

Preserving Food: Canning Tomatoes *and* Tomato Products

Organisms that cause food spoilage - molds, yeasts and bacteria - are always present in the air, water and soil. Enzymes that may cause undesirable changes in flavor, color and texture are present in raw fruits.

When tomatoes are canned, they are heated hot enough and long enough to destroy spoilage organisms. This heating (or processing) also stops the action of enzymes.

Tomatoes are classified as an acid food. Because of this, they may be safely canned in a water bath canner. Recent research has shown that for some products, pressure canning will result in a higher quality, more nutritious product.

Directions for canning a variety of tomato products are given on the following pages. Some recipes will give you the option of canning either in a pressure canner or in a boiling water bath. Some will give only boiling water bath times and others will give only pressure canning times. The recipes that specify only pressure canning have so many low acid ingredients added to them that they are only safe when canned in a pressure canner at the specified pressure.

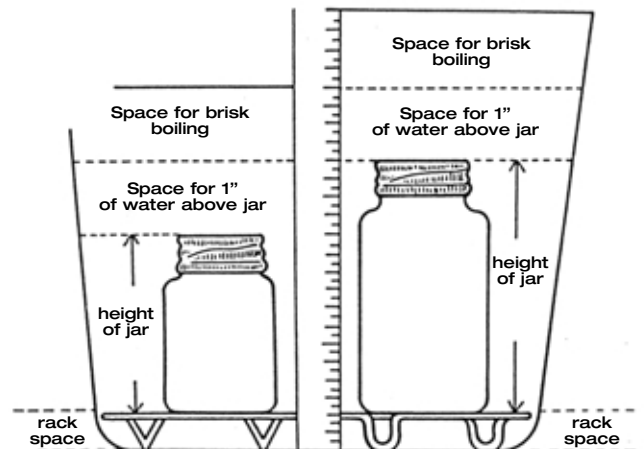
Equipment

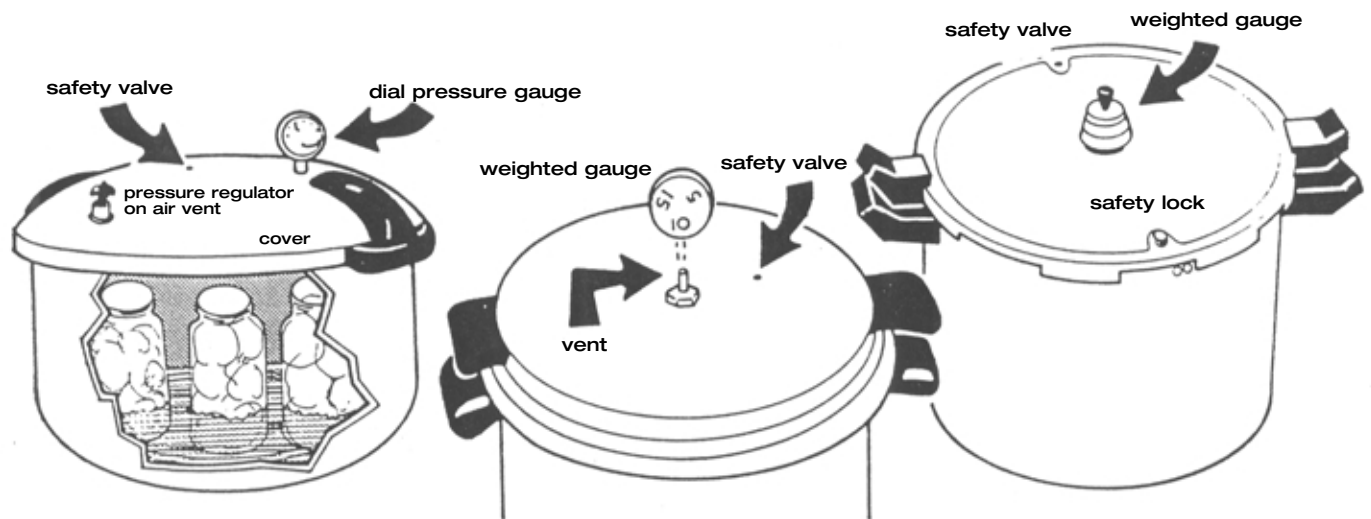
Water-bath canners are available on the market. Any big metal container may be used as a boiling-water-bath canner if it is deep enough so the water can cover the jars by at least one inch and still have ample room for boiling (two or four inches above jar tops - see illustration). The canner must have a tight-fitting cover and metal rack.

