



**University of California**  
Agriculture and Natural Resources

UCCE Master Food Preservers of Sacramento County

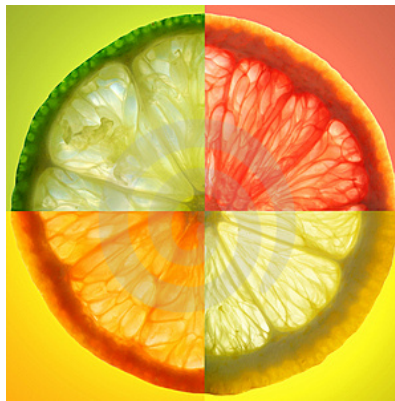
4145 Branch Center Road  
Sacramento, CA 95827-3823  
(916) 875-6913 Office  
(916) 875-6233 Fax  
Email: [sacmfp@ucanr.edu](mailto:sacmfp@ucanr.edu)  
Website: [ucanr.edu/mfpsac](http://ucanr.edu/mfpsac)

---

*Monthly Wednesday Night  
Demonstration*

*January 17, 2018*

Citrus All Year



**Resources:**

- Please visit the National Center for Home Food Preservation at <http://nchfp.uga.edu> for detailed information about research-based methods of home food preservation.
- *Oranges: Safe Methods to Store, Preserve, and Enjoy*, UC ANR Publication #8199, UC ANR online Catalog, <http://anrcatalog.ucanr.edu>
- *Tried and True or Something New? Selected Citrus Varieties for the Home Gardener*, UC ANR online catalog, <http://anrcatalog.ucanr.edu>

**Recipe Table of Contents:**

Safe Method to Freeze Oranges (and other citrus).....	1
Fruit Sorbet .....	3
Freezer Lemon Curd.....	4
Freezer Orange Marmalade.....	5
Traditional Preserved Lemons .....	6
Citrus Salt .....	7
Cranberry Orange Chutney.....	8
Orange Marmalade .....	9
Lemonade Marmalade .....	10
Grapefruit and Orange Sections .....	11
Fruit Syrup .....	12
Candied Citrus Peel .....	13

Should you need assistance or require special accommodations for any of our educational programs, please contact us at 916-875-6913.

The University of California, Division of Agriculture and Natural Resources (UC ANR) prohibits discrimination against or harassment of any person in any of its programs or activities on the basis of race, color, national origin, religion, sex, gender, gender expression, gender identity, pregnancy (which includes pregnancy, childbirth, and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition (cancer-related or genetic characteristics), genetic information (including family medical history), ancestry, marital status, age, sexual orientation, citizenship, status as a protected veteran or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994 [USERRA]), as well as state military and naval service. UC ANR policy prohibits retaliation against any employee or person in any of its programs or activities for bringing a complaint of discrimination or harassment. UC ANR policy also prohibits retaliation against a person who assists someone with a complaint of discrimination or harassment, or participates in any manner in an investigation or resolution of a complaint of discrimination or harassment. Retaliation includes threats, intimidation, reprisals, and/or adverse actions related to any of its programs or activities. UC ANR is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment and/or participation in any of its programs or activities without regard to race, color, religion, sex, national origin, disability, age or protected veteran status. University policy is intended to be consistent with the provisions of applicable State and Federal laws. Inquiries regarding the University's equal employment opportunity policies may be directed to: John I. Sims, Affirmative Action Compliance Officer and Title IX Officer, University of California, Agriculture and Natural Resources, 2801 Second Street, Davis, CA 95618, (530) 750-1397. Email: [jsims@ucanr.edu](mailto:jsims@ucanr.edu). Website: [http://ucanr.edu/sites/anrstaff/Diversity/Affirmative\\_Action/](http://ucanr.edu/sites/anrstaff/Diversity/Affirmative_Action/)

## **Safe Method to Freeze Oranges (and other citrus)**

(Summarized from University of California Publication #8199)

**Selecting oranges at the grocery store** – Different types of **Navel** orange are harvested at different times so some oranges can normally be found in grocery stores from November through June. **Valencia** oranges mature later, and are generally available from March through September. Choose oranges that are firm and heavy for their size, with fine-textured skin and no soft spots. Oranges should be free of cuts or bruises. Scars may develop on the peel where a young fruit has brushed against the tree, but these surface flaws do not affect the quality of the fruit inside.

