

Preservation Notes



University of California
Agriculture and Natural Resources

UCCE Master Food Preserver

April-June 2019

Master Food Preservers San Joaquin County

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Food Preservers
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 **Did You Know?**

Our newsletter has hyperlinks to other useful websites. Click on the underlined words to open a page. It's as easy as that!

Spring and Summer are in the Air...

This is a great time of year. San Joaquin County and the central valley is a great place to live, especially if you want good, fresh fruits and vegetables. The California State Master Food Preserver mantra is “Preserve Today, Relish Tomorrow”. Now is the time to get ready to preserve all the fresh fruits and produce you want for yourselves and your friends. Personal and home preserved items always make great gifts and are always welcomed.

So what are you going to preserve and what method(s) will you use. Throughout the year the Master Food Preserver volunteers teach all the processes available for safe home food preservation. Boiling water bath canning, atmospheric steam canning, pressure canning, dehydrating, and freezing are the approved methods we teach. Now is the time to start looking at just what do you want to preserve? What equipment will you need? What supplies will you need? Getting ready now, before the harvests explode with abundance, gives you a readiness to preserve at the peak of freshness.

This newsletter, and those that follow, give you tips, suggestions, information and recipes to help make you a better “canner”. One of my favorite TV shows is NCIS. For those who have caught an episode or two, Special Agent Leroy Jethro Gibbs will come walking briskly through the office and say to his team... “Grab your gear let’s go!”. So with that in mind for all the future preserving you will do... Grab your gear and let’s preserve!

Bill Loyko
Master Food Preserver Volunteer Coordinator

Now Accepting Applications!

If you have been thinking about becoming a Master Food Preserver, now is the time to apply for our 2019 training! The UC Master Food Preserver Program is open to individuals looking to increase community knowledge in home food preservation methods. Applicants for the UC Master Food Preserver Program must be willing to share knowledge and skills learned from certification training through local community outreach. Prior food preservation knowledge is not a requirement; willingness to teach others is. The 2019 application can be found on our website. The deadline to apply is July 23rd and training begins August 12th. Class size is limited so we can provide a hands-on experience for all participants. Don’t wait, get your application in today.



Conditioning: The Often Forgotten Step in Dehydrating



Article by: MFP's Bill & Sue Farr

A popular means of preserving spring harvest is dehydration. However, one step often overlooked that could improve the quality and the safety of the dehydrated food is **conditioning**.

The WSU *Fundamentals of Consumer Food Safety and Preservation: Master Handbook (April 2015)* has a good description of the conditioning process: “After removal from the dryer, some pieces of dried fruit or jerky will be moister than others, because pieces of food dry differently. Conditioning is a step to distribute moisture evenly in the pieces. Dried fruit and meat jerky should be

conditioned before packaging and storing. Vegetables do not require conditioning because they contain very little water when properly dried. Place dried foods in a large, tightly closed container. Stir or shake every day for two to four days. This will equalize the moisture, with those pieces that are too dry taking some of the moisture from those that are too wet. Too much moisture left in a few pieces can cause the whole batch to mold.

After conditioning check several pieces to ensure that the batch is dry enough for storage. If the dried food is too moist, return to the dryer for several more hours. Also check for droplets of moisture forming on the lid or walls of the conditioning container, which is another sign that the dried food requires further drying.”

Conditioning is a simple final step that will ensure a moisture level that is consistent across the product and improve the quality and safety of your dehydrated food.

FAQ—Headspace in Jars

Do I really need to leave a certain amount of headspace in the jar?

Yes, leaving the specified amount of headspace in a jar is important to assure a vacuum seal. If too little headspace is allowed the food may expand and bubble out when air is being forced out from under the lid during processing. The bubbling food may leave a deposit on the rim of the jar or the seal of the lid and prevent the jar from sealing properly. If too much headspace is allowed, the food at the top is likely to discolor. Also, the jar may not seal properly because there will not be enough processing time to drive all the air out of the jar.

