

BEGINNER'S GUIDE TO PICKLING

HOW TO MAKE PICKLES:
PICKLE, RELISH, AND CHUTNEY RECIPES

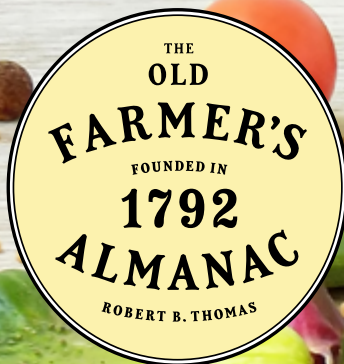


TABLE OF CONTENTS

BEGINNER’S GUIDE TO PICKLING

HOW TO MAKE PICKLES: PICKLE, RELISH, AND CHUTNEY RECIPES

[PREPARING TO PICKLE](#).....3

[PICKLE PROBLEMS](#).....5

[PICKLED VEGETABLES](#).....5

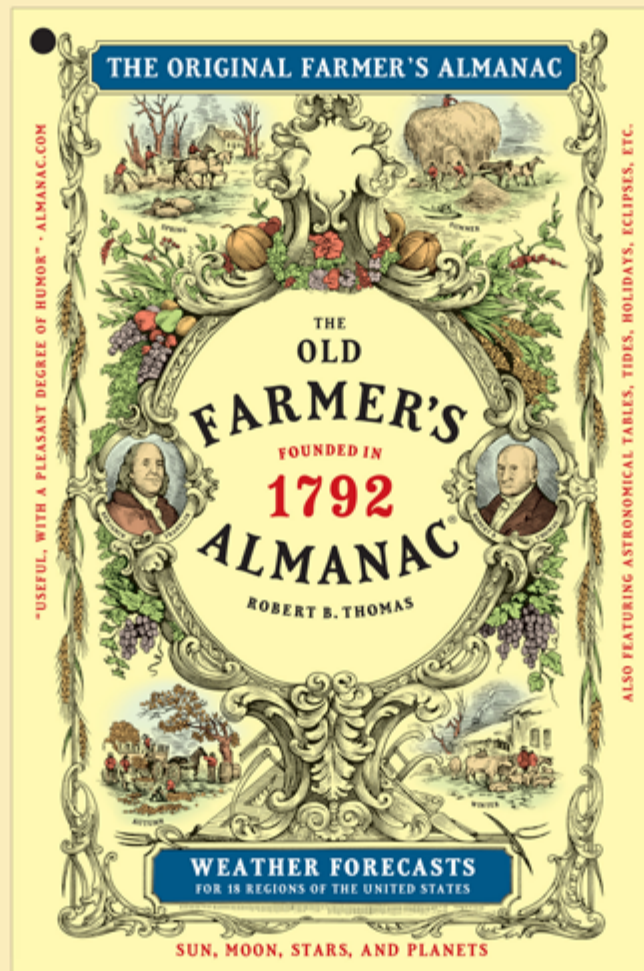
[PICKLED FRUIT](#).....11

[RELISHES](#).....12

[CHUTNEYS](#).....16

[ALMANAC GARDEN PLANNER](#).....18

THE ORIGINAL FARMER'S ALMANAC



The Old Farmer's Almanac is North America's #1 Almanac

The biggest, best-selling periodical and also the oldest almanac--since George Washington's time as president. As other almanacs come and go, The Old Farmer's Almanac remains as the esteemed tome valued by generations.

[LEARN MORE](#)

PICKLES, RELISHES, AND CHUTNEYS

Pickling is a great way to store excess vegetables. But pickling isn't just for cucumbers. You can pickle peppers, onions, tomatoes, carrots, watermelon, peaches—lots of different vegetables and fruit can be pickled! Give these recipes a try and enjoy the garden's bounty for months to come.

PREPARING TO PICKLE

Pickles should be made from young, fresh, sound vegetables and fruit, quality vinegar, and fresh, whole spices and herbs. Satisfactory pickled products are the result of quality ingredients, proper proportions, and carefully followed recipes.

When choosing fruit and vegetables for pickling, select those that are nearly the same size so that the pickling rate will be uniform.

HOW TO CLEAN PRODUCE

Fruit and vegetables to be pickled should be washed thoroughly with a vegetable brush under running water. Soil or any soft spots left on the vegetables may contain bacteria, which can cause the pickles to spoil. Cucumbers for pickling whole may have about a half-inch of the stem left on; be sure to remove the blossom ends of the cucumbers, as they contain an enzyme that can cause softening of the cucumbers during fermentation.

WHICH SALT TO USE

Salt for pickling brines should be canning or pickling salt—a pure, granulated or rock salt that has no iodine added. The iodine in table salt will darken pickles. Plain table salt may be used, but it contains anti-caking agents, which will cloud the brine.

DIFFERENCES AMONG VINEGARS

Vinegar must have an acidity of 4 to 6 percent for pickling purposes. (The strength of vinegar is usually shown on the label.) Wine vinegars do not do well for pickling because they will develop a mother, a gathering of yeast and other bacterial organisms, during fermentation. Cider vinegar will give a fuller, more richly flavored pickle but will also add some color to the pickle. If a lighter color product is desired, as with pickled pears or onions, white distilled vinegar should be used. Cider vinegar imparts a mellower taste and white vinegar a sharper taste, but both serve equally well for pickling.

Use the exact proportions of vinegar called for in your recipe; the vinegar is important to the keeping quality of the pickle. If the syrup or brine tastes too sharp, do not decrease the amount of the vinegar, but instead add more sweetener until the taste is right.

WHAT KIND OF JARS?

Use only jars that are specifically designed for home canning, such as mason or Ball jars. Most canning jars are sold with two-piece lids—a round metal screw band and a removable flat metal lid that has a rubber-type sealing compound around the outer edge. The screw band can be reused if it is cleaned well and does not rust. To ensure a tight seal, do not reuse the flat metal lids.

HOW TO STERILIZE JARS

Before every use, thoroughly wash empty jars and lids in hot water and detergent and rinse well. To sterilize empty jars just before filling, put them right side up in a stockpot. Fill the pot and jars with water to 1 inch above the tops of the jars. Boil for 10 to 15 minutes. Turn off the heat and keep the jars in the hot water until ready to use. Using tongs, take out one at a time as needed and remove water.

To sterilize screw bands, place them in a small saucepan. Add enough water to cover and bring to a simmer (not a rolling boil) over medium heat. Keep the bands hot until ready to use. Keep any flat metal lids at room temperature.

WHAT IS HEADSPACE AND HOW MUCH IS ENOUGH?

