

Dehydrator Use & Care

Before using your dehydrator for the first time, wash the trays and top cover in warm, soapy water, or in the dishwasher on the top rack (remove before drying cycle). Caution: Do not put the power unit/blower in water or in the dishwasher. Wipe with a damp cloth.

- Set base tray on a sturdy countertop or table, away from sinks or any source of water.
- Stack additional trays on base tray. Your dehydrator requires a minimum of 5 trays to operate properly, the base tray is included as one of your 5 trays. (You may expand your dehydrator to 7 total trays with the use of Add-A-Tray® accessories)
- Place top cover on top tray, insert blower into trays and rotate to lock in place.
- Plug cord into an electrical outlet, switch power to ON and you're ready to dehydrate!

Trays and Top Cover

Your dehydrator trays and top cover are easy to clean. Simply soak in warm water with a mild detergent for several minutes. A soft bristle brush will loosen food particles that resist softening by soaking. Do not clean with any metal objects or scouring pads, as they tend to damage the surface.

Trays and top cover can be washed on top rack of dishwasher, but remove before drying cycle.

Blower

It is important that the air vents on blower remain clean and unobstructed. UNPLUG BLOWER BEFORE CLEANING. Use a damp cloth or towel to remove dried food particles from blower. Do not use scouring pads, abrasive cleaners or sharp utensils. Avoid dripping any liquid into electrical parts. Do not operate blower alone, or use in any capacity other than the intended use. DO NOT OPERATE NEAR OR IMMERSE BLOWER IN WATER OR OTHER LIQUID.

Precautions

When drying meat and dairy products, blot frequently with a paper towel to absorb excess oils.

Follow these safety rules when dehydrating foods:

- Wash hands thoroughly prior to handling food.
- Clean all utensils and containers with a mild solution of detergent, bleach, and water before using.
- Make sure all counter surfaces and cutting boards are thoroughly cleaned.
- Keep foods in refrigerator before preparing for drying. Store dried foods in refrigerator or freezer.
- After opening sealed containers of dried food, use food as soon as possible.
- Store unused portions of dried food, tightly sealed, in refrigerator to maintain freshness and quality.
- Do not dehydrate foods that have been prepared with or marinated in alcohol.
- Trays are only intended to be used with your Nesco®/American Harvest® Food Dehydrator. Do not use in a conventional oven or with any other appliance.
- Do not spray vegetable oil directly onto surface of trays.

General Drying Guidelines

There are no absolutes and quite a few variables in food dehydration. The only way to become proficient is to dry, dry, and dry some more! Certain varieties of produce, the humidity in the air, and even methods of food handling make a difference in the drying time and quality of dried product.

- Experiment with different thicknesses of produce, pretreatment versus no pretreatment, and different rehydration methods. You will determine what works best for your particular needs and preferences.
- To save nutrients and produce a quality product, it is necessary to work fast in preparing foods to dry. Once placed in the dehydrator, foods need to dry continuously for the recommended time. Do not turn off the dehydrator and leave partially dried foods sitting on the trays, as they may spoil or develop “off” flavors.
- Spread all foods evenly to dry in single layers. If slices overlap, the areas that are overlapping will take twice as long to dry.
- Do not add fresh produce to a partially dried batch. It will slow the rate of drying for both products. It is possible however, to combine partially dried foods onto fewer trays.
- Many people have more than one Nesco®/American Harvest® dehydrator. If you have two, it’s easy to combine a load from both dehydrators after a few hours and start a new batch in your second dehydrator using the remaining trays.

Selecting Foods To Dry

Select the best quality produce at the peak of ripeness and flavor. Wash carefully to remove debris, dust and insects. Cut away any bruised or damaged sections.

Labeling

All dehydrated foods should be labeled with the name of the product, date dried and quantity or weight. Clear labeling allows you to rotate foods to minimize waste and nutrient loss.

Storage

The storage area should be cool, dry, and as dark as possible. The darker and cooler the storage area, the longer the dehydrated foods will last with good quality and nutritional value. For every 18°F (10°C) drop in storage temperature, the shelf life of dehydrated foods increases three to four times. The ideal storage temperature for dehydrated food is 60°F (15°C) to below freezing. The ideal storage place is your freezer or refrigerator, particularly for storing low-acid foods such as meats, fish, and vegetables.