**Washing oranges** – Oranges should be washed before peeling or cutting. To wash, wet each orange with water, rub its surface, rinse it with running water, and dry it with a paper towel. Washing oranges in a sink with water is not recommended since the standing water can spread contamination from one orange to another. The use of soap or detergent is not recommended or approved for washing fruits and vegetables because the fruit can absorb detergent residues. Cut or segmented oranges or products made from them, such as fruit salad, should be covered and refrigerated if they are not eaten within 2 hours of preparation. Cut or segmented oranges will last about 1 to 2 days if refrigerated.

**Freezing oranges** – Wash the fruit as described above. Peel the fruit before dividing it into sections. Remove membranes and seeds. Slice the oranges if desired.

*Containers for freezing* – Glass jars and rigid plastic containers make good freezer containers. Wide- and narrow-mouth canning and freezing jars are available. The glass in these jars has been tempered to withstand heat and cold. Glass jars not designed for freezing can easily break in the freezer. Most plastic bags made for freezing also work well. Ordinary waxed papers or paper cartons from milk do not work well because they do not keep air and moisture from moving in or out of the container.

*Syrup pack* – Pack orange pieces into containers. Cover fruit with cold, heavy syrup (40% sugar, 2-3/4 cups sugar, 4 cups water or excess fruit juice). Keep the orange pieces submerged in the syrup by placing a small piece of crumpled waxed paper on top of the fruit in each container. Seal the container, leaving an appropriate headspace for expansion (1/2 inch for a pint and 1 inch for a quart), and freeze.

*Unsweetened dry pack* – Orange pieces can be packed tight without sugar and then frozen, but the result may be a product with less desirable flavor, texture, and color than if it had been packed with sugar.

*Other unsweetened packs* – In addition to dry pack, orange pieces can be packed in water, unsweetened juice, or pectin syrup. Unsweetened packs generally yield products that lack the plump texture and good color of fruit packed with sugar. The oranges freeze harder and take longer to thaw. Fruit packed in pectin syrup may retain its texture better than if frozen in water or juice.

Cover the orange pieces with water, juice, or pectin syrup (preparation of pectin syrup is described below). Submerge the pieces by placing a small piece of crumpled waxed paper on top of them. Seal the containers tight, leaving the headspace described above.

*Pectin syrup* – Combine 1 package powdered pectin with 1 cup of water in a saucepan. Heat to boiling and maintain the boil for 1 minute. Remove from the heat and add 1-3/4 cups of water. Add more water if you want a thinner syrup. Cool. Yield is about 3 cups of moderately thick syrup.

*Using artificial sweeteners* – Orange pieces can be packed in a sweet solution made by mixing water with sugar substitutes such as saccharin (e.g., Sweet'N'Low), aspartame (e.g., Equal), or sucralose (Splenda). These artificial sweeteners work well in frozen products, or you can add them to the unsweetened, thawed fruit just before serving.

Artificial sweeteners give a sweet flavor but do not provide the beneficial preservation effects of sugar such as color protection, or thickness of syrup. The label on a sweetener package will tell you how much sweetener is equivalent to standard amounts of sugar. Use the label directions to determine the amount needed.

*Freezing juice* – Squeeze juice from oranges, using a juicer that does not press oil from the rind. Sweeten, if desired, using 2 tablespoons of sugar for each quart of juice or substitute an appropriate equivalent amount of artificial sweetener, or pack the juice unsweetened. Pour the juice immediately into clean glass jars or rigid plastic freezer containers. Seal the jars or containers, leaving a 1-1/2 inch headspace, and freeze.

