



K-STATE  
Research and Extension

# PRESERVE IT FRESH, PRESERVE IT SAFE TOMATOES



When preserving fresh foods at home, follow proper procedures to prevent foodborne illness. The following safety-tested methods can be used to process tomatoes.

**Always wash your hands before preparing any recipe.**

## Freezing

### Quantity

One bushel (45 pounds) of tomatoes yields 26 to 34 frozen pints or 20 to 28 pints of juice.

### Quality

Frozen tomatoes will have a mushy texture when thawed and are suitable only for cooking in soups, stews, and sauces. Tomatoes that are frozen raw become watery and develop an off-flavor after a short time in the freezer. Tomatoes that are too ripe for safe canning but still sound and free from decay can be frozen safely. Freeze only up to 2 pounds of food per cubic foot of freezer capacity per day.

### Procedure

*Raw:* Rinse and dip tomatoes into boiling water for 30 seconds to loosen skins. Core and peel. Freeze whole or in pieces. Pack into freezer containers, leaving 1-inch headspace. Seal and freeze.

*Juice:* Rinse, sort, and trim firm, vine-ripened tomatoes. Cut the tomatoes into quarters or eighths. Simmer 5 to 10 minutes. Press through a sieve. If desired, season with 1 teaspoon of salt to each quart of juice. Pour into freezer containers, leaving 1-inch headspace. Seal and freeze.

*Stewed:* Rinse, sort, and remove stem ends. Dip tomatoes into boiling water for 30 seconds to loosen skins. Peel and quarter ripe tomatoes. Cover and cook them until tender (10 to 20 minutes). Place the pan containing the tomatoes in cold water to cool. Pack into freezer containers, leaving 1-inch headspace. Seal and freeze.

Tomato products such as sauce, puree, catsup, and chili sauce can be frozen. Prepare as usual, cool rapidly, and pack into rigid freezer containers leaving at least ½-inch headspace. Seal and freeze.

*Nutrition:* Frozen Tomato Juice, no salt added  
Serving size: 1 cup — 41 calories, 0 g fat, 6 g carbohydrate, 2 g protein, 1 g fiber, 24 mg sodium, 6 g sugar

## Dehydrating

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

## Canning

To learn more about canning, see *How-to Guide to Water Bath Canning and Steam Canning* (MF3241) and *How-to Guide to Pressure Canning* (MF3242).

### 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.

### Quality

Select only disease-free, preferably vine-ripened, firm tomatoes for canning. *Caution: Do not can tomatoes from dead or frost-killed vines.* Green tomatoes are more acidic than ripened fruit and can be canned safely with any of the following recommendations. The following methods can be used to can any variety and color of tomato including low-acid tomato varieties. Salt noted in the recipes is for flavor only and can be omitted, if desired.

## Food Acidity and Tomato Products

Although tomatoes are usually considered to be acidic, some have pH values slightly above 4.6, which makes them a low-acid food. As such, tomato products must be acidified to a pH of 4.6 or below with bottled lemon juice, vinegar, or citric acid. Properly acidified tomatoes can be safely processed in a boiling-water canner or pressure canner as an acid food.

Pressure processing instructions are equivalent in heat treatment to water bath processing. *Caution: Both methods require acidification.* There are no recommendations for processing tomatoes without acidification.

### Acidification Options for Tomatoes (Choose One)

	Bottled Lemon Juice	Citric Acid	Vinegar (5% acidity)
Pints	1 tablespoon	¼ teaspoon	2 tablespoons
Quarts	2 tablespoons	½ teaspoon	4 tablespoons

## Tomato Juice

### Quantity

An average of 23 pounds per canner load of 7 quarts, or an average of 14 pounds per canner load of 9 pints. A bushel weighs 53 pounds and yields 15 to 18 quarts of juice, for an average of 3¼ pounds per quart.

