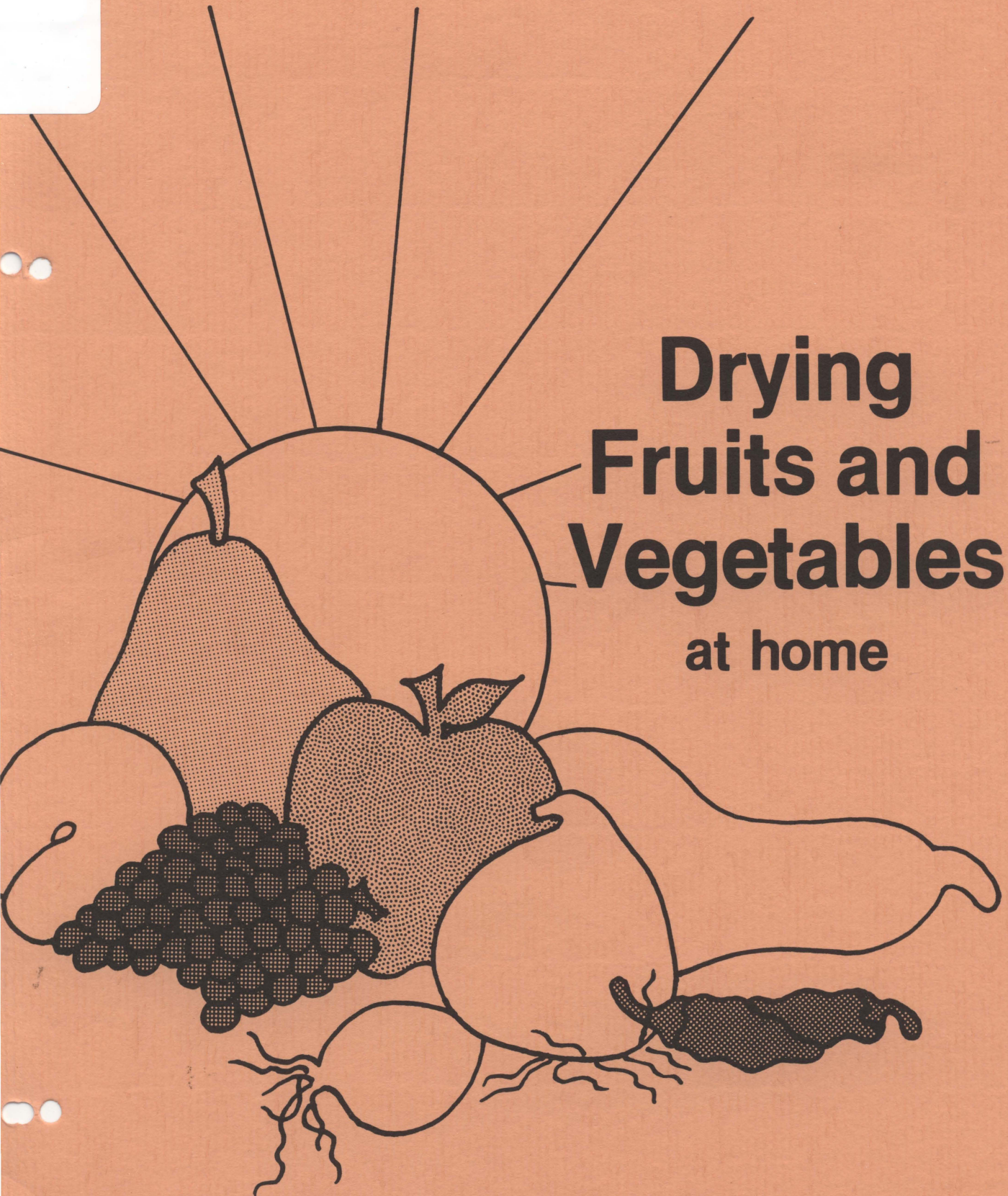


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Drying Fruits and Vegetables at home



Texas Agricultural Extension Service • The Texas A&M University System
Daniel C. Pfannstiel; Director • College Station, Texas

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2	Extension Nutritionist
2	University of Arizona
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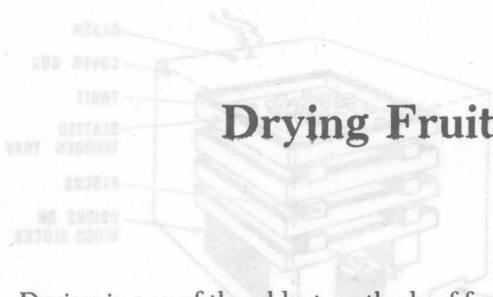
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AT HOME

FRUITS & VEGETABLES
Extension Nutritionist
University of Arizona

ACKNOWLEDGMENT

The Texas Agricultural Extension Service is grateful to the Cooperative Extension Service, University of Arizona



Drying Fruits and Vegetables at Home

Drying is one of the oldest methods of food preservation known to mankind. It also is one of the simplest methods. It requires only basic equipment. Any special equipment that is needed usually can be made at home at little to moderate cost.

