



Lewis County

Master Food Preservers

WASHINGTON STATE UNIVERSITY
EXTENSION

Food Safety and
Preservation



Lewis County
17 SW Cascade Ave
Chehalis, WA 98532.

Julie Pirtle 360-740-1212
julie.pirtle@wsu.edu
<https://extension.wsu.edu/lewis/mfpmaterials/>

NUTS & SEEDS

Nuts are plant seeds or fruit encased in a *shell* or *hull* or woody fiber. The nut *kernel* is the inner edible part of the nut, also called a *nutmeat*. The *husk* is the rough outer covering which encases the shell and kernel.

Some nuts are classified as fruits or vegetables. For example, the peanut is really a member of the pea family and the almond is part of the peach family. The kernels or nutmeats are extremely high in protein and fat, and contain vitamins and minerals.

Nuts can be eaten fresh from the shell, roasted, or added to other foods. Their crunchy texture, high nutritive value and delicious flavor enhance appetizers, main dishes, salads, vegetables, breads, desserts, and candies.

Once harvested, nuts either in the shell or out of the shell should be dried to a relatively low moisture content to store well.

PREPARING NUTS FOR USE

Many nuts are ready for use as purchased. Others require shelling, skin removal, roasting, toasting, or merely cutting into pieces.

Shelling Nuts

Everyone has a favorite way of cracking nuts. Some prefer using a nutcracker and others a hammer on a hard surface.

Hard shells are easier to crack and nutmeats break less often if nuts are first soaked in warm water several hours or overnight. Spread nutmeats and let them stand a few hours to dry before storing. To open a coconut, pierce the “eyes” with an ice pick or large nail, and drain the liquid from the coconut. To remove the shell easily, bake the drained coconut at 350°F (moderate oven) for 20-30 minutes, or put in the freezer for an hour. Then place the coconut on a firm surface, and tap the shell lightly with a hammer in several places until it cracks. Separate the meat from the shell.

Removing Skins

Removing thick skins from some shelled nuts gives them a delicate flavor and improves appearance. This may be done by placing nuts in boiling water (called blanching) or by roasting.

Almonds and peanuts:

To blanch shelled almonds, Virginia or Runner peanuts, put them into boiling water and let stand 3 minutes. Drain. Slide skins off with your fingers. Spread nuts on absorbent paper to dry. Roasting also will loosen the skins of peanuts, either shelled or unshelled.

Filberts

Spread nuts in a single layer in a shallow baking pan. Bake at 300°F (slow oven) for 10 – 15 minutes or until heated through, stirring occasionally. Cool slightly, and slip skins off with your fingers.

Chestnuts

Blanch chestnuts by putting them in boiling water and letting stand 2 minutes. Remove a few at a time, cool slightly, and then peel with a paring knife. If nuts are difficult to peel, return them to the hot water for a minute or two. Roasting also will loosen the skins of chestnuts. Remove shells and skins while nuts are warm.

Coconuts: Use a vegetable paring knife to remove the brown skin.

Cutting Nuts

Chop or cut nuts on a board with a knife that has a long, straight cutting edge, or use a nut chopper. Sliver or slice nuts while still warm and moist from blanching, with a thin, sharp knife blade.

DRYING NUTS & SEEDS

Selection: Select intact and reasonably well-shaped nuts with clean, bright shells. The nut with the shell should be heavy for its size. This usually indicates a fresh, meaty kernel.

Preparation: The drying of most nuts and seeds should begin soon after harvesting, usually within 24 hours. Little preparation is needed for most nuts.

To Sort: Immerse the nuts in water, removing and discarding those that float. This also removes dirt and insects which may have accumulated on the shells. Shelling nuts first, lessens drying time, but dried, insects which may have accumulated on the shells. Shelling nuts first, lessens drying time, but dried, shelled nuts must be refrigerated or frozen. Nuts dried and stored in the shell will keep several months at room temperature.

How to Dry Nuts & Seeds: Spread nuts in a single layer on drying trays, letting air circulate freely on all sides. The optimum drying temperature is from 90° to 100° F. Temperatures above 100° F will shorten the storage life and affect the flavor. Shelled nuts must be protected from contamination. If you sun dry them, cover them with cheesecloth. Peanuts may be dried at slightly higher temperatures. Small amounts of unshelled nuts can be dried in a furnace room, an attic, or on a radiator, as long as the temperature does not exceed 100° F. They will be dry in 24-48 hours. Shelled nuts may be dried the same way as long as they are covered with cheesecloth to protect them from dust. If your dehydrator can be adjusted to a low enough temperature, it is ideal for drying nuts because the air circulation is much better than in room drying. Unshelled nuts will dry in 8-10 hours in a dehydrator.