### Procedure

Rinse tomatoes, remove stems, and trim off bruised or discolored portions. To prevent juice from separating, quickly cut about 1 pound of tomatoes into quarters and put directly into saucepan. Heat immediately to boiling while crushing. Continue to slowly add and crush freshly cut tomato quarters to the boiling mixture. Make sure the mixture boils constantly and vigorously while you add the remaining tomatoes. Simmer 5 minutes after adding all pieces. If you are not concerned about juice separation, simply slice or quarter tomatoes into a large saucepan. Crush, heat, and simmer for 5 minutes before juicing. Press both types of heated juice through a sieve or food mill to remove skins and seeds. *Add acid to each jar according to the acidification chart on page 2.* Heat juice again to boiling. Add 1 teaspoon of salt per quart to the jars, if desired. Fill jars with hot tomato juice, leaving ½-inch headspace. Wipe rims of jars with a damp clean paper towel. Apply lids and rings fingertip-tight. Process in a boiling water bath canner according to directions in Table 1 or in a pressure canner according

to Table 2. Turn off heat and remove canner lid. If using a pressure canner, let it depressurize naturally before removing the lid. Let jars cool 5 minutes; then remove from canner. Do not retighten bands. Cool completely, check seals, label, date, and store.

*Nutrition:* Tomato Juice, no salt added

Serving size: 1 cup — 41 calories, 0 g fat, 6 g carbohydrate, 2 g protein, 1 g fiber, 24 mg sodium, 6 g sugar

## Tomato and Vegetable Juice Blend

### Quantity

An average of 22 pounds of tomatoes per canner load of 7 quarts.

### Procedure

Crush and simmer tomatoes as for making tomato juice. Add no more than 3 cups of any combination of finely chopped celery, onions, carrots, and peppers for each 22 pounds of tomatoes. Simmer the mixture 20 minutes. Press hot cooked tomatoes and vegetables through a sieve or food mill to remove the skins and seeds. *Add acid to each jar according to the acidification chart on page 2.* Add 1 teaspoon of salt per quart or ½ teaspoon salt per pint to the jars, if desired. Reheat the tomato-vegetable juice blend to boiling and pour immediately into jars, leaving ½-inch headspace. Wipe rims of jars with a damp clean paper towel. Apply lids and rings fingertip-tight. Process in a boiling water bath canner according to Table 1 or a pressure canner according to Table 2. Turn off heat and remove canner lid. If using a pressure canner, let it depressurize naturally, then remove lid. Let jars cool 5 minutes. Remove jars from canner; do not retighten bands. Cool completely, check seals, label, date, and store.

*Nutrition:* Tomato and Vegetable Juice Blend, no salt added

Serving size: 1 cup — 53 calories, 0 g fat, 11 g carbohydrate, 1 g protein, 2 g fiber, 140 mg sodium, 8 g sugar

## Tomatoes, Whole or Halved

Packed raw without added liquid.

### Quantity

An average of 21 pounds per canner load of 7 quarts; an average of 13 pounds is needed per canner load of 9 pints. A bushel weighs 53 pounds and yields 15 to 21 quarts — an average of 3 pounds per quart.

### Procedure

Rinse tomatoes. Dip in boiling water for 30 to 60 seconds or until the skins split. Then dip them in cold water, slip off skins, and remove cores. Leave tomatoes

whole or halved. *Add acid to each jar according to the acidification chart on page 2.* Add 1 teaspoon salt per quart or ½ teaspoon salt per pint, if desired.

Fill hot jars with raw tomatoes by pressing tomatoes into the jars until spaces between them fill with juice. Leave ½-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a damp clean paper towel. Apply lids and rings fingertip-tight. Process in a boiling water bath canner according to directions in Table 1 or in a pressure canner according to Table 2. Turn off heat and remove canner lid. If using a pressure canner, let it depressurize naturally before removing lid. Let jars cool 5 minutes; remove from canner. Do not retighten bands. Cool completely, check seals, label, date, and store.