A pressure canner may be used for a boiling water bath canner, provided it is deep enough. Do not fasten the cover; leave the petcock open so steam can escape and pressure does not build up in the canner.



Water Bath Canner





Pressure Canners

A pressure canner is a specially made heavy pot that has a lid that can be closed steam-tight. It must have a rack in the bottom, a tight-fitting cover, exhaust vent (or petcock), safety valve and an accurate pressure gauge. The pressure gauge may be a weighted gauge that fits over the vent or a dial gauge on which a needle indicates the pressure inside the canner. Newer canners may also have an extra cover lock as an added safety feature.

Canning jars specifically designed for home canning are best. Commercial food jars such as many mayonnaise jars break easily and may not seal. Use only the half-pint, pint or quart sizes for tomatoes. Jars should be checked closely for cracks or chips.

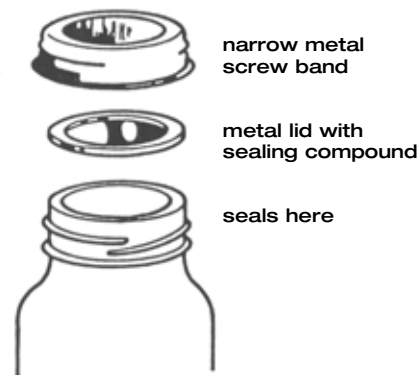
If jars will be processed in a boiling water bath for less than 10 minutes, they need to be sterilized by placing them in boiling water for 10 minutes before being filled. After the jars are sterilized, keep them hot by leaving them in the hot water until time to fill them. Jars processed in a boiling water bath for 10 minutes or more, or in a pressure canner, will be sterilized during processing and do not need prior sterilization. They do need to be washed in hot, soapy water, rinsed and kept hot until filled and placed in the canner.

Two-piece metal canning lids need to be prepared for use. The lids can be used only once, but the screw bands can be reused as long as they are in good condition. Read the manufacturer's instructions on treating the lids. Some need to be covered with hot water, while others

need to be boiled for a minute or more. Do not reuse lids from commercially canned foods for home canning.

Preparing the Tomatoes

Select disease-free, preferably vine ripened, firm tomatoes for canning. Do not can tomatoes from dead or frost-killed vines. Wash all tomatoes thoroughly. To quickly peel tomatoes, dip them in boiling water for 30 to 60 seconds or until skins split. Then dip in cold water, slip off skins and remove cores.



Filling the Jars

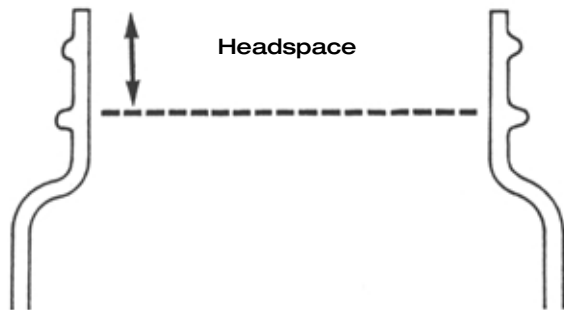
Tomatoes may be packed raw into jars or they may be preheated and packed hot. Read the directions for each tomato product to determine which method may be used. If given a choice, the hot pack produces a higher quality product. Remember, have the jars hot to prevent breakage as they are filled.

To raw pack - Put raw tomatoes into jars and cover with boiling water. Raw tomatoes should be packed firmly into the jars because they shrink during processing.

To hot pack - Heat tomatoes without adding liquid or in water or juice before packing. Pack the hot food loosely. Then cover with the boiling cooking liquid or juice drawn from the tomatoes.

For either pack, use enough liquid to fill around the solid food in the jar and to cover the food. See directions for each product for the correct amount of headspace to leave between the top of the food and the top of the jar. This head space is important for obtaining a good seal.

Salt may be added to each jar, if desired. The salt is only for seasoning and does not help to preserve the food. If salt is used, canning salt is recommended to prevent the liquid from turning cloudy. Usually 1/2 teaspoon salt per pint is adequate.



