

IMPORTANCE OF SANITATION

Bacterial contamination can occur at any time, but especially during vegetable preparation. Before using any equipment or working surfaces, clean and sanitize them. Before starting work and after touching any unclean area, wash your hands thoroughly with soap and water. To remove soil and debris, wash vegetables thoroughly and rapidly in several changes of cool tap water. Lift vegetables out of rinse water to prevent soil from being re-deposited onto surface.

RECOMMENDED VARIETIES

Homestead 24, Heinz 1350, Red Cherry, Roma VF (pasta), and others that grow well in New Mexico are good choices for making juice as well as crushed and whole tomato products. Italian and pear-type varieties are good for making sauce, ketchup, and purées.

QUALITY

When selecting tomatoes for canning, choose only firm, disease-free tomatoes, preferably ones that have been vine ripened. Do not can tomatoes from dead or frost-killed vines. Green tomatoes are more acidic than ripe fruit and can be canned safely without following the acidification recommendations in this guide.

ACIDIFICATION

Canned tomato products must be properly acidified to prevent spoilage and foodborne illness. Add 2 tablespoons of bottled lemon juice or 1/2 teaspoon of citric acid per quart of whole, crushed, or juiced tomatoes, or 1 tablespoon of bottled lemon juice or 1/4 teaspoon citric acid per pint. Sugar may be added to offset the acid taste. ***Do not reduce amounts of lemon juice or citric acid in any tomato products. Canned products***

not properly acidified can result in botulism, which is deadly when ingested in any amount.

To prevent the risk of botulism, low-acid and tomato foods **not** canned according to the USDA recommendations in this guide (available at http://nchfp.uga.edu/publications/publications_usda.html) should be boiled—even if no signs of spoilage are detected. Boil food for a full 10 minutes at altitudes below 1,000 feet. Add an additional minute of boiling time for each 1,000 feet of elevation (Table 1). Boiling for 20 minutes destroys botulism toxin. If in doubt, always boil canned foods before consumption.

Table 1. Safe Boiling Times at Different Altitudes for Canned Foods

At altitude (ft)	Boil foods (minutes)
2,000–2,999	12
3,000–3,999	13
4,000–4,999	14
5,000–5,999	15
6,000–6,999	16
7,000–7,999	17
8,000–8,999	18
9,000–9,999	19

RECOMMENDATION

For a more nutritious and higher-quality tomato product, using a pressure canner is recommended. Both boiling water and pressure canning methods are offered in this guide and follow the *USDA Complete Guide to Home Canning* (2009). All steps in the preparation, including acidification, must be followed to ensure a safe product. Boiling water canning and pressure canning are equivalent processes, and they have been calculated with different time–temperature combinations.

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CANNING EQUIPMENT LIST

- Cutting board
- Knife
- Peeler/corer
- Mixing spoons
- Tongs
- Measuring cup and spoon sets
- Canning jars
- Canning lids and screw bands
- Re-sealable plastic bags for leftovers
- Pot holders x 2
- Paper towels
- Cloth towels x 2
- Dish soap and scrubber
- Cooking pots in 1-quart and 5-quart sizes
- Large strainer
- Mixing bowl set in 2-, 3-, and 5-quart sizes
- Canning set
 - Jar lifter
 - Magnetized lid lifter
 - Funnel
 - Plastic spatula (to release air bubbles in jars)
- Pressure canner with rack for proper elevation **OR**
- Water bath canner with rack

GENERAL CANNING PROCEDURES

Use regular or wide-mouth Mason jars with self-sealing lids held in place by screw-on metal bands. The bands hold the lids in place during the processing and cooling periods, and can be removed and reused after cooling. Mason jars are made from tempered glass to resist high temperatures. Jars are available in 1/2 pint, pint, 1 1/2 pint, and quart sizes. Larger jars are not recommended for home canning. Do not reuse glass jars or bottles from commercially processed products such as mayonnaise because these jars will not withstand the water bath or pressure canner heating process.

Inspect jars carefully for cracks or chips and discard faulty ones. Wash jars in hot, soapy water and rinse thoroughly or clean using a dishwasher. To sterilize jars, keep jars hot in the dishwasher, a sink of hot water, or in a warm 180°F oven until they are filled. Check metal screw bands for signs of rust or dents. Discard corroded or dented bands. Use only new lids and follow the manufacturer's directions for preparing lids for canning. Do not use lids that are missing any gasket compound, dented, deformed, or older than five years from date of manufacture.

