



K-STATE
Research and Extension

PRESERVE IT FRESH, PRESERVE IT SAFE STRAWBERRIES



When preserving fresh foods at home, follow proper techniques to prevent foodborne illness. These tested methods can be used to process strawberries.

Freezing

Quantity

A 24-quart crate of fresh strawberries weighs 36 pounds and yields 12 to 16 quarts. An average of 1 pound makes 1 pint of frozen berries.

Quality

Freeze strawberries or preserve them the day they are harvested for best quality. Pick when they reach an ideal maturity for eating fresh. Select fresh berries with a sweet flavor, deep uniform color, and firm texture. Smaller, misshapen, and seedy berries make good-quality jams.

Preparation

Remove stem caps from berries. Wash 1 to 2 quarts at a time with water and drain. Do not soak.

Procedure

Freezer manuals offer guidelines for the maximum amount that can be frozen at one time to maintain quality — usually 2 to 3 pounds of food for each cubic foot of freezer space. Approximate freezer storage time is 8 to 12 months.

To make a syrup pack: Mix and dissolve $2\frac{3}{4}$ cups of sugar in 4 cups of lukewarm water; chill before using. Add 1 cup syrup per quart of prepared fruit.

For a sugar pack: Mix $\frac{3}{4}$ cup dry sugar per quart of prepared fruit.

For dry or tray pack: Spread a single layer of strawberries on shallow trays and freeze. When frozen, package berries in freezer containers and return them to the freezer.

To package, fill pint- or quart-sized freezer bags, squeezing out the air. Leave 1-inch headspace, seal, label, and freeze. Bags may be placed in reusable, rigid-plastic freezer containers before freezing for

added protection against puncture and leakage. Dry packs need $\frac{1}{2}$ -inch headspace.

To use: Thaw berries at room temperature in the original package. For faster thawing, use a microwave or submerge berries in cool or lukewarm water.

Nutrition: Frozen Strawberries, unsweetened, dry pack
Serving size: 1 cup (unthawed) — 52 calories, 0 g fat, 14 g carbohydrate, 1 g protein, 3 g fiber, 3 mg sodium, 7 g sugar

Dehydrating

For information on dehydrating fruit or fruit leathers, see <https://www.rrc.k-state.edu/preservation/drying.html> for resources.

Canning

Strawberries become mushy and lose color and flavor when canned. This practice is not recommended.

The recipes in this publication can be processed in a water bath canner or an atmospheric steam canner. Learn more in the *How-to Guide to Water Bath Canning and Steam Canning* (MF3241).

Preparing Jars and Lids

For all canning recipes processed less than 10 minutes, wash and sterilize jars by placing them inside a boiling water canner and cover with water. Boil jars for at least 10 minutes and keep them hot. All jars must be warm prior to filling with food.

Preheating is not required for standard metal lids. Always wash lids in hot, soapy water before use. If using reusable plastic lid systems with rubber rings, follow the manufacturer's directions.

Strawberry Jam

Yield: About 9 half-pints or 4 pints

- 5½ cups crushed strawberries (about 3 quart boxes strawberries)
- 1 package powdered pectin
- 8 cups sugar

Rinse berries with water, remove stems and caps, and crush berries using a potato masher. Measure crushed strawberries into a sauce pan. Add pectin and stir well. Place on high heat and, stirring constantly, bring quickly to a full boil with bubbles over the entire surface. Add sugar, continue stirring, and heat again to a full bubbling boil. Boil hard for 1 minute, stirring constantly. Remove from heat. Skim to remove excess foam. Pour hot jam into hot jars, leaving ¼-inch headspace. Wipe jar rims and apply lids and rings fingertip-tight. Process in a boiling water bath or steam canner according to directions in Table 1. Turn off heat and remove canner lid. Let jars cool 5 minutes before removing them from canner. Do not retighten bands. Cool completely, check seals, label, date, and store.

Nutrition: Strawberry Jam

Serving size: 1 tablespoon — 50 calories, 0 g fat, 13 g carbohydrate, 0 g protein, 0 g fiber, 0 mg sodium, 13 g sugar

Strawberry-Rhubarb Jelly

Yield: 7 half-pints

- 1½ pounds red stalks of rhubarb (6 cups)
- 1½ quarts ripe strawberries (fresh or previously frozen, unsweetened)
- 6 cups sugar
- 2 3-ounce pouches liquid pectin

To prepare juice: Rinse rhubarb with water and cut into 1-inch pieces. Rinse with water, stem, and crush strawberries. Puree fruits in a blender or food processor. Pour puree into a jelly bag or four layers of cheesecloth and gently squeeze out juice. As an alternative, use a stovetop steamer/juicer to extract juice.