**MEASURING
headspace**



Cherry Apricot Spread

Ingredients

Article by: MFP Colleen Young

2 ½ cups pitted, chopped sour cherries	1 pkg. Ball® RealFruit Low or No-Sugar Needed Pectin
1 cup finely chopped apricots	
½ cup unsweetened apple juice	1 ½ cups granulated sugar or SPLENDA
2 tbsp. lemon juice	



Directions:

Prepare boiling water canner. Heat jars in simmering water until ready to use, do not boil. Wash lids in warm, soapy water and set aside with bands. Combine prepared fruit with fruit juice in a large saucepan, gradually stir in pectin. Stirring constantly, bring mixture to a full rolling boil over high heat that cannot be stirred down. Add sugar or sugar substitute, if using. Return mixture to a full rolling boil. Boil to 1 minute, stirring constantly. Remove from heat. Skim foam if necessary. Ladle hot jam into a hot jar leaving a ¼ inch headspace. Remove air bubbles. Wipe jar rim. Center lid on jar and apply band, adjust to fingertip tight. Place jar in boiling water canner. Repeat until jars are filled. Process jars 10 minutes, adjust for altitude. Turn off heat, remove lid, let jars stand 5 minutes. Remove jars and cool 12-24 hours. Check lids for seal, they should not flex when center is pressed.

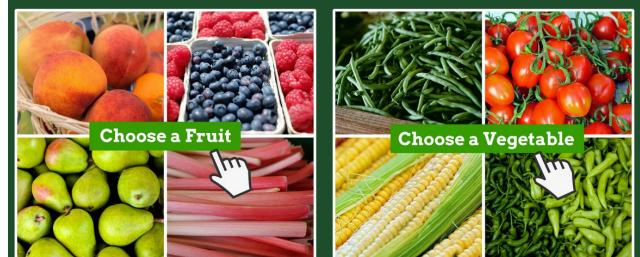
Table 1. Recommended process time for Cherry Apricot Spread

Process Time at Altitudes of			
Style of Pack	Jar Size	0-6000 ft.	Above 6,000 ft.
Hot	Half-pints or Pints	10 mins	15 mins

Preserve Smart App

A group of Colorado State University faculty and Extension specialists have created a free food preservation app called Preserve Smart. Because they *can*.

CSU Extension uses a multi-faceted approach to the challenge of providing up-to-date food preservation information to residents across the state via website materials, in-person classes, trained volunteers, and now, the Preserve Smart app. The app focuses on food preservation methods and basics. Users can choose whether they want to preserve fruits or vegetables, and then select their particular type of produce. Preservation options vary depending on the type of produce, but include freezing, canning, drying and making spreadable preserves, like jams and jellies. The app is available for Apple and Android devices, and a mobile-responsive online version [can also be found here](#).



Why It's Important to Use a Research-Based Canning Recipe

Article by: MFP Kathy Anderson

One of the most common questions home canners ask is why a favorite family canning recipe can't be relied upon to produce safe home-canned goods. A look at some of the reasons for using proven research-based recipes, as well as a brief review of how these recipes are developed, can help answer this important question.

For the safe canning of foods at home it's critical to ensure that recommended processing times and temperatures are observed. For the purposes of canning, foods are divided into two categories: acid foods and low-acid foods. For acid foods (pH below 4.6), either a boiling water canner (formerly called a boiling water bath) or an atmospheric steam canner is used to safely process foods. Acid foods include most fruits, pickles, fully fermented sauerkraut, fermented and pickled vegetables, jams, jellies, marmalades, and fruit butters.

When canning low-acid foods (pH above 4.6), on the other hand, a pressure canner is used in order to reach temperatures of 240°F – 250° F which are necessary to kill spores of the bacteria *Clostridium botulinum*. The bacteria make the toxin under conditions that include a low oxygen environment, as is found in home-canned food. Left alive inside a sealed jar at room temperature, the spores become bacterial cells that multiply and produce a neurotoxin that causes botulism, a rare and potentially deadly illness. In fact, underprocessed low-acid canned foods are the most common cause of food-borne botulism. Low-acid foods include meats, poultry, fish and all fresh vegetables except for some tomatoes. Although there are low-acid tomatoes, the pH of whole tomatoes ranges between 4.2 and 4.9. To be safe, tomatoes processed in a boiling water bath or an atmospheric steam canner have to be acidified with lemon juice, vinegar, or citric acid before canning.

