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Canning Tomato Products

Canning tomato products can be easy and safe. Included in this fact sheet are recipes for various tomato products and answers to commonly asked questions such as, “How do I select tomatoes?” “Is it necessary to add acid?” “How do I prepare the tomatoes?” and, “What are the safe ways to process tomatoes to keep my family healthy?”

General Instructions

Selection—Select only disease-free, preferably vine-ripened, firm fruit for canning. *Do not can tomatoes from dead or dying vines.* Unripe tomatoes are more acidic than ripened fruit and can be canned safely with any of the following recommendations. Treat all ripe tomatoes (yellow, green, pink, orange, red, etc.) the same.

Acidification—To ensure safe acidity in whole, crushed, or juiced tomatoes use the following recommendations:

Acid*	Pint	Quart
Bottled Lemon Juice	1 Tablespoon	2 Tablespoons
Citric Acid	1/4 teaspoon	1/2 teaspoon
Vinegar	2 Tablespoons	4 Tablespoons

*Add acid directly to the jars before filling with tomato product. If desired, add up to 1 Tablespoon of sugar per quart to offset acid taste. Vinegar may cause undesirable flavor changes.

Sodium—The use of salt is optional in all canned tomato products. Salt can be used for flavor or color protection.

Processing—Even though both boiling water bath and pressure processing times are given (see tables 1 and 2), recent research shows that for some tomato products, pressure processing will result in a more nutritious and higher quality canned good. Recipes that specify pressure canning only may contain many low-acid ingredients and can be safely canned only in a pressure canner at the specified pressure.

Tomato Recipes for Canning

Tomato Juice

About 23 pounds of tomatoes are needed per canner load of 7 quarts; 14 pounds will yield 9 pints. A bushel yields 15 to 18 quarts of juice.

Preparation—Wash tomatoes, remove stems, and trim off bruised or discolored portions. To prevent juice from separating, quickly cut about 1 pound of fruit into quarters and put directly into saucepan. Immediately bring tomatoes to a boil while crushing them. Continue to add and crush freshly cut tomato quarters to the boiling mixture. Make sure the mixture boils constantly and vigorously while adding the remaining tomatoes. After all the pieces have been added, simmer for 5 minutes.

If juice separation is not a concern, then simply slice or quarter tomatoes into a saucepan. Crush, heat, and simmer for 5 minutes before juicing.

Press heated tomatoes through a sieve or food mill to remove skins and seeds. Place juice in a saucepan and heat to boiling. Acidify (see acidification table). If desired, add 1 teaspoon of salt per quart jar. Fill jars with hot tomato juice, leaving 1/2-inch headspace. Adjust lids and process jars as described in tables 1 or 2.

What causes tomato juice to separate in the jar?

Liquid at the top and solids at the bottom indicate that the juice was made before heating (perhaps by running tomatoes through the steamer, sieve, or food mill raw). To minimize the separation of juice, leave tomatoes whole or in large chunks (do not chop), then heat before juicing.

Tomato-Vegetable Juice Blend

Use approximately 22 pounds of tomatoes for a canner load of 7 quarts. No more than 3 cups of other vegetables should be added for each 22 pounds of tomatoes.

Preparation—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/or green peppers. Adding more than 3 cups of other vegetables may result in an unsafe product. Simmer mixture 20 minutes. Press hot, cooked tomatoes and vegetables through a sieve or food mill to remove skins and seeds. Reheat tomato-vegetable juice blend to boiling. Acidify (see acidification table). If desired, add 1 teaspoon of salt per quart. Fill clean hot jars, leaving 1/2-inch headspace. Adjust lids and process jars as described in tables 1 or 2.

Tomato Sauce

For a thin sauce: Use approximately 35 pounds of tomatoes to yield 7 quarts; and an average of 21 pounds for 9 pints. A bushel yields 10 to 12 quarts of sauce.

For a thick sauce: Use approximately 46 pounds of tomatoes to yield 7 quarts; and an average of 28

pounds for 9 pints. A bushel yields 7 to 9 quarts of sauce.

Preparation—Prepare and press tomatoes as for making tomato juice. Simmer in a wide saucepan until sauce reaches desired consistency. Volume is reduced by about one-third for thin sauce, or by one-half for thick sauce. Acidify (see acidification table). If desired, add 1 teaspoon of salt to each quart jar. Fill jars, leaving 1/4-inch headspace. Adjust lids and process as described in tables 1 or 2.

Spaghetti Sauce Without Meat

Yields 9 pints

Do not increase the proportion of onions, celery, peppers, or mushrooms. To do so will result in an unsafe product.