Headspace is the amount of air space between the top of the food or liquid put into a jar and the inside of the jar lid. For a strong seal, fill each jar to the proper headspace level. In general, allow:

- 1/4-inch of headspace for jams, jellies, juices, pickles, and relishes
- 1/2-inch of headspace for acidic foods such as tomatoes and fruit
- 1 inch of headspace for low-acid foods such as meats and most vegetables (if tomatoes are mixed with meats or other vegetables, consider the mixture low-acid)

IS PROCESSING NECESSARY?

Yes, pickles and relishes need to be processed. This heat treatment will destroy organisms that might cause spoilage and inactivate the enzymes that could affect flavor, color, and texture during storage. Process products for the length of time specified in the recipe. If unsure about the length of time, process the jars for at least 10 minutes.

PROCESSING: THE BOILING WATER BATH METHOD

In this procedure, jars of food are completely covered with boiling water and heated for a specific amount of time. Use this method to safely can tomatoes, fruit, jams, jellies, and pickles. Start counting the processing time when the water starts to boil.

PROCESSING: THE PRESSURE CANNING METHOD

In this procedure, jars of food are set in 2 to 3 inches of water in a pressure canner and cooked at a high temperature for a specific amount of time. (Follow the directions provided by the manufacturer of your pressure canner.) Use this method to safely can many foods with a low acidic content and a pH of 4.6 and higher, including meat, seafood, poultry, dairy products, and vegetables.



HOW LONG WILL PROCESSED FOOD LAST?

Food that is processed correctly and stored properly should be safe for up to 18 months. Once the food has been opened and put into the refrigerator, treat it as you would any other fresh food.

Place any jars that do not seal properly in the refrigerator and eat within 2 months.

PICKLE PROBLEMS

What went wrong? Peruse this list for possible explanations for inadequate pickling results.

Soft or slippery pickles: too little salt or acid in brine; scum in brining process not removed regularly; cucumbers not covered with brine; too warm a storage temperature; insufficient processing; blossom ends not removed from cucumbers.

Hollow pickles: poorly developed cucumbers; cucumbers left too long between harvest and pickling; improper brine strength.

Shriveled pickles: allowing too much time between gathering and pickling; pickling solution too sweet or too strong in vinegar; brine too salty at beginning of curing; overcooking or overprocessing of pickle.

Dark pickles: use of ground spices or too much spice; use of iodized salt; minerals in water, especially iron; use of iron utensils; overcooking.

Poorly colored or faded pickles: poor-quality cucumbers; sunburned or overmature fruit.

PICKLED VEGETABLES

SPICY BREAD AND BUTTER PICKLES

Bread and Butter Pickles got their name from Omar and Cara Fanning in the 1920s. The Fannings made a living by growing vegetables, mainly cucumbers. During a particularly poor growing season, Mr. Fanning decided to use the meager cucumbers he harvested to make an old family recipe for sweet and sour pickle chips. Mrs. Fanning was able to trade these pickles for things she needed at the local grocer, including bread and butter.

5 pounds cucumbers, sliced
8 small onions, shredded
2 green peppers, shredded
1/2 cup pickling salt
5 cups white vinegar
5 cups sugar
2 whole cloves
2 tablespoons mustard seed
1-1/2 teaspoons turmeric
1 teaspoon celery seed

Mix cucumbers, onions, peppers, and salt in a bowl. Cover with ice cubes and let stand for 3 hours. Drain. Bring vinegar, sugar, cloves, mustard seeds, turmeric, and celery seeds to a boil, then immediately remove from heat. Pack vegetables into sterilized jars, leaving 1/4-inch of headspace. Pour the hot liquid over vegetables until covered. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes 4 to 5 quarts.



DILL PICKLES

4 pounds small cucumbers
16 cloves garlic, peeled and blanched
8 fresh sprigs of dill
24 black peppercorns for each jar
2 quarts white vinegar
1/2 cup pickling salt

Soak freshly picked cucumbers in a bowl of ice water overnight. Remove and dry cucumbers, then pack into 8 sterilized jars. Into each jar add 2 cloves garlic, 1 sprig dill, and 4 peppercorns. Bring 2 quarts of water to a boil. Add vinegar and salt and boil for 5 minutes. Pour hot liquid over cucumbers, leaving 1/4-inch of head-space. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes 8 pints.

GROW THE BEST: CUCUMBERS

Wondering what variety of cucumbers to grow to make pickles? Find some suggestions on our [cucumber](#) page.

SWEET REFRIGERATOR PICKLES

“Refrigerator” pickles need no processing. They can be eaten right away, but the flavor is better after about a week

6 to 8 cucumbers, sliced
2 bell peppers, sliced
3 hot peppers, sliced
2 onions, sliced
1 tablespoon pickling salt
2 cups apple-cider vinegar
2 cups sugar
2 teaspoons celery seed
2 teaspoons mustard seed



Place cucumbers, peppers, and onions in a large bowl. Sprinkle with salt and let set for 1 hour. Drain. Stir together the vinegar, sugar, celery seeds, and mustard seeds until sugar is dissolved. Pour over cucumbers. Store in a covered glass or plastic container in the refrigerator.

Makes about 4 quarts.

SWEET AND SOUR WAX BEANS

“Wax” beans are yellow snap or string beans. They are similar in taste to green beans. Serve this nearly forgotten delicacy with pork instead of applesauce.

2 pounds wax beans, cut diagonally into 1-inch pieces
salt, to taste
1 cup white vinegar
1/2 cup sugar
1 teaspoon celery seed
1 teaspoon dried summer savory or 1 tablespoon chopped fresh summer savory
pinch of ground ginger
small bay leaves

Cover beans with water, add salt to taste, and cook until just barely tender. Drain the liquid into another pot, then add to it the vinegar, sugar, celery seeds, summer savory, and ginger. Add more water if needed so that there will be enough liquid to fill the jars. Bring liquid to a boil, add beans, and return to a boil. Pack 4 sterilized jars with vegetables and hot liquid, leaving 1/4-inch of headspace. Add a bay leaf to each jar. Seal and process for 5 minutes; start counting the processing time when the water starts to boil.

Makes about 4 pints.

DILLY BEANS

This pickle name refers to the herb in this recipe: dill.

2 pounds whole green beans, trimmed
1 teaspoon cayenne pepper
4 cloves garlic, blanched
4 heads dill
2-1/2 cups white vinegar
1/4 cup pickling salt

Pack beans lengthwise into 4 sterilized jars, leaving 1/4-inch of headspace. To each jar, add 1/4 teaspoon cayenne, 1 garlic clove, and 1 head dill. Bring vinegar, salt, and 2-1/2 cups of water to a boil. Pour hot liquid over the beans, leaving 1/2-inch of headspace. Seal and process for 5 minutes; start counting the processing time when the water starts to boil.

