

FOOD DEHYDRATOR USER MANUAL



PKFD06

WARNING!

Do not operate this appliance on a flammable material such as a wood surface or on any tablecloth. Do not operate this appliance on a non-heat-resistant glass cooktop or cutting board. It is imperative that an additional heat-resistant cooking surface such as tile or any surface protected with a heat resistant finish at least the size of the unit or larger be placed beneath this unit. This will serve to protect the surface beneath from heat that can be generated by the food dehydrator.



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IMPORTANT SAFEGUARDS

When using electrical appliances, basic safety precautions should always be followed including the following:

1. Read all instructions.
2. Do not touch hot surfaces. Use handles or knobs.
3. To protect against electrical shock do not immerse cord, plugs, or the base unit in water or other liquid.
4. Close supervision is necessary when any appliance is used by or near children.
5. Unplug from outlet when not in use and before cleaning. Allow to cool before putting on or taking off parts.
6. Do not operate any appliance with a damaged cord or plug or after the appliance malfunctions or has been damaged in any manner. Return appliance to the nearest authorized service facility for examination, repair, or adjustment.
7. The use of accessory attachments not recommended by the appliance manufacturer may cause injuries.
8. Do not use outdoors.
9. Do not let cord hang over edge of table or counter, or touch hot surfaces.
10. Do not place on or near a hot gas or electric burner, or in a heated oven.
11. Extreme caution must be used when moving an appliance containing hot oil or other hot liquids.
12. Always attach plug to appliance first, then plug cord into the wall outlet. To disconnect, turn any control to "off", then remove plug from wall outlet.
13. Do not use appliance for other than intended use.

SAVE THESE INSTRUCTIONS

This appliance has a polarized plug (one blade is wider than the other). To reduce the risk of electric shock, this plug is intended to fit into a polarized outlet only one way. If the plug does not fit fully into the outlet, reverse the plug. If it still does not fit, contact a qualified electrician. Do not attempt to modify the plug in any way.

Household Use Only



Thank You For Choosing The Nutrichef Electronic Food Dehydrator

This quality appliance is designed to give you many years of use.
For best results and trouble-free service we urge you to read this entire manual.



Dehydration - Preserving Food

Thousands of years ago, one of the few ways people had to preserve foods was by laying them out to dry in the sun. Before such modern appliances as refrigerators and before chemical preservatives, dehydration was an easy way to safely store foods for use at a later time when food was scarce or not in season. Your new food dehydrator applies modern science to this ancient art to bring you a controlled, predictable, and safe way to preserve foods at home.

Dehydrating food opens a new dimension in preserving fruits, vegetables and meats to you. Your new food dehydrator will be able to perfectly capture the fresh-picked, in-season flavor and nutrition of almost any food for out-of-season eating enjoyment. These dried foods can be more easily stored because they are less likely to spoil and they take up less room as well. They also weigh less making them perfect for camping or backpacking meals. Dried fruit snacks are delicious and nutritious. Ingredients for your favorite soup recipes can be dried and stored which also make a great last-minute meals, ready to cook.

Your food dehydrator keeps the temperature in the drying chamber at a fan-assisted and controlled constant. Food is bathed in a constant stream of warm, dry air which gently removes the moisture from the food. The result is beautifully dried food every time.

You will find that drying food is practical and economical as well as easy. And it all starts with your state-of-the-art food dehydrator.



What is Dehydration?

Dehydration refers to a process in which moisture is removed from food, allowing the dried food to be stored safely for later use. It's main benefit over other such ancient methods (such as smoking) is that it adds no flavors and removes few nutrients from the food being dehydrated.

When done properly, few nutrients are lost during dehydration. According to the Food and Drug Administration (FDA), dehydrating retains 95-97% of the nutrients in the original food. In contrast, canning only preserves 20-30% and freezing only retains 40-60% of the food's nutrition.

Dehydrated food tastes good too! Since natural flavors concentrate as you remove moisture, the dried product is naturally delicious.

As you will soon learn, reconstitution is an integral part of dehydration. Reconstitution refers to the adding of water to the dried food. When allowed to soak in water, dried food absorbs the water and swells back to its original size, shape and texture while retaining nearly 100% of its original flavor and nutrition.



Tools You Need To Get Started

- Paring knife (stainless steel blade).
- Cutting board
- Storage containers

Additional tools that make the job easier and faster can include:

- A food processor or other similar appliance for faster and consistent slicing.
- A steamer and basket, or kettle and collapsible steamer for blanching.
- Blender for making fruit puree for fruit leather.
- A small notebook to keep track of times and recipes that work for you as well as those that don't.



Basic Food Preparation Tips

To Peel or Not to Peel

The peels of fruits and vegetables often contain much of the food's nutritional value. Thus, it is better not to peel if the dried food is to be eaten as snacks or used in cookies. On the other hand you will want to peel apples intended for pies or tomatoes intended for soups. Generally, if you would normally peel the food for a specific recipe, plan to peel the food before it is to be dehydrated.