Dryness Test: Nuts are dry when their shells have hardened to a brittle state. Crack one. The nutmeat should be tender but not shriveled by over drying.

Storing: Nuts stored in the shell should contain roughly, 7-8 percent moisture for the best storage stability, shelled nuts about 3-5 percent. Depending on the amount of moisture and the weight of the shell, the yield from different nuts will vary. In general, 1 pound of unshelled nuts will yield the following; almonds, 1 ½ ounces, Brazil nuts, 8 ounces; filberts, pecans or English walnuts, 7 ounces; or black walnuts, 3 ½ ounces.

ROASTING OR TOASTING NUTS

Roasted or toasted nuts and seeds have a fuller flavor compared to raw, dried nuts or seeds. It enhances the flavor and color of nuts. Roasting is done in the oven. Peanuts and chestnuts are commonly roasted in the shell.

To roast or toast shelled nuts – Mix 1 teaspoon cooking oil or melted fat with each cup of nutmeats, if desired, for richer flavor and even browning. Spread nuts on a shallow pan or baking sheet. Heat at 350°F for 5-12 minutes, or until lightly browned, stirring occasionally.

Toasting may also be done in a heavy pan on top of the range. Heat nutmeats slowly for 10-15 minutes until lightly browned, stirring frequently.

Nuts continue to brown slightly after removing from heat, so avoid overbrowning. Sprinkle hot roasted nuts with salt, if desired. Cool nuts on absorbent paper.

To roast or toast processed coconut – Use method for shelled nuts without added fat.

To roast peanuts in the shell – Spread peanuts in a shallow pan and roast at 350°F (moderate oven), stirring occasionally, for 15-20 minutes.

To test doneness: Remove a nut from the oven and shell it. The skin should slip off easily and the kernel should be lightly browned and have a roasted flavor.

To roast chestnuts in the shell – Slash through the shells on the flat side of the nuts. Place chestnuts, cut sides up, on a baking sheet. Roast at 400° F (hot oven) until tender about 20 minutes. Insert fork through cut in shell to test tenderness.

Roasted nuts and seeds have a shorter shelf life than dried nuts and should be eaten within 2-3 weeks after they have been roasted.

The dried nuts and seeds that are best for roasting are filberts, macadamia nuts, pumpkin seeds, and sunflower seeds.

PACKAGING AND STORING NUTS

To maintain best eating quality, most nuts need protection from oxygen in the air and from high temperatures that may cause the fat in the nuts to become rancid. Store them in airtight plastic, metal, or glass container below 70°F. As with other dried foods, the lower the storage temperature, the longer the storage life. For prolonged storage, keep them in a cool, dry, place. Avoid storing nuts in a damp place. Shelled nuts will keep fresh for several months stored in tightly closed containers in the refrigerator. (Be sure they are packaged well or they will absorb odors and flavors from other foods). They will not keep longer than 1-2 months at room temperature. Shelled nuts in unopened cans keep well in a cool, dry frozen in tightly closed freezer containers at 0F or lower. When nuts are refrigerator or frozen, let the container return to room temperature before opening. This prevents the cold nuts from drawing moisture from the air, which will cause them to mold or turn rancid more quickly.

Nuts & Seeds: A to Z

Almonds

The sweeter varieties such as the Harpareil and Jordanolo are best for eating and cooking. The more bitter varieties are used to make almond extract.

On the tree, almonds resemble small, green peaches. They do not usually fall to the ground when mature as do most other nuts. When the nuts mature, the hulls split open and the shells and kernels begin to dry while still on the tree. When most of the hulls in the center of the tree have split open, the nuts can be harvested by knocking them from the tree. Remove the hulls and dry the nuts.

Beechnuts

Beechnuts usually grow wild and are found mostly in the eastern United States. They grow inside small rough burrs about as big as a cherry. Two or more of the tiny three-sided nuts are contained in each burr or husk.

The mature nuts fall from the husks to the ground. Squirrels like them, so harvest beechnuts immediately after they have fallen from the tree or the squirrels will get them before you do.

Brazil Nuts

Brazil nuts are grown wild exclusively in the dense forests of South America. The fruit is similar to the coconut about 4-6 inches in diameter with a pod which contains from 10 to 30 of the nuts. The

large, three-sided nuts are white, oily, and flavorful and are covered by a rough, hard shell. Because of the rough shells, commercially-dried nuts are usually put through a brushing process to brighten and smooth them.