Makes 4 pints.

GROW THE BEST: BEANS

If you don't know beans about beans, we can help. Check out our [beans](#) page.

PICKLED BEETS

4 beets
2 cups white vinegar
2 cups sugar
1 whole clove
1 cinnamon stick (1-inch)

Cook beets until tender, remove skins, and slice lengthwise. In a separate pan, bring vinegar, sugar, clove, and cinnamon stick to a boil. Place beets in a jar or bowl and cover with hot liquid. The beets will be ready to eat in 3 days. Keep refrigerated.



CARROT PICKLES

4 to 6 carrots, peeled and sliced
1 cup white vinegar
1/2 cup sugar
1/2 tablespoon mixed pickling spice

Pack carrots into a pint jar. Bring vinegar, sugar, pickling spice, and 1/4 cup of water to a boil in a glass or enamel saucepan for 10 minutes. Pour hot liquid over the carrots, leaving 1/4-inch of headspace. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes about 1 pint.

GROW THE BEST: CARROTS

Having trouble growing carrots? It might be your soil. Find out more on our [carrots](#) page.

PICKLED ONIONS

Store these pickled onions for at least 2 weeks before sampling them.

milk (for boiling)
water (for boiling)
2 quarts small white onions, peeled
2 quarts white vinegar
12 whole cloves
1/2 tablespoon pickling salt
1 teaspoon alum
1/2 teaspoon mace

Boil onions for 10 minutes in equal amounts of milk and water. Put vinegar in a glass dish or porcelain pan. Add cloves, salt, alum, and mace. Scald (heat to almost boiling) well. Drain onions and pack into sterilized jars. Pour hot liquid over onions, leaving 1/4-inch of headspace. Seal and process for 5 minutes; start counting the processing time when the water starts to boil.

Makes 4 pints.

PICKLED PEPPERS

2-1/2 cups white vinegar
1/2 cup sugar
6 red bell peppers, sliced
6 green bell peppers, sliced
6 yellow bell peppers, sliced
2 teaspoons pickling salt
2 teaspoons mustard seed
2 teaspoons whole allspice

Bring vinegar, sugar, and 2-1/2 cups of water to a boil. Add peppers and heat through. Remove peppers from liquid with a slotted spoon and pack into sterilized jars. To each jar, add 1/2 teaspoon salt, 1/2 teaspoon mustard seeds, and 1/2 teaspoon whole allspice. Pour hot liquid over peppers, leaving 1/4-inch of headspace. Seal and process for 5 minutes; start counting the processing time when the water starts to boil.

Makes 4 pints.

GROW THE BEST: PEPPERS

Did you know that red and yellow bell peppers are simply green bell peppers that were left to mature on the plant? Learn more on our [bell peppers](#) page.

GREEN TOMATO PICKLES

This is a perfect way to save end-of-season tomatoes.

5 pounds green tomatoes
1/2 cup pickling salt
6 onions, sliced
3 red bell peppers
1/2 cup sugar
1/2 tablespoon ground allspice
1/2 tablespoon ground cinnamon
1/2 tablespoon ground mustard
1/2 teaspoon ground cloves
apple-cider vinegar

Slice tomatoes, sprinkle with the salt, and leave overnight. In the morning, drain off the liquid. Combine tomatoes, onions, peppers, sugar, and spices in a large pot. Cover with cider vinegar and bring to a boil. Cook until tender. Pour into sterilized jars, leaving 1/2-inch of headspace. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes about 3 quarts.

GROW THE BEST: TOMATOES

Are you growing determinate or indeterminate tomatoes? Find more information about both types on our [tomato tips](#) page.

MUSTARD PICKLES

This garden variety tastes great and looks beautiful in clear glass jars.

2 cups pickling salt
1 quart sliced cucumbers
2 quarts sliced green tomatoes
1 quart small button onions
1 head cauliflower, broken into small pieces
4 green bell peppers, sliced
4 red bell peppers, sliced
1 bunch celery, finely chopped
1-1/2 cups brown sugar
1/2 cup all-purpose flour
4 tablespoons ground mustard
1 teaspoon turmeric
2 quarts white vinegar
2 sticks cinnamon
several whole cloves, to taste

Make a brine by combining 4 quarts of water with the salt. Bring to a boil, add the vegetables, then remove from heat. Let sit overnight. Heat vegetables again in brine, then drain. Mix brown sugar, flour, mustard, and turmeric with enough cold water to make a smooth paste. Heat vinegar, add flour mixture, and cook, stirring often, until smooth. Add vegetables, cinnamon, and cloves. Allow to scald (heat to almost boiling) thoroughly. Pour into sterilized jars, leaving 1/4-inch of headspace. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes 6 quarts.

ZUCCHINI PICKLES

Never say “No!” to zucchini—pickle it!

2 quarts thinly sliced, unpeeled zucchini
2 onions, thinly sliced
1/4 cup pickling salt
2 cups white vinegar
2 cups sugar
2 teaspoons mustard seed
1 teaspoon celery seed
1 teaspoon turmeric

Combine zucchini and onions, sprinkle with the salt, cover with cold water, and let stand for 2 hours. Drain, rinse with fresh water, then drain again. Bring vinegar, sugar, mustard seeds, celery seeds, and turmeric to a boil and cook for 2 minutes. Add vegetables, remove from heat, and let stand for 2 hours. Bring back to a boil and cook for 5 minutes more. Pour into sterilized jars, leaving 1/4-inch of headspace. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes 4 pints.

GROW THE BEST: ZUCCHINI

What is the main difference between summer squash and winter squash? Find out on our [zucchini](#) page.

DILL CROCK

The old general store’s pickle barrel finds a home version in the dill crock, a savory brine in a large stoneware or earthenware crock that turns common garden vegetables into tangy, soul-satisfying pickles. The crock can work right in the kitchen from July through September.

Stoneware crocks range in size from as small as 1 quart to as large as 20 gallons. The 5-gallon size does not take up much space and is not only adequate for pickling but also not too heavy to move when full. In some areas, crocks may be hard to come by; practical substitutes, although not as traditional, are large glass crocks, wide-mouth gallon jugs, and enameled preserving kettles. Here’s how to make your own dill crock.