Using the recipes and procedures that follow, ladle hot tomato products into jars. Wipe sealing edge of jars with a clean, damp paper towel. Add heated lids and

tighten screw bands. See Figure 1 illustrating these steps for jar filling. Process in a boiling-water **or** pressure canner using the following directions.

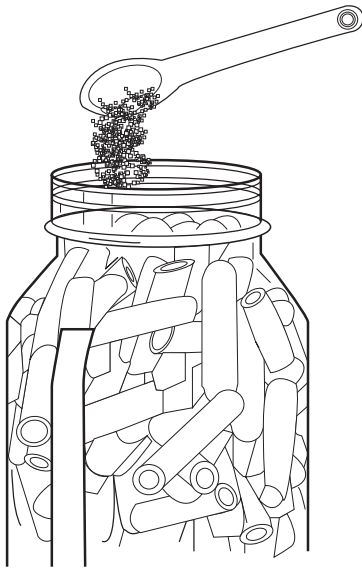
Altitude Adjustments

All communities in New Mexico are above sea level, varying from 3,000 to 10,000 feet, with differences even within a county. Follow the canning method that can be done safely at your elevation.

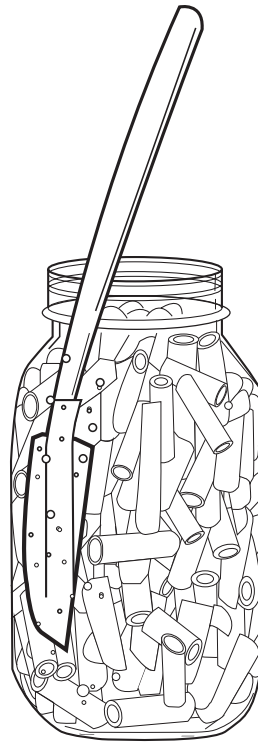
Use Table 2 to determine the elevation of your community and then select safe processing times for canning your tomatoes. The boiling temperature of liquids is lower at higher elevations, and therefore food must be processed longer at high altitudes.

“Follow these steps for successful boiling-water canning:

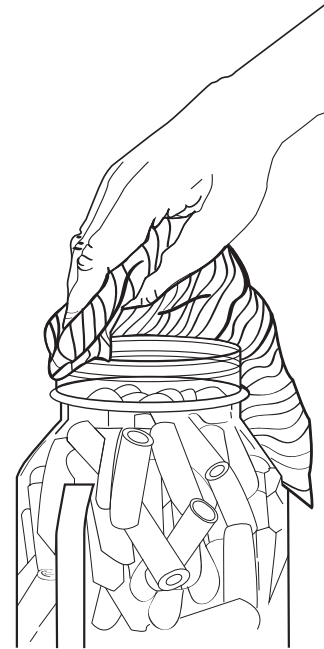
1. Before you start preparing your food, fill the canner halfway with clean water. [In areas with hard water, add 1/4 cup of vinegar to reduce mineral deposits on jars.] This is approximately the level needed for a canner load of pint jars. For other sizes and numbers of jars, the amount of water in the canner will need to be adjusted so it will be 1 to 2 inches over the top of the filled jars.
2. Preheat water to 140°F for raw-packed foods and to 180°F for hot-packed foods. Food preparation can begin while this water is preheating.
3. Load filled jars, fitted with lids, into the canner rack and use the handles to lower the rack into the water; or fill the canner with the rack in the bottom, one jar at a time, using a jar lifter. When using a jar lifter, make sure it is securely positioned below the neck of the jar (below the screw band of the lid). Keep the jar upright at all times. Tilting the jar could cause food to spill into the sealing area of the lid.
4. Add more boiling water, if needed, so the water level is at least 1 inch above jar tops. For process times over 30 minutes, the water level should be at least 2 inches above the tops of the jars.
5. Turn heat to its highest position, cover the canner with its lid, and heat until the water in the canner boils vigorously.
6. Set a timer for the total minutes required for processing the food.
7. Keep the canner covered and maintain a boil throughout the process schedule. The heat setting may be lowered a little as long as a complete boil is maintained for the entire process time. If the water



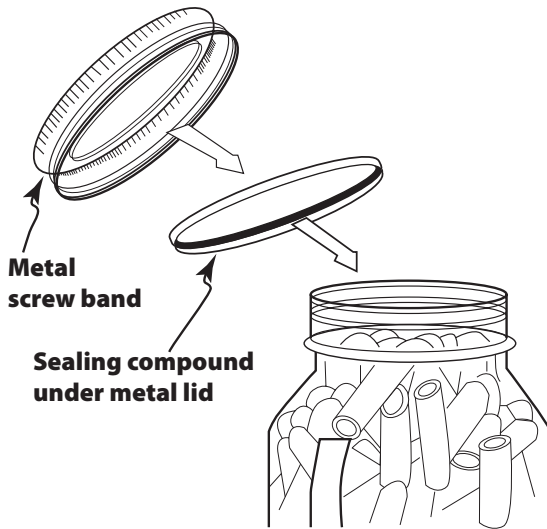
1. Add salt, if desired.



