



UCCE Master Food Preservers of El Dorado County

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Preserve Today, Relish Tomorrow

Variety Is the Spice Of Life: Herbs and Spices

Food Safety

To maintain safety and quality, several factors must be considered when drying fruits, vegetables, spices and herbs. Keep in mind that specific food products often have recommendations that are unique to them. Drying removes the moisture from food so that microorganisms such as bacteria, yeasts, and molds are less likely to grow; however, drying does not effectively destroy them. Because there is not a heat treatment that destroys disease-causing microorganisms, it is critical to use safe food-handling practices when growing and handling fruits, vegetables, and herbs for drying.

The optimum drying temperature for most foods is 140°F. (Dry herbs at 95-115°F.) If higher temperatures are used, the food will develop “case hardening” and moisture will not be able to escape from the food; this will lead to a moldy food product. Therefore, do not rush the drying process.

Low humidity is also needed when drying foods. If the surrounding air is humid, the foods will not dry effectively. Increasing the air movement away from the food will assist in the drying process.

Foods can be dried in the oven, under the sun, on the vine, or indoors using a dehydrator.

1. When dehydrating foods, using good sanitary practices is critical to reducing the risk of contaminating foods with pathogens and spoilage microorganisms.
2. After harvesting produce or herbs, place them in containers and locations that are free from additional contamination. (For example, put them someplace pets, insects, and wild animals will not have access.)
3. Begin the dehydration process soon after harvesting.
4. Clean and sanitize all utensils, containers, the food-contact surfaces of dehydrating equipment, and work surfaces. To effectively clean, wash with warm, soapy water; rinse thoroughly with warm water; and sanitize using one of the following methods:
 - a. Immerse utensils and drying trays in a chlorine bleach* solution (1 ½ teaspoon. of bleach per gallon of water) for 10 seconds, then air dry (do not use a towel).
 - b. Or, prepare a sanitizing spray solution of ½ teaspoon of household bleach per quart of water, and spray on food-contact surfaces. Let air dry.
5. Always wash hands before handling foods—this includes harvesting.
6. Consider wearing disposable gloves when preparing foods for dehydrating especially when working with hot peppers. Wash hands before putting gloves on, and always remove gloves whenever you change a task (such as answering the phone or preparing another food item). If your gloves become soiled or torn during food preparation, replace them before resuming food preparation. Do not wash gloves to reuse—use them once, then throw them away. Gloves can give a false sense of security. Change gloves as recommended—do not contaminate food with gloves used incorrectly.

**Household chlorine bleach is a common sanitizer. Use an unscented and un-concentrated bleach for food-contact surfaces and utensils.*

Herbs & Spices

What is the difference between an herb and a spice?

While the terms herb and spice are used interchangeably by cooks and cookbooks, there are distinct differences between the two. It all depends on what part of the plant is used.

Herbs: In general, culinary herbs are the leafy portions of a plant, whether dried or fresh. Examples include basil, bay leaves, parsley, cilantro, rosemary, and thyme.

Spices: Spices, on the other hand, are harvested from any other portion of the plant and are typically dried. Popular spices come from berries (peppercorns), roots (ginger), seeds (nutmeg), flower buds (cloves), or even the stamen of flowers (saffron).



Two in One: Some plants are generous enough to yield both an herb and a spice. Cilantro is the leafy herb of the same plant that gives us the popular spice coriander seed. And dill weed (an herb) and dill seed (a spice) also come from the same plant.

Checking for Freshness:

Color: Green, leafy herbs will often fade as they age, while red spices such as paprika, red pepper and chile powder will turn brown in color.

Aroma: Place a small amount in the palm of your hand and gently rub with your thumb. The aroma should be rich, full and immediate. If not, it probably lost potency.

If in Doubt, Throw It Out.

Store Properly: Store herbs and spices in cool, dry surroundings, away from direct light, heat or humidity. Keep in airtight glass jars and close tightly after each use.

