



We can Tomatoes

Food Preservation

Recommended varieties

These processing recommendations are for West Virginia conditions (maximum altitude, 4,000 feet). For canning directions in other locations, consult your county Extension office.

Recommended Varieties – Campbell 1327, Heinz 1350, Heinz 1370, Pik-Red, Supersonic, and late-season Ramapo are good choices for making juice, crushed, and whole tomato products. Italian and pear-type varieties are good for making sauce, ketchup, and purees.

Table I. Quantities of fresh tomatoes needed for tomato products

Product	Pounds of fresh tomatoes needed for			
	One Quart	One Pint	A canner load of	
			7 Quarts	9 Pints
Juice	3¼	—	23	14
Juice vegetable blend	3	1½	22	14
Whole, halved, crushed	3	1½	21	13
Tomatoes, okra, or zucchini	—	—	12	7
Chili salsa	—	—	—	7
Standard sauce – thin	5	2½	35	21
Standard sauce – thick	6½	3	46	28
Spaghetti sauce	6⅓	3⅓	44	30
Barbecue sauce	6⅓	3⅓	44	30
Regular ketchup	7½	4	53	36
Western ketchup	7½	4	53	36
Blender ketchup	5	2⅔	35	24

Quality

Select only disease-free, preferably vine-ripened, firm fruit for canning. 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. Tomatoes may be canned with a boiling-water canner or a pressure canner. A pressure canner gives a higher quality, more nutritious product.

Acidification

To ensure safe acidity in whole, crushed, or juiced tomatoes, add 2 tablespoons of bottled lemon juice or ½ teaspoon citric acid per quart of tomatoes. For pints, use 1 tablespoon bottled lemon juice or ¼ teaspoon citric acid. Sugar to taste may be added to offset the acid taste. Acidification is required even if you choose the pressure option.

Freezing

Freezing tomato products is acceptable but is not recommended for these reasons. Frozen whole tomatoes become limp after thawing. Quality of canned products is very acceptable, and overall costs of preserving tomatoes favor canning.

Canning procedure

Wash jars. Prepare lids according to manufacturer's instructions. Fill hot tomato products in jars. Wipe sealing edge of jars with a clean, damp paper towel. Add lids and tighten screw bands. Process in a boiling-water or pressure canner.

To process in a boiling-water canner, fill canner halfway with water and preheat to 180 degrees F for hot packs or 140 degrees F for raw packs. Load sealed jars onto the canner rack and lower with handles; or load one jar at a time with a jar-lifter onto rack in canner. Add water, if needed, to a level of 1-inch above jars and add canner cover. When water boils vigorously, lower heat to maintain a gentle boil, and process jars for the time given in Table 2.

Table 2. Recommended processing times in a boiling-water canner

<i>Product</i>	<i>Pack</i>	<i>Jar size</i>	<i>Minutes of processing</i>
Tomato juice, tomato vegetable juice blend, and crushed tomatoes	Hot	Pints	45
		Quarts	55
Whole or halved tomatoes packed in water	Hot or raw	Pints	50
		Quarts	55
Whole or halved tomatoes packed in juice or without added liquid	Hot or raw	Pints	95
		Quarts	95
Chili salsa	Hot	Pints	20
Standard tomato sauces (thin or thick)	Hot	Pints	45
		Quarts	50
All tomato ketchups	Hot	Pints	20
Barbecue sauce	Hot	Pints	20

To process in a pressure canner, place jar rack, 2 inches of water, and sealed jars in canner. Fasten lid and heat canner on high setting. After steam exhausts 10 minutes, add weighted gauge or close petcock to pressurize the canner. Start timing the recommended process when the desired pressure is reached. Regulate heat to maintain a uniform pressure, and process the product for the time given in Table 3.