To make jelly: Measure 3½ cups of juice into a large saucepan. Add sugar and mix well. Bring to a boil over high heat, stirring constantly. Immediately stir in the pectin. Bring to a full rolling boil and boil hard for 1 minute, stirring constantly. Remove from heat; quickly skim off foam. Immediately pour the jelly into hot

canning jars, leaving ¼-inch headspace. Wipe jar rims, apply lids and rings fingertip-tight. Process jars for 5 minutes in a water bath or steam canner according to directions in Table 1. Turn off heat and remove canner lid. Let jars cool 5 minutes. Remove jars from canner, but do not retighten bands. Cool completely, check seals, label, date, and store.

Nutrition: Strawberry-Rhubarb Jelly

Serving size: 1 tablespoon — 35 calories, 0 g fat, 9 g carbohydrate, 0 g protein, 0 g fiber, 0 mg sodium, 8 g sugar

Strawberry-Kiwi Jam

Yield: 6 half-pints

- 3 cups crushed strawberries (about 2 pounds)
- 3 kiwi, peeled and diced
- 1 tablespoon minced crystallized ginger
- 1 box regular powdered pectin (1.75 ounces)
- 1 tablespoon lemon juice
- 5 cups sugar

Rinse strawberries with water; drain. Remove stems and caps. Crush strawberries using a potato masher. Measure 3 cups crushed strawberries. Peel kiwifruit and dice. Combine strawberries, kiwi, ginger, pectin, and lemon juice in a large saucepan. Bring mixture to a boil over medium-high heat, stirring to blend in pectin. Add sugar, stirring until sugar dissolves. Bring mixture to a rolling boil that cannot be stirred down. Boil hard for 1 minute, stirring constantly. Remove from heat. Skim off foam if necessary. Pour into hot jars, leaving ¼-inch headspace. Remove air bubbles. Wipe jar rims, apply lids and rings fingertip-tight. Process in a water bath or steam canner according to directions in Table 1. Turn off heat and remove canner lid. Let jars cool 5 minutes. Remove jars from canner; do not retighten bands. Cool completely, check seals, label, date, and store.

Nutrition: Strawberry-Kiwi Jam

Serving size: 1 tablespoon — 50 calories, 0 g fat, 13 g carbohydrate, 0 g protein, 0 g fiber, 0 mg sodium, 13 g sugar

Strawberry Jam from Commercially Frozen Fruit

Yield: about 4 half-pints

- 3 cups frozen unsweetened strawberries, thawed and crushed (about 30 ounces frozen strawberries)
- 2 ½ tablespoons regular powdered pectin
- 3 cups sugar

Drain fruit, reserving juice. Crush fruit and combine with reserved juice. Place 3 cups of mixture into a large saucepot.

Measure sugar and set aside. Stir powdered pectin into the prepared fruit. Bring to a full boil over high heat, stirring constantly. Add sugar all at once. Stir and bring to a full rolling boil that cannot be stirred down. Boil hard for 1 minute, stirring constantly.

Remove from heat. Skim off foam. Pour hot jam into hot jars, leaving ¼-inch headspace. Wipe jar rims, apply lids and rings fingertip-tight. Process in a boiling water bath canner or steam canner according to directions in Table 1. Turn off heat and remove canner lid. Let jars cool 5 minutes. Remove jars from canner; do not retighten bands. Cool completely, check seals, label, date, and store.

Nutrition: Strawberry Jam from Commercially Frozen Fruit
Serving size: 1 tablespoon — 45 calories, 0 g fat, 12 g carbohydrate, 0 g protein, 0 g fiber, 0 mg sodium, 12 g sugar

Strawberry Preserves

Yield: About 4 half-pints

- 6 cups prepared strawberries (about 2 quart boxes strawberries)
- 4½ cups sugar

Select large, firm, tart strawberries. Rinse and drain berries; remove caps. Combine prepared fruit and sugar in alternate layers and let stand for 8 to 10 hours or overnight in the refrigerator. Heat the fruit mixture to boiling, stirring gently. Boil rapidly, stirring as needed to prevent sticking. Cook to 9 degrees F above the boiling point of water, or until the syrup is somewhat thick (about 15 to 20 minutes). Remove from heat; skim foam. Fill hot preserves immediately into hot, sterile jars, leaving ¼-inch headspace. Wipe jar rims, apply lids and rings fingertip tight.

Process in a boiling water canner or steam canner according to directions in Table 1. Turn off heat and remove canner lid. Let jars cool 5 minutes. Remove jars from canner; do not retighten bands. Cool completely, check seals, label, date, and store.