Reliable and safe canning recommendations are “research-based” which means that the exact time and temperature combination needed to destroy microorganisms have been established through precise laboratory testing. In addition to specific time and temperature processing standards, such recommendations also include proper food preparation steps. Food factors that influence the amount of heating needed to kill bacteria include the consistency of the food, the pH (acidity) and the presence of nutrients that support bacteria growth such as proteins and sugars. Also taken into account in formulating safe and reliable recipes are details such as the shape and size of the food pieces and the jar, the proportion of solid to liquid, temperature of the food when it goes into the jar and temperature inside the canner. Specific heat processes must be calculated for each food and style of pack, to avoid the risk of its being unsafe.

The kind of handling needed to make a safe canned food is determined through laboratory heat penetration testing. After the food has been prepared in a specific way (e.g., size of the pieces, proportion of liquid, etc.) and then filled into jars, the initial step is to find the “cold spot” or slowest heating location in the jar. The heating rate at the cold spot determines how long the process time needs to be. Once the cold spot is found, more data is then collected to find out how long it takes to kill any disease-causing pathogens or spoilage organisms. Devices called thermocouples are inserted through the lid into the food and are connected to a monitor which records the temperature during the processing cycle. It's important to understand that any recipe variation that changes the pH, consistency, texture or the proportion of solids and liquids, effectively results in a “new product” that must be tested for safety.

Even such seemingly small changes as draining juice from the tomatoes to make a thicker salsa or substituting a number of large size peppers with the same number of smaller sized peppers changes the time/temperature combinations needed to kill bacteria, yeast, and molds.

[Continued on page 5](#)

Researched-Based Recipes cont.

Clearly, determining safe processing times for home canned foods is a technical, time-consuming process that can't be done at home. There are a couple of safe alternatives if you wish to use your own canning recipes. The first is to find the closest approved canning process to your own recipe and follow it instead. After canning, you can add any special ingredients and adjust the recipe to your taste. A second alternative is to follow your prized recipe and freeze, rather than can, to preserve it safely. Using approved research-based recipes from a trusted source will allow you and your family to safely preserve today and relish tomorrow.

Resources for reliable safety-tested canning recipes:

[National Center for Home Food Preservation](#)

[UC Master Food Preservers San Joaquin County](#)

[California Statewide Master Food Preservers](#)

[Government Agencies Food Safety Gateway](#)

[So Easy to Preserve – Cooperative Extension University of Georgia](#)

[USDA Complete Guide to Home Canning](#)

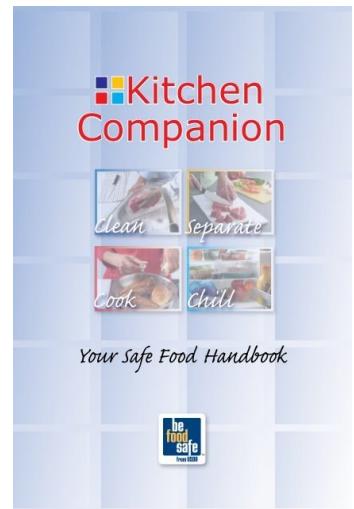


The Kitchen Companion

“Food safety.” You hear a lot about it . . . and you know a lot about it. But as with any comprehensive topic, there may be simple steps that are second nature that you’ve practiced forever — like hand washing — and then there may be current or updated information that is less familiar, or that may have changed since the last time you looked.

That’s what Kitchen Companion: Your Safe Food Handbook is all about. This food safety handbook contains all the basic information you need to know about food safety . . . some old, some new . . . and all in one place.

Between the information-rich chapters and the easy index in the back, Kitchen Companion will likely answer all of your food safety questions. But if not . . . don’t miss the food safety contact information on page 44. The USDA’s Food Safety and Inspection Service is always there to help.



Coming Events

Classes are at the Cabral Ag Center from 10 am—2:00 pm. Cost is \$25.00. [Please register on our website.](#)

May 21 Strawberry Heaven

It's strawberry season! Join us and learn how you can preserve strawberries while they are in abundance locally. We will make strawberry jam and process it three different ways. Participants will take home three jars of jam, a freezer jam, a jar processed in a water bath canner and one processed in a steam canner.

