

Drying Foods at Home



For thousands of years, people have dried many foods to preserve them for leaner times. Preserving seasonal foods by drying is still useful and convenient, and it has the added advantage of conserving storage space. How does drying preserve food? Basically, sufficient moisture is removed from a food material to prevent its decay; water content of properly dried food can vary from 5 percent to 25 percent. In hot, dry climates, food will be reduced in a few days to a moisture level that preserves them. In any climate, however, you can create satisfactory drying conditions at a moderate expense by using artificial heat and circulating air over the food.

Blanching

Blanching is the process of heating vegetables sufficiently to inactivate enzymes. Enzymes are the biological catalysts that facilitate chemical reactions in living tissue. If certain enzymes are not inactivated, they will cause color and flavor to deteriorate during drying and storage. Blanched vegetables, when dried, will have better flavor and color than unblanched ones. You may blanch with hot water or with steam. Water blanching usually results in more leaching of vegetable solids, but it takes less time than steam blanching under kitchen conditions.

DRYING THE VEGETABLES

Drying in the kitchen oven or in a dehydrator is recommended; however, sun drying may be used under proper conditions.

In the oven

1. Trays must be at least 1-1/2 inches narrower than the inside of the oven to allow for air circulation. Allow at least 2-1/2 inches between trays and 3 inches of free space at the top of the oven. Cheesecloth may be spread over the trays (under the food) to prevent small pieces from falling between the slats.
2. Load two to four trays with no more than 4 to 6 pounds of prepared vegetables distributed among them. Vegetable pieces should be in a single layer. More than one kind of vegetable can be dried at the same time. Strong-smelling vegetables should be dried separately.

3. Place an accurate and easily read thermometer on the top tray toward the back.
4. Preheat the oven to 160 degrees F (71 degrees C), and then add the loaded trays. Prop the door open at least 4 inches.
5. Place a fan outside the oven in such a position that air is directed through the opening and across the oven. Change the position of the fan frequently during drying to vary the circulation of air.
6. Maintain the temperature at 140 degrees F (60 degrees C). It takes less heat to keep the temperature at 140 degrees F as drying progresses, so watch the temperature carefully toward the end of the drying.
7. Examine the vegetables often, and turn the trays frequently. At the start of the drying process there is little danger of scorching, but when nearly dry, the product may scorch easily. Even slight scorching destroys the flavor and may lower the nutritive value, so be careful not to allow the temperature to rise above 140 degrees F, especially during the latter stage of drying.

In the Sun

Drying in the sun is unpredictable unless temperatures are over 100 Degrees F, and the relative humidity is low. If the temperature is too low, humidity too high, or both, spoilage (souring or molding) will occur before drying is achieved. Place the prepared vegetables on clean trays, as for dehydrator drying, and cover the trays with cheesecloth to guard against insects. The trays should not be stacked for sun drying. The cheesecloth should be raised above the trays so that it does not contact the product, but be sure to protect the sides against insects. Such a cover will slow the drying process. Turn the vegetables once a day to facilitate drying. If the temperature at night is more than 20 degrees F lower than daytime temperature, place the trays under shelter. It will probably take 3 to 4 days to complete drying, depending upon particle size, air temperature, and type of product.

Packaging

Dehydrated vegetables are free from insect infestation when removed from the dehydrator or oven. However, they are immediately susceptible to contamination and should be packaged as soon as they are cool. Use dry, scalded, insect-proof containers such as home canning jars with well-fitting lids. Coffee cans may be used if the dried vegetables are first placed in a plastic bag. The vegetable should be packed into the container as tightly as possible without crushing. Despite precautions, sun dried vegetables may be contaminated by insects. Therefore, the packaged dried vegetables should be placed in the home freezer for 48 hours to kill any possible insects or their eggs. Containers and storage areas should also be rodent proof.

This article adapted from Cooperative State Research, Education and Extension Service, USDA. Please contact the Farm Advisor's office at cdcalaveras@ucdavis.edu or 754-6477 with your agricultural questions. Talk to a certified Master Gardener every Wednesday, 10:00-12:00, 754-2880. To speak with a Master Gardener in Tuolumne County, please call 209 533-5696.