*Nutrition:* Whole Tomatoes, no salt added  
Serving size: ½ cup — 19 calories, 0 g fat, 4 g carbohydrate, 1 g protein, 2 g fiber, 12 mg sodium, 3 g sugar

## Tomatoes, Crushed

The tomatoes are packed with no added liquid. This high-quality product is ideally suited for use in soups, stews, and casseroles. This recipe was formerly known as quartered tomatoes.

### Quantity

An average of 22 pounds per canner load of 7 quarts; an average of 14 fresh pounds per canner load of 9 pints. A bushel weighs 53 pounds and yields 17 to 20 quarts of crushed tomatoes, for an average of 2¾ pounds per quart.

### Procedure

Rinse tomatoes and dip in boiling water for 30 to 60 seconds or until skins split. Dip them in cold water, slip off skins, and remove cores. Trim any bruised or discolored portions and quarter.

Heat one-sixth of the quarters quickly in a large pot, crushing them immediately as they are added to the pot. This will exude juice. Continue heating tomatoes, stirring to prevent burning. Once tomatoes are boiling, gradually add remaining tomatoes, stirring constantly. Remaining tomatoes do not need to be crushed but will soften with heating and stirring. Continue until all tomatoes have been added. Boil gently 5 minutes.

*Add acid to each jar according to the acidification chart on page 2.* Add 1 teaspoon salt per quart or ½ teaspoon salt per pint, if desired. Fill hot jars immediately with

the hot tomatoes, leaving ½ -inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a damp clean paper towel. Apply lids and rings fingertip-tight. Process in a boiling water bath canner according to the guidelines in Table 1 or in a pressure canner according to Table 2. Turn off heat and remove canner lid. If using a pressure canner, let it depressurize naturally, then remove lid. Let jars cool 5 minutes. Remove jars from canner; do not retighten bands. Cool completely, check seals, label, date, and store.

*Nutrition:* Crushed Tomatoes, no salt added  
Serving size: ½ cup — 19 calories, 0 g fat, 4 g carbohydrate, 1 g protein, 2 g fiber, 12 mg sodium, 3 g sugar

## Standard Tomato Sauce

### Quantity

*For thin sauce:* An average of 35 pounds is needed per canner load of 7 quarts; an average of 21 pounds is needed per canner load of 9 pints. A bushel weighs 53 pounds and yields 10 to 12 quarts of sauce, for an average of 5 pounds per quart.

*For thick sauce:* An average of 46 pounds is needed per canner load of 7 quarts; an average of 28 pounds is needed per canner load of 9 pints. A bushel weighs 53 pounds and yields 7 to 9 quarts of sauce, for an average of 6½ pounds per quart.

### Procedure

Prepare and press tomatoes as for making tomato juice. Simmer in a large saucepan until sauce reaches desired consistency. Boil until the volume is reduced by about one-third for thin sauce, or by one-half for thick sauce. *Add acid to each jar according to the acidification chart on page 2.* Add 1 teaspoon salt per quart or ½ teaspoon salt per pint, if desired. Fill hot jars, leaving ¼-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a damp clean paper towel. Apply lids and rings fingertip-tight. Process in a boiling water bath canner according to recommendations in Table 1 or in a pressure canner according to Table 2. Turn off heat and remove canner lid. If using a pressure canner, let it depressurize naturally, then remove lid. Let jars cool 5 minutes. Remove jars from canner; do not retighten bands. Cool completely, check seals, label, date, and store.

*Nutrition:* Tomato Sauce, no salt added  
Serving size: ¼ cup — 15 calories, 0 g fat, 3 g carbohydrate, 1 g protein, 1 g fiber, 7 mg sodium, 2 g sugar

## Mexican Tomato Sauce

*Yield:* About 14 pints or 7 quarts

- 2½ to 3 pounds chili peppers
- 18 pounds tomatoes
- 3 cups chopped onions
- 1 tablespoon salt
- 1 tablespoon oregano
- ½ cup vinegar (5% acidity)

### Procedure

*Caution:* Wear rubber gloves while handling chilis or wash your hands thoroughly with soap and water before touching your face.