Successful drying depends upon the removal of enough moisture from the food to prevent spoilage. This must be done as fast as possible at a temperature that does not seriously affect the flavor, texture and color of the food. If the temperature is too low at the beginning, the food may undergo undesirable microbiological changes before it dries adequately. If the temperature is much too high and the humidity too low, the water-filled cells of the food may expand and burst or the food may harden on the surface. This makes it more difficult for the moisture to escape and the food to dry properly.

Fruits and vegetables contain certain enzymes that are responsible for their maturation, or their becoming ripe. These enzymes cause color and flavor changes, some of which may become more extensive when food surfaces are cut and exposed to air. The changes continue during drying and storage unless the enzyme activity is retarded or stopped. Therefore, pretreatment such as antioxidant coating, blanching, and/or sulfuring may be recommended.

Home drying, if done properly, can work well for many fruits and vegetables. There are, however, many variations in recommendations for treatment before drying, for methods of drying, for temperatures and length of drying time, and for conditioning prior to storage. You may have to use the "trial and error" approach in finding out which drying technique works best for your situation. (Canning and freezing are surer methods of food preservation because uniform procedures, based on research and widespread use, are recommended for these methods.)

Whatever method you use, keep these facts in mind:

- Cleanliness and safety are important throughout the process.
- The quality of the finished product can be no better than that of the raw material from which it is made.
- The flavor of dried fruits and vegetables will be different from their fresh, canned or frozen counterparts.

General Preparation

Foods selected for drying should be of the highest quality possible — fresh, sound, and at the "right" stage of maturity. Prepare the food immediately after gathering and begin the drying at once, continuing until the food has dried adequately.

Wilted or inferior material will not make a satisfactory dried product. Immature produce lacks flavor and color. Over-mature produce may be tough and fibrous; or may have become soft and/or mushy.

Wash or clean all fresh produce thoroughly to remove any dirt or spray. Sort and discard any defective food. Decay, bruises or mold on any piece may affect an entire batch of food being dried. Peel, pit and/or cut the food into uniform sized pieces. A stainless steel knife helps to prevent foods from discoloring. Before drying, remove any excess moisture from a pretreated food by spreading the food on paper toweling or clean cloths.

Use the preparation methods for specific foods given on the chart, Steps in Drying Fruits and Vegetables, pages 6 to 10.

Vegetables

Vegetables, with few exceptions, should be treated before drying to stop the enzymatic action that allows these foods to undergo undesirable changes. (The exceptions include mature peas and beans; and some types of corn.)

Blanching is the treatment used for vegetables. The steam-blanching method is preferred over the boiling water method.

Blanching before drying helps save some of the vitamin content, sets the color, hastens drying by relaxing the tissues, helps prevent undesirable changes in flavor during storage, and helps insure satisfactory restoration during cooking.

Steam-Blanching

- Use a kettle which has a close fitting lid and a wire basket, colander, or sieve placed so the steam will circulate freely around the vegetable. In order not to lose water-soluble vitamins and minerals, make sure water does not come in contact with the vegetable.

- Add several inches of water and bring it to a brisk boil before putting the prepared vegetable in the kettle.
- Layer the vegetables in the basket no more than 2½ inches deep.
- Steam the vegetable until each piece is heated through and is thoroughly wilted.
- Test by removing a piece from the center of the vegetable layer and pressing it. It should feel tender but not completely cooked.

Fruits

Fruits generally make a better product if they are treated by one or more methods before being dried. The following methods, with different degrees of effectiveness, may be used.

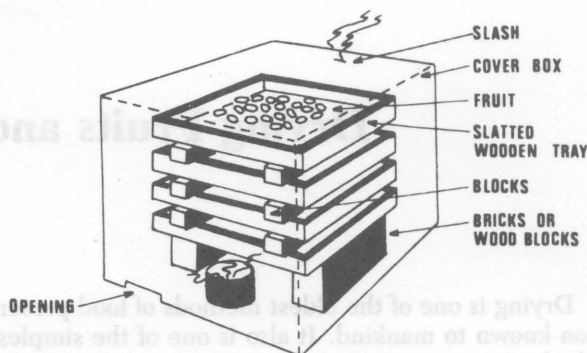
Sulfuring

Many fruits, especially apples, apricots, peaches, nectarines and pears, tend to darken during drying and storage. Sulfuring preserves color as well as flavor. It decreases loss of vitamins A and C (though thiamine loss is increased). Sulfuring also minimizes microbial spoilage and insect infestation. For these reasons it usually is recommended for cut fruits that are to be sun-dried.

