Preservation of Fruits and Vegetables by Drying

Maud E. Stitt

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PRESERVATION OF
Fruits & Vegetables

By DRYING

Compiled by Maud E. Stitt, Extension Nutritionist

South Dakota homemakers may well take a tip from their grandmothers and add the skill of drying to the food preservation methods used in saving garden and orchard surplus.

Modern equipment and improved methods have added greatly to the success of this method of preservation. A product of good flavor, color and food value may now be obtained by using these approved methods.

Selection of Fruits and Vegetables

Select good quality ripe firm fruits for drying. A product which is prime for table use should be used when drying fruit and vegetables. A tough and fibrous dried product will result when overmature vegetables are dried, while one lacking in flavor is obtained by drying immature vegetables. Green vegetables should be harvested in the morning and dried the same day to avoid loss of food values.
Preparation
1. Wash and sort carefully, using only prime product.
2. Peel, and cut product into uniform thin slices for quick drying. (See chart).
3. Blanch vegetables by steaming the required time.
4. Sulphur or blanch fruits. Crisp fruits may be steamed and sulphured.

Blanching
Blanching is done by scalding or steaming the product. Steaming is the preferred method for retaining color, flavor, and food value. Steaming is accomplished by placing the product in a wire basket or sack, which is suspended just above boiling water in a closed kettle. The pressure cooker with petcock open makes an excellent steamer.

Sulphuring
All fruits except berries require sulphuring to prevent color changes and growth of molds, bacteria and insects during the drying and storage process. Fruit is placed on wooden trays fitted into a tight wood box which makes a good sulphuring cabinet. The lowest tray should be 8 to 10 inches above the sulphur pan. Place a shallow pan of burning sulphur on bricks in the bottom of the box. One ounce of sulphur is used for each thirty cubic feet of space within the box. The sulphuring cabinet should be located out of doors.

Methods of Drying
Sun Drying—Sun drying is used only in localities where bright sunshine and high temperatures are maintained during the drying process. A sloping roof with south exposure is a good place for drying. The product is placed on screens or trays which have been covered with cheese cloth. Raise screen or tray enough to permit air circulation. The product should be covered with cheese cloth and stirred several times a day. The food should be taken in the house at night and placed in sun the following day until thoroughly dried. Sun-dried food is less desirable in food value and flavor than that dried by use of controlled heat.

Drying with Controlled Heat—Oven drying gives a fair product when the temperature can be controlled. The oven door should be left open and product watched carefully. However, a better product results from the use of a dryer which has both controlled heat and air circulation. The electric dehydrator with forced air circulation gives the best food product and requires the least attention, but is slightly higher in operating cost than top of the stove and kerosene dehydrators.
A simple top of stove drier, which will meet the needs of the average home, may be easily made from an apple box.

Home-Made Top of Stove Drier

Directions: Remove bottom and one end of box. Cut two inches off from end of box. Hinge end to the box for a door. Make three trays of screen or wire netting. The length of trays should be three inches shorter than the box. Support trays on cleats nailed to inside of box. A six-inch strip of sheet metal is nailed to the bottom of the box for a base to stand on the stove. A heat spreader of sheet metal two inches smaller than the box is suspended by wires four inches below the lowest tray. Three one-inch holes for ventilation are cut in the metal on two sides of box. See drawing for ventilation in door and top. To increase the capacity of the drier, another box may be fitted above the one over direct heat.

Operation of Drier

The drier is usually used on a coal or wood range. If direct flame is used an asbestos mat over the open flame will lessen the fire hazard. When operating, alternate trays as shown to obtain a natural draft circulation of approximately 2½ cubic feet per minute. Regulate temperature with thermometer placed on lower tray. Rotate trays occasionally during the process. The steamed product should be placed one-half to three-fourth inch thickness on cheese cloth covered trays.

