

How to Can Fresh Tomato Products

Please refer to MU Extension publications GH1451, *Safe Home Canning Basics*, and GH1452, *Steps to Successful Home Canning*, for information on correct canning procedures.

Select only firm, disease-free fruit for canning; vine-ripened varieties are best.

Tomatoes used to be considered an acidic food, but most of today's varieties are low-acid. To safely can tomato sauce or whole, crushed or juiced tomatoes, **add an acid regardless of what kind of canning method you use.** Use 2 tablespoons of bottled lemon juice or ½ teaspoon of citric acid per quart of tomatoes. (For more information on citric acid, refer to MU Extension publication GH 1502, *Freezing Fruits*.) For pints, use 1 tablespoon of bottled lemon juice or ¼ teaspoon citric acid.

Caution on tomato selection

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.

You can use vinegar—4 tablespoons of 5 percent vinegar per quart—instead of lemon juice or citric acid, but vinegar can cause undesirable flavor changes. You can add sugar to offset an acidic taste.

Carefully follow directions in this guide when canning tomatoes to prevent growth of *Clostridium botulinum*, the bacterium that causes botulism food poisoning.

If *Clostridium botulinum* bacteria survive and grow inside a sealed jar of food, they produce a toxin that can be fatal.

Quality for Keeps



Whole, halved or crushed tomatoes

Quantity: See Table 1 for guidelines.

Procedure — packed in water: 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, bruised or discolored flesh. Leave whole or halve. Add bottled lemon juice or citric acid to jars using directions at the beginning of this guide.

Hot pack: Add enough water to cover the tomatoes, and boil them gently for 5 minutes. Fill jars with hot tomatoes. Add 1 teaspoon of salt per quart, if desired, and add enough hot water to cover tomatoes; leave ½ inch of headspace.

Raw pack: Fill jars with raw, peeled tomatoes. Add 1 teaspoon salt per quart, if desired, and add enough hot water to cover tomatoes; leave ½ inch of headspace.

Adjust lids. See Table 2 or Table 3 for process times.

Procedure — packed with tomato juice: Prepare, peel and acidify tomatoes as described for tomatoes packed in water.

Hot pack: Put tomatoes in a large saucepan, and add enough tomato juice to completely cover them. Boil tomatoes and juice gently for 5 minutes. Add 1 teaspoon of salt per quart, if desired. Fill jars with hot tomatoes, and cover with hot juice; leave ½ inch of headspace.

Raw pack: Heat tomato juice in a saucepan. Fill jars with raw tomatoes. Add 1 teaspoon of salt per quart, if desired. Cover tomatoes in the jars with hot tomato juice; leave ½ inch headspace.

Adjust lids. See Table 2 or 3 for process times.

Procedure — packed without added liquid: Prepare, peel and acidify tomatoes as described for tomatoes packed in water. Add 1 teaspoon of salt per quart, if desired. Fill jars with raw tomatoes. Press tomatoes in the jars until spaces between them fill with juice. Leave ½ inch of headspace.

Adjust lids. See Table 2 or Table 3 for process times.

Procedure —crushed tomatoes: 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. Remove any bruised or discolored portions and quarter.

Heat $\frac{1}{4}$ of the tomato quarters quickly in a large pot, crushing them release the juice. Continue heating tomatoes and 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. Boil gently for 5 minutes. Add bottled lemon juice or citric acid to jars using directions at the beginning of this guide. Add 1 teaspoon salt per quart if desired. Fill jars immediately with hot tomatoes; leave $\frac{1}{2}$ inch of headspace.

Adjust lids. See Table 2 or Table 3 for process times.

Spaghetti sauce without meat

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

Yield: About 9 pints

Procedure: Wash tomatoes and dip in boiling water for 30 to 60 seconds or until skins split. Dip in cold water, slip off skins, remove cores, and quarter tomatoes. Boil 20 minutes, uncovered, in a large saucepan.

Press tomatoes through a food mill or sieve.