Sulfur is readily available as flowers of sulfur or sublimed sulfur at most pharmacies. This form normally has a high degree of purity. Garden dusting sulfur is not suitable.

- Always sulfur outdoors in the open air. Sulfur fumes can be irritating to the eyes and nose.
- Use wooden trays with ventilated bottoms. Do not use aluminum or galvanized screening materials. Sulfur fumes discolor and corrode most metals.
- Spread fruit of the same type and size in a single layer. (Weigh fruit first.) Place the skin side down to help prevent loss of juices.
- Stack the trays at least 1½ inches apart so the sulfur fumes can circulate. Put the bottom tray on wooden blocks or bricks to raise it at least 4 inches above the ground. Separate the trays with small wooden blocks, or strips of wood.
- Place sulfur (about ½ inch deep) in a clean metal container that is shallow but deep enough to prevent overflow. For each pound of prepared fruit, use 1 to 2 teaspoons of sulfur if sulfuring time is less than 3 hours; 3 teaspoons of sulfur if the sulfuring time is 3 hours or longer. (See charts on pages 6 to 9 for specific times.)
- Set the container of sulfur beside the stacked trays. Ignite the sulfur. Do not leave burned matches in the container; they may keep the sulfur from burning completely. Because of the flame and the heat from the burning sulfur, allow sufficient spaces between the containers and the trays and the side of the cover.

The burning time of sulfur will vary with the ventilation, shape of container, weather conditions, and amount of food to be sulfured.



- Cover the stacked trays with a heavy cardboard carton or a wooden box that has no cracks or openings. The box should be several inches higher than the stacked trays and at least 1 to 1½ inches wider around all sides of the trays, including the sulfur container placed beside them.
- To provide air for the burning sulfur, leave the bottom of the box slightly propped up, or cut an opening about 1 by 6 inches at the bottom. The opening should be on the side by the sulfur. A slash or small opening may be needed at the upper edge of the opposite side. Drop the box or close the openings after the sulfur has completely burned.
- Count sulfuring time after the sulfur has finished burning. After sulfuring the recommended length of time, remove the trays and begin drying the fruit. (Various factors affect sulfuring time: texture of the fruit, size of pieces, peeling, and whether fruit is to be sun-dried or dried under controlled conditions.)

Blanching

Fruits may be steam-blanching if they are to be dried under controlled conditions (oven or dryer) or if it is not possible to sulfur them. Blanching only, and not sulfuring, gives a darker colored product. Blanching may give a slightly cooked flavor to some fruits, such as apricots, peaches and pears. Blanched fruits may be soft and somewhat difficult to handle.

Cracking Skins of Fruit

Sometimes it is necessary to crack the skins of fruit before drying. Boiling water should do a satisfactory job for most fruits. Lye no longer is recommended because of the danger in handling it.

Fruits such as grapes, prunes and small dark plums, cherries, figs, and some firm berries like blueberries have relatively tough skins with a wax-like coating. To remove this waxy substance and to permit inside moisture to come to the surface and be evaporated, the skins are cracked or "checked" in many places.

This checking process is done by dipping the fruit into briskly boiling water, then into very cold water, followed by thorough draining on absorbent toweling. The length of the boiling water dip varies from 30 to 60 or more seconds, depending upon the toughness of the fruit skin, the maturity of the fruit, and the altitude.

Syrup-Blanching

Syrup-blanching fruit before drying gives a sweetened, "candied" type product. It also helps to keep the color in apples, apricots, figs, nectarines, peaches, pears and plums if they are not sulfured.

Make a syrup using 1 cup corn syrup and 1 cup sugar to 3 cups water. Or, use 1 part corn syrup to 1 part water. Heat the syrup to boiling. Add the prepared fruit and simmer 10 to 15 minutes. Remove the pan from the heat and let the fruit stand in the syrup for 10 minutes longer. Lift out, drain, and cool.

Fruit treated in this way will take longer to dry. Also, because it will attract insects, it should be well protected if dried outdoors.

Treating with Ascorbic Acid

Pure ascorbic acid (vitamin C) is an antioxidant that helps to keep fruit from darkening as it is being prepared for drying. Make a solution as recommended for specific fruits on the chart, Steps in Drying Fruit, page 6. One cup of the solution should treat about 5 quarts of cut fruit. Sprinkle the solution over the fruit pieces, turning them over gently until all are coated. Pure ascorbic acid usually can be obtained from pharmacies.