2. Remove air bubbles with plastic utensil.



3. Wipe upper rim of jar completely for a good seal.



4. Assemble lid and screw band finger tight.



5. Remove screw band for reuse after processing and jar has cooled.

Figure 1. Procedure for filling canning jars before processing (illustrations adapted from USDA, 2009, for New Mexico State University by Susan B. Portillo).

stops boiling at any time during the process, bring the water back to a vigorous boil and begin the timing of the process over, from the beginning.

8. Add more boiling water, if needed, to keep the water level above the jars.
9. When jars have been boiled for the recommended time, turn off the heat and remove the canner lid. Wait 5 minutes before removing jars.
10. Using a jar lifter, remove the jars and place them on a towel, leaving at least 1-inch spaces between the jars during cooling. Let jars sit undisturbed to cool at room temperature for 12 to 24 hours.” (p. I-18, USDA [2009])

For pressure canning, select a pressure canner that is able to maintain pressure at the elevation at which it will be used.

“Follow these steps for successful pressure canning:

1. Put 2 to 3 inches of hot water in the canner. [In areas with hard water, add 1 tablespoon of vinegar to reduce mineral deposits on jars.] Some specific products in this Guide require that you start with even more water in the canner. Always follow the directions with USDA processes for specific foods if they require more water added to the canner. Place filled jars on the rack, using a jar lifter. When using a jar lifter, make sure it is securely positioned below the neck of the jar (below the screw band of the lid). Keep the jar upright at all times. Tilting the jar could cause food to spill into the sealing area of the lid. Fasten canner lid securely.
2. Leave weight off vent port or open petcock. Heat at the highest setting until steam flows freely from the open petcock or vent port.
3. While maintaining the high heat setting, let the steam flow (exhaust) continuously for 10 minutes, and then place the weight on the vent port or close the petcock. The canner will pressurize during the next 3 to 5 minutes.
4. Start timing the process when the pressure reading on the dial gauge indicates that the recommended pressure has been reached, or when the weighted gauge begins to jiggle or rock as the canner manufacturer describes.
5. Regulate heat under the canner to maintain a steady pressure at or slightly above the correct gauge pressure. Quick and large pressure variations during processing may cause unnecessary liquid losses from jars. Follow the canner manufacturer’s directions for how a weighted gauge should indicate it is maintaining the desired pressure.

IMPORTANT: If at any time pressure goes below the recommended amount, bring the canner back to pressure and begin the timing of the process over, from the beginning (using the total original process time). This is important for the safety of the food.

6. When the timed process is completed, turn off the heat, remove the canner from heat if possible, and let the canner depressurize. Do not force-cool the canner. Forced cooling may result in unsafe food or food spoilage. Cooling the canner with cold running water or opening the vent port before the canner is fully depressurized will cause loss of liquid from jars and seal failures. Force-cooling may also warp the canner lid of older model canners, causing steam leaks. Depressurization of older models without dial gauges should be timed. Standard-size heavy-walled canners require about 30 minutes when loaded with pints and 45 minutes with quarts. Newer thin-walled canners cool more rapidly and are equipped with vent locks. These canners are depressurized when their vent lock piston drops to a normal position.
7. After the canner is depressurized, remove the weight from the vent port or open the petcock. Wait 10 minutes, unfasten the lid, and remove it carefully. Lift the lid away from you so that the steam does not burn your face.
8. Remove jars with a jar lifter, and place them on a towel, leaving at least 1-inch spaces between the jars during cooling. Let jars sit undisturbed to cool at room temperature for 12 to 24 hours.” (pp. I-21–22, USDA [2009])

Do not touch jars, lids, or rings until they are completely cooled.

- **Dial gauges** on pressure canners should be checked annually to make sure they are accurate.
- **Weighted gauges** on pressure canners **are not accurate for elevations above 10,000 feet**. Follow manufacturer instructions for proper use.
- **Rubber gasket** must be pliable and in good condition to maintain seal of pressure canner.

See Figure 2 illustrating these steps for pressure canner procedures.