Sauté onions, garlic, celery or peppers and mushrooms (if desired) in vegetable oil until tender. Combine sautéed vegetables and tomatoes, and add remainder of spices, salt and sugar. Bring to a boil. Lower heat and simmer, uncovered, until thick enough for serving or volume is reduced by half. Stir frequently to avoid burning. Fill jars; leave 1 inch of headspace. Adjust lids. See Table 3 for process times.

Caution: Do not increase the proportion of onions, garlic, peppers or mushrooms as this will result in a low acidity level making the product unsafe to consume.

Procedure for making sauce with meat: Brown $2\frac{1}{2}$ pounds of ground beef or Italian sausage. Drain well. Using the recipe for making sauce without meat, add the specified quantities of garlic, onion, celery or green pepper and mushrooms. Cook until vegetables are tender. Combine browned meat, vegetables and tomatoes; then follow the directions for making sauce without meat.

Tomato sauce

Quantity: See Table 1 for guidelines.

Procedure: Wash tomatoes, remove stems and remove discolored or bruised portions. Add 2 to 3 cups of cut tomato quarters directly into a 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. Lower heat and simmer 5 minutes after all tomatoes are added.

Press either type of heated tomatoes through a sieve or food mill to remove skins and seeds. Heat tomatoes again to boiling. Lower heat and simmer in a large saucepan until sauce reaches desired consistency. Simmer until volume is reduced by a third for thin sauce or by half for thick sauce. Add bottled lemon juice or citric acid to jars using directions at the beginning of this guide. Add 1 teaspoon of salt to each quart jar, if desired. Fill jars; leave $\frac{1}{4}$ inch of headspace.

Adjust lids. See Table 2 or Table 3 for process times.

Mexican tomato sauce

- $2\frac{1}{2}$ –3 pounds chili peppers (of choice)
- 18 pounds tomatoes
- 3 cups onions, chopped
- 1 tablespoon salt
- 1 tablespoon oregano
- $\frac{1}{2}$ cup vinegar

Yield: About 7 quarts

Procedure: Boil peppers for 1 to 2 minutes in water to blister skins. Cool, and slip 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. Coarsely chop tomatoes, and combine chopped peppers and remaining ingredients in a large saucepan.

Bring to a boil.

Cover: Reduce heat and simmer 10 minutes. Fill jars; leave 1 inch of headspace.

Adjust lids. See Table 3 for process times.

Tomato taco sauce

- 8 quarts peeled, cored, chopped paste tomatoes
- 2 cloves garlic, crushed
- 5 cups chopped onions
- 4 jalapeño peppers, seeded and chopped
- 4 long green chilies, seeded and chopped
- 2½ cups vinegar
- 2 tablespoons salt
- 1½ tablespoons black pepper
- 1 tablespoon sugar
- 2 tablespoons oregano leaves (optional)
- 1 teaspoon ground cumin (optional)

Yield: About 16 to 18 pints

Note: This recipe works best with paste tomatoes, as slicing tomatoes will yield a thin, watery salsa.

Procedure: Peel and prepare long green peppers as described in the Peppers section, if desired. 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 ingredients in a large saucepan. Bring to a boil, reduce heat and simmer, stirring frequently until thick, about 1 hour. Fill jars, leaving ½ inch of headspace.

Adjust lids. See Table 2 for process times.

Tomato juice

Quantity: See Table 1 for guidelines.

Procedure: Wash, 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 in the boiling mixture. Make sure the mixture boils constantly and vigorously while you add the remaining tomatoes. Lower heat and simmer 5 minutes after adding all tomatoes.

Press heated tomatoes through a sieve or food mill to remove skins and seeds. Add bottled lemon juice or citric acid to jars using directions at the beginning of this guide. Reheat juice to boiling. Add 1 teaspoon salt per quart, if desired. Fill jars with hot tomato juice; leave ½ inch of headspace.

Adjust lids. See Table 2 or Table 3 for process times.

For best quality and nutritional value, use home-canned tomato products within one year.

Tomato and vegetable juice blend

Quantity: See Table 1 for guidelines. No more than 3 cups of other vegetables may be added for each 22 pounds of tomatoes.

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 mixture for 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 using directions at the beginning of this guide. Add 1 teaspoon of salt per quart to the jars, if desired. Reheat tomato-vegetable juice blend to boiling. Fill jars; leave ½ inch of headspace.