Make a brine in the crock using the proportions of 1 gallon water, 1 gallon apple-cider vinegar, and 1 cup pickling salt. If you like their flavor, toss in a few garlic cloves. Pack in clean, fresh vegetables alternately with fresh dill weed, using heads, stems, and leaves. Whole tiny fingerling cucumbers and larger ones cut into chunks will swim deliciously in the brine, as will any other firm-flesh vegetables, such as onions, peppers, and string beans. Try tossing in raw baby carrots, young peas in the pod, and cauliflower florets. Since the crock is an ongoing process, you will have pickled vegetables in varying stages, from the mild, barely flavored ones to the zesty, full-flavor ones. Let your taste judge when they are ready. A few grape leaves or a sprig of cherry leaves added to the brine will help to give a firmer pickle.

Since this is a long-brining process, be sure to check the crock each day and skim off any scum on the surface. To keep the vegetables below the brine, weigh down a dinner plate that covers the brine surface with a water-filled jar or freshly scrubbed rocks.

If you would like to preserve the last pickles left at the end of the garden season, let them work in the crock 2 to 3 weeks, then remove them from the brine and pack them into hot, sterilized jars. Strain and heat the brine. Fill the jars, leaving 1/2-inch of headspace, seal, and process for 10 minutes.

PICKLED FRUIT

SWEET PICKLED PEACHES

Let the peaches stand for a few weeks before eating.

8 to 10 small, firm, ripe peaches
whole cloves
2 cups white vinegar
2 cups sugar
2 cinnamon sticks (3-inch)

Scald the peaches, place in an ice-water bath, and remove skins. Leave whole (do not stone) and stick each with 3 cloves. Combine vinegar, sugar, 6 cloves, cinnamon sticks, and 1 cup of water in an enamel pot and bring to a boil. Cover and boil for 5 minutes. Add peaches, a few at a time, and continue boiling until peaches are soft. Spoon peaches into sterilized jars and pour hot liquid over peaches, leaving 1/2-inch of headspace. Seal and process for 20 minutes; start counting the processing time when the water starts to boil.

Makes about 3 pints.

SWEET PICKLED PEARS

1 pint apple-cider vinegar
4-1/2 cups brown sugar
4 cinnamon sticks (4-inch)
whole cloves
4 quarts pears, peeled, halved, and seeded

Combine vinegar, brown sugar, and cinnamon sticks in an enamel pot and bring to a boil. Boil for 20 minutes. Stick 2 cloves into each pear half and cook pears in the liquid until soft. Spoon pears into sterilized jars. Strain the liquid and pour it over pears, leaving 1/2-inch of headspace. Seal and process for 20 minutes; start counting the processing time when the water starts to boil.

Makes about 4 quarts.

GROW THE BEST: PEARS

Growing pears is as easy as (if not easier than) growing apples. Learn how on our [pear](#) page.

WATERMELON PICKLES

If you've never had pickled watermelon, you've got to try this. It's proof that you can indeed eat the whole thing.

rind from half of a large watermelon
6 cups sugar
1 pint apple-cider vinegar
1 tablespoon whole cloves
1 tablespoon whole allspice
1 cinnamon stick, broken

Slice watermelon rind into 1-inch strips and peel off the green skin. Cut rind into 1-inch chunks. Cover with cold water and boil for 20 minutes. Drain. In a pot, combine sugar and vinegar. Tie cloves, allspice, and cinnamon stick in a cheesecloth bag and add to sugar and vinegar. Bring mixture to a boil and pour over watermelon rind. Cover and allow to stand overnight.

Drain rind, but reserve liquid and spices and bring them to a boil again; pour over rind and let stand overnight a second time.

Boil rind and liquid together until rind is transparent and liquid is the consistency of honey. Place rind in sterilized jars and pour hot liquid over rind, leaving 1/2-inch of headspace. Seal and process for 5 minutes; start counting the processing time when the water starts to boil.

Makes about 5 pints.

GROW THE BEST: WATERMELON

Find out how to tell if a watermelon is ripe by going to our [watermelon](#) page.

RELISHES

APPLE PEPPER RELISH

3 tart apples, peeled and cored
3 sweet onions
2 red bell peppers
1/3 cup lemon juice
1 tablespoon grated lemon zest
1 cup sugar
1 teaspoon pickling salt

Use a food processor or grinder to shred the apples, onions, and peppers, then put into a pot. Add lemon juice and zest and bring to a boil. Add sugar and salt and bring back to a boil, stirring occasionally, for 20 minutes. Pour into a sterilized jar, leaving 1/4-inch of headspace. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes about 1 pint.

WHAT'S THE APPLE OF YOUR PIE?

Some apples are better than others for cooking and baking. Find out which varieties are best on our [apple baking](#) page.

BEET RELISH

4 pounds beets, cooked and peeled
4 onions
3 green bell peppers, seeded
1 tablespoon whole cloves
1-1/2 cups white vinegar
1-1/2 cups sugar
1 tablespoon pickling salt

Use a food processor or grinder to shred the beets, onions, and peppers. Tie cloves in a cheesecloth bag. In a pot, combine vinegar, sugar, salt, spice bag, and 1/4 cup of water. Bring to a boil and reduce heat. Add vegetables, cover, and simmer for 20 minutes, stirring several times. Remove cloves, then pour into sterilized jars, leaving 1/4-inch of headspace. Seal and process for 10 minutes; start counting the processing time when the water starts to boil. *Makes 6 pints.*

GROW THE BEST: BEETS

Beets come in a variety of colors from red to yellow to white. Find out more on our [beets](#) page.

CABBAGE RELISH

2 cups white vinegar
3/4 cup sugar
1/4 cup grated horseradish
1-1/2 teaspoons pickling salt
1/4 teaspoon freshly ground black pepper
2 cups chopped cooked carrots
2 cups chopped raw cabbage

Bring vinegar, sugar, horseradish, salt, and pepper to a boil and cook for 5 minutes. Reduce heat and add carrots and cabbage. Simmer for 5 minutes. Pour into sterilized jars, leaving 1/4-inch of headspace. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes about 3 half-pint jars.

GROW THE BEST: CABBAGES

Cabbages can be a challenge to grow due to pests and diseases. Find disease-resistant varieties on our [cabbage](#) page.

CALICO RELISH

Pale red, green, and white veggies make this condiment attractive as well as tasty.

2 cups chopped celery (stalks and leaves)
1/2 cup chopped onion
1 red bell pepper, seeded and finely chopped
1 green bell pepper, seeded and finely chopped
1 cup white vinegar
1/4 cup sugar
1/2 teaspoon pickling salt
1/2 teaspoon ground mustard

Cook celery and onions in boiling water until tender. Drain and add peppers, vinegar, sugar, salt, and mustard. Simmer for 10 to 15 minutes. Pour into sterilized jars and keep in the refrigerator for immediate use.