Acidify Some Products for Safety

Because tomatoes may be borderline in the amount of acid they contain, you must take some precautions to can them safely. To ensure the safety of whole, crushed or juiced tomatoes they must be acidified, whether processed in a boiling water bath or pressure canner. To acidify these tomatoes, add 1 tablespoon of bottled lemon juice or 1/4 teaspoon citric acid per pint of tomatoes. For quarts, use 2 tablespoons of bottled lemon juice or 1/2 teaspoon citric acid.

The acid can be added directly to each jar before filling them with the product. If this makes the product taste too acid, add a little sugar to offset the taste.

NOTE: Four tablespoons of vinegar per quart or two tablespoons per pint can be used instead of lemon juice or citric acid. However, the vinegar may cause undesirable flavor changes.

Closing the Jars

To remove any trapped air bubbles, slide a non-metallic spatula between the food and the sides of the jar. Add more liquid if necessary to obtain the proper headspace. Wipe the jar rim with a clean damp cloth to remove any food particles.

Place the treated lid on the jar. Screw the metal screw band down fingertip tight.

To Process Tomato Products in a Boiling Water Bath Canner

- * Put filled jars on a rack in a canner containing hot or simmering water. For the raw pack, have water in the canner hot but not simmering; for the hot pack have water simmering.
- * Add boiling water if needed to bring water an inch or two over tops of jars; don't pour boiling water directly on glass jars. Put the cover on the canner.
- * When the water in the canner comes to a rolling boil, start to count processing time. Boil gently and steadily for the time recommended for the food being canned. Add boiling water during processing if it's needed to keep jars covered.
- * Remove jars from the canner immediately when the processing time is up. Place them on a rack, dry towels, boards or newspapers to prevent jars from breaking on contact with a cold surface. Allow the jars to cool untouched, away from drafts. Do not be alarmed at popping sounds as the jars cool and seal.

To Process Tomato Products in a Pressure Canner

Read the manufacturer's instructions on the use of your pressure canner. The following are general instructions:

- * Have the two to three inches of water in your canner hot but not boiling if you are canning raw pack foods. For hot pack foods, the water can be hot or simmering.
- * Place the jars of food on the rack in the canner so steam can flow around each jar.

- * Fasten the canner lid so no steam can escape except through the vent.
- * Turn heat to high and watch until steam begins to escape from the vent. Let the steam escape steadily for 10 minutes.
- * Close the vent, using a weight, valve or screw, depending on the type of canner. If you have a weighted gauge canner that has a weight of varying pressures, be sure you are using the correct pressure.
- * For a dial gauge canner, let the pressure rise quickly to eight pounds of pressure. Adjust the burner temperature down slightly and let the pressure continue to rise to the correct pressure. (If the burner were left on high, the pressure would be hard to regulate when the correct pressure is reached.) Start counting the processing time as soon as the pressure is reached. For weighted gauge canners, let the canner heat quickly at first and then reduce the heat slightly until the weight begins to rock gently or "jiggle" two or three times per minute, depending on the type of canner you have. Start counting the processing times as soon as the weight does either of these.
- * Keep the pressure constant by regulating the heat under the canner. Do not lower the pressure by opening the vent or lifting the weight. Keep drafts from blowing on the canner.
- * When processing time is completed, carefully remove the canner from the heat. If the canner is too heavy, simply turn off the heat.
- * Let the pressure in the canner drop to zero. This will take 30 to 45 minutes in a 16-quart canner and nearly an hour for a 22-quart canner. Do not rush the cooling by setting the canner in water or by running cold water over the canner. Never lift the weight or open the vent to hasten the reduction of pressure.
- * When the gauge on a dial gauge canner registers zero or when a gentle nudge to the weight on a weighted gauge canner does not produce steam or resistance, wait two minutes, and then open the vent or remove the weight. Wait two more minutes and then open the canner. Unfasten the lid, and tilt the far side up, so the steam escapes away from you. Do not leave the canner unopened, or the food inside could begin to spoil.
- * Carefully remove the jars from the canner. To prevent

the jars from breaking on contact with a cold surface, place the hot jars on a rack, dry towels, boards or newspapers.

- * Allow the jars to cool untouched, away from drafts. Do not be alarmed at popping sounds as the jars cool and seal.

Day-After-Canning Jobs

Test the seal on the jar lids. Press flat metal lids at the center. They should be slightly concave and not move. Screw bands may be removed from thoroughly cooled jars. Label sealed jars with content and date.