Drying Trays

Shallow wooden trays with slatted, perforated or woven bottoms are ideal for drying foods. They can be used outdoors in sun or shade, or indoors in a dryer or an oven. Open bottoms allow the passage of air. Air needs to reach all sides of the food for rapid drying.

A uniform size is important for easy and quick stacking. It also means less space will be required for out-of-season storage. And, it makes for convenience if drying is to be done both indoors and outdoors.

Trays for sun drying can be any size but should be no larger than can be handled easily when loaded. Each one square foot of tray space will dry from 1½ to 2½ pounds of prepared food.

A suggested tray size is 14"x24"x1" or 1½". If trays are to be used in an oven or dryer, make them at least 1½" smaller in length and width than the oven or dryer to allow for circulation of air.

Wooden blocks or spools an inch or more in height can be used in stacking. For oven use, trays can be measured for a staggered arrangement to allow the drying air to zigzag its way up and over each tray.

Trays with sides are better than those without sides because they keep foods from sliding off when the trays are moved, make stacking easier, keep trays from resting

on food when they are stacked, and provide an edge to which a protective covering may be fastened.

Wooden trays are preferred because they can be used both for sulfuring and drying. Metals can discolor and corrode. Galvanized screen should not be used because it has been treated with zinc and cadmium. These metals can cause dangerous reactions when they come in contact with acid foods. Thin wood slats or dowels, placed ¼" or ½" apart, make good tray bottoms.

A thickness of cheesecloth laid over the tray bottom will keep sugar-rich foods from sticking and pieces of food from falling through. A fresh, low-flavored vegetable oil or mineral oil probably will help protect the wood bottoms and make for easier cleaning.

To insure cleanliness, wash trays in hot sudsy water with a stiff brush, rinse in clear water, and air dry thoroughly after each use. When not in use, store in such a way as to keep them clean and ventilated.

Drying Methods

Successful drying depends upon:

- heat — enough to draw out moisture, but not enough to cook the food material
- dry air — to absorb the released moisture
- air circulation — to carry the moisture off

Spread or arrange the prepared vegetable or fruit on the drying trays in a thin layer, usually not over ½ inch deep. Use clean cheesecloth on the trays if needed to prevent the food pieces from sticking or falling through.

Before testing foods for desired dryness, remove a handful to cool for a few moments. Foods that are warm or hot from the sun or oven seem softer, more moist and more pliable than they actually are.

Check the chart, Steps in Drying Fruits and Vegetables, for the drying test for specific fruits and vegetables.

Sun-Drying

Place trays of pretreated fruits or vegetables in the direct sun, either flat or tilted, in an arrangement that allows air to circulate underneath them. Select a drying area that offers some protection from dust and dirt, as well as from animals. To protect against insects, place cheesecloth or screening over the food, but not in contact with it.

Turn the food occasionally to help it dry evenly.

An electric fan directed onto the food will hasten the drying and help keep insects away. For safety, be sure the fan has a grill covering the blades.

When the food seems about two-thirds dry, move the trays into the shade and continue drying until "done." Do not allow the sun to scorch or sunburn the food.

If there is a chance for moisture during the night, bring the trays indoors or stack them, covered, in a

sheltered area. Let the food cool somewhat before covering it.

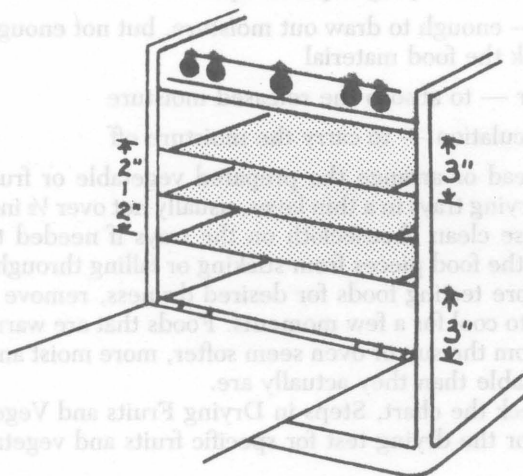
Oven-Drying

Products dried in controlled heat generally will be superior to sun-dried ones in color, flavor, cooking quality, and nutritive value. Also, the food more likely will be free from insects and insect eggs which often result from outdoor exposure.

Controlled-heat drying has the advantage over sun-drying of reducing drying time since it goes on continuously even after sundown, and during rainy as well as sunny weather. However, the cost is more for equipment and operating expenses.