NOTE: Navel oranges do not freeze well. A very bitter compound called limonin develops in Navel oranges when they are frozen.

## **Fruit Sorbet**

**Source:** Ball Blue Book, 2012, Page 95

**Yield:** About 7 half-pints

**Ingredients:**

4 cups sliced fruit  
1 cup orange juice (any soft variety)  
2 tablespoons lemon juice  
2 cups sugar

**Procedure:**

1. Puree fruit in a food processor or blender.
2. Combine sugar, orange juice and lemon juice in a saucepot. Cook over medium heat, stirring until sugar dissolves.
3. Remove from heat. Stir in puree.
4. Pour sorbet into 13 x 9 inch pan. Freeze.
5. Working in small batches, process frozen puree in a food processor or blender until light and fluffy. Ladle sorbet into plastic freezer jars or plastic freezer containers, leave ½-inch headspace. Seal, label and freeze.

**Tip:** Any soft fruit such as peaches, strawberries, raspberries or melon can be used for sorbet. Prepare fruit as for eating fresh.

## **Freezer Lemon Curd**

**Source:** National Center for Home Food Preservation, 2018

**Yield:** Makes one quart or two pint-sized freezer containers

### **Ingredients:**

2½ cups superfine sugar\*

½ cup lemon zest (freshly zested)

7 large egg yolks

4 large whole eggs

1 cup bottled lemon juice

¾ cup unsalted butter, chilled, cut into approximately ¾" pieces

*\* If superfine sugar is not available, run granulated sugar through a grinder or food processor for 1 minute, let settle, and use in place of superfine sugar.*

### **Procedure:**

1. Wash freezer container(s) with warm, soapy water. Rinse well and dry. Keep covered or upside down on clean surface to prevent contamination while you make the curd.
2. Combine the sugar and lemon zest in a small bowl, stir to mix, and set aside about 30 minutes. Pre-measure the lemon juice, prepare the chilled butter pieces and separate eggs to prepare 7 yolks.
3. When ready to make the curd, heat water in the bottom pan of double boiler or medium-sized metal bowl, until it boils gently. The water should not boil vigorously or touch the bottom of the top double-boiler pan or bowl in which the curd is to be cooked. Steam produced will be sufficient for the cooking process to occur.
4. In the top of the double boiler, on the counter top or table, beat the egg yolks and whole eggs thoroughly but lightly with the whisk. Slowly whisk in the sugar and zest, blending until well mixed so that the mixture is not lumpy. Blend in the lemon juice and then add the butter pieces to the mixture.
5. Place the top of the double boiler over boiling water in the bottom pan. Stir gently but continuously with a silicone spatula (or plastic cooking spoon), to prevent the mixture from sticking to the bottom of the pan. Continue cooking until the mixture reaches a temperature of 170°F. Use a food thermometer to monitor the temperature.
6. Remove the double boiler pan from the stove and place on a protected surface, such as a dish cloth or towel on the counter top. Continue to stir gently until the curd thickens (about 5 minutes). Strain curd through a mesh strainer, into a glass bowl or stainless-steel bowl; discard collected zest. Allow the curd to cool to room temperature. To prevent a 'surface skin' from forming while it cools, place a clean piece of plastic food wrap down onto the surface of the curd or cover the bowl. Fill cooled curd into freezer container(s), leaving ½-inch headspace, and freeze immediately.