Store the canned food in a cool, dry place. Stored properly, canned fruits should retain their high quality for about one year.

Treat unsealed jars of food as fresh. The food can be eaten immediately, refrigerated, frozen or recanned. If you recan the food, the whole process must be repeated.

On Guard Against Spoilage

Do not taste or use canned tomatoes or tomato products that show any signs of spoilage! Look closely at all jars before opening them. A bulging lid or leaking jar are signs of spoilage. When you open the jar, look for other signs such as spurting liquid, an off odor or mold. All spoiled canned tomatoes should be discarded in a place where they will not be eaten by humans or pets.

Some tomato products have vegetables or meats added to them. If these spoil, they can contain botulism toxin. Also, if not properly processed, these products can contain botulism toxin, without showing signs of spoilage. Tomato products that contain vegetables or meats are considered improperly canned if ANY of the following are true:

- * The product was not prepared according to an APPROVED recipe.
- * Ingredients were ADDED that were not in the approved recipe or the proportions of ingredients were CHANGED.
- * Up-to-date researched processing times and methods were NOT used. Many products require pressure canning.

- * The correct processing time was NOT used for the size of jar or style of pack.
- * The gauge of the canner was INACCURATE.
- * The processing time and pressure were NOT correct for the altitude at which the food was canned.

Tomato products that contain vegetables or meats that are improperly processed or that have spoiled can contain botulism toxin. Because of this, they should be detoxified before being discarded.

To detoxify these products, carefully remove the lid from the jar. Place the jar(s) of food and its lid(s) in a saucepot. Add enough hot water to cover the jar(s). Boil for 30 minutes and then cool. Drain water and dispose of food and lid. The jar may be reused.

Surfaces that come in contact with spoiled or questionable tomato mixtures should be cleaned with a solution of 1 part chlorine bleach to 5 parts water. Wet the surface with this solution and let stand 5 minutes before rinsing.

Directions for Canning Tomatoes and Tomato Products

CAUTION! ALTITUDE ADJUSTMENTS: The processing times and pressures given in this publication are those recommended by the U.S. Department of Agriculture for altitudes of 0-1000 feet. **DO NOT DECREASE** the processing times or pressures given. If you are canning at a higher altitude, make the following adjustments:

In a Boiling Water Bath (212° F)

See processing times at the end of this section.

In a Dial Gauge Pressure Canner

As the altitude increases, the processing time for each food stays the same, but the canner pressure must be increased as follows:

- * At altitudes of 1001-2000 feet the processing pressure does not change. Process at 11 pounds pressure.
- * At altitudes of 2001-4000 feet, process at 12 pounds pressure.
- * At altitudes of 4001-6000 feet, process at 13 pounds pressure.
- * At altitudes of 6001-8000 feet, process at 14 pounds pressure.

In a Weighted Gauge Pressure Canner

- * At altitudes above 1000 feet, the processing time for each food stays the same, but the food must be processed at 15 pounds pressure.

Product	Pack	Preparation
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Tomatoes - Crushed	Hot Pack	Wash tomatoes and dip in boiling water for 30 to 60 seconds or until skins split. Then dip in cold water, slip off skins and remove cores. Trim off any bruised or discolored portions and quarter. Heat about 1 pound of the quarters quickly in a large pot, crushing them with a wooden mallet or spoon as they are added to the pot. This will draw off some juice. Continue heating the tomatoes, stirring to prevent burning. Once the tomatoes are boiling, gradually add remaining quartered tomatoes, stirring constantly. These remaining tomatoes do not need to be crushed. They will soften with heating and stirring. Continue until all tomatoes are added. Then boil gently 5 minutes. Add bottled lemon juice or citric acid to hot jars, according to the directions on page 3. Add 1/2 teaspoon salt to each pint jar; 1 teaspoon to each quart jar, if desired. Fill jars immediately with hot tomatoes, leaving 1/2-inch headspace. Remove air bubbles. Wipe jar rims. Adjust lids and process.
	* Option 1	Process in Boiling Water Bath (212° F): Pints 35 minutes Quarts 45 minutes
	* Option 2	Process in Dial Gauge Pressure Canner at 11 pounds pressure OR in a Weighted Gauge Pressure Canner at 10 pounds pressure: Pints 15 minutes or Quarts