Makes 2 pints.

GROW THE BEST: CELERY

If celery does not get enough water, the stalks will be dry and small. Learn more helpful tips on our [celery](#) page.

CORN RELISH

- 1 dozen ears sweet corn
- 2 onions, chopped
- 2 green bell peppers, seeded and chopped
- 1 red bell pepper, seeded and chopped
- 1 cup chopped cabbage
- 2 cups white vinegar
- 1 cup sugar
- 2 tablespoons pickling salt
- 1-1/2 tablespoons ground mustard
- 1/4 teaspoon freshly ground black pepper

Cut the corn from the cobs but do not scrape the ears. Combine corn, onions, peppers, and cabbage in a pot. Add vinegar, sugar, salt, mustard, and pepper and cook slowly for 1 hour, stirring often. Pour into sterilized jars, leaving 1/4-inch of headspace. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes about 5 half-pint jars.

GROW THE BEST: CORN

In dry conditions, be sure to keep corn well watered because of its shallow roots. Find more information on our [corn](#) page.

HOT DOG RELISH

This is yummy on hamburgers, too!

- 6 green tomatoes
- 6 green bell peppers, seeded
- 2 onions, peeled
- 1/2 head cabbage, cored
- 1/4 cup pickling salt
- 3 cups white vinegar
- 3 cups sugar
- 1 tablespoon mustard seed
- 1 tablespoon celery seed
- 1 teaspoon turmeric
- 3 red bell peppers, seeded and finely chopped

Use a food processor or grinder to shred the tomatoes, green bell peppers, onions, and cabbage. Add salt and let stand overnight. Rinse and drain well. Bring vinegar, sugar, mustard seeds, celery seeds, turmeric, and 1 cup of water to a boil for 5 minutes. Add tomato mixture and red bell peppers and simmer for 10 minutes. Pour into sterilized jars, leaving 1/4-inch of headspace. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes 5 pints.

SWEET ONION RELISH

A little sweet suits almost any occasion.

2 cups chopped sweet onions
1/2 green bell pepper, seeded and diced
3 tablespoons diced pimiento
1/2 cup white vinegar
1/4 cup sugar
2 teaspoons caraway seed
1/2 teaspoon pickling salt

Combine onions, peppers, and pimiento and set aside. Bring vinegar, sugar, caraway seeds, salt, and 1/4 cup of water to a boil and simmer for 5 minutes. Pour over onion mixture and refrigerate for several hours before serving.

Makes about 2-1/2 cups.

GROW THE BEST: ONIONS

To grow bigger onion bulbs, fertilize with nitrogen every few weeks. Find more tips on our [onions](#) page.

HOT PEPPER RELISH

12 hot red peppers, seeded
12 hot green peppers, seeded
12 yellow onions
2 cups apple-cider vinegar
2 cups sugar
3 tablespoons pickling salt

Use a food processor or grinder to shred peppers and onions. Pour boiling water over vegetables to cover and let stand for 5 minutes. Drain and set aside. Bring vinegar, sugar, and salt to a boil. Add hot liquid to vegetables and boil for 5 minutes. Pour into sterilized jars, leaving 1/4-inch of headspace. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes about 6 pints.

ZUCCHINI RELISH

10 cups zucchini, peeled and chopped
4 stalks celery, chopped
4 large onions, chopped
1 red bell pepper, seeded and chopped
1/2 cup pickling salt
3 cups white vinegar
3-1/4 cups sugar
2-1/2 teaspoons celery seed
2-1/2 teaspoons mustard seed
2 teaspoons turmeric
2 tablespoons cornstarch dissolved in 1/2 cup vinegar

Combine zucchini, celery, onions, peppers, and salt in an enamel pan and let stand overnight.

Drain and rinse well. Bring vinegar, sugar, celery seeds, mustard seeds, and turmeric to a boil. Add vegetables and remove from heat. Let stand for 2 hours. Return to the heat and bring to a boil. Add cornstarch dissolved in vinegar and simmer for 15 minutes. Pour into sterilized jars, leaving 1/4-inch of headspace. Seal and process for 20 minutes; start counting the processing time when the water starts to boil.

Makes 15 half-pints.

CHUTNEYS

WHAT IS CHUTNEY?

Chutneys are the preserves of the condiment world—chopped fruit and vegetables combined with raisins and spices in a thick, sweet-sour syrup. Rich brown chutney goes well with a whole range of meats and vegetables as well as with traditional curries and rice. If not processed, chutney will keep for a week in the refrigerator.

CRANBERRY CHUTNEY

Serve in addition to or instead of cranberry sauce at Thanksgiving.

- 4 cups cranberries
- 2 cups sugar
- 1/2 teaspoon pickling salt
- 1/4 teaspoon baking powder
- 1 cup seedless raisins
- 1 cup thick orange peel, slivered

Combine cranberries, sugar, salt, baking powder, and 1 cup of water in a pot and stir to mix. Cover tightly and boil slowly for 15 minutes. Remove from heat and cool with the cover still on the pot. Stir raisins into 1 cup of hot water and boil for 5 minutes, until plump. Drain and cool. Boil orange peel in 1 cup of hot water for 5 minutes, then drain and cool. Combine cranberry mixture, raisins, and orange peel, mixing carefully so that berries are not crushed. Pour into sterilized jars, leaving 1/4-inch of headspace. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes about 3 pints.

PEACH CHUTNEY

- 1/2 cup chopped onion
- 1/2 pound seedless raisins
- 1 small clove garlic
- 4 pounds peaches, peeled, pitted, and chopped
- 1 quart white vinegar
- 1-1/2 pounds (about 3-3/8 cups) brown sugar
- 2/3 cup chopped crystallized ginger
- 2 tablespoons chili powder
- 2 tablespoons mustard seed
- 1 tablespoon pickling salt

Use a food processor or grinder to shred onions, raisins, and garlic, then transfer them to a pot. Add peaches, vinegar, brown sugar, ginger, chili powder, mustard seeds, and salt. Stirring occasionally to prevent scorching, boil mixture slowly for an hour or more, or until chutney is a rich brown color and rather thick. Pour into sterilized jars, leaving 1/4-inch of headspace. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes about 3 pints.

GROW THE BEST: PEACHES

The trick to growing peaches is to choose a type that fits your specific climate. Find out what type will grow best in your garden on our [peach](#) page.