Cutting Makes a Difference

One of the most important factors in successful dehydration is how the foods are sliced. When drying fruits it helps to get all the slices about the same thickness so they all dry to the same moisture level at the same time. Thick slices dry more slowly than thin slices. The thickness you choose is up to you, but slicing all the pieces to as close to the same size as is possible will help ensure success and consistency.

The skin of many foods naturally protects the food, but it can hamper the dehydration process. During dehydration moisture escapes best from a cut or broken surface, not through the tough skin. Therefore, the larger the cut area, the faster and better the food will dehydrate.

For this reason, thin stalked vegetables like green beans asparagus, and rhubarb should be cut in half the long way, or with an extreme diagonal cut to expose as much of the inner parts of the food as possible.

Fruit should be sliced across the core and not down through the core. Try to always make thin, flat cuts.

Broccoli stems should be halved or quartered, depending upon diameter. Small fruits like strawberries can be cut in half. Even smaller berries should either be cut in half or blanched slightly to break the skin.



Filling the Drying Trays

When loading the food into the trays you can use all of the trays' top surface, but some airflow must be maintained. Try to place the food in a single layer where possible. This is particularly important with foods like banana slices and pineapple rings and not quite as important with beans. If some of the pieces come out with too much moisture when you are finished, one of the reasons is that it might have been covered by other pieces of food.

Dehydration removes the moisture and will cause the food to shrink as it dries. This allows you to store the same amount of food in a smaller space, but it also means that as the food shrinks during the drying process, smaller pieces can fall through the holes in the drying trays. To prevent this, particularly when drying chopped or shredded foods, line the trays with mesh tray Inserts before laying out the food. Chopped food should not be spread thicker than 3/8 inch. Use a fork to expose the mesh tray insert in several places to provide proper air circulation.

If you do not have mesh tray inserts available, use nylon netting, needlepoint canvas, cheesecloth or similarly, coarse woven fabric. When lining the tray be sure to cut an opening for the tray's center hole. The fabric should be food safe, allow air to pass through it, and it must be laundered before being used. Use care when choosing fabric as sticky foods may not be able to be easily removed, and particles from the fabric may stick to the food pieces.

It may be necessary to stir the finely chopped food once or twice during dehydration to ensure even drying of all the pieces. To do so, turn the machine off, unplug it, remove the trays, stir, then reassemble and restart the machine according to the instructions.



Prevent Dripping

Some foods such as very ripe tomatoes and citrus or sugared fruits may drip. If too much liquid drips into the bottom of the unit it can be damaged necessitating service. Additionally, The dripping from a tray above can change the flavor of different foods on lower trays To help lessen dripping, after placing food on drying trays and before placing them on the dehydrator base, tap the tray firmly downward on a towel laid on the counter top a few times to remove excess moisture.

To catch any remaining dripping during dehydration that may occur with very moist foods, use fruit leather sheets placed on the bottom two trays. Alternate the sheets on one half of the two trays (i.e.. the left side of the first tray and the right side of the second tray). Then place these two bottom trays on the dehydrator base before placing the remaining trays with the food to be dried above them. When rotating trays, wipe the fruit leather sheets, but leave these two trays at the bottom of the stack of trays. When the food becomes dry enough so that it is no longer dripping, remove the fruit leather sheets from the two bottom trays to enhance air flow.

Do not use wax paper in place of the fruit leather sheets as the wax on the paper will melt at dehydration temperatures which can taint the food or damage the dehydrator. Always remember to leave the center hole of each tray uncovered.



How Long Does it Take to Dehydrate Food?

It is impossible to give exact drying times because there are so many factors that affect drying time. These factors include:

- The moisture content of each food
- The thickness or size of the prepared food
- The humidity and temperature in the room where the dehydrator is operating
- The density of the food

The food you choose also plays a part. The age of the food, where and how the food was grown, how it has been stored along its journey to you, and other factors all affect how long it might take to dehydrate.

But don't worry. With a little experience you will soon be able to tell when you are slicing the foods just about how long it will take, and which foods will dry soonest and which will take the longest.

Here is a good example: tomatoes are normally quite juicy. Their high moisture content will make them take longer to dry than many other foods. On the other hand, cabbage, which has a relatively low moisture level will take a much shorter time to dry. Citrus fruits like oranges will generally take longer than apples for the same reason.

So how do you know how long to let the foods dry? After the dehydrator runs for a while remove the trays and examine the foods. Don't be afraid to "peek!" This will help you learn about the drying process and how long it takes. For foods with higher moisture levels like fruits and meats, check them periodically after about the first four hours of drying time. Foods with a lower starting moisture content like herbs and leafy vegetables or chopped and shredded foods may dry sooner so need to be checked after about two or three hours and more often after that. You will soon get a "feel" for how long foods take to dry.

Don't worry, though. It is better to over-dry the food then leave too much moisture in it. Moist foods are more likely to spoil during storage. If foods have been over-dried and seem brittle or slightly browned they are still usable for soups or most baked goods. They may take slightly longer to reconstitute and require additional water, but their flavor and quality is generally not impaired.