Adjust lids. See Table 2 or Table 3 for process times.

Tomato ketchup

- 24 pounds ripe tomatoes
- 3 cups onions, chopped
- ¾ teaspoon ground red pepper (cayenne)
- 3 cups cider vinegar (5 percent)
- 4 teaspoons whole cloves
- 3 sticks cinnamon, crushed
- 1½ teaspoons whole allspice
- 3 tablespoons celery seeds
- 1½ cups sugar
- ¼ cup salt

Yield: 6 to 7 pints

Procedure: Wash tomatoes and Remove bruised or discolored portions. 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 a 4-gallon stockpot or a large kettle. Add onions and red peppers. Bring to a boil; lower heat and simmer uncovered for 20 minutes. Cover, turn off heat, and let stand 20 minutes.

Combine cloves, cinnamon, allspice, and celery seeds in a spice bag; place in a 2-quart saucepan; add vinegar and 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. Return juice to pot. Add sugar and salt; boil gently and stir frequently until volume is reduced by half or until thickened without separation. Fill jars, leaving a ½ inch of headspace.

Adjust lids. See Table 2 for process times.

Barbecue sauce

- 4 quarts 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
- 2 hot red peppers, cored and chopped
- 2 cloves garlic, crushed
- 1 cup brown sugar
- 1 tablespoon dry mustard
- 1 tablespoon paprika
- 1 tablespoon salt
- 1 teaspoon black peppercorns
- 1 teaspoon Tabasco hot sauce
- 1¼ teaspoons cayenne pepper
- 1¼ cups vinegar (5 percent)

Yield: 4 pints

Procedure: Combine tomatoes, onions, celery, and peppers. Cook until vegetables are soft, or about 30 minutes. Puree using a fine sieve, food mill, food processor or blender. Cook until mixture is reduced to about one-half, or about 45 minutes. Tie peppercorns in a cheesecloth bag; add bag and remaining ingredients, and cook slowly until mixture is the consistency of ketchup, or about 1½ to 2 hours. As the mixture thickens, stir frequently to prevent sticking. Remove the bag of peppercorns. Pour hot sauce into hot jars, leaving a ½ inch of headspace. Wipe jar rims, and adjust lids. See Table 2 for process times.

Salsas

The following are the various ingredients of salsa, accompanied by instructions for preparing research-based recipes.

Acids

Acidic ingredients help preserve canned salsas. You must add acid to canned salsas processed in a boiling-water or steam canner because the natural acidity of the mixture without it may not be high enough. The acids should be commercially bottled lemon juice or vinegar, so the acidity level will be standardized. Use only vinegar that has at least 5 percent acidity; do not use homemade vinegar or fresh-squeezed lemon juice because the acidity can vary. An equal amount of bottled lemon juice may be substituted for vinegar in recipes, but do not substitute vinegar for lemon juice. This substitution will result in a less-acidic and potentially unsafe canned salsa. The amounts of vinegar or lemon juice in these recipes cannot be reduced for safe boiling-water or steam canning. Sugar may be used to offset the tartness of the acid.

Tomatoes

The type of tomato will affect the salsa's consistency. Paste tomatoes, such as Roma, have more, and usually firmer, flesh than slicing tomatoes. They will produce thicker salsas than large slicing tomatoes, which usually

yield a thinner, more watery salsa. Poor-quality or overripe tomatoes yield a thin salsa that may spoil. Green tomatoes or tomatillos may be used in place of ripe tomatoes in these recipes, but the flavor of the recipe will change.

Tomatillos

Tomatillos are also known as Mexican husk tomatoes. The dry outer husk must be removed, but they do not need to be peeled or have the seeds removed. They will need to be washed well after the husk is removed.

Peppers

Use only high-quality peppers that are unblemished and free of decay. You may substitute one type of pepper for another, including mild bell peppers for some or all of the hot peppers. Canned peppers may be used in place of fresh. Do not, however, increase the total amount of peppers in any recipe. Do not substitute the same number of whole peppers of a large size for the number of peppers of a smaller size. For example, do not use six bell peppers or long chilies in place of six jalapeños or serranos. This changes the final acidity of the mixture and produces potentially unsafe canned salsa.

