Drying Fruits and Vegetables (Dehydration)

Introduction
Dried foods are tasty, nutritious, lightweight, and easy to store and use. The energy input is less than what is needed to freeze or can, and the storage space is less than that needed for canning jars and freezer containers.

Dried fruits make high-energy snacks. The fact that dried foods are lightweight and compact makes them desirable for hiking and camping trips.

Some fruits and vegetables suitable for drying include apples, pears, peaches, plums, apricots, bananas, cantaloupe, strawberries, blueberries, carrots, celery, corn, green beans, potatoes, and tomatoes. Fruits can also be dried as fruit leathers and rolls.

Meat can be dried as jerky (see "Let’s Preserve: Meat and Poultry"). Herbs are one of the easiest foods to dry (see "Let’s Preserve: Drying Herbs").

How Foods Are Dried
Increasing the temperature of food makes its moisture evaporate, and air moving over the food carries the moisture away. A balance of temperature and humidity is needed to successfully dry foods.

Methods
Food dehydrators—either commercially made or homemade—give a good-quality dried product. Oven drying works well if you can set your oven to a temperature of 140 to 150°F. Open the oven door 2 to 3 inches to allow moisture to escape. A convection oven works well because it combines low heat with a fan to move the air. Room drying at room temperature works only if heat, humidity, and air movement are adequate. Today’s air-conditioned homes may be too cool to dry foods quickly enough. While sun drying works in dry climates, the high humidity in Pennsylvania makes this method impractical here.

Pretreating Fruits
Some foods such as apples, pears, peaches, and apricots dry better when pretreated. Pretreatment reduces oxidation, giving a better color, reducing vitamin loss, and lengthening shelf life. Research studies have shown that pretreating with an acidic solution enhances the destruction of potentially harmful bacteria during drying. Place cut fruits in a solution of 3¾ teaspoons of powdered ascorbic acid (or crush 20 500-milligram vitamin C tablets) or ½ teaspoon of powdered citric acid in 2 cups of water for 10 minutes before placing on trays to dry. Equal parts of bottled lemon juice and water can be substituted for the above pretreatment.

Other methods of pretreating fruit include syrup blanching, water blanching, and sulfiting. Syrup blanching involves simmering the prepared fruit for 10 minutes in a syrup of 1 cup sugar,
Leathers

Leathers are made from purees and take their name from the texture of the dried product. Leathers can be made from fresh, frozen, or drained canned fruit or vegetable purees. If puree is thin, as in a berry puree, add applesauce as an extender. Add 2 teaspoons of lemon juice or ¼ teaspoon of ascorbic acid to every 2 cups of light-colored fruit to prevent darkening. Sweeteners are usually unnecessary because of the concentration of the natural sweetness during the drying process. If desired, add ¼ to ½ cup of corn syrup or honey for every 2 cups of fruit. Sugar can be used, but it will crystallize after a while. Sweetened leathers will be somewhat sticky.

Pour prepared puree about ¼ inch thick onto plastic dehydrator trays or line a cookie sheet with plastic wrap (be careful to smooth out wrinkles; tape edges to prevent sliding). Do not use waxed paper or regular aluminum foil as the leather will stick. Nonstick foil works well. Two cups of puree will make one large fruit roll for a 13-inch by 15-inch sheet. Several smaller ones can be made. Depending on the fruit and its moisture content, leather size, and type of dryer used, it may take anywhere from 6 hours to several days to dry at 140°F. Test for dryness by touching the center of the leather; no indentation should be evident and no “wet” spots should show. While warm, peel from the sheet and roll, allow to cool, and rewrap in plastic wrap. Leathers can be kept for up to one month at room temperature and up to one year if frozen.

Testing Dryness and Storage

Vegetables are tough, brittle, or crunchy when dry and do not need conditioning. Store dried vegetables in air-tight containers to prevent food from absorbing the moisture in the air. Storing them in a dark place retains the vitamin content of the food.