General Operating Tips

Before operating your food dehydrator for the first time please be sure to completely read the “Important Safeguards” on page 2 and 3, and read and understand the following instructions.

- Wash and dry the trays and any other parts which will contact the food.
- The first time you turn on your dehydrator you may notice an aroma. This is normal. To avoid this smell from being transferred to the food, place one tray and the lid on the base allow the unit to run without food in place until the aroma is gone. This is only necessary the very first time you use the dehydrator, and takes less than one hour.
- Place the dehydrator on a flat, dry, heat resistant and stable surface. Make sure there is at least one inch of clearance around the dehydrator to ensure proper air flow.
- Prepare foods, according to the instructions given in this manual and fill the drying trays. NEVER cover the center hole in the trays or the vents on the top lid!
- Make sure the drying trays are securely nestled on top of each other and on the unit's base.
- Plug the power cord into any standard 100-120 volt household outlet.
- Consult the various tables at the end of this manual to get an idea as to when food is properly dehydrated and ready to be stored.

Tray Rotation

Inspect drying trays periodically. When you notice that the food in the lower trays is more dry than the upper trays, rotate the trays. To do so, remove all the trays as a unit, then remove the lid. Place the top tray of the removed stack on the base first, then follow by repeating with the next tray in the stack. Continue until all trays have been rotated, then replace the top cover.

Care and Maintenance

After each use, clean the drying trays and dehydrator lid with warm, soapy water. Do not wash trays, lid or base in dishwasher. Stubborn particles may be removed by soaking and/or using a plastic scrubber. Do not use abrasive materials or solvents to clean plastic!

To clean the dehydrator's base (the bottom part with the motor and heating element), unplug and wipe clean with a damp sponge or cloth. **NEVER immerse the base in water or allow liquid to flow into the area that contains the electrical parts.**

Storage

After the dehydrator is cleaned, dry all parts, stack drying trays on the base, and store in a safe place.



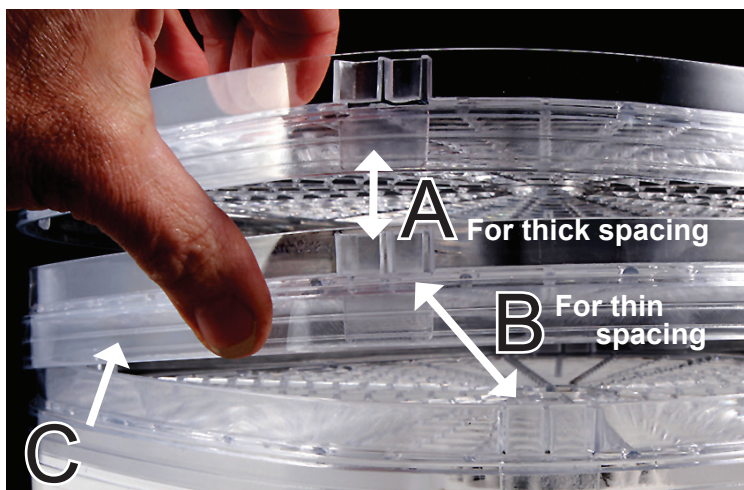


Setting Up Your Food Dehydrator

Before operating your Dehydrator for the first time please be sure to completely read and understand the instructions in this booklet. Wash and dry the trays and any other parts which will contact the food.

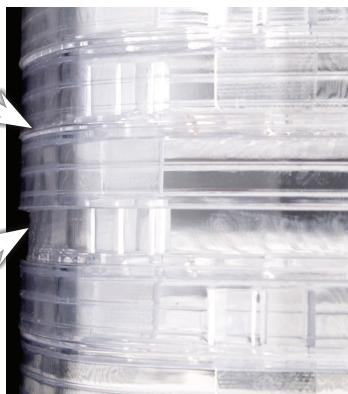
Stacking The Trays

Before you begin placing the food on the tray decide which way they will be aligned. It is possible to stack them for thick slices or thin cut foods. If the tabs at the corners of the trays are aligned (one above the other indicated by the arrow at "A" below) it creates a spacing suitable for thick slices. If the tabs are offset (indicated by the arrow at "B" below) this creates a space suitable for thin slices. The position of these tabs is changed by rotating a tray 1/4 turn. The wide portion of the trays always face down ("C" below)! Wide and narrow spacing can be mixed in a stack of trays. Use as few trays as you like, but always use the cover on the top tray. See the photos below:



THIN STACK
Example "B"
Tabs offset

THICK STACK
Example "A"
Tabs aligned





How To Operate Your Food Dehydrator

Your food dehydrator is simple to use and is designed to make the dehydration process simple and accurate if the instructions are followed. Be sure that you have read the safety tips at the beginning of this manual before proceeding.