Nutrition: Serving size: 1 tablespoon — 40 calories, 0 g fat, 10 g carbohydrate, 0 g protein, 0 g fiber, 0 mg sodium, 10 g sugar

Rhubarb-Strawberry Jam

with liquid pectin

Yield: About 7 or 8 half-pint jars

- 1 cup cooked red-stalked rhubarb (about 1 pound rhubarb and ¼ cup water)
- 2½ cups crushed strawberries (about 1½ quart boxes)
- 6½ cups sugar
- 1 pouch liquid pectin

Rinse and scrub rhubarb and slice thin or chop; do not peel. Add water, cover, and simmer until rhubarb is tender (about 1 minute). Sort and rinse fully ripe strawberries; remove stems and caps. Crush berries.

Measure prepared rhubarb and strawberries into a large saucepan. Add sugar and stir well. Place on high heat and, stirring constantly, bring quickly to a full boil with bubbles over the entire surface. Boil hard for 1 minute, stirring constantly. Remove from heat and stir in pectin. Skim foam if needed.

Fill hot jam immediately into hot, sterile jars, leaving ¼-inch headspace. Wipe rims of jars with a dampened clean paper towel; adjust two-piece metal canning lids. Process in a boiling water canner or steam canner according to directions in Table 1. Turn off heat and remove canner lid. Let jars cool 5 minutes. Remove jars from canner; do not retighten bands. Cool completely, check seals, label, date, and store.

Nutrition: Rhubarb Strawberry Jam

Serving Size: 1 tablespoon — 30 calories, 0 g fat, 8 g carbohydrates, 0 g protein, 0 g fiber, 0 mg sodium, 7 g sugar

Storing Jams and Jellies

After 12 to 24 hours of cooling, remove screw bands and check lid seals. If the center of the lid is indented, wash, dry, label, date and store jar in a clean, cool, dark place. If the lid is unsealed, store these jars in the refrigerator and use first. Wash screw bands and store separately. Jams and jellies are best consumed within one year.

Table 1. Recommended processing times in a water bath canner or steam canner.

Product	Style of Pack	Jar Size	Minutes of processing at different elevations (in feet)		
			0-1,000	1,001-6,000	Above 6,000
Strawberry Jam	Hot	Half-pints or pints	5	10	15
Strawberry-Rhubarb Jelly	Hot	Half-pints	5	10	15
Strawberry-Kiwi Jam	Hot	Half-pints	10	15	20
Strawberry Jam from Frozen Fruit	Hot	Half-pints	5	10	15
Strawberry Preserves	Hot	Half-pints	5	10	15
Rhubarb Strawberry Jam	Hot	Half-pints or Pints	5	10	15

Problems and Solutions

1. Why do strawberry pieces float to the top of jam?

The fruit was either not ripe enough, not crushed into small pieces, not cooked long enough, or not packed properly into the jars.

2. How can I reduce the amount of foaming?

Add ½ teaspoon butter or margarine to the fruit mixture before boiling.

3. Is paraffin wax safe to use on top of jams and jellies?

Because of possible mold contamination, paraffin or wax seals are no longer recommended for any sweet spread, including jams and jellies. Always process sweet spreads in a water bath canner or steam canner to prevent mold and preserve flavor and color.

4. Are liquid and dry pectins interchangeable in recipes?

No. Pectins are a group of pectic polysaccharides, or long-chain carbohydrate molecules. They contain chains of esterified galacturonic chains that have different binding sites in a liquid form versus the dry form of pectin. Therefore, how the gelling process works when using liquid versus dry pectin is very different. Liquid pectin is not rehydrated dry pectin. The acid content of liquid and dry pectin is also different which changes gelling properties. For best results, use the type of pectin stated in recipes. *Source:* Dr. Elizabeth Andress, Professor Emeritus, University of Georgia Extension.

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Complete Guide to Home Canning, USDA AIB No. 539, 2015, and *So Easy to Preserve*, 6th ed., The University of Georgia Cooperative Extension Service; and the National Center for Home Food Preservation, <https://nchfp.uga.edu>.

How-to Guide to Water Bath Canning and Steam Canning (MF3241), <https://bookstore.ksre.ksu.edu/pubs/mf3241.pdf>

How-to Guide to Pressure Canning (MF3242), <https://bookstore.ksre.ksu.edu/pubs/mf3242.pdf>

Nutrition data provided by USDA FoodData Central, <https://fdc.nal.usda.gov/index.html> and ESHA Genesis R&D Food Formulation & Labeling Software, version 11.13

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