When using a home oven for drying, limit the oven load to no more than 4 to 6 pounds of fresh prepared fruit at one time.

Use trays that are at least 1½ inches smaller than the width and depth of the oven. Separate trays by about 2½ inches. Allow at least a 3-inch clearance from each the top and the bottom. A larger space between the bottom tray and the oven floor may be needed if the temperature cannot be set as low as 140° F.



Disengage, remove, or do not light the top heating element of an oven. Try to maintain a temperature of 140° F if the oven cannot be adjusted for the lower temperatures listed in the drying chart. Preheat the oven at its lowest setting. Allow it to cool down if necessary, by turning the heat off and/or opening the door slightly, before the food is put in. Be careful with a gas oven which does not have an automatic shut-off. Do not let the flame go out unnoticed during drying.

Prop open the oven door to maintain an even low temperature and to let the moist air out. The opening will vary among ovens, from a ½-inch crack up to 8 inches.

Use a thermometer (oven, roasting, candy or dairy) to keep track of the temperature in various parts of the oven. If using other than an oven thermometer, make sure the bulb does not touch any surface.

Turn the food occasionally on the trays. Trays next to the top and bottom dry the fastest. Shift them around

every half hour or so. Also turn trays front to back. It might help to number the trays so that a record can be kept of the shifts.

If some pieces around the tray edges get dry first, remove them first — it is easy to scorch food if it overheats near the end of the drying time. In order to avoid this, turn off the heat when drying is almost completed and open the oven door wide.

Most vegetables take 4 to 12 hours to dry; fruits, 6 to 20 hours. Time varies according to the kind of fruit or vegetable being dried, the size of pieces, and the load on the tray.

Other Methods

Sun (solar) heaters and dehydrators or dryers sometimes are used to dry foods. They can be made fairly easily at various costs. Sun heaters are effective when drying foods requiring humidity or when drying small lots of food. Dehydrators are best used when drying large amounts of food.

Conditioning and Pasteurizing

Most fruits should be allowed to “sweat” or condition for a week after drying. This equalizes the moisture. Apricots, particularly, develop a candy-like consistency during conditioning. To condition, place fruit in a sturdy nonporous, nonaluminum container. Place the container in a warm, dry, well ventilated and protected area. Stir the food gently each day.

Foods dried in the sun may harbor spoilers like insects or insect eggs. Generally, though, this is not a problem with fruits that have been sulfured.

Dairy products that come from the oven or dehydrator usually are free from infestation. However, certain foods need to be pasteurized to destroy spoilage organisms. These include sun-dried foods; vegetables cut in small pieces so that in the drying process the heat is not high enough or long enough to kill spoilers; and foods that are allowed to stand exposed to air, such as during conditioning. To pasteurize, use whichever of the following methods is suitable:

1. Heat fruits and vegetables on trays in a 150° F oven for 30 minutes.
2. Heat the food on trays in a 175° F oven; fruits for 15 minutes and vegetables for 10 minutes.

Packaging and Storing

Dried foods should be thoroughly cooled before packaging.

Pack the food as tightly as possible without crushing into clean, dry, insect-proof containers. Metal cans or boxes with fitted lids, glass jars, or moisture-vapor proof freezer cartons or bags (heavy gauge, plastic type) make good containers for storing dried food.

Fruit that has been sulfured should be separated from a metal can or lid by putting the fruit into a plastic

bag or by inserting a cellophane or polyethylene sheet under the lid. Color changes take place when sulfur fumes react with metal.

To insure protection from insects and to prevent any reabsorption of moisture, seal lids to the containers. Do this by wrapping the joining area with a plasticized pressure-sensitive tape, or with a clean 1-inch strip of cloth that is still warm after having been dipped in paraffin.

Herbs dried on the stem may be stored on the stem in plastic or paper sacks (to protect them from the dust), if ample storage space is available. Otherwise, store the dried leaves, whole or crushed, in an appropriate container.

It is well to package in small amounts, because dried foods are best if used within a short time after the container has been opened.

Most dried foods should be stored, tightly sealed, in a cool, dry, dark place. Recommended storage times for dried fruits and vegetables range from six months to one year. Because food quality is affected by heat, the storage temperature helps determine the length of storage: the higher the temperature, the shorter the storage time. Labeling the packaged foods with the date of packaging and the name of the product also is helpful.

Foods that are packaged seemingly "bone dry" can spoil as a result of reabsorbing moisture in storage. Check from time to time during storage to see that they remain dry. Glass containers are good for storage because any moisture that collects on the inside can be seen easily. Food affected by moisture, but not spoiled, should be used immediately or reheated and repackaged.