Table 3. Recommended processing times in a pressure canner

<i>Product</i>	<i>Style pack</i>	<i>Jar size</i>	<i>Process time</i>	<i>Dial gauge</i>	<i>Weighted gauge</i>
Tomato juice, tomato vegetable juice blend, and crushed tomatoes	Hot	Pints or Quarts	15	12	15
Whole or halved tomatoes packed in water	Hot or raw	Pints or Quarts	10	12	15
Whole or halved tomatoes packed in juice or without added liquid	Hot or raw	Pints or Quarts	25	12	15
Tomatoes and okra or zucchini	Hot	Pints Quarts	30 35	12 12	15 15
Standard tomato sauces (thin or thick)	Hot	Pints or Quarts	15	12	15
Spaghetti sauce without meat	Hot	Pints Quarts	20 25	12 12	15 15
Spaghetti sauce with meat	Hot	Pints Quarts	60 70	12 12	15 15

When processing is complete, remove canner from heat. Air-cool canner until it is fully depressurized. Slowly remove weighted gauge or open petcock, wait 2 more minutes, and unfasten and carefully remove canner lid. Remove jars from canner with a jar-lifter and place on a towel or rack. Do not retighten screw bands. Air-cool jars 12 to 24 hours. Remove screw bands and check lid seals. If the center of the lid is indented, wash, dry, label, and store jars in a clean, cool, dark place. If the lid is unsealed, examine and replace jar if defective, use a new lid, and reprocess as before. Wash screw bands and store separately. Tomato products are best if eaten within one year and are safe as long as lids remain vacuum-sealed.

Tomato juice

Quantity:

See Table 1 for guidelines.

Procedure: 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. 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.

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 bottled lemon juice or citric acid



Tomato and vegetable juice blend

Quantity:
See Table 1 for guidelines.

Whole, halved, or crushed tomatoes

Quantity:
See Table 1 for guidelines.

to jars; see acidification instructions on page 2. Reheat juice to boiling. Add 1 teaspoon salt per quart, if desired. Fill jars with hot tomato juice, leaving ½-inch headspace. Adjust lids and process jars as described in Table 2 or 3.

Procedure: Crush and simmer tomatoes same as for making tomato juice. To make 7 quarts, use 22 pounds of tomatoes and add no more than 3 cups of any combination of finely chopped celery, onions, carrots, and peppers for each 22 pounds of tomatoes. Simmer mixture 20 minutes. Press hot, cooked tomatoes and vegetables through a sieve or food mill to remove skins and seeds. Add bottled lemon juice or citric acid to jars; see acidification directions on page 2. Add 1 teaspoon salt per quart, if desired. Reheat tomato vegetable juice blend to boiling and fill immediately into jars, leaving ½-inch headspace. Adjust lids and process jars as described in Table 2 or 3.

Procedure for whole or halved tomatoes packed in water: 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. Leave whole or halve. Add bottled lemon juice or citric acid to jars; see acidification directions, page 2. **Hot pack** – Add enough water to cover tomatoes. Bring tomatoes and water to a boil and boil gently 5 minutes. Fill jars with hot tomatoes. Add 1 teaspoon of salt per quart if desired, and add enough hot cooking water to cover tomatoes, leaving ½-inch headspace. **Raw pack** – Fill jars with raw peeled tomatoes, add 1 teaspoon salt per quart, and add hot water to cover tomatoes, leaving ½-inch headspace. Adjust lids and process jars as described in Table 2 or 3.

Procedure for whole or halved tomatoes packed with tomato juice or filled without added liquids: Prepare, peel, and acidify tomatoes as described for tomatoes packed in water. Fill jars with raw-packed tomatoes, leaving ½-inch headspace; or bring tomatoes to a boil in water or tomato juice and boil gently 5 minutes. Add 1 teaspoon of salt per quart, if desired. Fill jars with hot tomatoes, allowing ½-inch headspace. Cover tomatoes with hot juice or press tomatoes until spaces fill with juice, leaving ½-inch headspace. Adjust lids and process jars as described in Table 2 or 3.

Procedure for crushed tomatoes: 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 one-sixth of the quarters quickly in a large pot, crushing them with a wooden spoon as they are added to the pot. Once the tomatoes are boiling, gradually add remaining quartered tomatoes, stirring constantly to prevent burning. Continue until all tomatoes are added. Then boil gently 5 minutes. Add bottled lemon juice or citric acid to jars (see acidification directions on page 2). Add 1 teaspoon salt per quart, if desired. Fill jars immediately with hot tomatoes, leaving ½-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe jar rims. Adjust lids and process jars as described in Table 2 or 3.



Tomatoes and okra or tomatoes and zucchini

Quantity:
See Table 1 for guidelines.