All fruits dried with skins intact should be packaged and frozen for a minimum of 48 hours to prevent any possibility of insect infestation. Onions and tomatoes are especially prone to absorbing moisture from the air and should be packaged immediately after removing from the dehydrator.

Record Keeping

Recording the following information can be helpful in improving your dehydrating techniques and determining quantities of food to dry each season.

- Date dried.
- Quantity dried, including weight of produce before and after drying.
- Drying time.
- Packaging: size of containers and packaging materials used.
- Storage temperature.
- Length of storage time before use.

By labeling storage containers with the contents and date dried, you can keep track of your supply, rotate as needed, and avoid mix-ups.

Note: For best operation, always use at least 4 trays when drying in your dehydrator.

Drying Time

Drying times may vary, depending on the type and amount of food, thickness and evenness of the slices, percentage of water in the food, humidity, temperature of the air and the altitude.

Drying times may also vary greatly from one area of the country to another and from day-to-day, depending on the climatic conditions. Record keeping helps you predict future drying times for specific foods.

Testing For Dryness

Food must be carefully monitored near the end of the dehydration process to prevent over-drying. Over-dried foods lose quality in texture, nutrition and taste. To test for dryness, remove a piece of food, allow it to cool, and feel with your fingers to determine dryness:

- Fruits should be pliable and leathery with no pockets of moisture.
To check if fruit is dry, tear a piece in half and watch for moisture beads along the tear. If there aren't any, it is sufficiently dry for long term storage.
- Fruit roll-ups should be leathery with no sticky spots.
- Jerky should be tough but not brittle.
- Dried fish should be tough. If the fish is high in fat, it may appear moist due to the high oil content.
- Vegetables should be tough or crisp.

Drying Fruit

Selection

Fruits are ideal to dry because they have a naturally high sugar content. They are high in acid (and consequently less prone to spoilage and microorganisms), and taste delicious! Seasonally, fruit can be obtained in bulk from orchards or farms for considerably lower prices than you may find in the supermarket. Fruits picked at their prime have the highest natural sugar content and the best nutritional value. For the best quality product, choose only fresh, ripe, unblemished fruits.

Preparation

Wash fruit thoroughly and remove any imperfections. Remove skins (if desired), stems, and stones. Halve or slice in 1/4" to 1/2" circles or slices (a food processor or slicer will speed slicing and ensure more uniform slices, which will allow fruits to dry at the same rate.) Some fruits have a natural protective wax coating such as figs, prunes, grapes, blueberries, cranberries, etc. If you want to dry these fruits whole, dip into boiling water for 1 to 2 minutes (amount of time needed depends on thickness and toughness of skin) to speed dehydration. This makes skin more porous by removing the natural wax coating and thereby speeds up drying time. This process is called checking. Small lines appear on fruit skin allowing moisture to escape but may be too fine to be visible.

Many fruits can be dried in halves with pits removed. If they are dried with the skins on, be sure to place skin-side down to prevent fruit juice and pulp from dripping down through trays. Check frequently near end of drying process and remove pieces as they become dry. To peel or not to peel is a decision only you can make (if the fruit has been artificially waxed, it should definitely be peeled to remove wax). The skin has nutritional value, but skins tend to be very tough when dried and fruits take longer to dry with skin on. Try fruits both ways – peeled and not peeled – then decide for yourself. Pre-treat if desired and place fruit into preheated dehydrator to dry.

Should I Pre-Treat?

Pre-treatment isn't necessary for most fruits. The majority of fruits are simply sliced and dried. However, some fruits tend to oxidize more than others. Oxidation causes browning of cut food surfaces when fruit is dried. This causes a loss in flavor and vitamins A and C. Pre-treatment minimizes oxidation, and gives you a superior-quality, better tasting product with less vitamin loss.

Apples, pears, peaches and apricots are better when pre-treated. They are more appetizing, have a longer shelf life, and higher nutritional value when pre-treated prior to drying. Place cut fruits, that tend to brown, in a holding solution of ascorbic acid or pineapple juice to reduce browning during preparation. Do not keep cut fruit in a holding solution for more than an hour.

Pre-Treatment

Pre-treatments can vary from soaking in fruit juice, ascorbic acid mixtures, syrup blanching, steaming, to sulfating. The results of each of these methods also vary. Experiment and decide for yourself which one you like best.

