WL 481

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EXTENSION SERVICE

Dehydration: A Time-Honored Method of Preserving Food

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Food dehydration requires just one ingredient – the food you're drying. The result is 100 percent natural food that will stay tasty and nutritious for many months.

Benefits

Food dehydration requires just one ingredient – the food you're drying. The result is 100 percent natural food that will stay tasty and nutritious for many months. Drying food will help you preserve food to store year round. You can manage a bigger garden, accept more from your friends' gardens, or buy that case of ripe bananas you find on sale – instead of letting the food go to waste.

Dried fruits make a healthy snack, and dried vegetables can be added to soups, stews, and casseroles. Meat jerky, dried nuts, and dried seeds are good sources of protein for a snack or a meal. When drying foods, you retain nutrition and add antioxidants to your diet. Many dried fruits, such as fruit leathers, are sweeter than fresh fruit.

Methods of Drying

There are different methods of drying foods: directly in the sun, in an oven, and the most popular method of using a dehydrator. To be successful, these methods must incorporate the right combination of warm temperatures, low humidity, and airflow.

When preparing food items for drying, research is required to determine proper methods of preparing, pretreating, drying times, and conditioning measures. To learn more about drying, refer to the National Center for Home Food Preservation at *http://www.nchfp.uga.edu* or the West Virginia University Extension Service at *http://www.fh.ext.wvu.edu*. The additional handout, "Fruits and Vegetables At A Glance" found at *http://www.fh.ext.wvu.edu/publications/ceos-lessons*, will also assist in selecting the proper methods for each type of fruit and vegetable.

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Sun Method

When drying in the sun, make sure there is not too much humidity in the air. High humidity may keep the product from drying properly, resulting in an unsafe product. Fruits are safe to dry in the sun because of the high sugar and acid content. However, most vegetables are not safe to dry in the sun, with the exception of vine dried beans. It is not recommended to dry meats outdoors, because they are high in protein. When the heat and humidity cannot be controlled, sun drying can lead to harmful bacteria growth.

Oven Method

Drying in an oven can be easier because the temperature can be controlled; however, it still is not the easiest way to dry foods. Drying in an electric oven can also be expensive because of the amount of time required. Proper temperature and ventilation are important in oven drying. Preheat the oven at the lowest temperature (140 to 150 degrees Fahrenheit). Adjust the thermostat and prop the oven door open to create a consistent oven temperature of 140 degrees Fahrenheit and allow moist air to escape. Place an electric fan beside the oven to keep the air circulating.

Dehydration Method

The most popular method of drying food uses an electric dehydrator with thermostatic controls. There are two basic designs – horizontal airflow and vertical airflow. The horizontal airflow dehydrator's heating element and fan are located on the back of the unit. However, on a vertical airflow dehydrator, the heating element and fan are located in the base or the top of the unit.

Storage of Dried Foods

After the drying process is complete, foods need to be conditioned before storing. Conditioning is the process used to evenly distribute moisture left in food after dehydration which could cause mold to grow. This is especially important for fruits, herbs, and seeds.

Dried foods should be packed into clean, dry, insect-proof containers as tight as possible without crushing. Canning jars work well for this. You can also use plastic freezer containers with tight-fitting lids or plastic freezer bags. Vacuum packaging is another good option. Pack the food in amounts that can be used all at once. Each time you open the package, the food is exposed to air and moisture, which can lower the quality or result in spoiled food.

Dried foods should be stored in a cool, dry, and dark area. Storage times for dried foods range from four months to one year. The higher the temperature, the shorter the storage time. Most fruits can be stored for one year at 60 degrees Fahrenheit or six months at 80 degrees Fahrenheit. Vegetables can be stored for about half that time.

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