Chili salsa (hot pepper tomato dip)

Yield – about 6 to 8 pints

Standard tomato sauce

Procedure: Wash 12 pounds of tomatoes and 4 pounds of okra or zucchini. Dip tomatoes in boiling water 30 to 60 seconds or until skins split. Then dip in cold water, slip off skins, remove cores, and quarter. Trim stems from okra and slice into 1-inch pieces or leave whole. Slice or cube zucchini if used. Bring tomatoes to a boil and simmer 10 minutes. Add okra or zucchini and boil gently 5 minutes. Add 1 teaspoon salt to each quart, if desired. Fill jars with mixture, leaving 1-inch headspace. Adjust lids and process jars as described in Table 3.

Variation: You may add four or five pearl onions or two onion slices to each jar.

Ingredients:

5 pounds tomatoes, chopped	1 cup vinegar (5%)
2 pounds chili peppers, chopped	1 Tbsp. salt
1 pound onion, chopped	½ tsp. pepper

Procedure: Caution: Wear rubber gloves while handling chilies or wash hands thoroughly with soap and water before touching your face. Wash and dry chilies. Slit the sides of peppers and peel them using one of the following methods:

Oven or broiler method to blister skins – Place chilies in hot oven (400 degrees F) or under broiler for 6 to 8 minutes until skins blister.

Range-top method to blister skins – Cover hot burner, either gas or electric, with heavy wire mesh. Place peppers on burner for several minutes until skins blister. After blistering skins, place peppers in a pan and cover with a damp cloth. This will make peeling the peppers easier. Cool for several minutes. Peel off skins. Discard seeds and 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. Combine coarsely chopped tomatoes, peppers, and other ingredients in a large kettle. Bring to a boil and simmer for 10 minutes. Fill jars, leaving ½-inch headspace. Remove bubbles and adjust headspace if needed. Wipe jar rims. Adjust lids and process jars as described in Table 2.

Procedure: Wash tomatoes, remove stems, and trim off bruised or discolored portions. To prevent sauce from separating, quickly put about 1 pound of quartered tomatoes 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 remaining tomatoes. Simmer 5 minutes after all tomatoes are added. If you are not concerned about sauce separating, simply slice or quarter tomatoes into a large saucepan. Crush, heat, and simmer for 5 minutes before pressing. Press either type of heated juice through a sieve or food mill to remove skins and seeds. Heat juice again to boiling. Simmer in a large-diameter saucepan until sauce reaches desired consistency. Boil until volume is reduced by about one-third for thin sauce, or by one-half for thick sauce. Add bottled lemon juice or citric acid to jars; see acidification directions on page 2. Fill jars leaving ¼-inch headspace. Adjust lids and process jars as described in Table 2 or 3.



**Spaghetti sauce
without meat**
Yield – About 9 pints

Ingredients:

30 pounds tomatoes	4½ tsp. salt
1 cup onions, chopped	2 Tbsp. oregano
5 cloves garlic, minced	4 Tbsp. parsley, minced
1 cup celery or green pepper, chopped	2 tsp. black pepper
1 pound fresh mushrooms, sliced (optional)	¼ cup brown sugar
	¼ cup vegetable oil

Procedure: Do not increase the proportion of onions, peppers, or mushrooms. 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. Boil 20 minutes, uncovered, in large saucepan. Squeeze out juice with a food mill or sieve. Saute onions, garlic, celery or peppers, and mushrooms (if desired) in vegetable oil until tender. Combine sauteed vegetables and tomatoes and add remainder of 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 one-half. Stir frequently to avoid burning. Fill jars, leaving 1-inch headspace. Adjust lids and process jars as described in Table 3.

Procedure for making sauce with meat: Saute 2½ pounds of ground beef or sausage until brown. Using the recipe for making sauce without meat, add the quantities specified for garlic, onion, celery or green pepper, and mushrooms. Cook until vegetables are tender. Combine sauteed meat and vegetables with the tomato juice. Then follow the directions above for making sauce without meat.

Barbecue sauce
Yield – About 4 pints

Ingredients:

4 quarts peeled, cored, chopped red-ripe tomatoes (about 24 large)	1 cup brown sugar
2 cups chopped celery	1 Tbsp. dry mustard
2 cups chopped onions	1 Tbsp. paprika
1½ cups chopped sweet red or green peppers (about 3 medium)	1 Tbsp. salt
2 hot red peppers, cored, and chopped	1 tsp. black peppercorns
2 cloves garlic, crushed	1 tsp. hot pepper sauce (such as Tabasco Sauce)
	1¼ tsp. cayenne pepper
	1¼ cups vinegar (5%)

Procedure: Combine tomatoes, onions, celery, 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 by 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 ketchup, about 1½ to 2 hours. As mixture thickens, stir frequently to prevent sticking. Remove bag of peppercorns. Pour hot sauce into hot jars, leaving ½-inch headspace. Remove bubbles and adjust headspace if needed. Wipe jar rims. Adjust lids and process in a boiling water bath as described in Table 2.



