out of the bags, the food is compressed. Soft, sticky dried fruit might not be able to handle the pressure and can sometimes fuse with other pieces. Dried fruit that sticks together can be stored in glass canning jars. The jars can then be vacuum-sealed using a special lid and an attachment that hooks up to the vacuum-packing machine.

The End

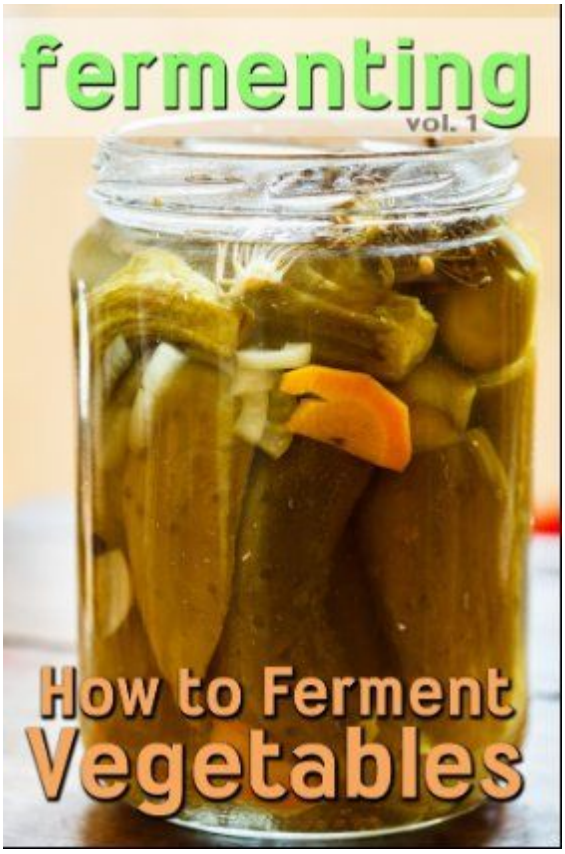
Thanks for purchasing this book. I hope you enjoyed reading it as much as I enjoyed writing it.

Drying fruit is rapidly becoming a lost art and I really hope this book makes it into the hands of people looking to revive that art. Time spent learning to dry fruit, and other foods for that matter, is time well-spent and drying is a skill you'll likely put into use time and time again to preserve food and make healthy snacks for your family and friends.

Stay tuned for more books on drying and other food preservation methods.

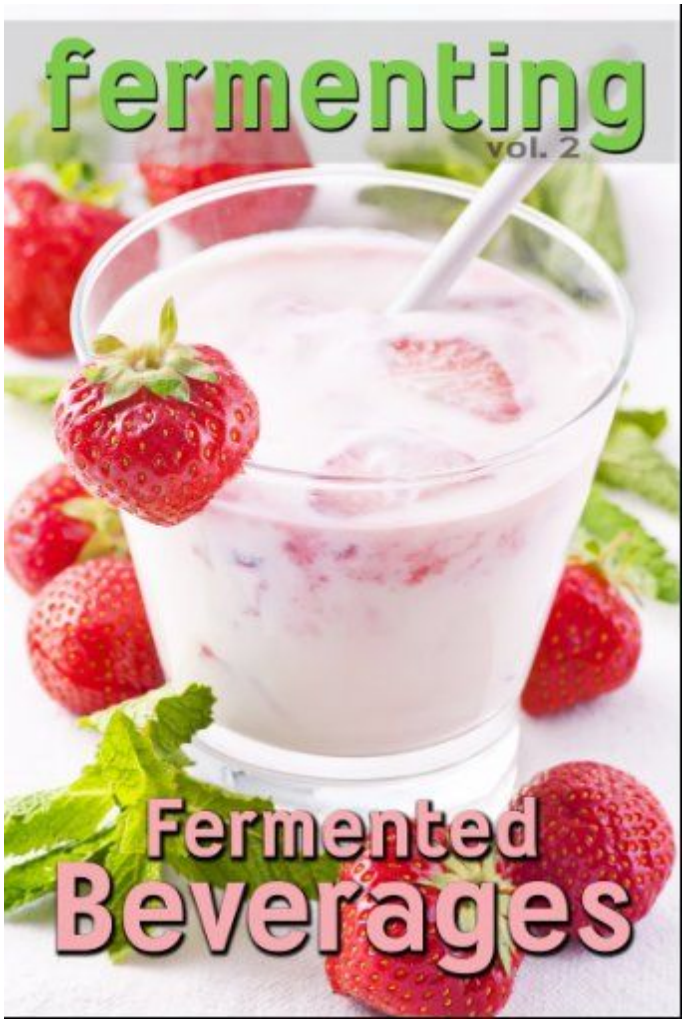
Other Books You May Be Interested In

If you're interested in fermenting, the fermenting series of books will teach you what you need to know:



http://www.amazon.com/Fermenting-How-Ferment-Vegetables-ebook/dp/B00EKN7VS2/

Here's the second volume in the fermenting series:



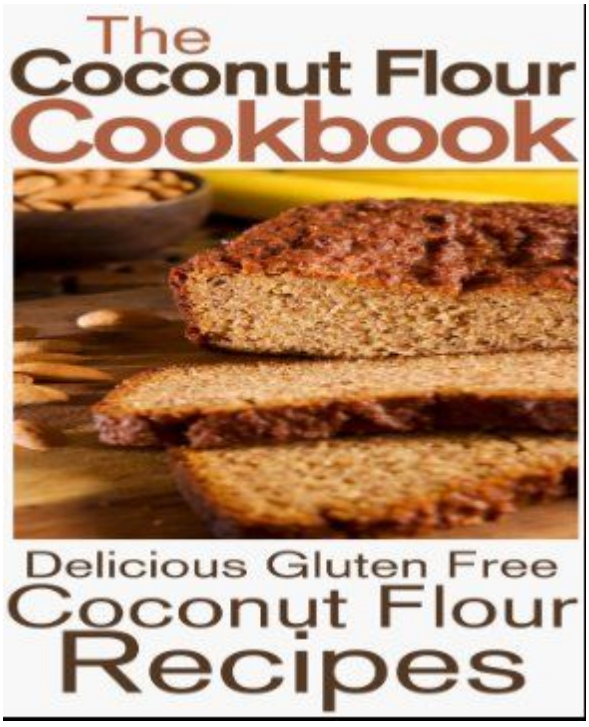
http://www.amazon.com/Fermenting-vol-Fermented-Beverages-ebook/dp/B00EPQWCPQ/

Milk kefir is discussed in the third volume in this series:

http://www.amazon.com/dp/B00EV5CHE2/

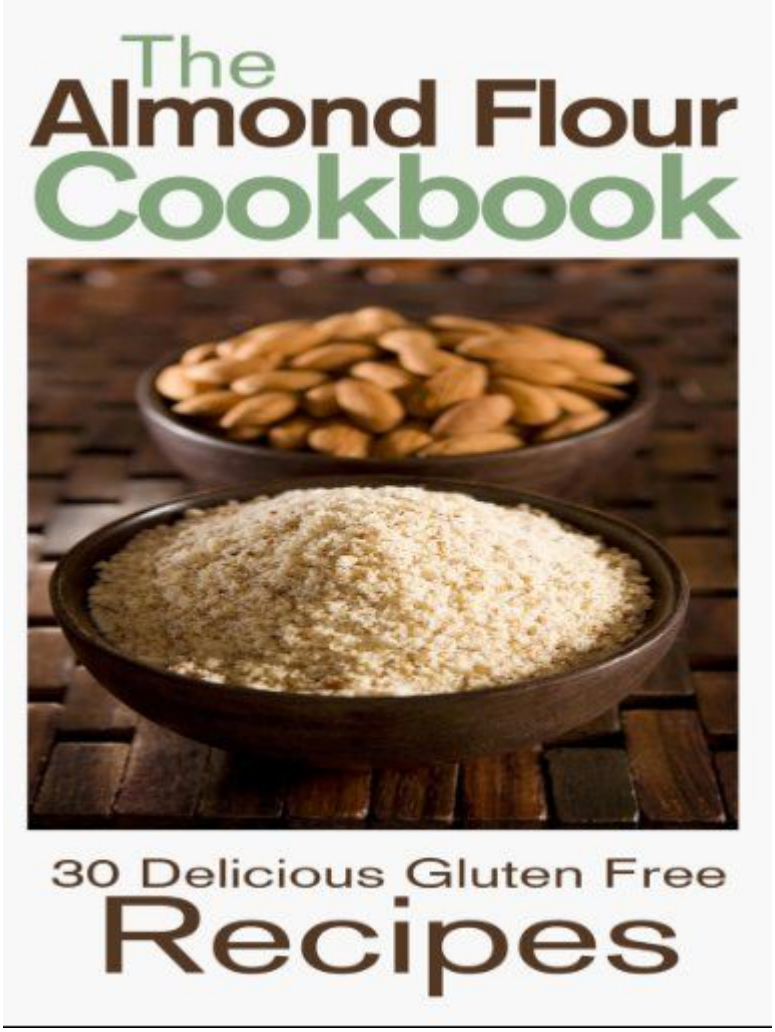
Diet plays a huge role in healthy living. If you're interested in healthy eating, there are a number of healthy foods you may be interested in adding to your diet. The following books may be of interest to you.