Preparation for Table Use

Properly dried foods refresh well. They return practically to their original size, form, and appearance. If carefully handled, they retain much of their aroma and flavor, as well as the minerals and appreciable amounts of vitamins.

Roughly, 1 to 2 cups of dried foods will serve 6 persons.

Fruits

One to eight hours are required for refreshing most fruits. The time varies with the kind of fruit, the size of the pieces, and whether the refreshing process is done with hot or cold water. Hot water takes less time.

Add water just to cover — more can be added if needed. Do not oversoak. Oversoaking produces loss of flavor, and sometimes a mushy water-logged product. Fermentation spoilage will occur if soaking is continued too long, as drying does not render the food free from bacteria, yeasts and molds.

To cook, cover and simmer in the soak water to retain the nutritive quality.

Sometimes less sugar is needed in cooking dried fruit than in cooking fresh fruit. In the drying process, some of the starch in fruit may change to sugar. When sugar is used, it should be added at the end of the cooking process so it will not interfere with the fruit's absorption of water.

Adding a few grains of salt helps bring out the natural sweetness of most fruits. Lemon, orange, or grapefruit juice added to the fruit just before serving will help give a fresh fruit flavor and add vitamin C to the food.

Vegetables

To replace the moisture removed from most vegetables, soak them in cold water just to cover for 20 minutes to 2 hours. Cover greens with boiling water. Bring vegetables to a boil and simmer until done. Allow excess water to evaporate during cooking.

The amount of water used for soaking and cooking should be as nearly the same as the amount the food will take up. It is better to add water during the cooking process than to start with more than is needed.

Like fresh foods, dried ones will lose both texture and flavor if overcooked. Dried vegetables already have been partially precooked and therefore can be prepared for the table in a short time.

Use powdered products and herbs without soaking.

Steps in Drying Fruits

(Refer to text for details)

Preparation	Pretreatment	Drying Procedure*
<p>Apples (<i>Use varieties of good dessert or cooking quality. Mature but not soft.</i>)</p> <p>Wash, peel, and core. Cut into slices or rings 1/8" to 1/4" thick, or into quarters or eights.</p> <p>To prevent browning during preparation, treat cut portions with an ascorbic acid solution (2 1/2 tps. of pure crystalline ascorbic acid in each cup of cold water).</p>	<p>Choose one:</p> <ul style="list-style-type: none">● Blanch in steam 10 minutes.● Sulfur 30 to 60 minutes depending on size of pieces.	<p>Arrange slices on trays not more than two layers deep.</p> <p>Under controlled conditions (oven) start at 130° F; gradually increase to 165° F; finish at 145° F.</p> <p>Drying time approximately 6 hours in controlled heat.</p> <p>Dry until leathery, suede-like, and there is no moisture when cut and squeezed.</p>
<p>Apricots (<i>Use any variety. Fully ripened but not so soft they are easily mashed or lose shape during drying.</i>)</p> <p>Wash, cut in half and pit. Do not peel.</p> <p>Coat with ascorbic acid solution (1 tsp. pure crystalline ascorbic acid in each cup of water) to prevent darkening.</p>	<p>Choose one:</p> <ul style="list-style-type: none">● Sulfur 1 to 2 hours depending on size of pieces and ripeness of fruit. The riper the fruit the more slowly it absorbs sulfur dioxide.● Steam-blanch halves 5 to 10 minutes.● Blanch in a hot syrup made of equal parts corn syrup and water or sugar and water.	<p>Arrange in single layer on drying trays, pit side up.</p> <p>Under controlled conditions (oven) start at 130° F; gradually increase to 150° F. Reduce to 140° F when nearly dry.</p> <p>Average drying time for halves up to 14 hours in controlled heat; 1 to 2 days in the sun.</p> <p>Dry until leathery and pliable; handful of pieces falls apart after squeezing; no moisture in center when cut.</p> <p>May be dried in sun heater.</p>
<p>Berries (<i>Firm type</i>)</p> <p>Sort, wash and leave whole.</p>	<p>Choose one:</p> <ul style="list-style-type: none">● No treatment necessary.● Steam 1/2 to 1 minute.● Crack tougher skins by dipping 15 to 30 seconds in boiling water, then in cold water. Remove excess moisture.	<p>Spread in layer not more than 2 berries deep. Cloth on tray may help keep berries from sticking.</p> <p>Under controlled conditions start at 120° F, increase to 130° F after one hour then to 140° F.</p> <p>Drying time up to 4 hours.</p> <p>Dry until berries are hard, rattle when shaken on the tray, and do not show moisture when crushed between the fingers.</p>

* If suggested temperature ranges are not possible to control, maintain the drying temperature at 140° F.