Don't Shake Over A Boiling Pot: Moisture from steam may diminish the potency of spices or herbs remaining in the jar. Pour a small amount into your hand or a ramekin, then add to the dish you are preparing.

Salts

Table Salt

Table salt is typically mined from underground salt deposits. Table salt is more heavily processed to eliminate minerals and usually contains an additive to prevent clumping. Some table salt also has added iodine, an essential nutrient that helps maintain a healthy thyroid.

Kosher Salt

Kosher Salt is a coarse edible salt without common additives such as iodine. Used in cooking and not at the table, it consists mainly of sodium chloride and may include anti-caking agents.

Sea Salt

Sea salt is produced through evaporation of ocean water or water from saltwater lakes, usually with little processing. Depending on the water source, this leaves behind certain trace minerals and elements. The minerals add flavor and color to sea salt, which also comes in a variety of coarseness levels.

Fleur de Sel

("flower of salt" in French; is a salt that forms as a thin, delicate crust on the surface of seawater as it evaporates. *Fleur de sel* has been collected since ancient times (it was mentioned by Pliny the Elder in his book *Natural History*), although it was traditionally used as a purgative and salve. It is now used as a finishing salt to flavor and garnish food. The name comes from the flower-like patterns of crystals in the salt crust.

Pickling Salt

Pickling salt is pure sodium chloride that's free of the anticaking agents and other additives found in table salt. This means that it dissolves completely in brine, leaving the liquid perfectly clear.

What's the difference between sea salt and table salt?

The main differences between sea salt and table salt are in their taste, texture and processing. Sea salt is produced through evaporation of ocean water or water from saltwater lakes, usually with little processing. Depending on the water source, this leaves behind certain trace minerals and elements. The minerals add flavor and color to sea salt, which also comes in a variety of coarseness levels.

Table salt is typically mined from underground salt deposits. Table salt is more heavily processed to eliminate minerals and usually contains an additive to prevent clumping. Most table salt also has added iodine, an essential nutrient that helps maintain a healthy thyroid.

Sea salt and table salt have the same basic nutritional value, even though sea salt is often promoted as being healthier. Sea salt and table salt contain comparable amounts of sodium by weight.

Whichever type of salt you enjoy, do so in moderation. The Dietary Guidelines for Americans recommend limiting sodium to less than 2,300 milligrams a day.

Answer From [Katherine Zeratsky, R.D., L.D.](https://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/expert-answers/sea-salt/faq-20058512) <https://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/expert-answers/sea-salt/faq-20058512>



Drying Herbs

Drying is the easiest method of preserving herbs. Simply expose the leaves, flowers or seeds to warm, dry air. Leave the herbs in a well-ventilated area until the moisture evaporates. Sun drying is not recommended because the herbs can lose flavor and color.

The best time to harvest most herbs for drying is just before the flowers first open when they are in the bursting bud stage. Gather the herbs in the early morning after the dew has evaporated to minimize wilting. Avoid bruising the leaves. They should not lie in the sun or unattended after harvesting. Rinse herbs in cool water and gently shake to remove excess moisture. Discard all bruised, soiled or imperfect leaves and stems.

Dehydrator drying is a fast and easy way to dry high quality herbs because temperature and air circulation can be controlled. Pre-heat dehydrator with the thermostat set to 95°F to 115°F. In areas with higher humidity, temperatures as high as 125°F may be needed. After rinsing under cool, running water and shaking to remove excess moisture, place the herbs in a single layer on dehydrator trays. Drying times may vary from 1 to 4 hours. Check periodically. Herbs are dry when they crumble, and stems break when bent. Check your dehydrator instruction booklet for specific details.

Less Tender Herbs — The sturdier herbs such as rosemary, sage, thyme, summer savory and parsley are the easiest to dry without a dehydrator. Tie them into small bundles and hang them to air dry. Air drying outdoors is often possible; however, better color and flavor retention usually results from drying indoors.