## **Freezer Orange Marmalade**

**Source:** Sure Jell, 2018

**Yield:** 5 cups

### **Ingredients:**

2-1/3 cups prepared fruit (buy about 3 medium navel oranges)

2 tablespoons fresh lemon juice

4-1/4 cups sugar, measured into separate bowl

3/4 cup water

1 box SURE-JELL Fruit Pectin

### **Procedure:**

1. Rinse clean plastic containers and lids with boiling water. Dry thoroughly.
2. Remove colored part of peel from the oranges using a vegetable peeler. Cut the peel into thin slivers, or finely chop. Peel and discard remaining white part of peel from the oranges.
3. Finely chop the fruit, reserving any juice. Mix with the slivered peel along with the lemon juice. Measure 2-1/3 cups of the fruit mixture into large bowl. (If needed, add up to 1/2 cup water for exact measure.) Stir in sugar. Let stand 10 minutes, stirring occasionally.
4. Mix water and pectin in small saucepan. Bring to boil on high heat, stirring constantly. Boil and stir 1 min. Add to fruit mixture; stir 3 min. or until sugar is dissolved and no longer grainy. (A few sugar crystals may remain.)
5. Fill all containers immediately to within 1/2 inch of tops. Wipe off top edges of containers; immediately cover with lids. Let stand at room temperature 24 hours. Marmalade is now ready to use.
6. Store in refrigerator up to 3 weeks or freeze extra containers up to 1 year. Thaw in refrigerator before using.

## **Traditional Preserved Lemons**

**Source:** Ball Complete Book of Home Preserving, 2012

**Yield:** one quart jar

**Ingredients:**

10 lemons, divided  
1/2 cup pickling or canning salt, divided  
4 bay leaves  
4 cinnamon sticks (each about 4 inches)  
1 teaspoon whole black peppercorns (optional)

**Procedure:**

1. Prepare jar and lid. For this recipe, the jar needs to be sterilized prior to packing. Boil jar in water for 10 minutes and keep hot until ready to use.
2. Wash 5 of the lemons in warm water, scrubbing well to remove any dirt and wax, and dry well using paper towels. Cut a thin (1/8 inch) slice off the stem end. From stem end, cut each lemon into quarters, without cutting through the bottom end and leaving it intact. Juice the remaining 5 lemons to measure 1-1/2 cups juice.
3. Sprinkle 1 tablespoon pickling salt over the bottom of sterilized jar. Working over a bowl, pack 1 heaping tablespoon salt into each lemon before placing in the jar, stem end up. When 3 lemons have been salted and packed, slip bay leaves and cinnamon sticks against sides of the jar and add peppercorns, if using. Repeat with remaining lemons and salt. Cover with the remaining salt.
4. Fill jar with lemon juice to within 1/2 inch of top of jar. Center lid on jar. Screw band down until resistance is met, then increase to fingertip-tight.
5. Place jar in a dark, cool cupboard for 2 weeks, shaking every day to distribute the salt. After 2 weeks, the lemons are ready to use. Remove pulp and membrane, using only the peel. Rinse under water to remove excess salt and dry with a paper towel. Store preserved lemons in the refrigerator.
6. Store preserved lemons in a container with an airtight lid. Cover and refrigerate for up to 6 months.



## **Citrus Salt**

**Yield:** about 1-1/4 cups

**Ingredients:**

1 cup flake salt or coarse salt  
3 tablespoons citrus zest (any kind)

**Procedure:**

1. Mix salt and zest in a bowl; work zest into salt with your fingers to release oils and flavor.
2. Spread on a baking tray.
3. Air-dry until dried completely, 8 hours to overnight.
4. Keep airtight at room temperature for up to 2 months.

**Note:** Zest's color will fade over time, but this won't affect taste.

*Another drying option is to heat the oven to 200°F, insert the baking tray and turn off the oven. Let the tray sit in the oven overnight.*

## **Cranberry Orange Chutney**

**Source:** 2015 USDA Complete Guide to Home Canning, Page 2-13

**Yield:** About 8 half-pint jars

**Ingredients:**

24 ounces fresh whole cranberries  
 2 cups chopped white onion  
 2 cups golden raisins  
 1 ½ cups white sugar  
 1 ½ cups packed brown sugar  
 2 cups white distilled vinegar (5%)  
 1 cup orange juice  
 4 teaspoons peeled, grated fresh ginger  
 3 sticks cinnamon

**Procedure:**

1. Rinse cranberries well. Combine all ingredients in a large Dutch oven.
2. Bring to a boil over high heat; reduce heat and simmer gently for 15 minutes or until cranberries are tender. Stir often to prevent scorching. Remove cinnamon sticks and discard.
3. Fill the hot chutney into hot half-pint jars leaving ½-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process in a boiling water or atmospheric steam canner according to the recommendations below. Let cool, undisturbed, 12-24 hours and check for seals.