Brazil nuts are excellent alone or combined with dried fruits and other nuts.

Butternuts

White walnuts are another name for butternuts. The majority are grown in the northeastern United States. The butternut is about ½ inch in diameter and roughly 2 inches long with a fragile, smooth shell. Dry in or out of the –flavored foods.

Cashews

Cashews are the seeds of a soft, juicy, pear-shaped fruit called a cashew apple. The kidney-shaped cashew nut is usually about 1 inch long and is covered by a double shell. The kernel has a delicate flavor and a firm, fine texture. India and East Africa are the world's foremost producers of cashews. Some are grown on the coasts of Florida.

Cashews are excellent alone or in Oriental-style main dishes. They can be used in baked goods and fruit and nut combinations.

Filberts and Hazelnuts

Filberts and/or hazelnuts are high in protein and B vitamins and contain some mineral and vitamins C and E. About 75 percent of the filberts grown in the United States come from Oregon. The nuts usually grow in clusters of two or three with each nut covered by an open-ended husk. The husks usually open with the first frost and the mature nuts fall to the ground. They will discolor if left on the ground very long.

Commercially-dried filberts are bleached by sulfuring in the shell. Because the process is mostly cosmetic and fairly complicated, it is not recommended for home use.

Filberts become spongy during the drying process but regain their firm texture when dry. The kernel gradually changes from white to a creamy color. When this color change is complete throughout the kernel, it is sufficiently dry.

When using filberts in cooking or baking, toast them first to bring out their flavor and texture. Place them in a shallow pan at 275 for 15-20 minutes until the skins crack. Remove the skins by rubbing the warm nuts between your hands.

Hickory Nuts

Hickory nuts are produced by shagbark or shellbark hickory trees. These trees are members of the walnut family and grow principally in the central and northeastern United States.

The smooth-shelled nuts are enclosed in a green husk which turns brown as it matures and releases the sweet-flavored nut in the shell.

Macadamia Nuts

Macadamia nuts are grown in California, Florida, and Hawaii. When fully ripe, the thick husks split open and the hard-shelled nuts fall to the ground. They are harvested immediately. The shells are difficult to crack because they are about 1/8 inch thick. This may be why they are so expensive. The delicate, mild-flavored nut is delicious eaten fresh, roasted alone, or in dried fruit and nut combinations. To roast, place them in a shallow pan at 275°F for 15-20 minutes.

Peanuts

Peanuts, actually a member of the pea family, mature beneath the surface of the soil. Their shell is the softest of any of the nuts. Because they are a legume instead of a nut, they can be dried and roasted at slightly higher temperatures.

Spread peanuts on trays and dry at 130°F. Store them shelled or unshelled. To roast peanuts in the shell, place them in a shallow pan at 300F for 30-40 minutes or at 350F for 15-20 minutes stirring occasionally. To test for doneness, remove a nut from the oven and shell it. The skin should slip easily, and the kernel should be lightly browned and have a roasted flavor.

If they have been shelled, roast them for 2-25 minutes and stir frequently to prevent scorching.

Pecans

Pecans are grown mostly in the southern United States but may be grown from southern Indiana and Iowa down into Mexico.

The nuts are mature when the green husks turn brown and open. The nuts usually fall to the ground or may be knocked down with a long pole. The smooth, brown shells are usually oval-shaped but are round. They add delicious flavor to breads, cookies, candies, and many fruit dishes.

Pine Nuts, Indian Nuts, Pignons or Pinons

These tiny, sweet-flavored nuts are about the size of an orange seed. They are grown on the Nut Pine tree in the southwestern United States. Their delicious flavor makes the tedious process of cracking them worthwhile.

They usually are sufficiently dry when they fall to the ground but should be packaged and stored to prevent additional moisture absorption.

Pistachios

Pistachios are seeds from the fruit of the pistachio tree which is grown primarily in tropical climates. The majority of pistachios are imported, but central California is beginning to produce a new variety. The nuts have a double shell, the outer one is red and the inner one is multicolored. Commercially, this inner shell is frequently dyed red for eye-appeal.

The long, yellow-green pistachio seed is popular by itself or in candies and ice cream.