Rinse and dry the chili peppers. Slit each pepper on its side to allow steam to escape. Blister peppers using one of the following methods.

*Oven or broiler method:* Place chili peppers in the oven (400°F) or broiler for 6 to 8 minutes until the skins blister.

*Range-top method:* Cover the hot burner, either gas or electric, with heavy wire mesh. Place chili peppers on the burner for several minutes until the skins blister.

Place peppers in a pan and cover with a damp cloth. This will make peeling the peppers easier. Cool several minutes and slip off the skins. Discard stem and seeds and chop the peppers.

Rinse tomatoes and dip them in boiling water for 30 to 60 seconds or until the skins split. Dip them in cold water, slip off skins, and remove cores. Coarsely chop the tomatoes and combine with chopped peppers and remaining ingredients in a large saucepan. Bring to a boil. Cover and simmer 10 minutes. Fill hot jars, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a damp clean paper towel. Apply lids and rings fingertip-tight. Pressure process according to guidelines in Table 2. Turn off heat, let canner depressurize naturally, 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:* Mexican Tomato Sauce

Serving size: ¼ cup — 15 calories, 0 g fat, 3 g carbohydrate, 1 g protein, 1 g fiber, 45 mg sodium, 2 g sugar

## Barbecue Sauce

*Yield:* about 4 pints or 8 half-pints

- 4 quarts (16 cups) peeled, cored, chopped red ripe tomatoes (about 24 large tomatoes)
- 2 cups chopped celery
- 2 cups chopped onions
- 1½ cups chopped sweet red or green peppers (about 3 medium peppers)
- 2 hot red peppers, cored, and chopped
- 1 teaspoon black peppercorns
- 2 cloves garlic, crushed
- 1 cup brown sugar
- 1 tablespoon dry mustard
- 1 tablespoon paprika
- 1 tablespoon canning salt
- 1 teaspoon hot pepper sauce (e.g., Tabasco®)
- ⅛ to 1¼ teaspoon cayenne pepper
- 1¼ cups vinegar (5% acidity)

### Procedure

*Caution:* Wear plastic or rubber gloves and do not touch your face while handling or cutting hot peppers. If you do not wear gloves, wash hands thoroughly with soap and water before touching your face or eyes.

Combine prepared tomatoes, celery, onions, and peppers. Cook until vegetables are soft (about 30 minutes). Puree using a fine sieve, food mill, food processor or blender. Cook until mixture is reduced to about one half, (about 45 minutes). Tie peppercorns in a cheesecloth bag; add with remaining ingredients and cook slowly until mixture is the consistency of catsup, about 1½ to 2 hours. As mixture thickens, stir frequently to prevent sticking. Remove bag of peppercorns.

Fill hot sauce into clean, hot jars, leaving ½-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel; apply lids and rings fingertip-tight. Process in a boiling water canner or steam canner according to the recommendations 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:* Barbecue Sauce

Serving size: 2 tablespoons — 15 calories, 0 g fat, 3 g carbohydrate, 0 g protein, 0 g fiber, 65 mg sodium, 3 g sugar

## Tomato Ketchup

*Yield:* 6 to 7 pints

- 24 pounds ripe tomatoes
- 3 cups chopped onions
- $\frac{3}{4}$  teaspoon ground red pepper (cayenne)
- 3 cups cider vinegar (5% acidity)
- 4 teaspoons whole cloves
- 3 sticks cinnamon, crushed
- $1\frac{1}{2}$  teaspoons whole allspice
- 3 tablespoons celery seeds
- $1\frac{1}{2}$  cups sugar
- $\frac{1}{4}$  cup salt

### Procedure

Rinse tomatoes. Dip them in boiling water for 30 to 60 seconds or until the skins split. Dip them in cold water, slip off skins, and remove cores. Quarter tomatoes into a 4-gallon stock pot or a large kettle. Add onions and red pepper. Bring to a boil and simmer 20 minutes, uncovered. Cover, turn off heat, and let stand for 20 minutes.