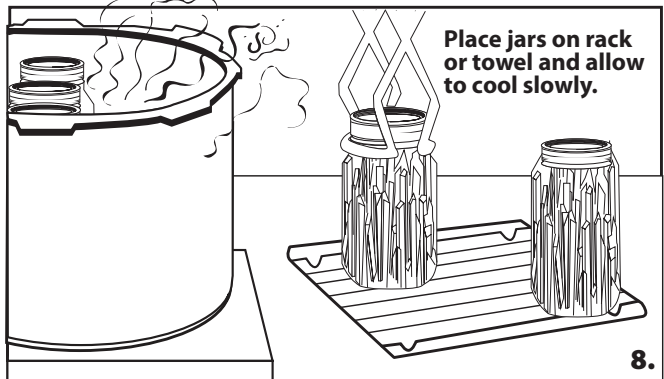
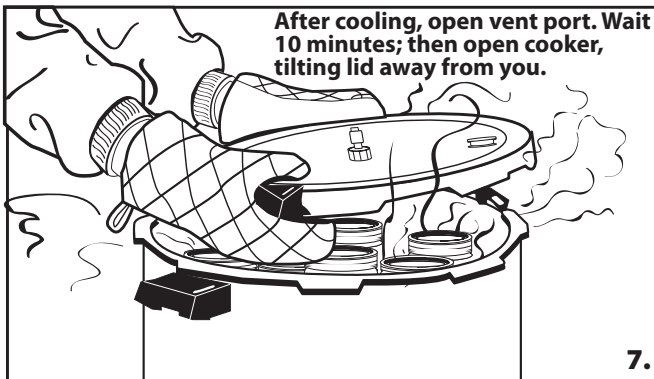
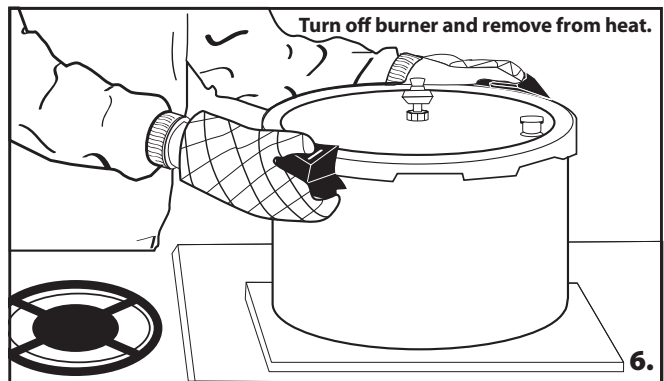
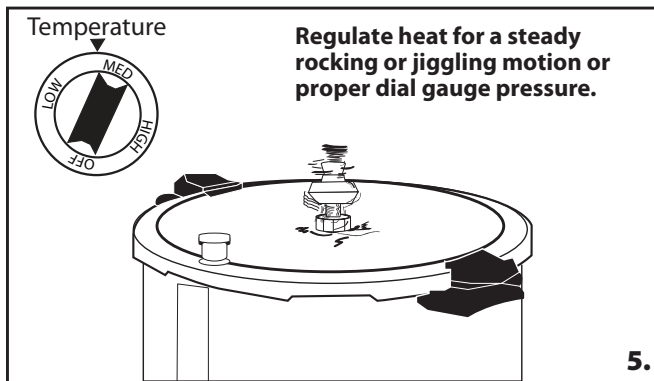
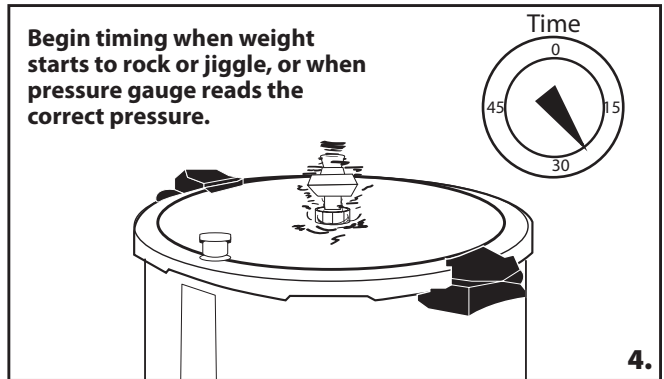
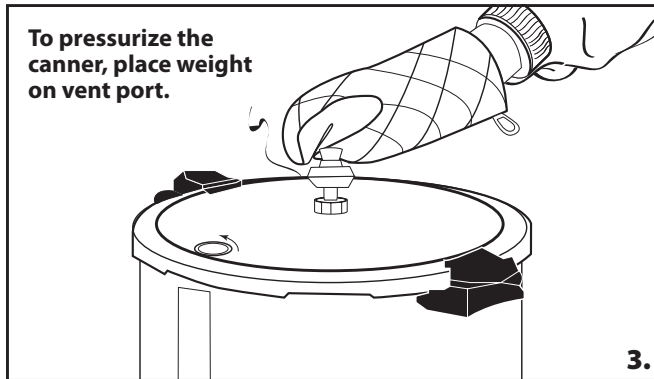
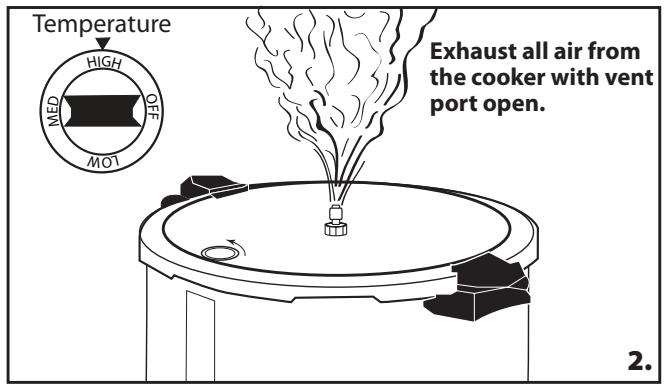
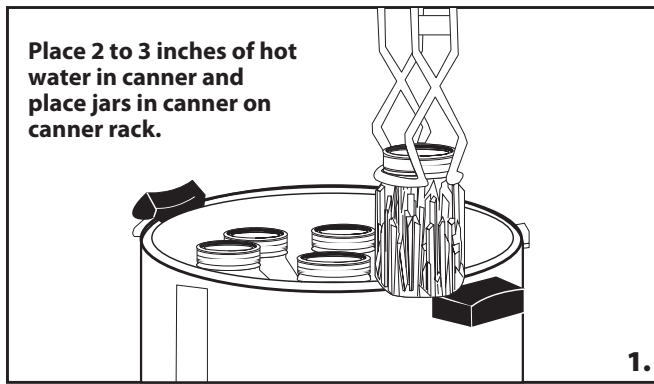