June: Pickling

There are lots of things besides cucumbers that can be pickled. Join us as we discover some other fun summer items that are great to pickle. Check our website as it gets closer to class for the specific products we will be making.

July: Salsas and Relishes

Summers bounty makes for some great ingredients in homemade salsas and relishes. Check our website as it gets closer to class for the specific products we will be making.

The Fruit Bowl Demo Classes

Classes are free and are from 10-11:00 am. Demonstrations include a variety of ways to preserve that month's product. Classes are held in the orchard so dress accordingly. The Fruit Bowl is located at 8767 E Waterloo Rd, Stockton, CA 95215

June 22: Strawberries

July 27: Peaches

August 24: Cucumber pickles

September: Tomatoes

Freezing Strawberries

Article by: MFP Carol Franzia



Spring is strawberry season! With so many strawberries available and so little time to use them all, you can freeze them for future use. Freeze whole berries individually, in syrup or sugar. Or freeze sliced or crushed berries and store in sugar.

Preparation - Select fully ripe, firm berries with a deep red color. Discard immature and defective fruit. Wash and remove caps.

Tray Packing – Spread a single layer of prepared fruit on shallow trays and freeze. When frozen, promptly package and return to the freezer. The fruit pieces remain loose and can be poured from the container and the package re-closed. Be sure to package the fruit as soon as it is frozen, to prevent freezer burn.

Whole Berries Syrup Pack - Put berries into containers and cover with cold 50% syrup. A 50% syrup is made using equal amounts of water and sugar, stirring until sugar is dissolved. Leave headspace in container. Seal and freeze.

Whole Berries Sugar Pack – Add $\frac{3}{4}$ cup sugar to 1 quart (1 1/3 pounds) strawberries and mix thoroughly. Stir until most of the sugar is dissolved or let stand for 15 minutes. Put into containers, leaving headspace. Seal and freeze.

Sliced or Crushed – Prepare for packing as for whole strawberries; then slice or crush partially or completely. To 1 quart (1 1/3 pounds) berries add $\frac{3}{4}$ cup sugar; mix thoroughly. Stir until most of the sugar is dissolved or let stand for 15 minutes. Pack into containers, leaving headspace. Seal and freeze.

Strawberry Freezer Jam

Article by: MFP Trish Tremayne

In late spring and early summer delicious red ripe strawberry are ready for harvest. Whether you are picking them from your garden or buying them from a local strawberry stand I'm sure you will want to enjoy this yummy fruit. Strawberries have many health benefits. They are low in calories, high in fiber and packed with antioxidants. They are a good source of folate, potassium, magnesium and manganese. They also make delicious jam. Here is an easy and luscious Strawberry Jam recipe to try.

I like to freeze the jam in small 4 oz. containers. Once out of the freezer the jam will last a few days in the refrigerator. Freezing in a small container guarantees we will be able to enjoy the entire jar with in a few days, and will not waste any of this luscious jam. It's delicious on English muffins, toast or as a topping for pancakes. Be sure to try this simple recipe. It also makes a great hostess gift!

Uncooked Berry Jam with powdered pectin

- 2 cups crushed strawberries (about 1 quart berries)
- 4 cups sugar
- 1 package powdered pectin
- 1 cup water

Yield: About 5 or 6 half-pint jars or 10 to 12 4oz. jars or freezer containers

Procedure: Sterilize canning jars and prepare two-piece canning lids according to manufacturer's directions.

To prepare fruit. Sort and wash fully ripe berries. Drain. Remove caps and stem; crush berries.

To make jam. Place prepared berries in a large mixing bowl. Add sugar, mix well, and let stand for 20 minutes, stirring occasionally. Dissolve pectin in water and boil for 1 minute. Add pectin solution to berry-and-sugar mixture; stir for 2 minutes.

Pour jam into freezer containers or canning jars, leaving $\frac{1}{2}$ inch headspace at the top. Close covers on containers and let stand at room temperature for 24 hours.

To store. Store uncooked jams in refrigerator or freezer. They can be held up to 3 weeks in the refrigerator or up to a year in a freezer. Once a container is opened, jam should be stored in the refrigerator and used within a few days. If kept at room temperature they will mold or ferment in a short time.