TOMATO APPLE CHUTNEY

2-1/2 quarts ripe tomatoes, peeled, cored, and chopped

1 quart apples, peeled, cored, and chopped

3 cups brown sugar

3 cups white vinegar

2 cups chopped cucumber

1-1/2 cups chopped onion

1-1/2 cups seeded and chopped red bell pepper

1 cup seedless raisins

1 hot red pepper

1 clove garlic, minced

1 tablespoon ground ginger

1 teaspoon ground cinnamon

1 teaspoon pickling salt

Combine all ingredients in a pot and cook slowly until thick, about 2 hours, stirring occasionally to prevent scorching. Pour into sterilized jars, leaving 1/4-inch of headspace. Seal and process for 10 minutes; start counting the processing time when the water starts to boil.

Makes 3 pints.

GROW THE BEST WITH THE OLD FARMER'S ALMANAC GARDEN PLANNER

PLAN THIS...



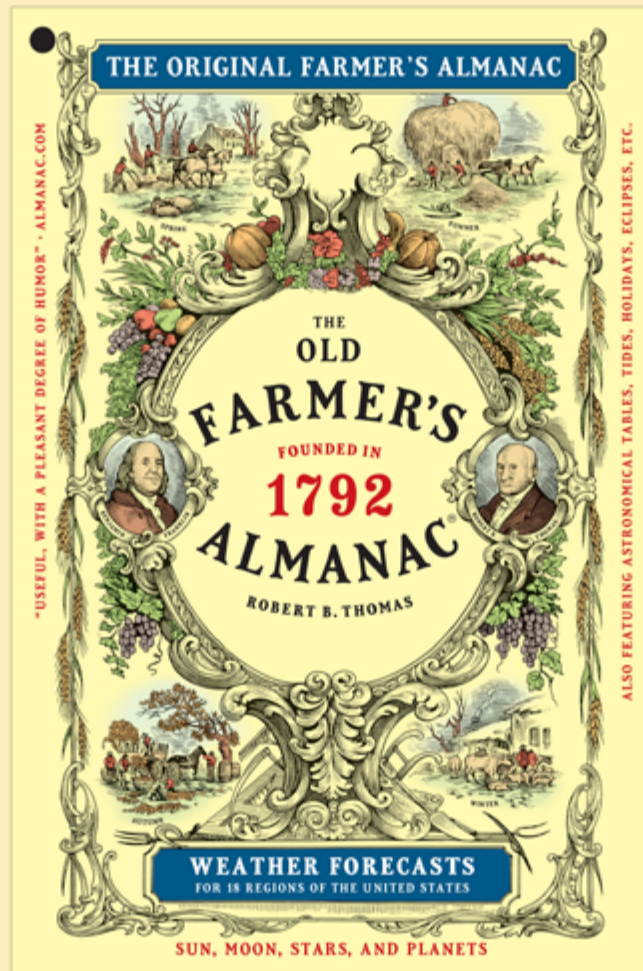
GROW THIS...



To ensure the best results when pickling or canning, begin with the best advice in the garden. The Almanac Garden Planner, with seasonal advice for your zip or postal code, helps with every step, from seed-starting to harvest.

[Try it free for 7 days.](#)

THE ORIGINAL FARMER'S ALMANAC



The Old Farmer's Almanac is North America's #1 Almanac

The biggest, best-selling periodical and also the oldest almanac--since George Washington's time as president. As other almanacs come and go, The Old Farmer's Almanac remains as the esteemed tome valued by generations.

[LEARN MORE](#)

Principles And Methods For Food Preservation

FOOD PRESERVATION

The meaning of the word “preserve” is to keep safe, retain quality and prevent decomposition or fermentation. Food preservation can be defined as:- A process by which certain foods like fruits and vegetables are prevented from getting spoilt for a long period of time. The colour, taste and nutritive value of the food is also preserved.

NEED FOR FOOD PRESERVATION

Preservation of foods is done during the months when food is available in large quantity and therefore at low cost. Reasons for food preservation is:

1. One of the important reasons for preserving foods is to take care of the excess produce.
2. The second reason for preserving foods is that they add variety to our meals. Eating some chatni, papad or pickle along with the meals adds to the variety. Preserving foods when they are in season makes this possible.
3. Reaches areas where the food item is not grown. In some areas of Rajasthan which are desert areas and in Himalayan regions that are covered with snow most of the time, very few foods can be grown. Availability of some preserved foods can add to the variety and nutritive value of meals. For example inclusion of dehydrated peas, green leafy vegetables, canned fruits etc, in the meals is a good idea in such areas.
4. Makes transportation and storage of foods easier. Preservation of foods usually reduces bulk. This makes their transportation and storage easier since it requires less space. For example, if you dry green leafy vegetables such as mint, methi, coriander, etc, their weight and volume reduces, thus making their storage easy.

PRINCIPLES OF FOOD PRESERVATION

A good method of food preservation is one that slows down or prevents altogether the action of the agents of spoilage. Also, during the process of food preservation, the food should not be damaged. The principles of food preservations are:

1. Removal of micro-organisms or inactivating them: This is done by removing air, water (moisture), lowering or increasing temperature, increasing the concentration of salt or sugar or acid in foods. For the preservation of green leafy vegetables, the water should be removed from the leave so that micro organisms cannot survive. This is done by drying the green leaves till all the moisture evaporates.
2. Inactivating enzymes: Enzymes found in foods can be inactivated by changing their conditions such as temperature and moisture. One of the methods of preservations of peas is to put them for a few minutes in boiling water. This method inactivates enzymes and thus, in preserving the food.

3. Removal of insects, worms and rats: By storing foods in dry, air tight containers the insects, worms or rats are prevented from destroying it.

METHODS OF FOODS PRESERVATION

Foods can be preserved at home by the following methods-

- a. Dehydration
- b. Lowering temperature
- c. Increasing temperature
- d. Using preservatives

(a) DEHYDRATION

The dried food items like potato chips, sevia (vermicilli), methi, cauliflower, papad, ginger are foods which have been preserved by the dehydration method. The word dehydration means removing water or moisture from foods. The home method of dehydration is sun drying. Some foods are dried as they are, eg, green leafy vegetables (methi, pudina, coriander etc.) cauliflower, grapes, amla, onion, raw mango, etc. Some foods are cooked and then dried. For example potato chips, papad, banana, chips, wadis, etc. The most appropriate weather to dry foods is when the air is dry and there is strong sunshine.