Storing Dried Fruits and Vegetables

The dried food should be placed in paper sacks or shallow containers and inspected daily for several days before storage. Shaking the dried food in the sack at intervals will help to thoroughly dry any small particles which may still retain moisture. Reheat product before storing.

Tightly covered glass or metal containers are practical for home storage as protection from insects and moisture from air. Store in small amounts of one-half to one pound, in a cool, dry, dark place.

Preparation for Table Use

Dried fruits and vegetables are soaked in hot water from 30 minutes to two hours. Simmer the product in boiling water until tender, seasoning as desired.
### Directions for Drying Fruits and Vegetables

<table>
<thead>
<tr>
<th>Product</th>
<th>Selection and Preparation</th>
<th>Treatment, in Minutes, Before Drying</th>
<th>Drying Temperature</th>
<th>Average Time for Drying</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VEGETABLES</strong></td>
<td></td>
<td>First Half</td>
<td>Last Half</td>
<td></td>
</tr>
<tr>
<td>Asparagus</td>
<td>Green tender tips. Wash carefully</td>
<td>Steam 4-5</td>
<td>150 145</td>
<td>7-9 hrs. Brittle greenish black</td>
</tr>
<tr>
<td>Beans, String</td>
<td>Small, tender. Wash, string and cut in one-inch pieces</td>
<td>Steam 10-12</td>
<td>155 140</td>
<td>12-14 hrs. Brittle greenish black</td>
</tr>
<tr>
<td>Corn</td>
<td>Milk stage. Husk, trim from cob after blanching</td>
<td>Steam 15-20</td>
<td>165 160</td>
<td>8-10 hrs. Dry &amp; brittle</td>
</tr>
<tr>
<td>Peas, Green</td>
<td>Mature peas. Shell wash &amp; grade carefully</td>
<td>Steam 5-7</td>
<td>150 145</td>
<td>8-10 Hard wrinkled green</td>
</tr>
<tr>
<td>Pumpkin</td>
<td>Mature as for table use. Wash, stem, remove seeds and cut in strips 1-2 inches wide. Peel</td>
<td>Steam 5-7</td>
<td>165 160</td>
<td>12-16 hrs. Tough to brittle</td>
</tr>
<tr>
<td>Soup Mixture</td>
<td>Select root vegetables and corn, peppers, celery, asparagus, etc. Dry separately, mix as</td>
<td>Steam 5-10</td>
<td>150 145</td>
<td>8-10 hrs. Dry &amp; brittle</td>
</tr>
<tr>
<td>Spinach</td>
<td>Tender crisp leaves. Trim off roots &amp; large stems. Wash carefully</td>
<td>Steam 5-6</td>
<td>155 150</td>
<td>8-10 hrs. Crisp</td>
</tr>
<tr>
<td>Squash</td>
<td>Same as for pumpkin</td>
<td>Steam 4-6</td>
<td>150 145</td>
<td>12-16 Tough to brittle</td>
</tr>
<tr>
<td>Turnip &amp; other greens</td>
<td>Tender leaves. Trim, sort &amp; wash carefully</td>
<td>Steam 7-8</td>
<td>150 145</td>
<td>8-10 Crisp</td>
</tr>
<tr>
<td><strong>FRUITS</strong></td>
<td></td>
<td>First Half</td>
<td>Last Half</td>
<td></td>
</tr>
<tr>
<td>Apples</td>
<td>Late maturing varieties preferred. Mature not soft. Free from bruises. Peel, core, cut</td>
<td>Sulphur 30 min.</td>
<td>150 150</td>
<td>12-14 hrs. Leathery &amp; Springy</td>
</tr>
<tr>
<td>Peaches</td>
<td>Ripe firm. Wash, split fruit and pit. May be peeled if desired</td>
<td>Sulphur 35 min.</td>
<td>155 150</td>
<td>14-16 hrs. Leathery</td>
</tr>
</tbody>
</table>

*Treatment, temperatures, and drying time as recommended by Tennessee Experiment Station.*