Tomatoes - Whole or Halved (Packed in Water)	Hot Pack	Wash tomatoes. Dip in boiling water for 30 to 60 seconds or until skins split. Then dip in cold water, slip off skins and remove cores. Leave whole or halve. Place prepared tomatoes in saucepan and cover with water. Bring to a boil and boil gently for 5 minutes. Add bottled lemon juice or citric acid to hot jars, according to the directions on page 3. Add 1/2 teaspoon of salt to each pint jar; 1 teaspoon to each quart jar, if desired. Pack hot tomatoes into hot jars, leaving 1/2-inch headspace. Fill jars to 1/2 inch from top with hot cooking liquid. Remove air bubbles. Wipe jar rims. Adjust lids and process as directed below.
	Raw Pack	Heat water for packing tomatoes, to a boil. Add bottled lemon juice or citric acid to hot jars according to the directions. Add 1/2 teaspoon salt to each pint jar; 1 teaspoon to each quart jar, if desired. Pack prepared tomatoes into hot jars, leaving 1/2-inch headspace. Fill hot jars to 1/2 inch from the top with boiling water. Remove air bubbles. Wipe jar rims. Adjust lids and process.
	* Option 1	Process in Boiling Water Bath (212° F): Pints 40 minutes Quarts 45 minutes
	* Option 2	Process in Dial Gauge Pressure Canner at 11 pounds pressure OR in a Weighted Gauge Pressure Canner at 10 pounds pressure: Pints 10 minutes or Quarts

**Tomato -
Vegetable Mixtures**

Unless a tested recipe is used, all tomato-vegetable mixtures must be processed in a pressure canner, according to the directions for the vegetable in the mixture that has the longest processing time. Tomato-vegetable mixture recipes in this publication may have shorter processing times because they have been tested for both pH and heat penetration. When the exact amounts specified in these recipes are used, these mixtures can be processed using the times given.

**Tomatoes
with Okra
or Zucchini**

Hot Pack

Wash tomatoes and okra or zucchini. Dip tomatoes in boiling water 30 to 60 seconds or until skins split. Then dip in cold water, slip off skins and remove cores. Quarter tomatoes. If using okra, trim stems and leave whole or slice into 1 inch pieces. If using zucchini, slice and cube. Bring tomatoes to a boil and simmer 10 minutes. Add okra or zucchini and boil gently 5 more minutes. Add 1/2 teaspoon of salt to each pint jar; 1 teaspoon to each quart jar, if desired. Fill hot jars with mixture, leaving 1-inch headspace. Remove air bubbles. Wipe jar rims. Adjust lids and process.

* Process in a Dial Gauge Pressure Canner at 11 pounds pressure OR in a Weighted Gauge Pressure Canner at 10 pounds pressure:

Pints	30 minutes
Quarts	35 minutes

Variation

You may also add four or five pearl onions or two 1/4 inch thick onion slices to each jar.

Stewed Tomatoes
(about 3 pint jars)

2 quarts chopped tomatoes
1/4 cup chopped green peppers
1/4 cup chopped onions
2 teaspoons celery salt
2 teaspoons sugar
1/4 teaspoon salt

Hot Pack

Combine all ingredients. Cover and cook 10 minutes, stirring occasionally to prevent sticking. Pour hot into hot jars, leaving 1/2-inch headspace. Remove air bubbles. Wipe jar rims. Adjust lids and process.

* Process in a Dial Gauge Pressure Canner at 11 pounds pressure OR in a Weighted Gauge Pressure Canner at 10 pounds pressure:

Pints	15 minutes
Quarts	20 minutes

Tomato Juice

Hot Pack

Wash 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 you add all the pieces.

NOTE: 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 the heated juice through a sieve or food mill to remove skins and seeds. Add bottle lemon juice or citric acid to hot jars, according to the instructions on page 3. Heat juice again to boiling. Add 1/2 teaspoon salt to each pint jar; 1 teaspoon to each quart jar, if desired. Fill hot jars with hot tomato juice, leaving 1/2-inch headspace. Wipe jar rims. Adjust lids and process.

*** Option 1**

Process in Boiling Water Bath (212° F):

Pints	35 minutes
Quarts	40 minutes

*** Option 2**

Process in Dial Gauge Pressure Canner at 11 pounds pressure OR in a Weighted Gauge Pressure Canner at 10 pounds pressure:

Pints	15 minutes
or Quarts	

Tomato Sauce (Unseasoned) Hot Pack Wash 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 you add all pieces.