Figure 2. Procedure for processing canning jars using a pressure canner (illustrations adapted from USDA, 2009, for New Mexico State University by Susan B. Portillo).

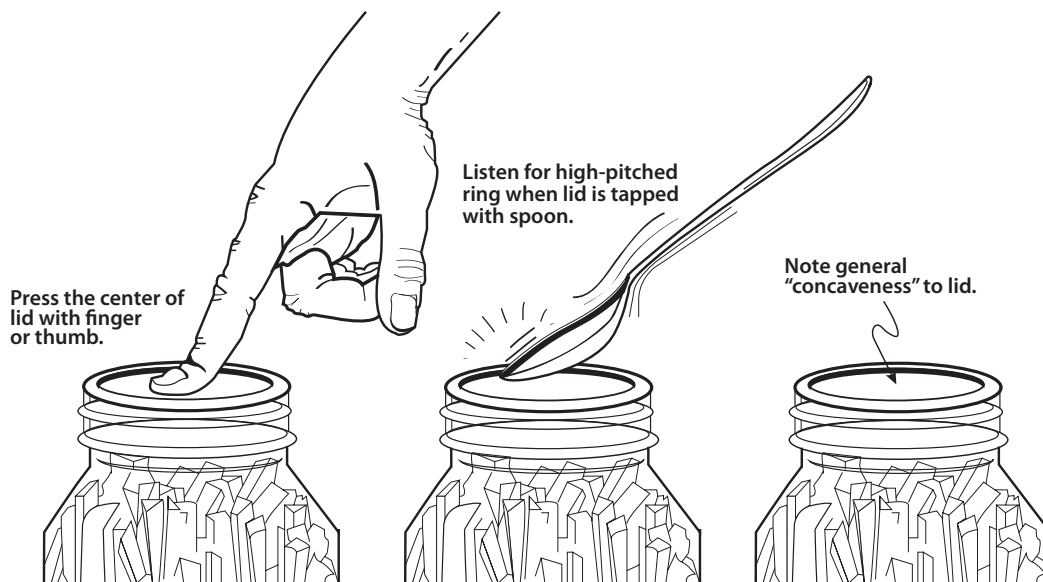


Figure 3. Procedure for testing jar seals after processing (illustrations adapted from USDA, 2009, for New Mexico State University by Susan B. Portillo).

“Testing jar seals

After cooling jars for 12 to 24 hours, remove the screw bands and test seals with one of the following options:

Option 1. Press the middle of the lid with a finger or thumb. If the lid springs up when you release your finger, the lid is unsealed.