Preparation**Pretreatment****Drying Procedure***

Cherries

Sort, wash, leave whole or stem and remove pit.

Choose one:

- No further treatment necessary.
- Check skins of whole cherries in boiling water 15 to 30 seconds, cool immediately, and remove moisture.
- Syrup-blanch.

Dry in single layers on trays. Under controlled conditions start at 120° F; increase gradually to about 145° F. Reduce temperature near end if chance of scorching. Drying time up to 6 hours. Dry until leathery and slightly sticky.

Dates (*Dates with low moisture content are desirable. Best to pick translucent fruit.*)

Wipe clean with damp terry towel; do not wash.

Discard any fruit showing fungus, skin damage, or souring.

Dry only the same type of date in any one batch.

No treatment necessary.

Spread fruit one layer deep on racks or trays.

Dry in oven. Preheat oven to 225° F for 5 minutes. Turn heat off; place dates in oven and leave them until the oven has cooled. Repeat the process the next day.

Or

Dry in a sun heater from 2 to 8 days, depending upon fruit and temperature conditions.

Dry until leathery, pliable and slightly sticky.

Pasteurize sun heater dried fruit at 150°F for 30 minutes.

Fruit temperatures above 155° F cause a caramelization of the sugars with a resulting scorched flavor, and produce a syrupy, sticky date.

Figs

Select fully ripe fruit. When not fully ripe, the sugar content is too low to produce a good dried product, and fruit may sour.

Wash, or clean whole fruit with damp terry cloth.

If small or partly dried on tree, leave whole. Otherwise, cut in half lengthwise.

Choose one:

- Check skins of whole figs by dipping in boiling water for 30 to 45 seconds. Cool quickly, and remove excess moisture.
- Sulfur light colored varieties (like Kadotas) for 1 hour or more. Sulfuring is optional with others. (Black figs will turn a mottled color when sulfured.)
- If cut, steam-blanch 20 minutes.
- Syrup blanch.

Spread in single layers on trays.

Under controlled conditions start at 115° F, increase to 145° F after first hour. Reduce to about 130° F when nearly dry.

Stir or turn figs to keep from sticking.

Drying time averages up to 5 hours for halves in controlled heat; about 3 days in the sun.

Dry until leathery, with flesh pliable yet slightly sticky.

* If suggested temperature ranges are not possible to control, maintain the drying temperature at 140° F.

Preparation**Pretreatment****Drying Procedure***

Grapes (Any seedless varieties.)

Wash, and remove all defective fruit.

Leave whole on stem; cut closely packed stems into small bunches; or, remove from stems.

- No treatment necessary.
- Or, dip in boiling water 15 to 30 seconds to crack skins; then in cold water to cool immediately. Drain.

Under controlled conditions start at 120° F, increase gradually up to 150° F. Reduce temperature near end of drying, if necessary.

Drying time averages up to 8 hours.

Dry until pliable and leathery.

Nectarines

Peel if desired.

Halve and stone.

Cut into quarters or slices.

To prevent browning during preparation, treat with ascorbic acid solution as for apricots.

Choose one:

- Steam-blanch halves 15 to 18 minutes, slices 5 minutes.
- Sulfur slices 1 hour, halves or quarters 2 hours. If blanched, sulfur 30 and 90 minutes, respectively.

Dry like peaches.

Peaches (Any good table variety; freestones preferred. Ripe enough for eating but not dead ripe.)

Peel.

Cut in half and pit.

Leave in halves or cut in quarters or slices.

To prevent browning during preparation, treat with ascorbic acid solution as for apricots.

Choose one:

- Steam-blanch halves 15 to 20 minutes, slices 5 to 7 minutes.
- Sulfur 1 to 2 hours, depending upon size of pieces. If steam-blanching before sulfuring, cut sulfuring time about half.

Arrange in single layers on trays, pit side up to retain juices.

Turn over halves when visible juice disappears.

For controlled heat drying, start at 125° F, increase gradually to 155° F. Reduce heat when nearly dry to prevent scorching.

Drying time under controlled conditions averages up to 15 hours for halves and about 6 hours for slices.

Dry until leathery and somewhat pliable.

May be dried in sun heater.

Pears (Bartlett is best for drying.)

Pare.

Cut in half lengthwise and core.

Cut in quarters or eighths or slices 1/8" to 1/4" thick.

To prevent browning during preparation, treat with ascorbic acid as for apricots.

Choose one:

- Steam-blanch 5 to 20 minutes, depending upon size of pieces.
- Sulfur as for peaches.
- Syrup-blanch.

Spread in single layers on trays.

Under controlled conditions start at 130° F, increase gradually to 150° F after first hour. Reduce to 140° F for last hour or when almost dry.