Caution on handling chili peppers

Wear rubber gloves while handling chilies, or wash hands thoroughly with soap and water before touching your face.

Milder varieties of peppers include ancho, college, Colorado and Hungarian yellow wax. When the recipe calls for long green chilies, choose a mild pepper such as Anaheim.

Jalapeño is a popular hot pepper. Other hot varieties include cayenne, habaero, serrano and Tabasco.

Usually when peppers are finely chopped in a salsa, they do not need to be peeled. However, many recipes say to peel the peppers because the skin may be tough after canning, particularly the skin of long green chilies. If you peel chilies, or if a recipe directs you to peel the peppers, use the following directions.

Peeling peppers: Wash and dry peppers; slit each pepper along the side to allow steam to escape. Blister skins using one of these methods.

- **Oven or broiler method to blister skins:** Place peppers in an oven at 400 degrees F or under a 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.

To peel after skins blister, place peppers in a pan and cover with a damp cloth. This step will make peeling the peppers easier. Let them cool for several minutes; then peel off skins, discard seeds, and chop peppers.

Spices and herbs

Spices and herbs add distinctive flavors to salsas. The amounts of dried spices and herbs in the following recipes—black pepper, salt, dried oregano leaves and ground cumin—can be altered or left out. For a stronger cilantro flavor in recipes that list cilantro, add fresh cilantro just before serving rather than adding more before canning, as heat destroys cilantro's flavor.

Onions

Red, yellow or white onions may be used interchangeably, but do not increase the total amount of onions in any recipe.

Caution: Carefully follow the directions for each recipe.

Use the amount of each ingredient listed in the recipe. If the procedures call for chopped tomatoes, use the whole tomato after peeling and coring. Do not remove the liquid and juices from the tomato. Add the amount of vinegar or lemon juice listed.

The only changes you can safely make in salsa recipes are to substitute bottled lemon juice for vinegar and to change the amount of dried spices and herbs. Do not alter the proportions of vegetables to acid and tomatoes because it will make the salsa unsafe. Do not thicken salsas with flour, cornstarch or other starches before canning. If you want thicker salsa, pour off some of the liquid or add those thickening ingredients after opening. Salsas can be frozen or stored in the refrigerator. Do not can salsas that do not follow these or other research-tested recipes.

Choice salsa

- 6 cups peeled, cored, seeded, chopped ripe tomatoes
- 9 cups diced onions and/or peppers of any variety
- 1½ cups commercially bottled lemon or lime juice
- 3 teaspoons canning or pickling salt

Yield: About 6 pints

Procedure: Wash tomatoes in running water before peeling. Dip washed tomatoes in boiling water for 30 to 60 seconds, or until the skins split. Submerge immediately in cold water. Peel off loosened skins, and remove cores. Remove seeds, and chop tomatoes into ¼- to ½-inch pieces. Peel, wash, core and dice onions into ¼-inch pieces. Wash and core bell peppers. Remove the seeds and membranes before dicing bell peppers into ¼-inch pieces. Remove stems and wash hot peppers. Keep or remove as many of the seeds and membrane as desired, depending on how hot you want the salsa to be. Dice hot peppers into ¼-inch pieces.

Combine prepared ingredients in a large stockpot; add lemon or lime juice and salt. Bring to a boil over medium heat while stirring. Reduce heat and simmer salsa for an additional 3 minutes, stirring as needed to prevent scorching. Pour the hot salsa into prepared clean, hot jars, leaving ½ inch of headspace. Remove air bubbles, and adjust headspace, if needed. Wipe rims of jars with a damp, clean paper towel.

Adjust lids. See Table 2 for process times.

Tomato salsa (using paste tomatoes)

- 7 quarts peeled, cored, chopped paste tomatoes
- 4 cups diced onions and/or peppers of any variety
- 5 cups chopped onion
- ½ cup seeded, finely chopped jalapeño peppers
- 6 cloves garlic, finely chopped
- 2 cups bottled lemon or lime juice
- 2 tablespoons salt
- 1 tablespoon black pepper
- 2 tablespoons ground cumin (optional)
- 3 tablespoons oregano leaves (optional)
- 2 tablespoons fresh cilantro (optional)

Yield: 16 to 18 pints

Note: This recipe works best with paste tomatoes, such as Roma. Sliced tomatoes require a much longer cooking time to achieve a desirable consistency.