Pumpkin Seeds

Carefully wash pumpkin seeds to remove the clinging fibrous pumpkin tissue. Dry them in the sun or in a dehydrator at 115° to 120°F until crisp. Seeds can be oven dried at 150°F for 1-2 hours or roast in oven until dry at 375°F for 20-30 minutes. If you wish, dot the seeds with butter or margarine and heat for an extra 5-10 minutes at 400°F. Stir them frequently to prevent scorching. Season the seeds with garlic, onion, celery, smoky salt, parmesan cheese. Dehydrator or oven drying is faster than sun drying and there is little taste difference. Roast dried pumpkin seeds by tossing them lightly with oil and salt and placing them in a preheated oven at 250°F for 10-15 minutes.

Toasted Pumpkin Seeds:

Don't throw your pumpkin seeds away after you carve your Jack-o-lantern. Toast them for a fun-to-eat snack. 2 cups pumpkin or squash seeds, 1 ½ teaspoons salt, 1½ tablespoons oil or melted margarine. Separate fiber from pumpkin or squash seeds. Sprinkle salt in rimmed cookie sheet. Arrange seeds on salt in single layer. Drizzle with oil or margarine. Bake at 350°F for 45-50 minutes until crisp and brown; stir occasionally. Cool and store in dry place. (You may omit the oil or margarine for a drier, lower calorie, less messy treat.) Yield: 1 medium pumpkin makes about 2 cups seeds.

Sunflower Seeds

Sunflower seeds ripen on the flower and are usually left there to dry. If birds are enjoying the seeds, wrap cheesecloth around the flower until the seeds are dried.

The seeds may be shaken off the flower when they are mature, then dried in the sun for several days or in a dehydrator at 100°F. When dry, the seeds may be roasted in a shallow pan in a 300°F oven for 10-15 minutes.

The heads must first hang in a dry place for about a month or until the seeds pop out. Some tie a cloth bag around the head to catch any seeds which might drop during drying. To salt them, add ½ cup salt to 4 cups of seeds and add water to cover. Boil 5 minutes. Drain the seeds and dry on absorbent paper. Layer the seeds in a baking pan and roast for 25-30 minutes in a 325°F oven.

Sunflower as well as squash and pumpkin seeds are a real treat when roasted. One good roasting recipe is: Mix thoroughly 2 cups of unwashed seeds, ½ teaspoon Worcestershire sauce, 1 ½ tablespoons melted butter, and 1 teaspoon salt. Place in a shallow pan and roast for 1 hour at 250°F, shake pan several times during the process. Place seeds in a plastic bag and store in the refrigerator.

Walnuts, Black

Black walnuts grow in clusters with a thick, green husk covering the shell of each nut. The dark shells have numerous coarse ridges and do not split into halves as English walnuts do. The nutmeat is very difficult to extract. They are a very flavorful nut but usually are not grown commercially. Black walnuts will fall from the tree as they ripen. To remove the tough husks, crush them with a hammer or under your heel. Wear gloves to avoid stains from the brown dye in the shells. Dry them in the shell.

Walnuts, English

English walnuts are the most popular of the walnut family and there are several different varieties. The trees grow best in a moderate climate and the United States, mainly California and Oregon, are the world's foremost producers.

The husks of mature nuts are cracked when they fall from the tree. Harvest them immediately leaving the un-cracked nuts on the ground until they are fully ripe and the husks come off easily. The fresh nutmeat should be white. Old or rancid kernels are a dull gray. Dry walnuts until the divider between the halves breaks with a snap. If the divider is rubbery, dry further.

Because the walnut's shell is not very appealing, the shells are frequently bleached after the nuts are completely dry to improve their appearance. Bleach only those nuts which have a closed shell to prevent the bleach solution from penetrating to the kernel.

Bleaching walnuts is an optional procedure. It does not affect the flavor of the nuts. If you decide to bleach walnuts, use household chlorine bleach. Refer to the container for the chlorine percentage and add the amount recommended below for each gallon of lukewarm water.

Chlorine Content	Amount per Gallon
5%	28 fl. oz. (3 1/2 cups)
10%	14 fl. oz. (1 3/4 cups)
12%	12 fl. oz. (1 1/2 cups)
14%	10 fl. oz. (1 1/4 cups)
16%	8 fl. oz. (1 1/8 cups)
18%	6 fl. oz. (1 cup)
20%	4 fl. oz. (7/8 cup)

A tablespoon of vinegar per gallon of solution will speed the bleaching action. Hold nuts in the solutions 3-4 minutes, then remove, drain, and dry them. The bleaching action will continue for a day or two. The bleach solution may be used repeatedly with other batches of nuts.