Combine spices in a spice bag and add to vinegar in a 2-quart saucepan. Bring to a boil. Remove spice bag and combine vinegar and tomato mixture. Boil about 30 minutes. Put boiled mixture through a food mill or sieve, and return to the pot.

Add sugar and salt, boil gently, and stir frequently until the volume is reduced by one-half or until the mixture rounds up on spoon without separation. Fill hot pint jars, leaving  $\frac{1}{8}$ -inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a damp clean paper towel. Apply lids and rings fingertip-tight. Process in a boiling water canner according to 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:* Tomato Ketchup

Serving size: 1 tablespoon — 5 calories, 0 g fat, 1 g carbohydrate, 0 g protein, 0 g fiber, 40 mg sodium, 1 g sugar

## Tomatoes with Okra or Zucchini

### Quantity

An average of 12 pounds of tomatoes and 4 pounds of okra or zucchini is needed per canner load of 7 quarts. An average of 7 pounds of tomatoes and  $2\frac{1}{2}$  pounds of okra or zucchini is needed per canner load of 9 pints.

### Procedure

Rinse the tomatoes and okra or zucchini. Dip tomatoes into boiling water 30 to 60 seconds or until the skins split. Dip them in cold water, slip off skins, remove cores, and quarter. Rinse okra and trim stems from okra and slice into 1-inch pieces or leave whole. Remove stem from zucchini and rinse. Slice or cube the zucchini, if used.

Bring tomatoes to a boil and simmer 10 minutes. Add okra or zucchini and boil gently 5 minutes. Add 1 teaspoon of salt for each quart or  $\frac{1}{2}$  teaspoon salt per pint to the jars, if desired. Fill the jars with the mixture, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a damp clean paper towel. Apply lids and rings fingertip-tight. Pressure process according to guidelines in Table 2. Turn off heat, let canner depressurize naturally, 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.

*Variation:* Add four or five pearl onions or two  $\frac{1}{4}$ -inch thick onion slices to each jar.

*Nutrition:* Tomatoes with Okra, no salt added

Serving size:  $\frac{1}{2}$  cup — 30 calories, 0 g fat, 6 g carbohydrate, 1 g protein, 2 g fiber, 5 mg sodium, 3 g sugar

## Spaghetti Sauce without Meat

*Yield:* About 9 pints or 4 quarts

- 30 pounds tomatoes
- 1 cup chopped onions
- 5 cloves garlic, minced
- 1 cup chopped celery or green pepper
- 1 pound fresh mushrooms, sliced (optional)
- $4\frac{1}{2}$  teaspoons salt
- 2 tablespoons oregano
- 4 tablespoons minced parsley
- 2 teaspoons black pepper
- $\frac{1}{4}$  cup brown sugar
- $\frac{1}{4}$  cup vegetable oil

### Procedure

*Caution:* Do not increase the proportion of onions, peppers, or mushrooms.

Wash tomatoes and dip them in boiling water for 30 to 60 seconds or until the skins split. Dip them in cold water, slip off skins, remove cores and quarter.

Boil 20 minutes, uncovered, in a large saucepan. Put through a food mill or sieve.

Sauté the onions, garlic, celery or peppers, and mushrooms (if desired) in vegetable oil until tender. Combine sautéed vegetables and tomatoes and add spices, salt, and sugar. Bring to a boil. Simmer uncovered until thick enough for serving. At this time, the initial volume will have been reduced by nearly half. Stir frequently to avoid burning.