Procedure: The jalapeño peppers do not need to be peeled. The skin of long green chilies might be tough. If you choose to peel the chilies, follow the procedures described in the Peppers section. Peel, wash and chop onions. Combine all ingredients except cumin, oregano and cilantro in a large sauce pot. Heat, stirring frequently, until the mixture boils. Reduce heat and simmer for 10 minutes, stirring occasionally. Add spices and simmer for another 20 minutes, stirring occasionally. Fill hot jars with hot salsa, leaving ½ inch of headspace. Remove air bubbles, and adjust headspace, if needed. Wipe rims of jars with a damp, clean paper towel.

Adjust lids. See Table 2 for process times.

Tomato salsa (using slicing tomatoes)

- 4 cups peeled, cored, chopped tomatoes
- 2 cups seeded, chopped long green chilies
- ½ cup seeded, chopped jalapeño peppers
- ¾ cup chopped onion
- 4 cloves garlic, finely chopped
- 2 cups vinegar (5 percent)
- 1 teaspoon ground cumin (optional)
- 1 tablespoon oregano leaves (optional)
- 1 tablespoon fresh cilantro (optional)
- 1½ teaspoons salt

Yield: About 4 pints

Procedure: Peel and prepare long green peppers as described in the Peppers section, if desired. 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 all ingredients in a large pot and bring to a boil, stirring frequently. Reduce heat and simmer 20 minutes, stirring occasionally. Fill jars, leaving ½ inch of headspace.

Adjust lids. See Table 2 for process times.

Mango salsa

- 6 cups diced unripe mango (3 to 4 large green mangoes)
- 1½ cups diced red bell pepper
- ½ cup finely chopped yellow onion
- ½ teaspoon crushed red pepper flakes
- 2 teaspoons finely chopped garlic
- 2 teaspoons finely chopped ginger
- 1 cup light brown sugar
- ¼ cup cider vinegar (5 percent)
- ½ cup water

Yield: 6 half pints

Note: Handling green mangoes may irritate the skin of some people in the same way as poison ivy. They belong to the same plant family. To avoid skin irritation, wear plastic or rubber gloves while working with raw green mango. Do not touch your face, lips or eyes after touching or cutting raw green mangoes until all traces are washed away.

Procedure: Select green, firm, nonfibrous fruit. Wash all produce well. Peel mangoes, and separate flesh from seed. Chop mango into ½-inch cubes. Dice bell pepper into ½-inch pieces. Finely chop yellow onions.

Combine all ingredients in an 8-quart Dutch oven or stockpot. Bring to a boil over high heat, stirring to dissolve sugar. Reduce to simmering, and simmer for 5 minutes. Place hot solids into hot jars, leaving ½ inch of headspace. Cover and fill in with hot liquid, retaining the ½ inch of headspace. Remove air bubbles, and adjust headspace, if needed. Wipe rims of jars with a damp, clean paper towel.

Adjust lids. See Table 2 for process times.

Peach salsa

Follow directions for mango salsa, using diced hard, underripe peaches in place of mango.

Tomatillo green salsa

- 5 cups chopped tomatillos or green tomatoes
- 1½ cups seeded, chopped long green chilies
- 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 oregano leaves (optional)
- 1 tablespoon salt
- 1 teaspoon black pepper

Yield: About 5 pints

Procedure: Peel and prepare long green peppers as described in the Peppers section, if desired. 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. Fill jars, leaving ½ inch of headspace.

Adjust lids. See Table 2 for process times.

References

White, Athalie, Ann Ford, Elizabeth L. Andress, and Judy A. Harrison. 2014. *So Easy To Preserve*, 6th ed. University of Georgia Cooperative Extension Service.

Information in this publication is provided purely for educational purposes. No responsibility is assumed for any problems associated with the use of products or services mentioned. No endorsement of products or companies is intended, nor is criticism of unnamed products or companies implied.