Standard tomato ketchup

Yield – 6 to 7 pints

Ingredients:

24 pounds ripe tomatoes	3 sticks cinnamon, crushed
3 cups onions, chopped	1½ tsp. whole allspice
¾ tsp. ground red pepper (cayenne)	3 Tbsp. celery seeds
3 cups cider vinegar (5%)	1½ cups sugar
4 tsp. whole cloves	¼ cup salt

Procedure: Wash tomatoes. Dip in boiling water for 30 to 60 seconds or until skins split. Dip in cold water. Slip off skins and remove cores. Quarter tomatoes into 4-gallon stock pot or a large kettle. Add onions and red peppers. Bring to a boil and simmer uncovered for 20 minutes. Combine spices in a spice bag and add vinegar in a 2-quart saucepan. Bring to boil. Cover, turn off heat, and hold tomato mixture 20 minutes. Then, 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 ⅛-inch headspace. Adjust lids and process jars as described in Table 2.

Country western ketchup

Yield – 6 to 7 pints

Ingredients:

24 pounds ripe tomatoes	4 tsp. paprika
5 chili peppers, sliced and seeded	4 tsp. whole allspice
¼ cup salt	4 tsp. dry mustard
2⅔ cups vinegar (5%)	1 Tbsp. whole peppercorns
1¼ cups sugar	1 tsp. mustard seeds
½ tsp. ground red pepper (cayenne)	1 Tbsp. bay leaves

Procedure: Follow directions for standard tomato ketchup above.

Uses electric blender, eliminating need for pressing or sieving.

Blender ketchup

Yield – 9 pints

Ingredients:

24 pounds ripe tomatoes	¼ cup canning or pickling salt
2 pounds onions	3 Tbsp. dry mustard
1 pound sweet red peppers	1½ Tbsp. ground red pepper
1 pound sweet green peppers	1½ tsp. whole allspice
9 cups vinegar (5%)	1½ Tbsp. whole cloves
9 cups sugar	3 3-inch sticks of cinnamon

Procedure: Wash tomatoes and dip in boiling water for 30 to 60 seconds or until skins split. Then dip in cold water, slip off skins, core, and quarter. Remove seeds from peppers and slice into strips. Peel and quarter onions. Blend tomatoes, peppers, and onions at high speed for 5 seconds in electric blender. Pour into a 3- to 4-gallon stock pot or large kettle and heat. Boil gently 60 minutes, stirring frequently. Add vinegar, sugar, salt, and a spice bag containing dry mustard, red pepper, and other spices. Continue boiling and stirring



Nutrition Information

until volume is reduced one-half and ketchup rounds up on a spoon with no separation of liquid and solids. Remove spice bag and fill jars, leaving $\frac{1}{8}$ -inch headspace. Adjust lids and process jars as described in Table 2.

Average contents of a $\frac{1}{2}$ -cup serving (4 to 4.4 ounces) of tomato products					
	Raw		Canned		
	Tomato, unpeeled	Tomato, peeled	Tomato juice	Whole or crushed, salted	Whole or crushed, unsalted
Calories	10	10	23	25	25
Carbohydrates, g	2	2	5	5	5
Fats, g	0.1	0.1	0.1	0.3	0.3
Protein, g	0.5	0.5	1.1	1.2	1.2
Sodium, mg	1.5	1.5	243	156	7
Ribflavin*	2	—	2	2	2
Thiamine*	2	—	4	4	4
Vitamin A*	8	8	20	20	20
Vitamin C*	15	15	30	30	30

* Expressed as percentage of U.S. Recommended Daily Allowance (US RDA).
Tomatoes are an insignificant source of other vitamins.

For more information

ext.wvu.edu or contact WVU Extension Service Families and Health Programs at 304-293-2796.

Sources

Adapted from the U.S. Department of Agriculture's *Complete Guide to Home Canning*, revised June 2006.

Revised

Reviewed by Cindy Fitch, Ph.D., R.D., *Families and Health Programs Director*, 2009.

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