The first time you turn on your food dehydrator you may notice an aroma. This is a normal by-product of the manufacturing process. To avoid this smell from being transferred to the food, place one tray and the lid on the base, and following the instructions below for your specific model, allow the unit to run without food in place until the aroma is gone. This is only necessary the very first time you use the dehydrator, and takes less than one hour.

Before you begin preparing your food, wash and dry the trays and the lid. Locate the base where the dehydrator will be left during the drying process and insure that the cord will reach an outlet in a safe manner. In this way, as you prepare the food you can place it right on the trays. As a tray is filled it can be placed on the dehydrator and you will be ready to start the dehydrator in no time!.

The KN128F is equipped with an "ON/OFF" switch. The temperature is electronically controlled, preset at the factory and is not adjustable by the user. The switch gives the user a convenient way to turn the dehydrator off while changing or rotating trays.

To operate the Food Dehydrator

- 1 - Locate the appliance in a safe place.
- 2 - Load and then inset the trays.
- 3 - Insert plug in proper outlet.
- 4 - Select the switch's "ON" position. The switch itself will illuminate indicating that the unit is on. You may also hear the fan operating.
- 5 - When the dehydration process has completed to your satisfaction, turn the switch "OFF" and remove the plug from the outlet.

If you will not be available to turn the dehydrator off at the correct time you may want to connect the dehydrator to an automatic appliance timer. Be sure that the timer's specifications state that the timer has a capacity of at least 5 amps.





Dehydrator Troubleshooting Guide

Symptom	Possible Cause	Possible Remedies
No Heat No Fan	No power to unit	1. Be sure unit is plugged in. 2. Be sure power switch is on. 3. Check that outlet is working.
No Heat Fan OK	Broken wire in unit	Not user repairable. Return for service.
Heat OK No Fan	Motor stalled or fan blocked	1. Turn off immediately. 2. Check for foreign objects (pieces of dried product) jamming fan. Turn base assembly upside down and shake vigorously. Turn unit on side and shake particles out. If fan still doesn't operate, return unit for service. 3. If liquid has been spilled into the air vents or the fan housing, unplug immediately and return the unit for service.
Slow Drying	Trays overfilled	1. Air must flow freely around food for proper drying Reduce quantity in trays or rearrange food.
	Fan jammed or running to slowly	2. Check for foreign objects jamming fan (see "Heat OK. No fan" above) 3. Fan motor running slow: Return for service.
	Air leaks due to warped or improperly stacked trays	4 Replace warped trays Note The heat during the drying cycle on most dishwashers may warp the drying trays 5. Re-stack trays properly.
Uneven Drying	Variation in food thickness and ripeness	1. Verify that foods are uniform in thickness
	Trays not rotated	2. Rotate trays once or twice during the dehydration process.
	Too much material in drying trays	3. Verify that food on the trays does not block air flow through the tray stack.
Over heating or Insufficient Heat	Temperature control not functioning at proper range	Temperature in lowest tray should be approximately 140° F with empty trays in place. If temperature varies significantly return for service.
Noisy Fan/ Motor	Foreign matter in fan	1. Check for foreign objects jamming fan (see "Heat OK. No Fan" above).h
	Motor bearings worn	2. Return for service.





Storing Dried Foods

Once food is properly dried it is important to store it properly for the best results. By following these storage techniques your food will stay fresh and ready-to-use for the longest time possible.

General Food Storage Tips

- Wait until food is cool before storing.
- Heat and light will cause food to deteriorate. Keep food in a dry, cool, and dark place.
- Remove all the air you possibly can from the storage container and close tightly.
- Ideal storage temperature is 60°F or lower.
- Never store food directly in a metal container.
- Avoid containers that “breathe” or have a weak seal.
- Check the contents of your dehydrated food for moisture during the weeks following dehydration. If there is moisture inside, you should dehydrate the contents for a longer time.
- For best quality, dried fruits and vegetables should not be kept for more than 1 year.
- Dehydrate your produce in the summer when it is at optimum freshness and replace it annually.
- Dried meats, game, poultry and fish should be stored for no more than 3 months if kept in the refrigerator, and no more than 1 year if kept in the freezer.
- Vacuum sealing can help to extend storage life by several months, if food has been properly and thoroughly dried.

Containers

Any container which is clean, airtight, and moisture-proof is suitable for storage. Heavy, zippered plastic bags or heat sealing cooking bags are excellent. Fill each bag as much as possible and squeeze out excess air. Filled bags may be placed in metal cans with lids (shortening or coffee cans are good) to keep out insects. Glass jars with tight-fitting lids can be used with or without plastic bags. Quality plastic containers with tight-fitting lids are good, but they must be airtight. Do not use paper or cloth bags, lightweight plastic bags, bread wrappers, or any container without a tight-fitting lid.

Location

Cool, dark and dry are the keys to maintaining the quality of dried food. Shelves near a window may need to be covered to keep out light. Glass jars or plastic containers should be placed in a paper bag or in a closed cabinet. Cement walls and floors are often damp and cold. Therefore, dried food containers should not be placed directly on the floor, or touching a basement or cellar wall as this can cause condensation in the container. Do not store dried food near items with a strong odor, such as varnish, paint remover or kerosene.