NOTE: If you are not concerned about sauce separation, simply slice or quarter tomatoes into a large saucepan. Crush, heat and simmer for 5 minutes before juicing. Press the heated juice through a sieve or food mill to remove skins and seeds. Simmer in a large-diameter saucepan until volume is reduced by about one-third for thin sauce; by one-half for thick sauce. Add bottled lemon juice or citric acid to jars, according to the directions on page 3. Add 1/2 teaspoon salt to each pint jar; 1 teaspoon to each quart jar, if desired. Fill hot jars, leaving 1/4-inch headspace. Wipe jar rims. Adjust lids and process.

* Option 1 Process in Boiling Water Bath (212° F):
Pints 35 minutes
Quarts 40 minutes

* Option 2 Process in Dial Gauge Pressure Canner at 11 pounds pressure OR in a Weighted Gauge Pressure Canner at 10 pounds pressure:
Pints 15 minutes
or Quarts

Tomato Paste (about 9 half-pint jars) 8 quarts peeled, cored chopped tomatoes (about 4 dozen large)
1 1/2 cups chopped sweet red peppers (about 3)
2 bay leaves
1 teaspoon salt
1 clove garlic (optional)

Hot Pack Combine first four ingredients and cook slowly 1 hour. Press through a fine sieve. Add garlic clove, if desired. Continue cooking slowly until thick enough to round up on a spoon, about 2 1/2 hours. Stir frequently to prevent sticking. Remove garlic clove and bay leaves. Pour boiling hot paste into hot half-pint jars, leaving 1/4-inch headspace. Wipe jar rims.

Adjust lids and process in a Boiling Water Bath (212° F).
Half Pints 45 minutes

Tomato Catsup (about 6 or 7 pint jars) 24 pounds tomatoes
3 cups chopped onions
3/4 teaspoon ground red pepper (cayenne)
4 teaspoons whole cloves
3 sticks cinamon, crushed
1 1/2 teaspoons whole allspice
3 tablespoons celery seeds
3 cups cider vinegar
1 1/2 cups sugar
1/4 cup salt

Hot Pack Wash tomatoes. Dip in boiling water for 30 to 60 seconds or until skins split. Then dip in cold water, slip off skins and remove cores. Quarter tomatoes into 4-gallon pot. Add onions and red pepper. Bring to boil and simmer 20 minutes, uncovered. Combine spices in a spice bag. Place spices and vinegar in a 2-quart saucepan. Bring to a boil. Cover, turn off heat and let stand for 20 minutes.

Remove spice bag from the vinegar and add the vinegar to the tomato mixture. Boil about 30 minutes. Press boiled mixture through a food mill or sieve. Return to pot. Add sugar and salt and boil gently, stirring frequently until volume is reduced by one-half or until mixture rounds up on spoon without separation. Pour into hot jars, leaving 1/8-inch headspace. Wipe jar rims.

Adjust lids and process in a Boiling Water Bath (212° F).
Pints 15 minutes

Hot Chili Salsa
(about 7 pint jars)

5 pounds tomatoes
2 pounds chile peppers
1 pound onions, chopped
1 cup vinegar
3 teaspoons salt
1/2 teaspoon pepper

To Prepare Chile Peppers - (CAUTION: Wear rubber gloves while handling chiles or wash hands thoroughly with soap and water before touching your face.) Wash and dry chiles. Slit each pepper on its side to allow steam to escape. Peel peppers using one of the following methods:

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

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

Allow peppers to cool. Place in a pan and cover with a damp cloth. This will make peeling the peppers easier. After several minutes, peel each pepper. Remove stem and seeds.

Hot Pack Chop peppers. Wash tomatoes and dip in boiling water for 30 to 60 seconds or until skins split. Dip in cold water, slip off skins and remove cores. Coarsely chop tomatoes. Add chopped onions, peppers and remaining ingredients in a large saucepan. Heat to a boil and simmer 10 minutes. Pour into hot jars, leaving 1/2-inch headspace. Remove air bubbles. Wipe jar rims.

Adjust lids and process in a Boiling Water Bath (212° F).
Pints 15 minutes.