Tender-Leaf Herbs — Basil, oregano, tarragon, lemon balm and the mints have a high moisture content and will mold if not dried quickly. Try hanging the tender-leaf herbs or those with seeds inside paper bags to dry. Tear or punch holes in the sides of the bag. Suspend a small bunch (large amounts will mold) of herbs in a bag and close the top with a rubber band. Place where air currents will circulate through the bag. Any leaves and seeds that fall off will be caught in the bottom of the bag.

Another method, especially nice for mint, sage or bay leaf, is to dry the leaves separately. In areas of high humidity, it will work better than air drying whole stems. Remove the best leaves from the stems. Lay the leaves on a paper towel, without allowing leaves to touch. Cover with another towel and layer of leaves. Five layers may be dried at one time using this method. Dry in a very cool oven. The oven light of an electric range or the pilot light of a gas range furnishes enough heat for overnight drying. Leaves dry flat and retain a good color.

Microwave ovens are a fast way to dry herbs when only small quantities are to be prepared. Follow the directions that come with your microwave oven.

When the leaves are crispy dry and crumple easily between the fingers, they are ready to be packaged and stored. Dried leaves may be left whole and crumpled as used, or coarsely crumpled before storage. Husks can be removed from seeds by rubbing the seeds between the hands and blowing away the chaff. Place herbs in airtight containers and store in a cool, dry, dark area to protect color and fragrance.

Dried herbs are usually 3 to 4 times stronger than the fresh herbs. To substitute dried herbs in a recipe that calls for fresh herbs, use 1/4 to 1/3 of the amount listed in the recipe.

Source: "So Easy to Preserve", 6th ed. 2014. Bulletin 989, Cooperative Extension Service, The University of Georgia, Athens. Revised by Elizabeth L. Andress, Ph.D. and Judy A. Harrison, Ph.D., Extension Foods Specialists.

Using Herbs

- Herbs should be used to complement the flavor of food.
- Generally, ¼ teaspoon of dried herbs is adequate for a four serving recipe.
- Substitution guidelines:
¼ teaspoon powdered herb = 1 teaspoon dried herb = 1 Tablespoon chopped fresh herb.

Recipe: *Bouquet Garni*

Yield: approximately 15 sachets.

These wonderful herb/spice filled bags are delicious additions to stews, soups and bean dishes. Make them up in bulk for a season of good cooking or to give as gifts. They are best stored in sealable containers if made in bulk.

- ¼ cup dried parsley
- ¼ cup dried thyme
- ¼ cup broken bay leaves
- 2 Tbsp dried sage leaves
- 1 Tbsp dried marjoram
- ¼ cup dried rosemary
- Optional: 2 tsp dried garlic

Combine herb in a large bowl. Gently crush herbs with the back of a wooden spoon.

Place 1 tablespoon of herb mixture in a spice bag or in the center of a 4x4-inch square of cheesecloth. Tie to secure opening.

Pack bouquet garni bags into a jar with a lid. Store jar in a cool dry place.

Source: Sunset

Recipe: *Herbes de Provence*

Yield: approximately 7 Tbsp.

This aromatic and flavorful herbal mix is very good sprinkled lightly onto meat, poultry, or seafood. Mix to taste with sautéed or steamed vegetables.

- 2 Tbsp dry basil
- 4 tsp dry oregano
- 2 tsp dry marjoram
- 2 tsp dry tarragon
- 2 tsp dry thyme
- 2 tsp dry savory
- 1 ½ tsp crushed Bay leaves
- 1 tsp fennel seed
- 1 tsp dry mint
- 1 tsp ground sage
- 1 tsp dry rosemary
- 1 tsp dried lavender (optional)

Blend until a fine powder forms.

Store in an airtight container, away from heat and light.

Source: Sunset



Recipe: *Italian Seasoning*

- 2 Tbsp. dried basil
- 2 Tbsp. dried oregano
- 2 Tbsp. dried sage
- 2 Tbsp. dried marjoram
- 2 Tbsp. dried rosemary

Mix all ingredients and store in a tightly sealed glass container.