**Notes:** If you are at an altitude higher than 1,000 feet, adjust the processing time for the boiling water or steam canner according to the chart below.

<b>Altitude</b>	0 – 1,000 feet	1,001 – 6,000 feet	Above 6,000 feet
<b>Processing time</b>	+5 minutes	15 minutes	20- minutes

Other dried spices can be added to taste (for example, cloves, dry mustard, or cayenne pepper). Add or adjust spices during the simmering period.

## **Orange Marmalade**

**Source:** *Kerr Home Canning & Freezing*

**Yield:** 7 half-pints

**Ingredients:**

2 cups (2 to 3 medium oranges) very thin orange slices, quartered, seeds removed  
 6 cups water  
 1½ cups (2 medium lemons) very thin lemon slices, quartered, seeds removed  
 7 cups sugar (approximately)

**Procedure:**

1. Combine orange and lemon slices and water in a 6 to 8-quart saucepan.
2. Bring to a boil and cook rapidly until peels are very soft, about 30 minutes.
3. Measure cooked fruit and liquid. Add 1 cup sugar for each 1 cup of fruit/liquid measure.
4. Bring to a boil and cook to jelly stage (220°F) stirring frequently.
5. Skim off foam, if necessary.
6. Immediately fill hot, sterilized half-pint jars with marmalade, leaving ¼ inch headspace.
7. Wipe jar tops and threads clean.
8. Place hot lids on jars and screw bands on firmly.
9. Process in boiling water or atmospheric steam canner for 10 minutes.

**Note:** If you are at an altitude higher than 1,000 feet, adjust the processing time for the boiling water or steam canner according to the chart below.

Altitude in feet	1,000 – 3,000	3,001 – 6,000	6,001 – 8,000	8,001 – 10,000
<b>Increase processing time</b>	+5 minutes	+10 minutes	+15 minutes	+20 minutes

## **Lemonade Marmalade**

**Source:** *Ball Blue Book*

**Yield:** 4 half pints

**Ingredients:**

6 lemons  
 1½ cups water  
 1⁄8 teaspoon baking soda  
 5 cups sugar  
 1 pouch liquid pectin

**Procedure:**

1. Remove peel from lemons; discard white membrane and cut rind into slivers. Section lemons, remove seeds and chop pulp. Set aside.
2. Combine rind, baking soda, and water in sauce pan. Cook over medium high heat until mixture boils, stirring frequently.
3. Add sugar and reserved fruit stir well. Cook until mixture reaches a full rolling boil, stirring occasionally. Boil hard for 1 minute.
4. Remove from heat, stir in pectin. Skim foam.
5. Let stand 5 minutes, stirring occasionally to distribute fruit.
6. Pour into hot jars leaving ¼ inch head space. Adjust caps. Process 10 minutes in a boiling water or atmospheric steam canner.

**Note:** If you are at an altitude higher than 1,000 feet, adjust the processing time for the boiling water or steam canner according to the chart below.

<b>Altitude in feet</b>	1,000 – 3,000	3,001 – 6,000	6,001 – 8,000	8,001 – 10,000
<b>Increase processing time</b>	+5 minutes	+10 minutes	+15 minutes	+20 minutes

## **Grapefruit and Orange Sections**

**Source:** USDA Complete Guide to Home Canning, 2015

**Yield:** An average of 15 pounds is needed per canner load of 7 quarts; an average of 13 pounds is needed per canner load of 9 pints—an average of about 2 pounds yields 1 quart.