Option 2. Tap the lid with the bottom of a teaspoon. If it makes a dull sound, the lid is not sealed. If food is in contact with the underside of the lid, it will also cause a dull sound. If the jar is sealed correctly, it will make a ringing, high-pitched sound.

Option 3. Hold the jar at eye level and look across the lid. The lid should be concave (curved down slightly in the center). If center of the lid is either flat or bulging, it may not be sealed.” (p. I-25, USDA [2009])
See Figure 3 illustrating these steps for testing jar seals.

Reprocessing Unsealed Jars

Remove lids from unsealed jars and discard. Check the sealing surface of the jar for tiny nicks or cracks. If a jar has defects, discard it and replace it with another jar. If not, add a new lid and process for the same amount of time within 24 hours. Unsealed jars can be kept in the refrigerator and the food can be used within 3 to 4 days, or remove about an inch of the contents and freeze.

Storing Canned Food

Clean the outside of sealed, cooled jars with a damp towel dipped in a vinegar and water solution. Replace screw bands once they are completely dry, otherwise the bands will rust onto the lid and damage the lid and seal. Label with date and contents, including ingredients, and store in a cool (50–70°F), dark, dry place away from sun, light, or dampness. Tomato products are best if eaten within one year.

Accidental Freezing

Freezing may cause food in jars to spoil if the seal is broken. Freezing and thawing can cause food to soften and lose eating quality. Protect jars from freezing by wrapping them with layers of newspapers.

If Canned Food Spoils

Examine jars carefully before consuming. Check lids for a vacuum seal. **NEVER** taste food from an unsealed jar.

Signs of food spoilage are streaks and dried food at the top of the jar, swollen lids, broken jar seals, rising air bubbles, and any unnatural color. Other indicators include bad or unnatural odor; spurting liquid; white, blue, green, or black mold; or foaming.

Dispose of any food you suspect of being spoiled. For safety, spoiled canned food and containers may need to be detoxified before disposal. Contact your county Extension office for detoxification instructions.

Table 2. Elevations of Cities and Towns in New Mexico

City/Town	Elevation (ft)	City/Town	Elevation (ft)
Alamogordo	4,350	Las Vegas	6,450
Albuquerque	5,000	Logan	3,830
Artesia	3,350	Lordsburg	4,250
Aztec	5,650	Los Alamos	7,400
Bayard	5,800	Los Ranchos de Albuquerque	4,950
Belen	4,800	Lovington	3,900
Bernalillo	5,050	Magdalena	6,556
Bosque Farms	4,864	Melrose	4,599
Carlsbad	3,100	Mora	7,200
Carrizozo	5,450	Mosquero	5,550
Chama	7,900	Mountainair	6,500
Cimarron	6,450	Portales	4,010
Clayton	5,050	Raton	6,650
Cloudcroft	8,650	Reserve	5,749
Clovis	4,300	Rio Rancho	5,290
Columbus	4,020	Roswell	3,600
Corona	6,664	Roy	5,900
Corrales	5,005	Ruidoso	7,000
Cuba	7,000	San Jon	4,200
Deming	4,300	Santa Fe	7,000
Dexter	3,500	Santa Rita	6,300
Eagle Nest	8,250	Santa Rosa	4,600
Elida	4,345	Silver City	5,900
Española	5,600	Socorro	4,600
Estancia	6,100	Springer	5,800
Farmington	5,400	Taos	7,000
Fort Sumner	4,050	Texico	4,150
Gallup	6,500	Tierra Amarilla	7,460
Grants	6,450	Truth or Consequences	4,250
Hobbs	3,650	Tucumcari	4,100
Hurley	5,700	Tularosa	4,500
Jemez Springs	6,200	Vaughn	5,950
Las Cruces	3,900	Wagon Mound	6,200

Table 3. Quantities of Fresh Tomatoes Needed for Tomato Products

Product	Pounds of fresh tomatoes needed for			
			A canner load of	
	One quart	One pint	7 quarts	9 pints
Juice	3 1/4	–	23	14
Juice blend	3	1 1/2	22	14
Whole, halved	3	1 1/2	21	13
Crushed	3	1 1/2	22	14
Tomatoes and okra or zucchini	–	–	12	7
Chile salsa	–	–	–	5*
Thin sauce	5	2 1/2	35	21
Thick sauce	6 1/2	3	46	28
Spaghetti sauce	6 1/3	3 1/3	44	30
Regular ketchup	–	–	–	24*
Western ketchup	–	–	–	24*