Table 1. Quantities of fresh tomatoes needed for tomato products.¹

Product	Pounds of fresh tomatoes needed for:		Pounds of fresh tomatoes needed for a canner load of:	
	One quart	One pint	7 quarts	9 pints
Juice	3¼	1½	23	14
Whole, halved, crushed or tomato-vegetable juice blend	3	1½	22	14
Thin sauce	5	2½	35	21
Thick sauce	6½	3¼	46	28
Ketchup	7½	4	53	36
Spaghetti sauce	6⅓	3⅓	44	30
Mexican sauce	2½	1⅓	18	12

¹These are general guidelines. See recipes for exact amounts.

Table 2. Recommended process times for tomatoes in a boiling-water or steam canner.

Product	Recommended Style of pack	Jar size	Minutes of processing at different elevations	
			0–1,000 feet	1,001–3,000 feet
Tomato juice	Hot	Pints	35	40
		Quarts	40	45
Crushed tomatoes	Hot	Pints	35	40
		Quarts	45	50
Whole or halved tomatoes packed in water	Hot or raw	Pints	40	45
		Quarts	45	50
Whole or halved tomatoes packed in juice	Hot or raw	Pints or quarts	85	90
Whole or halved tomatoes packed without added liquid	Raw	Pints or quarts	85	90
Tomato ketchup	Hot	Pints	15	20
Tomato sauce	Hot	Pints	35	40
		Quarts	40	45
Tomato-vegetable blend	Hot	Pints	35	40
		Quarts	40	45
Salsas	Hot	Pints or half-pints	15	20
Barbecue sauce	Hot	Pints or half-pints	20	25

Table 3. Recommended process times for tomatoes in a pressure canner.

Product	Style of pack ¹	Jar size	Process time (minutes)	Canner gauge pressure recommended at different elevations		
				Dial gauge (pounds)		Weighted gauge (pounds)
				0–2,000 feet	0–1,000 feet	Above 1,000 feet
Tomato juice, or crushed tomatoes	Hot	Pints or quarts	20	6	5	10
			15	11	10	15
			10	Not recommended	15	Not recommended
Whole or halved tomatoes packed in water	Hot or raw	Pints or quarts	15	6	5	10
			10	11	10	15
			1	Not recommended	15	Not recommended
Whole or halved tomatoes packed in juice	Hot or raw	Pints or quarts	40	6	5	10
			25	11	10	15
			15	Not recommended	15	Not recommended
Whole or halved tomatoes without added liquid	Raw	Pints or quarts	40	6	5	10
			25	11	10	15
			15	Not recommended	15	Not recommended
Tomato-vegetable blend	Hot	Pints or quarts	20	6	5	10
			15	11	10	15
			10	Not recommended	15	Not recommended
Tomato sauce	Hot	Pints or quarts	20	6	5	10
			15	11	10	15
			10	Not recommended	15	Not recommended
Spaghetti sauce without meat	Hot	Pints Quarts	20	11	10	15
			25	11	10	15
Spaghetti sauce with meat	Hot	Pints Quarts	60	11	10	15
			70	11	10	15
Mexican tomato sauce	Hot	Pints Quarts	20	11	10	15
			25	11	10	15

ALSO FROM MU EXTENSION PUBLICATIONS

- GH1451 *Safe Home Canning Basics*
- GH1452 *Steps for Successful Home Canning*
- GH1454 *How to Can Fresh Vegetables*
- GH1455 *How to Can Fresh Fruit*
- GH1456 *How to Can Fresh Tomato Products*
- GH1457 *How to Can Pickled Products*
- GH1490 *How to Can Meat, Fish and Poultry*
- GH1501 *Freezing Basics*
- GH1502 *How to Freeze Fruits*
- GH1503 *How to Freeze Vegetables*
- GH1504 *Freezing Meat, Poultry, Fish, eggs and Dairy Products*
- GH1505 *How to Freeze Home-Prepared Foods*
- GH1461 *How to Can Sweet Spreads*
- GH1562 *Introduction to Food Dehydration*
- GH1563 *How to Dehydrate Foods*

extension.missouri.edu | 800-292-0969