**Ingredients:**

Select firm, mature, sweet fruit of ideal quality for eating fresh. The flavor of orange sections is best if the sections are canned with equal parts of grapefruit. Grapefruit may be canned without oranges. Sections may be packed in your choice of water, citrus juice or syrup.

**Procedure:**

1. Wash and peel fruit and remove white tissue to prevent a bitter taste.
2. If you use syrup, prepare a very light, light, or medium syrup and bring to boil. (*Syrup recipe on page 12.*)
3. Fill hot jars with sections and water, juice or hot syrup, leaving ½ inch headspace.
4. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

<b>Recommended process time for Grapefruit and Orange Sections in a boiling-water canner or atmospheric steam canner</b>				
<b>Style of Pack</b>	<b>Jar Size</b>	<b>0 - 1,000 ft</b>	<b>1,001-6,000 ft</b>	<b>Above 6,000 ft</b>
Raw	Pints or Quarts	10 min	15 min.	20 min

## **Fruit Syrup**

**Source:** USDA Complete Guide to Home Canning, Revised 2015

Adding syrup to canned fruit helps to retain its flavor, color, and shape. It does not prevent spoilage of these foods.

### Preparing and using syrups

Measures of Water and Sugar						
<b>Syrup Type</b>	<b>Approx % Sugar</b>	<i>For 9-Pt Load*</i>		<i>For 7-Qt Load</i>		<b>Fruits commonly packed in syrup**</b>
		<b>Cups Water</b>	<b>Cups Sugar</b>	<b>Cups Water</b>	<b>Cups Sugar</b>	
Very light	10	6-1/2	3/4	10-1/2	1-1/4	Approximates natural sugar level in most fruits and adds the fewest calories.
Light	20	5-3/4	1-1/2	9	2-1/4	Very sweet fruit. Try a small amount the first time to see if your family likes it.
Medium	30	5-1/4	2-1/4	8-1/4	3-3/4	Sweet apples, sweet cherries, berries, grapes.
Heavy	40	5	3-1/4	7-3/4	5-1/4	Tart apples, apricots, sour cherries, gooseberries, nectarines, peaches, pears, plums.
Very Heavy	50	4-1/4	4-1/4	6-1/2	6-3/4	Very sour fruit. Try a small amount the first time to see if your family likes it.

\* This amount is also adequate for a 4-quart load.

\*\*Many fruits typically packed in heavy syrup are excellent and tasteful products when packed in lighter syrups.

### Procedure:

- Heat water and sugar together. Bring to a boil and pour over raw fruits in jars.
- For hot packs, bring water and sugar to boil, add fruit, reheat to boil, and fill jars immediately.

## **Candied Citrus Peel**

**Source:** *Put 'em Up!*

**Yield:** about 2 pints

### **Ingredients:**

Peels, including pith, from 6 oranges or other thick-skinned citrus fruit  
1 cup water, plus more for boiling peels  
5 cups sugar  
1 vanilla bean

### **Procedure:**

1. Cut the peels into 1/4-inch strips. Cover the peels with cold water in a large nonreactive saucepan and bring to a boil, stirring to ensure that all of the peels are heated through. Strain and repeat two more times to remove the bitter flavor from the pith and to soften the peels. After the third round, set aside the peels to drain while you make the syrup.
2. Bring 1 cup water to a boil and gradually add 4 cups of the sugar, stirring to dissolve. Add the peels and the vanilla bean. Return to a boil, and then reduce to a simmer, cooking gently until the peels are translucent and tender, about 1 hour.
3. Using tongs, remove the peels to a drying rack placed over a baking sheet and separate them so they don't touch. Let drain, and then dry for 4 to 5 hours.
4. When quite dry but still tacky, roll the peels in the remaining 1 cup sugar to coat.
5. Peels keep, stored in an airtight container, for up to 1 month.