Barbecue Sauce
(about 4 pint jars)

4 quarts peeled, cored chopped red-ripe tomatoes (about 24 large)
2 cups chopped celery
2 cups chopped onions
1 1/2 cups chopped sweet red or green peppers (about 3 medium)
2 red hot peppers, cored, chopped
2 cloves garlic, crushed
1 cup brown sugar
1 tablespoon dry mustard
1 tablespoon paprika
1 tablespoon salt
1 tablespoon black peppercorns
1 teaspoon Tabasco Sauce
1/8 teaspoon cayenne pepper
1 cup vinegar

Hot Pack Combine tomatoes, onions, celery and peppers. Cook until vegetables are soft (about 30 minutes). Purée using a fine sieve, food mill, food processor or blender. Cook until mixture is reduced to about one-half (approximately 45 minutes). Tie peppercorns in a cheesecloth bag; add with remaining ingredients and cook slowly until mixture is the consistency of catsup, about 1 1/2 to 2 hours. As mixture thickens, stir frequently to prevent sticking. Remove bag of peppercorns. Pour hot sauce into hot jars, leaving 1/2-inch headspace. Wipe jar rims.

Adjust lids and process in a Boiling Water Bath (212° F).
Half-Pints or Pints 20 minutes

Spicy Chili Sauce
(about 6 pint jars)

4 quarts peeled, cored chopped tomatoes (about 24 large)
2 cups chopped onions
1 1/2 to 2 cups chopped sweet green peppers (about 3 medium)
1 1/2 cups sugar
1 tablespoon salt
1 tablespoon celery seed
1 teaspoon ground all spice
1 teaspoon ground cloves
1 teaspoon ground cinnamon
1 teaspoon ground ginger
1 to 1 1/2 cups vinegar

Hot Pack Combine all ingredients. Bring to a boil; simmer until thick as desired (about 1 to 2 hours). Stir frequently to prevent sticking. Pour hot sauce into hot jars, leaving 1/2-inch headspace. Wipe jar rims.

Adjust lids and process in a Boiling Water Bath (212° F).
Half-Pints or Pints 15 minutes

**Spaghetti Sauce
With Meat**
(about 9 pints)

30 pounds of tomatoes
2 1/2 pounds ground beef or sausage
5 cloves garlic, minced
1 cup chopped onions
1 cup chopped celery or green peppers
1 pound fresh mushrooms, sliced (optional)
2 tablespoons oregano
4 tablespoons minced parsley
2 teaspoons black pepper
4 1/2 teaspoons salt
1/4 cup brown sugar

Hot Pack Wash tomatoes and dip in boiling water for 30 to 60 seconds or until skins split. Dip in cold water and slip off skins. Remove cores and quarter tomatoes. Cook tomatoes for 20 minutes, uncovered in a large saucepan. Stir as needed to prevent sticking. Press through a food mill or sieve.

Sauté beef or sausage until brown. Add garlic, onions, celery or green pepper and mushrooms, if desired. Cook until vegetables are tender. Combine with tomato pulp in large saucepan. Add spices, salt and sugar. Bring to a boil. Simmer, uncovered, stirring frequently, until thick enough for serving. (The volume should be reduced by nearly one-half.) Pour into hot jars, leaving 1-inch headspace. Remove air bubbles. Wipe jar rims. Adjust lids and process.


Process in Dial Gauge Pressure Canner at 11 pounds pressure OR in a Weighted Gauge Pressure Canner at 10 pounds pressure:

Pints	60 minutes
Quarts	70 minutes

Boiling Water Bath Processing Times for Tomatoes and Tomato Products At Altitudes Over 1000 Feet

Product	Style of Pack	Jar Size	Process Time (Minutes) at Altitude of		
			1001-3000 feet	3001-6000 feet	6001-8000 feet
Tomatoes-crushed	Hot	Pints	40	45	50
		Quarts	50	55	60
Tomatoes-Whole or Halved (Packed in Water)	Raw or Hot	Pints	45	50	55
		Quarts	50	55	60
Tomato Juice	Hot	Pints	40	45	50
		Quarts	45	50	55
Tomato Sauce-Unseasoned	Hot	Pints	40	45	50
		Quarts	45	50	55
Tomato Paste	Hot	Half-Pints	50	55	60
Tomato Catsup	Hot	Pints	20	20	25
Chili Salsa	Hot	Pints	20	20	25
Barbeque Sauce	Hot	Half-Pints or Pints	25	30	35
Spicy Chili Sauce	Hot	Half-Pints or Pints	20	20	25

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Gale A. Buchanan, Dean and Director

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