METHOD OF DEHYDRATION

- **Step 1:** Clean all tins, plates, etc, to be used to dry and store the food. Dry in sun. Storage tins should have airtight lids.
- **Step 2:** Wash the vegetables/fruits to be dehydrated. Cut, if required. Remove the stem, seeds, skin. Remove any decaying portions.
- **Step 3:** Blanch vegetables, i.e., put them in boiling water. Time for blanching varies with hardness of fruit/vegetables. Remove when the food is soft (blanching reduces enzyme activity).
- **Step 4:** Put vegetables in cold water containing salt and potassium metabisulphite(kms) for 5-10 minutes. This prevents blackening of foods. Green leafy vegetables and other dark vegetables should not be put in this solution.
- **Step 5:** Spread on a clean cloth in the sun. Cover with a thin cloth to avoid dust and flies getting into the food.
- **Step 6:** When the food is dry, (test by looking at hardness), cool to room temperature. Store in an air tight container. When you want to use dehydrated fruits and vegetables, wash and soak in water for some time.

Dehydrating methi

- Wash methi and remove the stems.
- Put on a cloth in the sun, cover it.
- Cool to room temperature and store in air tight tins.

Making Potato chips

- Wash and peel potatoes. Cut in thin round slices.
- Put in boiling water for 3-4 minutes.
- Make a solution in cold water with 4 tsp salt, $\frac{3}{4}$ tsp potassium metabisulphite (for 4 kg potato)
- Put the blanched potato chips in this solution for 10 minutes.
- Spread each chip separately on a plate in the sun. Cover with a thin cloth.
- When dry, cool and store in air tight containers.

So, even if the basic principle of dehydration remains the same, you have to adapt the method depending on the food you are preserving.

(II) LOWERING TEMPERATURE

Using low temperature to preserve foods works on the principle that low temperature slows microbial and enzyme action. The food is thus prevented from spoilage. Foods can be preserved at low temperature by:-

- (1) Refrigeration 40 C to 70 C
- (2) Cold storage – 10 C to – 40 C
- (3) Freezing –180C or below

The duration for which the food can be preserved by using low temperature varies with the type of food and the temperatures. The lower the temperature, longer is the duration for which food can be preserved

Freezing of Peas

- **Step 1:** Select about half a kilogram of fresh, tender peas and shell them.
- **Step 2:** Take enough water in a stainless steel pan in which the peas can be completely immersed. Add 1 teaspoon of salt for half liter of water, dissolve and bring the solution to boil.
- **Step 3:** Completely immerse the peas in the boiling solution for about 2 minutes.
- **Step 4:** Drain the peas immediately on to a stainless steel sieve and let it cool for 10-15 minutes.
- **Step 5:** Pack the peas in polythene bags, remove the air by pressing and seal the bags.
- **Step 6:** Put the packets of peas into a freezer.

Note: Similarly other vegetables such as cauliflower, beans, carrots etc can also be frozen.

Using Frozen Vegetables

1. Take out the frozen packet from the freezer one and a half hours or two hours before use and let it thaw to room temperature. Put peas in a sieve and keep under tap water for a few minutes.

Drain and use.

2. Frozen vegetables can be stored up to six months in a freezer.

Precautions while freezing Fruits and Vegetables

1. Packaging material, that is, polythene bags should be strong enough to withstand expansion of food material on freezing.

2. The food once brought out of the freezer and up to room temperature should not be refrozen.
3. Small packets should be prepared, as food once thawed must be consumed. So there is less chance of the unrequired food material being spoilt. This also helps to avoid refreezing of the unutilized food material.
4. Exclude the air carefully and completely from the package before sealing.
5. The freezer should not be opened too frequently.

Thaw: A process by which something frozen is brought to room temperature without applying artificial heat.

(III) INCREASING TEMPERATURE

By increasing the temperature, enzymes and micro organisms are destroyed, leaving the food safe from spoilage. There are some micro-organisms which do not get destroyed at high temperature. If these organisms are not killed, they can spoil food items once the temperature is lowered. There are mainly two methods of preserving foods by using high temperature-

- 1) Pasteurization
- 2) sterilization

(1) Pasteurization: We have often heard about pasteurized milk packets. In this method food is heated to a high temperature and then quickly cooled. The micro-organisms are not able to withstand the sudden change in temperature and are destroyed. However, some organisms still survive this method.

(2) Sterilization: Sterilization means free from any living organism. The high temperature used in this method destroys all the microorganisms in the food. The foods are exposed to high temperature for longer time and in some cases under pressure. When a pressure cooker is used to cook, the food lasts longer because most microorganisms get destroyed. You can also sterilize bottles and other equipments used in preservation.

(IV) USING PRESERVATIVES

Any substance that is added to foods to make it last for a longer time is called a preservative. The concentration of salt, sugar or acid in a food prevents its spoilage. Therefore, salt, sugar or acid are substances which act as preservatives. There are two types of preservatives:-

- (1) Natural Preservatives:** Salt, sugar, lemon juice, vinegar, oil and spices are natural preservatives.
- (2) Chemical preservatives:** Potassium metabisulphate, citric acid and sodium benzoate are chemical preservatives.

- a) **Salt:** When you make pickle at home, salt is one of the ingredients used. Besides adding to taste, salt has a specific function, i.e., to act as a preservative. If the proportion of salt in pickles is less, it can get spoilt after sometime. Increasing the quantity of salt in the food changes its composition. Due to the presence of salt in the food, osmosis takes place. As a result, water comes out of the food. When there is no or less water in the food, the micro organisms are not able to grow and the food becomes safe. Salt also reduces the activity of enzymes, thus preventing the food from getting spoilt. Salt is used as a preservative in pickles, chatni, sauce, canned food, etc. Salt is rubbed on fish which helps to preserve it.
- b) **Sugar:** Sugar is added to foods like jams, jellies, murabbas, squashes not only for taste but also as a preservative. The proportion of sugar has to be correct to protect them from spoiling. The sugar dissolves in the water available in the food item. This results in less water being available for the growth of micro-organisms. Hence the food becomes safe.
- c) **Acids:** Lemon juice, vinegar, citric acid, etc. sour food items used as preservative. Vinegar is used to preserve onions, tomato ketchup; lemon juice is used in pickles; citric acid is used in squashes. Acids increase the acidic content of food items, thus preventing the activity and growth of micro-organisms.
- d) **Oils and spices:** These are used as preservatives in pickles. Mustard powder is a spice which is commonly used as a preservative. It prevents the growth of micro organisms, thus preventing spoilage. When pickle is made at home oil is poured to cover the mango, lemon or other vegetables which are being pickled. The oil acts as a protective cover and has two advantages-
 - (i) Prevents contact of micro-organisms with the food, hence they can not spoil the food.
 - (ii) Prevents contact of air with food, hence the micro organisms can not grow and spoil the food.