*Makes approximately 7 pints

Table 4. Boiling Water Canner Recommended Processing Times

Product	Style of pack	Jar size	Minutes of processing time at	
			3,001–6,000 ft	Above 6,000 ft
Tomato juice or juice blend	Hot	Pints	45	50
		Quarts	50	55
Whole or halved tomatoes packed in water	Hot or raw	Pints	50	55
		Quarts	55	60
Whole or halved tomatoes packed in juice	Hot or raw	Pints or quarts	95	100
Crushed tomatoes	Hot	Pints	45	50
		Quarts	55	60
Chile salsa	Hot	Pints	20	25
Standard tomato sauce	Hot	Pints	45	50
		Quarts	50	55
All tomato ketchups	Hot	Pints	20	25

Product	Style of pack	Jar size	Process time (minutes)	Dial gauge pressure (in lb) at altitudes of			
				2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft	Above 8,000 ft
Tomato juice, tomato/vegetable juice blend, or crushed tomatoes	Hot	Pints or quarts	15	12	13	14	15
Whole or halved tomatoes packed in water	Hot or raw	Pints or quarts	10	12	13	14	15
Whole or halved tomatoes packed in juice	Hot or raw	Pints or quarts	25	12	13	14	15
Tomatoes and okra or zucchini	Hot	Pints	30	12	13	14	15
		Quarts	35	12	13	14	15
Standard tomato sauce	Hot	Pints or quarts	15	12	13	14	15
Spaghetti sauce without meat	Hot	Pints	20	12	13	14	15
		Quarts	25	12	13	14	15
Spaghetti sauce with meat	Hot	Pints	60	12	13	14	15
		Quarts	70	12	13	14	15
Mexican tomato sauce	Hot	Pints	20	12	13	14	15
		Quarts	25	12	13	14	15

*Weighted gauge pressure in New Mexico is 15 pounds at all altitudes.

RECIPES (The following recipes are reproduced from USDA, 2009.)

Tomato Juice

Quantity: See Table 3 for guidelines.

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 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 to jars (see ACIDIFICATION section).** Heat juice again to boiling. Add 1 teaspoon of salt per quart to the jars, if desired. Fill hot jars with hot tomato juice, leaving 1/2-inch headspace. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process jars as described in Table 4 or 5.

Tomato and Vegetable Juice Blend

Quantity: See Table 3 for guidelines.

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 every 22 lb 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 section).** Add 1 teaspoon of salt per quart to the jars, if desired. Reheat tomato/vegetable juice blend to boiling and fill immediately into hot jars, leaving 1/2-inch headspace. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process as described in Table 4 or 5.

Whole or Halved Tomatoes

Quantity: See Table 3 for guidelines

Procedure for hot or raw tomatoes filled with water in jars: 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. **Add bottled lemon juice or citric acid to jars (see ACIDIFICATION section).** Add 1 teaspoon of salt per quart to the jars, if desired. For hot pack products, add

enough water to cover the tomatoes and boil them gently for 5 minutes. Fill hot jars with hot tomatoes or with raw peeled tomatoes. Add the hot cooking liquid to the hot pack, or hot water for raw pack, to cover, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process as described in Table 4 or 5.

Procedure for hot or raw tomatoes packed with juice in jars: 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. **Add bottled lemon juice or citric acid to jars (see ACIDIFICATION section).** Add 1 teaspoon of salt per quart to the jars, if desired.

Raw pack—Heat tomato juice in a saucepan. Fill hot jars with raw tomatoes, leaving 1/2-inch headspace. Cover tomatoes in the jars with hot tomato juice, leaving 1/2-inch headspace.

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. Fill hot jars with hot tomatoes, leaving 1/2-inch headspace. Add hot tomato juice to the jars to cover the tomatoes, leaving 1/2-inch headspace.

Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process jars as described in Table 4 or 5.

Crushed Tomatoes

Quantity: See Table 3 for guidelines

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 mallet or spoon as they are added to the pot. This will exude 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 jars (see ACIDIFICATION section).** Add 1 teaspoon of salt per quart to the jars, if desired. Fill hot jars immediately with hot tomatoes, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process jars as described in Table 4 or 5.

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 1/2 pounds of okra or zucchini is needed per canner load of 9 pints. (Use about 3 pounds tomatoes to 1 pound vegetable.)

Procedure: Wash tomatoes and okra or zucchini. Dip tomatoes in boiling water for 30 to 60 seconds or until skins split. Then dip in cold water, slip off skins and remove cores, and quarter. Trim stems from okra and slice into 1-inch pieces or leave whole. Slice or cube zucchini. Bring tomatoes to a boil and simmer 10 minutes. Add okra or zucchini and boil gently for 5 minutes. Add 1 teaspoon of salt for each quart to the jars, if desired. Fill hot jars with mixture, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process jars as described in Table 4 or 5.