Recipe: *Pumpkin Pie Spice*

Yield: 8 teaspoons

- 4 tsp ground cinnamon
- 2 tsp ground ginger
- 1 tsp ground nutmeg
- 1 tsp ground allspice

In a small bowl, combine spices and store in an airtight container.

Source: *The Great Little Pumpkin Cookbook*

Recipe: *Homemade Pickling Spice*

Yield: about 9 Tbsp.

Pickling spice is easy to make and will save you money.

You can make it in bulk and store in an airtight container but for the freshest taste to your product, make it up at the time you need it.

- 1 cinnamon stick (4 inches) broken into small pieces
- 5 bay leaves, crushed or crumbled
- 2 Tbsp mustard seeds
- 1 Tbsp whole allspice
- 1 Tbsp coriander seeds
- 1 Tbsp whole black peppercorns
- 1 Tbsp dill seeds
- 1 tsp cardamom seeds
- 1 to 2 tsp hot pepper flakes (optional)

1 tsp whole cloves

In a small glass or stainless steel bowl, combine all ingredients. Stir well

Store in an airtight container, away from heat and light, for up to one year.

Recipe: *Saltless Surprise*

Yield: 4 teaspoons

- 2 tsp garlic powder
- 1 tsp basil
- 1 tsp oregano
- 1 tsp powdered lemon rind

Put ingredients into a blender and mix well.

Source: *Department of Nutritional Services; Kaiser Foundation Services*

Recipe: *Pungent Salt Substitute*

Yield: 14 teaspoons

- 3 tsp basil
- 2 tsp savory (summer savory is best)
- 2 tsp ground cumin seed
- 2 tsp celery seed
- 2 tsp sage
- 2 tsp marjoram
- 1 tsp lemon thyme

Mix well, the powder with a mortar and pestle

Source: *Department of Nutritional Services; 2001 Kaiser Foundation Health*

A Rough Guideline for How Long to Keep Herbs and Spices

For full flavor crush or grind just before using.

Never store your spices above your stove as the additional heat will more quickly lead to degradation of their quality. Also, don't store them directly above your dishwasher as the increased humidity will also shorten their shelf life. Stored spices do best in temperatures below 70°F and in lower humidity environments. While achieving both may be challenging in your kitchen the closer you can get to the ideal storage of them the better off you'll be.

If spices and herbs are kept as suggested, the shelf life will be as follows:

- Whole spices and dried herbs, leaves and flowers will keep 1 - 2 years.
- Seeds will keep 2 – 3 years and whole roots (i.e. ginger root or galangal root) will keep 3 years.
- Ground spices and herb leaves will keep 1 year.
- Ground roots will keep for 2 years.

Just because a spice or seasoning blends is outside the date range listed above doesn't mean that the spice needs to be tossed in the trash. To determine if a spice or seasoning is still good, you must remember "appearance" and "aroma". A spice that is no longer acceptable will have lost much of its vibrant color and will instead appear dull and faded. The bigger key, though, is smell. To determine whether a ground spice is still good, gently shake the container with the cap on. Remove the cap and smell the spice to see if the potent aroma of the spice is still present. If it is, then your spice is still in good shape. Spices don't just all of a sudden go from good one day to bad the next. From the time they're harvested, they slowly begin to deteriorate and what you want to do is to prolong their optimum flavor for as long as possible with proper grinding and storage.

In addition:

- Seasoning Blends 1-2 years
- Extracts 4 years

Source: Information from: *Spice Islands* and <http://www.spicesinc.com/p-780-what-is-the-shelf-life-of-spices-and-herbs.as>

Resources:

Websites:

National Center for Home Food Preservation: <http://nchfp.uga.edu/index.html>

Ball® freshpreserving: <http://www.freshpreserving.com/>

Bernardin: <https://www.bernardin.ca/recipes/default.htm?Lang=EN-US>

Books:

So Easy To Preserve, Sixth Edition <http://setp.uga.edu/>

Ball® Blue Book Guide to Preserving

Ball® Complete Book of Home Preserving: 400 Recipes, 2006/2012

The Spice Lover's guide to Herbs and Spices by Tony Hill

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