Length of Storage

Dried fruits and vegetables should not be stored longer than one year. Plan to use all dried meats, fish, poultry or jerky within a month or two. Label dried foods, and rotate on a first-dried, first-to-be-used basis. Check dried foods periodically. If the food seems more moist than when packed, moisture is getting into the container. Spread food on drying trays and re-dry. Then pack the food in an airtight container. Mold indicates the food was not properly dried before being stored. Destroy moldy food.





Reconstitution

Dehydration is the process of removing moisture from food. Reconstitution is the replacement of that moisture to bring the food back to its natural state. Although some dried foods such as fruit are excellent in their dehydrated state, you will often want to reconstitute other dried foods before eating them. Here are some tips on reconstitution:

Just Add Water

For chopped or shredded vegetables, and for fruits to be used in cookies, no reconstitution is usually needed. If the pieces are quite crisp and dry you can try sprinkling with 1 Tbs. water per $\frac{1}{2}$ cup of dried food to.

For vegetables and fruits to be used in soufflés, pies, quick breads, doughs or batters, use 2 parts water to 3 parts (by volume) dried food.

For vegetables and fruits which will be cooked in the liquid, such as vegetable side dishes, fruit toppings, and compotes, use 1 to 1- $\frac{1}{2}$ parts water to 1 part dried food. Extra liquid may be required for proper cooking.

Time for Reconstitution

- Chopped and shredded foods reconstitute quickly. Generally, 15 to 30 minutes is sufficient.
- Larger vegetable or fruit slices, and meat cubes, can be reconstituted overnight in water left in the refrigerator. If this is inconvenient, place in boiling water, remove from stove, and let stand 2 to 3 hours.
- Whole pieces of fruit take longest to reconstitute, and are best left to soak overnight.

Other Reconstitution Hints

- If you drain reconstituted foods, save the liquid. This liquid has great nutritional value. Freeze this liquid for later use in soups, leathers, pies or compotes.
- There is no need to reconstitute ahead of time when making soups. Dried vegetables can be added directly to the soup about one hour before serving.
- Do not add spices, salt, bouillon cubes or tomato products until vegetables are reconstituted and cooked. These items considerably hinder rehydration.
- Some foods take longer to reconstitute than others. Carrots and beans require more time than green peas or potatoes. A rule of thumb: those that take the longest to dehydrate will take the longest to reconstitute.
- Try not to use more liquid than necessary for reconstitution because nutrients will be drained away with the excess water. Place dehydrated food in a container and use just enough water to cover the food. Add more water later as needed to replace what the food absorbs.





Fruit Dehydration Tips

Dried fruit is a superb food treat. Try it plain, as fruit leather, or in ice cream, cobblers and pies. It's hard to imagine a better tasting, more nutritious snack than dried fruit. Dried fruit is naturally sweet, has no preservatives, and is inexpensive. Your food dehydrator makes drying fruit easy.

With all fruits it is best to wash them before beginning. After that, most fruits just need halving, coring or pitting, and slicing before placing them in the dehydrator.



Pre-treatment of Fruits

You do not have to pretreat fruits to get good results, but some fruits, such as apples, pears, peaches, apricots and bananas tend to darken somewhat with drying or storage beyond six to seven months. Although still edible when darkened, they tend to not appear as tempting to the palate. If you don't mind the change in color of your dried fruit, there is no need to pretreat. Fruits like bananas turn brown without pretreatment, but at the same time they become very sweet and bursting with pure banana flavor by simply slicing and placing directly into the dehydrator. For drying times of fruits, refer to the "Fruit Timetable."

To avoid this darkening the fruit pieces can be dipped in solutions of lemon, pineapple, or orange juice, or ascorbic acid prior to dehydration. Dip the fruit in the solution for two minutes. Drain on paper towels and place in drying trays.

Lemon, Pineapple or Orange Juice

Fresh or bottled lemon, pineapple or orange juices are the best because of their natural sweetness. Pineapple and orange juice can be used full strength or diluted to taste. If you use lemon juice it is best to dilute it with 1 part juice to 8 parts water and soak the fruit pieces for two minutes. Be aware that the taste of these juices can overpower the taste of the fruit being dried and may not always prevent discoloration of food. Experiment with the dilution and soaking times to suit your tastes.

Ascorbic Acid

Crystalline ascorbic acid or products with ascorbic acid made for preserving fruits for canning may be obtained from drug stores or from stores selling canning supplies. Most grocery stores sell it with their canning supplies as well. Mix 1 tablespoon in four cups of water and soak the fruit for about two minutes. Like lemon juice, the taste can be quite overpowering, so experiment with concentrations and soaking times.