Drying time under controlled conditions averages up to 15 hours for halves or 6 hours for slices.

Dry until springy and suede-like, no moisture when cut and squeezed.

Preparation	Pretreatment	Drying Procedure*
<p>Prunes-Plums</p> <p>Dry whole if small. Otherwise, cut into halves (pit removed) or slices.</p>	<p>Choose one:</p> <ul style="list-style-type: none"> ● Dip whole fruit in boiling water 30 or more seconds to check skins. Cool and drain. ● Steam-blanch halves 15 minutes, slices 5 minutes. ● Sulfur whole fruit 2 hours, halves and slices 1 hour. 	<p>Dry like pears.</p> <p>Drying time under controlled conditions averages 6 to 8 hours for slices and halves; up to 14 hours for whole fruit.</p> <p>Dry until pliable and leathery; handful of pieces will spring apart from squeezing.</p>

Steps in Drying Vegetables**

(Refer to text for details)

<p>Beans — Lima</p> <p>Shell.</p>	<p>Choose one;</p> <ul style="list-style-type: none"> ● Steam 10 to 15 minutes. ● Place in boiling water 5 minutes. Drain. 	<p>Spread on tray about ½" deep. Under controlled conditions start at 115° F, increase to 140° F. Stir frequently at beginning. Will dry in 6 to 10 hours in controlled heat.</p> <p>Dry until hard and brittle. Beans will break clean when broken.</p>
<p>Chili Peppers (Green)</p> <p>To loosen skin, rotate pepper over flame or scald in boiling water.</p> <p>Peel, split pods, and remove seeds and stem.</p>	<p>Choose one:</p> <ul style="list-style-type: none"> ● No treatment necessary. ● Steam-blanch 10 minutes. 	<p>Under controlled conditions start at 120° F, increase to 150° F. Reduce heat toward end.</p> <p>Dry until crisp and brittle.</p>

<p>Chili Peppers (Red)</p> <p>Select mature pods. Wipe clean with damp cloth. String whole pods together with needle and cord, or suspend plants in bunches, root side up, where air can get to them.</p>	<p>No treatment necessary.</p>	<p>Drying time in controlled heat, 6 to 10 hours at 150° F; in room temperature, several weeks.</p> <p>Dry until pods are shrunken, dark red, flexible.</p>
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* If suggested temperature ranges are not possible to control, maintain the drying temperature at 140° F.

** Other vegetables can be dried successfully. These were selected as representative within the state.

*** Blanching time will be slightly longer if altitude is high or quantity of vegetable is large.

Preparation

Pretreatment**Drying Procedure***

Corn (*Any good table variety.*)

Select tender, sweet corn.
Husk.
Sort ears on basis of maturity because young corn requires longer blanching time.
Cut from cob after blanching and cooling enough to handle.

Steam on the cob 10 to 15 minutes, or until milk is set.

Spread kernels ½" to ¾" deep on trays.
Under controlled conditions start at 130° F, increase to 165° F. Reduce to 140° F when nearly dry.
Stir frequently to prevent kernels from lumping together.
Dry until hard and brittle — from 6 to 10 hours.

Onions (*Select pungent varieties.*)

Peel.
Remove outer discolored layers.
Cut uniform slices ⅛" to ¼" thick.

No treatment necessary.

In controlled heat, dry 6 to 10 hours at 140° F.
Dry until brittle and light colored.
For onion powder, crush slices after drying.

Peas

Select young, tender peas of a sweet variety.
Shell.

Choose one:
● Steam-blanch 8 to 10 minutes.
● Dip in boiling water 3 to 4 minutes.

Spread thinly on trays.
Under controlled conditions start at 140° F, raise slowly to 160° F.
Dry until hard and shriveled; shatter when hit with a hammer.

Pumpkin (deep orange); Squash (Hubbard)

Cut into strips about 1" wide.
Peel off rind. Scrape off fiber and seeds.
Cut peeled strips crosswise into pieces about ⅛" thick.

Steam-blanch until tender (about 6 minutes).

Arrange in thin layer on tray.
Under controlled conditions start at 120° F and increase to 150 F.
Reduce to 130° F when nearly dry.
Dry until tough to brittle.

Herbs for Seasoning

Gather when leaves are mature but before flowers develop.
Wash thoroughly, remove excess water.

No treatment necessary.

Hang small bundles of stems in warm, dry, airy place. (May be enclosed in large brown paper bag.)
Or
Dry leaves on a cookie sheet in a warm oven.
Dry until leaves become brittle and crumble easily.

* If suggested temperature ranges are not possible to control, maintain the drying temperature at 140° F.

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