Ingredients

30 pounds tomatoes
 1 cup onions, chopped
 4½ teaspoons salt
 5 cloves garlic, minced
 2 Tablespoons oregano
 1 cup celery OR green pepper, chopped
 (no more than 1 cup total)
 4 Tablespoons parsley, minced
 1 pound fresh mushrooms, sliced (optional)
 2 teaspoons black pepper
 1/4 cup vegetable oil
 1/4 cup brown sugar

Preparation—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. Boil tomatoes 20 minutes, uncovered, in large saucepan. Put through food mill or sieve. If desired, sauté onions, garlic, celery, pepper, and mushrooms in vegetable oil until tender.

Combine sautéed vegetables and tomatoes; add salt, spices, and brown sugar. Bring to a boil. Simmer, uncovered, until thick enough for serving. At this time, the initial volume will be reduced by nearly one-half. Stir frequently to avoid burning. Fill pint jars, leaving 1-inch headspace. Adjust lids and process as listed in table 1.

Tomato Ketchup*Yields 6 to 7 pints***Ingredients**

24 pounds tomatoes, ripe
 3 cups cider vinegar, 5 percent
 3 cups onions, chopped

Into a spice bag combine:

3/4 teaspoon red cayenne pepper, ground
 4 teaspoons whole cloves
 3 sticks cinnamon, crushed
 1½ cups sugar
 1½ teaspoons whole allspice
 1/4 cup salt
 3 Tablespoons celery seeds

Preparation—Wash tomatoes. Dip into boiling water for 30 to 60 seconds or until skins split. Dip in cold water. Slip off skins and remove cores. Quarter tomatoes into a 4-gallon stock pot. 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. Pour vinegar into a 2-quart saucepan and add spice bag. Bring to boil. Remove spice bag and combine vinegar and tomato mixture. Boil about 30 minutes. Put boiled mixture through a food mill or sieve. Return to pot. Add sugar and salt, boil gently, and stir frequently until volume is reduced by one-half or until mixture rounds up on spoon without separation. Fill pint jars, leaving 1/8-inch headspace. Adjust lids and process as described in table 2.

What causes the deposit around the top surface of some tomato products?

A white crystalline deposit of calcium acetate may form in highly acidic tomato products, such as chili sauce, ketchup, or salsa. Reactions between the acid (acetic acid) in the food and a component (calcium carbonate in some brands of lids) form calcium acetate. The crystalline deposit is not harmful. When opening the jar, remove and discard crystals.

Table 1. Recommended process times for tomato products in a pressure canner

<i>Product</i>	<i>Style of pack</i>	<i>Jar size</i>	<i>Process time</i>	<i>Canner gauge pressure (psi) at different altitudes (in pounds)</i>		
				<i>Dial gauge</i>	<i>Weighted gauge</i>	
				<i>0–2,000 ft.</i>	<i>0–1,000 ft.</i>	<i>1,000+ ft.</i>
Tomato Juice	HOT	pints or quarts	20 min	6 lb	5 lb	10 lb
		pints or quarts	15 min	11 lb	10 lb	15 lb
Tomato-Vegetable Juice Blend	HOT	pints or quarts	20 min	6 lb	5 lb	10 lb
		pints or quarts	15 min	11 lb	10 lb	15 lb
Tomato Sauce	HOT	pints or quarts	20 min	6 lb	5 lb	10 lb
		pints or quarts	15 min	11 lb	10 lb	15 lb
Spaghetti Sauce Without Meat	HOT	pints or quarts	20 min	11 lb	10 lb	15 lb
		pints or quarts	25 min	11 lb	10 lb	15 lb

Table 2. Recommended process times for tomato products in boiling water canner

<i>Product</i>	<i>Style of pack</i>	<i>Jar size</i>	<i>Minutes of processing at different altitudes</i>	
			<i>0–1,000 ft.</i>	<i>1,000–3,000 ft.</i>
Tomato Juice	HOT	pints	35 min	40 min
		quarts	40 min	45 min
Tomato-Vegetable Juice Blend	HOT	pints	35 min	40 min
		quarts	40 min	45 min
Tomato Sauce	HOT	pints	35 min	40 min
		quarts	40 min	45 min
Ketchup	HOT	pints	15 min	20 min

References

Complete Guide to Home Canning, United States Department of Agriculture, Information Bulletin No. 539, revised 1994, reviewed June 2006.

So Easy to Preserve (Fifth Ed.), Cooperative Extension Service, The University of Georgia College of Agriculture, Athens College of Family and Consumer Sciences, College of Agricultural and Environmental Sciences, Bulletin 989, revised 2006.

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