Fruit Leather Dehydration Tips

Sometimes referred to as Fruit Rolls, Fruit Strips, or Fruit Jerky, fruit that is pureed and dried in thin sheets becomes a tasty, chewy, candy-like snack we will call fruit leather. You have probably sampled the commercial versions from the market, but once you've tasted it made fresh at home with quality fruit, you'll never go back to store bought! Fruit leather is a good way to make use of left-over or overripe fruit that might otherwise be discarded.

Making Fruit leather is very easy. Start by thoroughly washing the fruit in cold water and remove any stems or leaves left on the fruit. Remove the peel, skin, pits, or seeds as necessary. Then just puree the fruit or fruit combination of your choice, and add just enough liquid to the blender to make a smooth, thick puree. Honey, fruit juice or water can be used, but don't make the mixture too thin or it won't stay put on the dehydrator shelf. With fruits that have a high moisture level, little or no liquid needs be added at all.

Since you are the cook, you get to taste the puree as you are making it. It is not only your privilege but an important part of the process, because if the puree tastes good, the leather will taste even better! Remember that the flavors and sweetness will concentrate when the leather is dry, so don't make it too sweet!

It is best to use a fruit leather sheet designed for the purpose, but if not available you can line one half of each drying tray with plastic wrap. To maintain adequate circulation only half of each tray should be covered. As always, you must leave the drying tray's center hole uncovered. If using more than one tray, place the plastic on alternate halves of the trays in the stack. Remember that the trays only go in one way, so stack the trays properly on the counter before lining them to assure proper placement of the plastic wrap.

When drying sticky purees (bananas, for instance) spray a small amount of vegetable-oil-based spray on the fruit leather sheet or plastic wrap. After all fruit leather sheets are filled, stack the drying trays atop the base. Dehydrate until the fruit puree is the texture of leather. It should be easy to peel off of the fruit leather sheet. Wrap in plastic wrap and store at room temperature. Spices, chopped nuts or coconut may be added to the puree for extra flavor. For further variation, puree several types of fruit together.

Feel free to experiment with your recipes. Single fruit flavors will work just fine, but there are lots of various fruit combinations that combine to make flavorful snacks. These include:

- Strawberry Banana
- Strawberries Rhubarb
- Pineapple Peach
- Pineapple Orange
- Apple Blueberry
- Apple Cinnamon (use cinnamon sparingly)
- Honey Cranberry Orange (cranberries should be cooked)
- Pineapple Apricot
- Raspberry Apple
- Raspberry Banana Coconut
- Mixed Berry



Vegetable Dehydration Tips

Dried vegetables are every bit as flavorful and versatile as dried fruits. With dried vegetables you can make delicious soups, stews, casseroles, and more. Basically, anywhere you would use fresh vegetables you can use dehydrated vegetables.

Before preparing and dehydrating your chosen vegetables, always wash them in cold water. A certain amount of coring, slicing, peeling or shredding is required. A food processor can be a handy tool when processing vegetables, taking seconds to slice up a large batch, ready for the dehydrator.

Be creative when drying vegetables. Placing vegetables in diluted lemon juice or similar flavorings for approximately 2 minutes will add a hint of flavor to such vegetables as green beans and asparagus. For drying times of vegetables, refer to the Vegetable "Timetable."



Pretreatment of Vegetables

For the most part, vegetables need little in the way of special treatment for dehydration, although there are some exceptions. Here are some preparation guidelines that will help you get the most from your dried vegetables:

A few vegetables, such as onions, garlic, peppers, tomatoes and mushrooms can be dried and reconstituted successfully without pre-treatment. In general, if vegetables must be steamed or blanched for freezing, they must be treated for drying.

With the above-named exceptions in mind, most remaining vegetables will need to be steamed or blanched before, drying. Many vegetables have enzymes that help the food ripen, and leaving these enzymes active in the food will cause them to continue to bring about changes in flavor and aroma which can be undesirable. Although untreated vegetables which are dehydrated can still be good for as long as three to four months, heat treated vegetables reconstitute in less time, keep longer, and generally retain more flavor when reconstituted.

Steaming

Steaming is the best method of pretreatment. Place a single layer of chopped or sliced vegetables in a colander or steam basket. Shredded vegetables can be 1/2 inch deep in the colander or basket. Set vegetables in a pot above a small amount of boiling water and cover. Water should not touch the vegetables. Begin timing immediately. Refer to table for length of steaming. When ready to remove, vegetables should be barely tender. Spread steamed vegetables on trays and dehydrate.

Blanching

Blanching is recommended for green beans, cauliflower, broccoli, asparagus, potatoes and peas. Since these vegetables are often used in soups or stews, blanching will ensure that they retain a desirable color. To blanch, place prepared vegetables in a pot of boiling water for 3 to 5 minutes only. Strain and pat dry and place vegetables in the dehydrator.

Blanching is faster than steaming, but many nutrients are lost in the blanching water. It is not recommended for chopped or shredded vegetables, which would easily overcook during blanching. To blanch sliced vegetables, drop the prepared vegetable into a large pot of boiling water. Do not add more than 1 cup food per quart of boiling water. Begin timing immediately. For timing, follow standard freezing directions. Timing is approximately one-third to one-half that of steaming, or until vegetables are barely tender.