(1) METHOD OF MAKING APPLE JAM USING OF NATURAL PRESERVATIVE

Ingredients:

Apples: 1 kg
 Sugar: 750 gms
 Citric Acid: 1 teaspoon
 Water: 250 ml

Method:

- **Step 1:** Select firm apples and wash them thoroughly by rubbing them clean.
- **Step 2:** Cut them into small pieces. While cutting remove the core and hard seeds, but do not remove skin or peel.
- **Step 3:** Cook in water till apple pieces are tender. (you can also pressure cook them for 1 whistle only.)
- **Step 4:** Sieve the pulp carefully.
- **Step 5:** Add sugar and citric acid with constant stirring.

- **Step 6:** Cook till the mixture has done the plate test.
- **Step 7:** Pour hot jam into wide mouthed, sterilized bottles and cool.
- **Step 8:** Store in a cool place.
- **Plate Test:** Put a spoonful of the cooked mixture on a plate. Let it cool slightly. Tilt the plate. If the jam is ready, the mass moves together as a lump. If liquid separates and pulp remains, it needs more cooking.

(2) ORANGE SQUASH USING CHEMICAL PRESERVATIVES

Ingredients:

Orange juice: 1 litre
 Sugar: 2 kgs.
 Water: 1 litre
 Potassium Metabisulphite: Half teaspoon
 Orange Essence: 1 teaspoon
 Citric Acid: 30 gms

Method:

- **Step 1:** Squashes are prepared from juicy fruits. Select juicy oranges and extract the juice.
- **Step 2:** Take water, sugar and citric and boil the mixture till the sugar is completely dissolved.
- **Step 3:** Add orange colour, essence and juice.
- **Step 4:** Dissolve the potassium metabisulphite in a little juice and mix it into the prepared squash.
- **Step 5:** Pour it into sterilized bottles. Seal it or close it tightly.
- **Step 6:** Store the bottles in a cool place and away from the sun.

SOME USEFUL TIPS

Some tips which will be useful for taking care of the preserved food items are.

- Take care of hygiene while preparing the food and storing it. The utensils and containers used to cook and store food items should be thoroughly cleaned and dried in sun. The containers should have air tight lids.
- While preserving pickles take care that a layer of oil is above the vegetables, so that these do not come in contact with the air.
- While using the preserved food items, take care to use clean spoons. Close the lid immediately after removing the required quantity.
- For foods like sauces and squashes, the bottles should be sterilized and kept in hot water till they are needed. You could first put the preserved food in the bottles and then sterilize the bottles by heating them in water for 30-40 minutes.

Prepared By

Amjad Khan Afridi

Date. 24th April, 2017

Drying Fruit at Home – Quick Guide

Fruit	Preparation	Pretreatment, if any	Drying Time, hrs
Apples	Peel and core, cut into slices or rings about 1/8-inch thick.	Acidic dip	6 to 12
Apricots	Pit and halve. May slice if desired.	Acidic dip, or no treatment	24 to 36
Bananas	Use solid yellow or slightly brown-flecked bananas. Avoid bruised or overripe bananas. Peel and slice 1/4-inch to 3/8-inch thick, crosswise or lengthwise.	Acidic dip	8 to 10
Berries, Firm	Wash and drain berries. With waxy coating—blueberries, cranberries, currants, gooseberries, huckleberries	Plunge into boiling water 15 to 30 seconds to "check" skins. Place fruit in ice water. Drain on paper towels.	24 to 36
Berries, Soft	Wash and drain berries. Boysenberries and strawberries	No treatment needed.	24 to 36
Cherries	Stem, wash, drain and pit fully ripe cherries. Cut in half, chop or leave whole.	Whole: Dip in boiling water 30 seconds or more to check skins. Cut and pitted: no treatment necessary.	8 to 12
Figs	Select fully ripe fruit. Immature fruit may sour before drying. Wash or clean whole fruit with damp cloth. Leave small fruit whole, otherwise cut in half.	Whole: Dip in boiling water 30 seconds or more to check skins. Plunge in ice water to stop further cooking. Drain on paper towels.	6 to 12
Grapes, Seedless	Leave whole	Whole: Dip in boiling water 30 seconds or more to check skins. Plunge in ice water to stop further cooking. Drain on paper towels.	12 to 20
Grapes, with Seeds	Cut in half and remove seeds	Halves: No treatment necessary.	12 to 20
Nectarines and Peaches	When sulfuring, pit and halve; if desired, remove skins. For steam and syrup blanching, leave whole, then pit and halve. May also be slice and quartered.	Acidic dip, or no treatment.	36 to 48
Pears	Cut in half and core. Peeling preferred. May also slice or quarter.	Acidic deep or no treatment.	24 to 36
Persimmons	Use firm fruit of long, soft varieties or fully ripe fruit of round, drier varieties. Peel and slice using stainless steel knife.	May syrup-blanch, or no treatment.	12 to 15
Pineapple	Use fully ripe, fresh pineapple. Wash, peel and remove thorny eyes. Slice lengthwise and remove core. Cut in 1/2-inch slices, crosswise.	No treatment needed.	24 to 26
Plums and Prunes	Leave whole or, if sulfuring, halve the fruit.	Sun drying (whole): Dip in boiling water 30 seconds or more to check skins. Oven or dehydrator drying: Rinse in hot water.	24-26

Note – These time estimates are for commercial dehydrators at 135F. Oven drying is about twice as long, solar or air drying may take days. Times are for whole fruit unless otherwise indicated. Slices will dehydrate faster.

Adapted from http://www.clemson.edu/extension/hgic/food/food_safety/preservation/hgic3084.html

Food Preservation Links:

- National Center for Home Food Preservation- <https://nchfp.uga.edu/>
- Home Food Preservation- 10 Ways to Preserve Food at Home- <https://commonsensehome.com/home-food-preservation/>
- Quick, Easy Techniques for Preserving the Harvest- <https://www.gardeners.com/how-to/quick-techniques-for-preserving/5387.html>
- The 5 Best Ways to Preserve Food- <https://www.canadianliving.com/food/food-tips/article/the-5-best-ways-to-preserve-food>
- A Guide to Home Food Preservation: How to Pickle, Can, Ferment, Dry, and Preserve at Home- <https://www.masterclass.com/articles/a-guide-to-home-food-preservation-how-to-pickle-can-ferment-dry-and-preserve-at-home#preserving-in-salt-how-to-cure-fish-with-salt-and-sugar>
- FERMENTING FOR BEGINNERS: A NO-FAIL GUIDE TO GET YOU STARTED LIKE A PRO- <https://www.homesteadingwhereyouare.com/2020/01/11/the-ultimate-guide-to-fermenting-for-beginners/>