Fill hot jars, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a damp clean paper towel. Apply lids and rings fingertip-tight. Pressure process according to the guidelines in Table 2. Turn off heat, let canner depressurize naturally, 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:* Spaghetti Sauce without meat, with mushrooms  
Serving size: ½ cup — 30 calories, 0.5 g fat, 5 g carbohydrate, 1 g protein, 2 g fiber, 100 mg sodium, 4 g sugar

## Chili Salsa

Chili salsa is a hot tomato-pepper sauce. **Do not use jars larger than a pint for ANY salsa recipe.**

*Yield:* 6 to 8 pints

- 5 pounds tomatoes (as purchased)
- 2 pounds chili peppers (as purchased)
- 1 pound onions (as purchased)
- 1 cup vinegar (5% acidity) or bottled lemon juice
- 3 teaspoons salt
- ½ teaspoon pepper

### Procedure

*Caution:* Wear plastic or rubber gloves while handling chilis or wash your hands thoroughly with soap and water before touching your face.

Peeling peppers is optional. If desired, peel and prepare chili peppers as described in making Mexican Tomato Sauce above. Rinse the tomatoes and dip them in boiling water for 30 to 60 seconds or until skins split. Dip them in cold water, slip off skins, and remove cores. Coarsely chop tomatoes and combine with chopped peppers, onions, and remaining ingredients in a large saucepan. Heat to a boil, and simmer 10 minutes. Fill hot jars, leaving ½-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a damp clean paper

towel. Apply lids and rings fingertip-tight. Process in a boiling water canner or steam canner according to 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:* Chili Salsa

Serving size: 2 tablespoons — 10 calories, 0 g fat, 2 g carbohydrate, 0 g protein, 0 g fiber, 55 mg sodium, 1 g sugar

## Tomatillo Green Salsa

*Yield:* 5 pints

- 5 cups chopped tomatillos or green tomatoes
- 1½ cups seeded, chopped long green chili peppers
- ½ cup seeded, finely chopped jalapeño peppers
- 4 cups chopped onions
- 1 cup bottled lemon juice
- 6 cloves garlic, finely chopped
- 1 tablespoon ground cumin (optional)
- 3 tablespoons dried oregano leaves (optional)
- 1 tablespoon salt
- 1 teaspoon black pepper

### Procedure

*Caution:* Wear plastic or rubber gloves while handling hot chilis. Wash your hands thoroughly with soap and water before touching your face. If you choose to peel chili peppers, do so as described in making Mexican Tomato Sauce. If using green tomatoes, rinse tomatoes and dip them in boiling water for 30 to 60 seconds or until skins split. Dip them in cold water, slip off skins, and remove cores. If using tomatillos, remove the dry outer husks from tomatillos; rinse thoroughly. They do not need to be peeled or seeded. Rinse jalapeño peppers and remove stems. Remove seeds and white membranes from peppers for a milder flavor.

Combine all ingredients in a large saucepan and stir frequently over high heat until mixture begins to boil, then reduce heat and simmer for 20 minutes, stirring occasionally. Ladle hot mixture into pint jars, leaving ½-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a damp clean paper towel. Apply lids and rings fingertip-tight. Process in a boiling water canner or steam canner according to 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.

*Note:* Spices add flavor to salsas. The amounts of spices and herbs may be altered in these recipes. You may leave them out if you prefer a salsa with a milder taste. Add fresh cilantro just before serving the salsa.

*Nutrition:* Tomatillo Green Salsa, with tomatillos  
 Serving size: 2 tablespoons — 25 calories, 0 g fat, 6 g carbohydrate, 0 g protein, 0 g fiber, 100 mg sodium, 5 g sugar

## Problems and Solutions

### 1. When pressure canning tomatoes, does lemon juice need to be added?

Yes, when either water bath canning, steam canning, or pressure canning, lemon juice must be added. See acidification options and instructions on page 2.

### 2. My tomatoes froze on the vines, are they safe to use?

Do not can tomatoes from dead or frost-killed vines. The acid level has changed in the tomato and should not be used for canning. They can be frozen or eaten fresh.

### 3. Can yellow “acid free” or “low acid” tomatoes be used in canning?

Yes. They have the same acid content as red tomatoes but taste less acidic. They should be used as if they were red tomatoes.