Veggie Chips

Vegetable chips, with their crunchy texture and great taste, are so good you'll certainly want to plan for them. Select vegetables such as cucumber, eggplant, zucchini, or parsnips. There is no need to peel. Cut very thin slices about 1/8 inch thick. Steam about 3 or 4 minutes if chips will be stored longer than 5 months. Sprinkle with salt before drying or use seasoned salt for a more interesting flavor. Dry until very brittle. These can be served plain or with dips.

Vegetable Powders

Vegetables may be pureed, dried as leathers, and then powdered for making juices, soup bases, chip dips, salad dressings, cream soups, or baby foods. Dehydrate the vegetable leather until very brittle, then immediately powder a small amount at a time in a dry electric blender. Sliced or chopped vegetables, if dried to a brittle texture, can also be powdered. All vegetable powders must be stored in airtight containers to avoid clumping.

Steam or blanch vegetables to be powdered if heat treatment is recommended in the tables at the back of this manual.

When using powders, remember that they are very concentrated in flavor so add to your meals slowly to arrive at the desired flavor without overpowering the dish.



Temperature Conversion Chart

Centigrade - Fahrenheit

C°	F°
40	104
45	113
50	122
55	131
60	140
65	149
70	158
75	167
80	176



Meats, Fish, and Poultry Dehydration Tips

Dried meats are best when made for upcoming camping and backpacking trips. When reconstituted, they yield a tasty meat, somewhat like fresh cooked.

IMPORTANT NOTE: Except for jerky, cooking of all meats and fish before drying is required to ensure safety. Do not store dried meat, fish, or poultry longer than two months.

Use only very lean meats and cut away as much fat as possible. Meat should be marinated before drying to add flavor and also to tenderize it. The marinade should contain salt, which helps extract water from the meat and also helps preserve it, but it should not have any oil. Most marinades contain some sort of acid (like tomato sauce or vinegar) because the acid breaks down the fibers making the meat more tender.

Slicing meat while partially frozen will be easier, especially if you want very thin slices. A food processor or a specialized meat slicer can do a great job. You can also tell your butcher that you are making dried meat or jerky and they will be glad to thin slice it for you.

When drying meat or game for stews, soups, etc., remember that these types of meat must be cooked prior to drying. Cook, cut into small cubes and place in the dehydrator. Dry until all moisture has been removed, approximately 2 to 8 hours.

When ready to use in your favorite stew, simply rehydrate by soaking in water or broth for at least 1-½ hours, or until tender and about the size they were before dehydrating.

BEEF

Choose lean cuts. Beef flank steak, round Or rump are better than chuck or rib.

POULTRY

All poultry **MUST** be cooked before drying. Steaming or roasting are the best methods. Chicken breasts are leaner than dark meat.

FISH

A good idea is to steam the fish before dehydrating or, if you chose to bake it, pre-heat your conventional oven to 200°F and bake for 20 minutes or until fish is flaky. When drying fish, sole and flounder are good choices.





Jerky

Dehydrating meat without prior cooking will produce the rigid, chewy style of meat known as jerky. It is one of the oldest known forms of meat preservation. Because “jerked meat” is made without cooking the meat first, it is important to start with quality meat, and to have clean and sanitary work area. Also, be sure to thoroughly cleanse the work surfaces when done. Remember that Jerky is the only meat to be placed uncooked in the dehydrator.

Making Beef Jerky

As with nearly all foods, it is important to start with a quality cut of meat. Select a lean flank or round steak about 1 to 1½ inches thick. Trim off all fat and connective tissue. Fat hampers the ability of the meat to dry, and the connective tissue will make for a tough jerky to chew.

For easier cutting, place meat in the freezer for about 30 minutes to partially freeze. Then turn it over and freeze for an additional 15 minutes. Cut across the grain into strips about 1/8 inch thick.

Marinate the strips for at least 3 hours, or even overnight. This gives the meat a unique flavor and at the same time tenderizes the meat. Increase the marinating time for a stronger flavored jerky.

Meat may be seasoned with salt, pepper, garlic or onion powder, or other spices. Because flavors intensify during dehydration, use salt sparingly! There are lots of jerky recipes available. Try them, or create your own unique flavor!

Drain marinated strips on paper towels, and place the strips on drying trays (remember to protect the dehydrator from dripping foods as described earlier in this manual). Dehydrate until strips are quite dry, and stiff to bending, but can be bent without breaking. This will take from 6 to 16 hours. Unlike other dried meats, Jerky should be slightly chewy but not brittle.

IMPORTANT: Remember that keeping a sanitary work area is crucial. Be sure to wash all work surfaces and your hands before handling the meat, and wash your hands after touching any other object or surface before handling meat again.