Use one of the following methods of pretreatment

Natural Pre-Treatment

Fruit juices containing ascorbic acid may be used as a natural pre-treatment to reduce browning. Although there will still be some loss of color, pineapple, orange, lemon, or lime juice can be used. Ascorbic acid mixtures, available from your supermarket can also be used. Follow the directions on the package. Slice fruit directly into juice or ascorbic acid mixture. Soak 5 minutes and place on trays. Fruits can also be dipped in honey or a honey/fruit juice mixture.

Syrup Blanching

Fruit which has been syrup blanched is sweeter because it absorbs some of the sugar from the blanching solution. It also tends to be stickier, even though it is rinsed prior to drying. Prepare a sugar syrup by mixing 1 cup sugar, 1 cup white corn syrup, and 2 cups water. Boil and add prepared fruit. Simmer for 10 minutes over low heat. Remove and allow to stand in hot syrup 30 to 45 minutes. Drain fruit, rinse lightly with cold water, and place on drying trays.

Sulfating

Soaking fruits in a solution of sodium bisulfite slows oxidation and reduces browning, as well as the loss of vitamins A and C. Sodium bisulfite may be obtained from wine-making supply houses. Sulfating isn't recommended for use if individuals are on restricted sodium diets or have asthmatic or respiratory conditions. Dissolve 1 tablespoon sodium bisulfite in 1 gallon water. Soak 5 to 10 minutes. Rinse.

Garnishes

After fruits have been prepared for drying, garnish with spices, gelatin powders or coconut to give fruits a snappy flavor. Granola, chopped nuts, poppy seeds, sesame seeds, or sunflower seeds can also be sprinkled on fruits. These adhere best to fresh fruits if the fruits have first been dipped in a fruit juice or honey. Use your imagination for other dips or sprinkles.

Conditioning

Moisture will tend to equalize throughout a container of dried fruit when left at room temperature for several days. If some pieces are drier than others, the conditioning process will allow the moisture to equalize. If any condensation appears on the lid of the container, fruits are insufficiently dried. Return to the dryer and check periodically for dryness.

Drying Fruit Rolls

Fruit rolls, also known as fruit leathers, are a favorite snack for young and old alike. They are a chewy fruit product made from puréed fresh fruit which has been dried and rolled into snack sized pieces. Fruit rolls are easy to make and cost less than those bought at the store.

Selection

Almost any fruit will make an excellent fruit roll. Most fruits can also be combined with others. Some fruits, such as apples, are high in pectin and fiber and have an excellent texture when dried. The combinations are limitless. Use your imagination and have fun! Use fresh fruits in season. You can also use slightly overripe fruits, irregularly shaped fruits, or slightly bruised fruits which would be unsuitable for canning or drying.

Some fruits, such as citrus, should be used in combination with other fruits because they have so much liquid and very little pulp. If you find that a fruit is too runny, combine it with apple, applesauce or a similar fruit which will give it more substance. When fresh fruits are not available, canned fruits (either sweetened or un-sweetened) can be used. Simply drain the liquid, and pour the fruit into the blender. Applesauce can be taken directly from the container for wonderful fruit rolls. Frozen fruits can also be used, although they tend to be a bit more runny. Simply thaw and follow directions for using fresh fruits.

Preparation

Wash fruits and cut away any bruised or spoiled portions. Purée fruit in a blender until it is very smooth. In some blenders with some fruits, you may want to add a little juice or water to start the blending process. Fruits generally need no added sweetening, but if fruits are under ripe or particularly tart, you may add light corn syrup or honey. Add 1 or more tablespoons sweetening for each quart of purée, depending on your preference (sugar added to fruit roll tends to become brittle during storage).

Garnishes

For added variety, sprinkle different garnishes on fruit rolls before they are dried. Try coconut, chopped dates, nuts, raisins, granola, poppy seeds, sesame seeds or sunflower seeds. When these garnishes are used, fruit rolls should always be stored in the refrigerator or freezer.

Drying & Storage

Place a Fruit Roll Sheet on dehydrator tray and wipe lightly with a vegetable oil to prevent sticking. Purée should be about 1/4" to 3/8" thick and evenly spread and dried until fruit feels leather-like and is pliable, approximately 4 to 8 hours. There should be no sticky spots on top or underneath the fruit. Remove the leather while it is still warm, roll, cut into smaller sized pieces (if desired) and wrap in plastic wrap. Individually wrapped pieces of fruit roll should be stored in larger airtight and moisture proof containers.