### 4. Can I can my own salsa recipe?

Salsas are usually mixtures of acid and low-acid ingredients; they are an example of an acidified food. The specific recipe, and sometimes preparation method, will determine if a salsa can be safely canned. A process must be scientifically determined for each recipe.

### 5. Why does tomato juice separate after canning?

This is an enzymatic change that occurs when cutting tomatoes. To reduce separation, heat tomatoes quickly to a simmering temperature.

### 6. Can salsa be processed in a pressure canner?

Currently, there are no instructions to process salsa in a pressure canner. Use a water bath canner or steam canner.

### 7. Can salsa be canned in quart jars?

No. Currently, there are no processing instructions to can salsa in jars larger than pints.

### 8. Can any variety of peppers be used in a salsa recipe?

Yes. Any variety of pepper can be used because of similar acid content. Do not, however, change the amount of peppers called for in the recipe. Any changes will alter the acidity of the recipe and make it unsafe.

For more information on making salsa, see *Sassy Safe Salsa at Home* (MF3171).

**Table 1. Recommended processing times for tomatoes in a water-bath canner\***

Product	Style of pack	Jar size	Minutes of processing at different elevations (in ft.)		
			0-1,000	1,001-3,000	3,001-6,000
Tomato juice	Hot	Pints	35	40	45
		Quarts	40	45	50
Tomato/vegetable juice blend	Hot	Pints	35	40	45
		Quarts	40	45	50
Tomatoes, whole or halved	Raw	Pints or quarts	85	90	95
Tomatoes, crushed	Hot	Pints	35	40	45
		Quarts	45	50	55
Standard tomato sauce	Hot	Pints	35	40	45
		Quarts	40	45	50
Barbecue Sauce	Hot	Half-pints or Pints	20	25	30
Tomato ketchup	Hot	Pints	15	20	20
Chili salsa	Hot	Pints	15	20	20
Tomatillo green salsa	Hot	Pints	15	20	25

\*A steam canner may be used to process tomato products with **less than 45 minutes** process time.

**Table 2. Recommended processing times for tomato products in a pressure canner (in minutes)**

Product	Style of pack	Jar size	Process time	Canner gauge pressure needed at different elevations (in ft.)			
				Dial gauge (lbs.)		Weighted gauge (lbs.)	
				0- 2,000	2,001-4,000	0- 1,000	Above 1,000
Tomato juice	Hot	Pints or quarts	20	6	7	5	10
		Pints or quarts	15	11	12	10	15
Tomato/vegetable juice blend	Hot	Pints or quarts	20	6	7	5	10
		Pints or quarts	15	11	12	10	15
Tomatoes, whole or halved (without added liquid)	Raw	Pints or quarts	40	6	7	5	10
		Pints or quarts	25	11	12	10	15
Tomatoes, crushed	Hot	Pints or quarts	20	6	7	5	10
		Pints or quarts	15	11	12	10	15
Standard tomato sauce	Hot	Pints or quarts	20	6	7	5	10
		Pints or quarts	15	11	12	10	15
Mexican tomato sauce	Hot	Pints	20	11	12	10	15
		Quarts	25	11	12	10	15
Tomatoes with okra or zucchini	Hot	Pints	30	11	12	10	15
		Quarts	35	11	12	10	15
Spaghetti sauce without meat	Hot	Pints	20	11	12	10	15
		Quarts	25	11	12	10	15

**Revised by Karen Blakeslee, M.S., Extension Associate, Food Science**

*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>.

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

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

Publications from Kansas State University are available at [bookstore.ksre.ksu.edu](http://bookstore.ksre.ksu.edu)

Date shown is that of publication or last revision.

Contents may be freely reproduced for educational purposes. All other rights reserved. In each case, credit Karen Blakeslee, *Preserve it Fresh, Preserve it Safe: Tomatoes*, Kansas State University, February 2024.