Common Jerky Marinade

- ½ cup soy sauce
- 1 clove garlic, mashed
- 2 Tbsp. brown sugar
- 2 Tbsp. ketchup
- ½ cup Worcestershire sauce
- 1-1¼ tsp. salt
- ½ tsp. onion powder
- ½ tsp. pepper

Mix ingredients well



Drying Other Items

Flowers

The flowers should be picked after the dew has dried and before the evening dampness. Flowers should be dried as quickly and as soon as possible after picking. Discard any damaged or brown leaves. Place in trays without overlapping. Drying times will vary depending upon size and type of flower. Dry for approximately 2 to 36 hours.

Herbs

Rinse and shake off excess water. Pat dry. Remove dead or discolored leaves. If using seed, pick when pods have changed color. You should leave herbs on the stem and remove when drying has been completed. Spread herbs loosely on tray. Drying times will vary according to size and type. Dry for approximately 2 to 6 hours.

Nuts

Shell and rinse with hot water. Spread in a single layer onto trays. After dehydrating, allow nuts to cool before storing. Nuts contain a lot of oil and the oil could cause the nuts to become rancid, so you should freeze them to guarantee freshness. When ready to use the nuts, bring them to room temperature. Dry for approximately 18 to 26 hours.



If Service is Needed

If your dehydrator experiences a problem, first refer to the Troubleshooting Guide on page 15. This page contains numerous tips for diagnosing and solving common problems. If the solution cannot be found there, contact the dealer or distributor where you purchased the unit and request additional assistance or arrange for repair service.

When returning the unit for service **DO NOT SEND DRYING TRAYS** unless they are defective or you were requested to do so.

The electrical parts in the base are not designed to be serviceable by the user. Opening the electrical portion of the base can void your warranty or damage the dehydrator beyond repair. Any such work should only be performed by an authorized service center.





Vegetable Preparation Table

VEGETABLE	PREPARATION	DRYNESS TEST	APPROX. TIME (HOURS)
Artichokes	Cut into 1/3-inch strips. Boil about 10 minutes	brittle	6 to 14
Asparagus	Cut into 1-inch pieces. Tips yield better product	brittle	6 to 14
Beans	Cut and steam blanch until translucent	brittle	8 to 26
Beets	Blanch, cool, remove tops and roots. Slice	brittle	8 to 26
Brussels	Cut sprouts from stalk. Cut in half lengthwise	crispy	8 to 30
Broccoli	Trim and cut. Steam tender. About 3 to 5 min.	brittle	6 to 20
Cabbage	Trim and cut into 1/8-inch strips. Cut core into 1/4-inch strips	leathery	6 to 14
Carrots	Steam until tender. Shred or cut into slices	leathery	6 to 12
Cauliflower	Steam blanch until tender. Trim and cut	leathery	6 to 16
Celery	Cut stalks into 1/4-inch slices	brittle	6 to 14
Chives	Chop	brittle	6 to 10
Cucumber	Pare and cut into 1/2-inch slices	leathery	6 to 18
Eggplant/Squash	Trim and slice 1/4-inch to 1/2 inch thick	brittle	6 to 18
Garlic	Remove skin from clove and slice	brittle	6 to 16
Hot Peppers	Dry whole	leathery	8 to 14
Mushrooms	Slice, chop, or dry whole	leathery	6 to 14
Onions	Slice thinly or chop	brittle	8 to 14
Peas	Shell and blanch for 3 to 5 minutes	brittle	8 to 14
Peppers	Cut into 1/4-inch strips or rings. Remove seeds	brittle	4 to 14
Potatoes	Slice, dice or cut. Steam blanch 8 to 10 min.	brittle	6 to 18
Rhubarb	Remove outer skin and cut into 1/8-inch lengths	no moisture	8 to 38
Spinach	Steam blanch until wilted, but not soggy. Kale etc.	brittle	6 to 16
Tomatoes	Remove skin. Cut in halves or slices	leathery	8 to 24
Zucchini	Slice into 1/4-inch pieces	brittle	6 to 18





Fruit Preparation Table

Fruit	Preparation	Dryness Test	Approx. (Hours)
Apples	Pare, core and cut slices or rings	pliable	5 to 6
Artichokes	Cut into 1/8-inch strips	brittle	5 to 13
Apricots	Clean, cut in halves or in slices	pliable	12 to 38
Bananas	Peel and cut into 1/8-inch slices	crisp	8 to 38
Berries	Cut strawberries into 3/8-inch slices, other berries whole	no moisture	8 to 26
Cherries	Pitting is optional, or pit when 50% dry	leathery	8 to 34
Cranberries	Chop or leave whole	pliable	6 to 26
Dates	Pit and slice	leathery	6 to 26
Figs	Slice	leathery	6 to 26
Grapes	Leave whole	pliable	8 to 38
Nectarines	Cut in half, dry with skin side down. Pit when 50% dry	pliable	8 to 26
Orange Rind	Peel in long strips	brittle	8 to 16
Peaches	Pit when 50% dry. Halve or quarter with cut side up	pliable	10 to 34
Pears	Peel and slice	pliable	8 to 30