This document was adapted from "How to Make Jellies, Jams and Preserves at Home." Home and Garden Bulletin No. 56. Extension Service, United States Department of Agriculture. 1982 reprint. National Center for Home Food Preservation, June 2005.

STEPS TO SAFE AND HEALTHY FRUITS & VEGETABLES

From the Store to Your Table

Fruits and vegetables are healthy to eat. But did you know that harmful germs, like *Salmonella*, *E. coli*, and *Listeria*, can sometimes be on fruits and vegetables? There are steps that can help keep you healthy—and your fruits and vegetables safer to eat—from the store to your table.



Fruit and Vegetable Safety at the Store or Market



Check for Bruises

- Choose fruits and vegetables that are free of bruises or damaged spots, unless you plan to cook them.



Keep Precut Fruits and Vegetables Cold

- Choose precut and packaged fruits and vegetables that are refrigerated or kept on ice.



Separate

- Separate fruits and vegetables from raw meat, poultry, and seafood in your shopping cart and in your grocery bags.

Get fruits &
vegetables home
and in the fridge in
2 hours or less

Fruit and Vegetable Safety at Home



Wash

- Wash your hands before and after preparing fruits and vegetables.
- Wash or scrub all fruits and vegetables under running water before eating, cutting, or cooking.
- Fruits and vegetables labeled "prewashed" do not need to be washed again at home.



Keep Cold

- Refrigerate cut, peeled, or cooked fruits and vegetables as soon as possible, or within 2 hours.
- Use a refrigerator thermometer to make sure the temperature stays at 40°F or below.



Separate

- Store fruits and vegetables away from, and not next to or below, raw meat, poultry, and seafood. These items can drip juices that may have germs.
- Use a separate cutting board for fruits and vegetables that is never used for cutting or preparing raw meats, poultry, or seafood.
- Wash cutting boards, counter tops, and utensils with hot, soapy water before and after preparing fruits and vegetables.

For more information, call 1-800-CDC-INFO or visit www.cdc.gov.

OREGON STATE UNIVERSITY Extension Service

SP 50-766 Reprinted March 2013

Foods That Do Not Freeze Well

FOODS	USUAL USE	CONDITION AFTER THAWING
Raw cabbage*, celery, watercress, cucumbers, endive, lettuce, radishes	As raw salad	Limp, water-logged, quickly develops oxidized color, aroma and flavor
Cooked creamed vegetables	Side dish	Loses flavor rapidly. Store only a few weeks for best quality
Irish potatoes, baked or boiled	In soups, salads or with butter	Soft, crumbly, water-logged, mealy
Watermelon	As raw fruit	Soggy/watery
Egg whites, cooked	In salads, creamed foods, sandwiches, sauces, gravy or desserts	Soft, touch, rubbery, spongy
Icings made from egg whites	Cakes, cookies	Frothy, weep
Cream or custard fillings	Pies, baked goods	Separates, watery, lumpy, soaks into crust
Milk sauces and gravies	For casseroles or gravies	May curdle or separate. Best to thicken with waxy starch (Clear-Jel)...less likely to separate
Sour cream	As topping, in salads	Separates, watery
Cheese or crumb toppings	On casseroles	Soggy
Cooked macaroni, spaghetti or rice	When frozen alone for later use	Mushy, tastes warmed over
Mayonnaise or salad dressing	On sandwiches (not in salads)	Separates
Fried foods	All except French fried potatoes and onion rings	Lose crispness, become soggy
Potato salad, macaroni salad	Salad	Becomes watery and tough, mushy
Unbaked biscuits	Bakes products	Smaller and less tender
Unbaked muffins	Baked product	Poor texture
Gelatin	In salads or desserts	Weeps
Fruit Jelly	Sandwiches	May soak bread, weeps
Chocolate covered cherries	Candy	Expands during freezing causing them to break

*Cucumbers and cabbage can be frozen as marinated products such as "freezer slaw" or "freezer pickles." These do not have the same texture as regular slaw or pickles.

Source: OSU Master Food Preserver Program

Adapted from: *So Easy to Preserve*, 5th Edition, Cooperative Extension Service, The University of Georgia and *Freezing Prepared Foods*, PNW 296