The Coconut Flour Cookbook: Delicious Gluten Free Coconut Flour Recipes



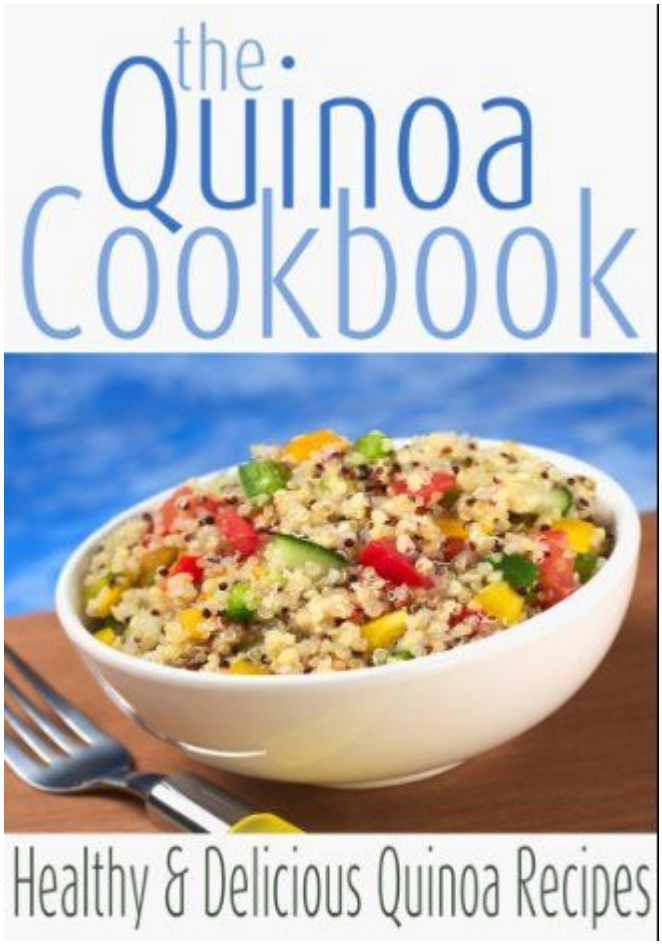
http://www.amazon.com/dp/B00CC0JFPM

The Almond Flour Cookbook: 30 Delicious and Gluten Free Recipes



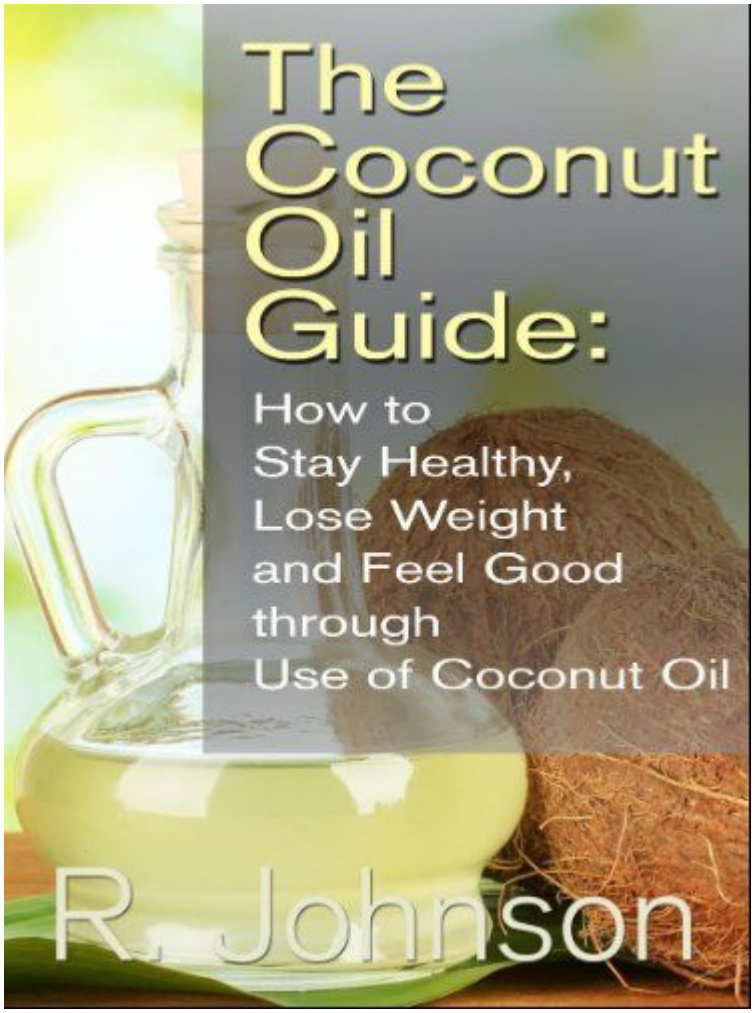
http://www.amazon.com/dp/B00CB3SJ0M

The Quinoa Cookbook: Healthy and Delicious Quinoa Recipes (Superfood Cookbooks)



http://www.amazon.com/dp/B00B2T2420

The Coconut Oil Guide: How to Stay Healthy, Lose Weight and Feel Good through Use of Coconut Oil



http://www.amazon.com/The-Coconut-Oil-Guide-ebook/dp/B00CESE3HC/