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

Standard Tomato Sauce

Quantity: See Table 3 for guidelines

Prepare and press as for making tomato juice. Simmer in 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 section).** Add 1 teaspoon of salt per quart to the jars, if desired. Fill hot jars, leaving 1/4-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process jars as described in Table 4 or 5.

Spaghetti Sauce Without Meat	
Yield: About 9 pints	
30 lb tomatoes	1/4 cup vegetable oil
1 cup onion, chopped	4 1/2 tsp salt
5 cloves garlic, minced	2 Tbsp oregano
1 cup celery OR green pepper, chopped	4 Tbsp parsley, minced
1 lb fresh mushrooms, sliced (optional)	2 tsp black pepper
1/4 cup brown sugar	

Procedure: Caution: 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. Put through 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 remaining 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 hot jars, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and *process in pressure canner* as described in Table 5.

Spaghetti Sauce With Meat	
Yield: About 9 pints	
30 lb tomatoes	4 1/2 tsp salt
2 1/2 lb ground beef or sausage	2 Tbsp oregano
5 cloves garlic, minced	4 Tbsp parsley, minced
1 cup onion, chopped	2 tsp black pepper
1 cup celery or green pepper, chopped	1/4 cup brown sugar
1 lb fresh mushrooms, sliced (optional)	

Procedure: To prepare tomatoes, follow directions for spaghetti sauce without meat. Sauté beef or sausage until brown. Add garlic, onion, 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, 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 hot jars, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and *process jars in pressure canner* as described in Table 5.

Mexican Tomato Sauce	
Yield: About 7 quarts	
2 1/2 to 3 lb chile peppers	1 Tbsp salt
18 lb tomatoes	1 Tbsp oregano
3 cups onion, chopped	1/2 cup vinegar

Procedure: Caution: Wear plastic or rubber gloves and do not touch your face while handling or cutting hot chile peppers. If you do not wear gloves, wash your hands thoroughly with soap and water before touching your face or eyes. Wash and dry chiles. Slit each pepper along the side to allow steam to escape. Blister skins using one of these two methods:

Oven or broiler method—Place peppers in a hot oven (400°F) or under a broiler for 6 to 8 minutes until skins blister. Turn chiles to ensure even blistering.

Range-top method—Cover hot burner (either gas or electric) with heavy wire mesh. Place peppers on burner for several minutes until skins blister, turning often.

After blistering skins, place peppers in a pan and cover with a damp cloth. (This will make peeling the peppers easier.) Cool 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. Coarsely chop tomatoes and combine chopped peppers and remaining ingredients in large saucepan. Bring to a boil. Cover. Reduce heat 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 dampened clean paper towel. Adjust lids and process as described in Table 4 or 5.

Chile Salsa (hot pepper and tomato dip)	
Yield: 6 to 8 pints	
5 lb tomatoes, chopped	3 tsp salt
2 lb chile peppers, chopped	1/2 tsp pepper
1 lb onion, chopped	1 cup vinegar (5%)

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. Peel and prepare chile peppers as described in Mexican tomato sauce recipe. 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 them with chopped peppers, onions, and remaining ingredients in a large saucepan. Heat to boil, reduce heat, and simmer 10 minutes. Fill hot jars, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process jars as described in Table 4 or 5.

Tomato Ketchup	
Yield: 6 to 7 pints	
24 lb ripe tomatoes	3 sticks cinnamon, crushed
3 cups onions, chopped	1 1/2 tsp whole allspice
3/4 tsp ground red pepper (cayenne)	3 Tbsp celery seeds
3 cups cider vinegar (5%)	1 1/2 cups sugar
4 tsp whole cloves	1/4 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 stockpot or a large kettle. Add onions and red pepper. Bring to 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 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 hot pint jars, leaving 1/8-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process jars as described in Table 4 or 5.

Country Western Ketchup	
Yield: 6 to 7 pints	
24 lb ripe tomatoes	4 tsp paprika
5 chile peppers, sliced and seeded	4 tsp whole allspice
1/4 cup salt	4 tsp dry mustard
2 2/3 cups vinegar (5%)	1 Tbsp whole peppercorns
1 1/4 cups sugar	1 tsp mustard seeds
1/2 tsp ground red pepper (cayenne)	1 Tbsp bay leaves

Procedure: Follow procedure and process time for regular tomato ketchup.

REFERENCES

U.S. Department of Agriculture. 2009. *Complete guide to home canning* [Online]. Available at http://nchfp.uga.edu/publications/publications_usda.html

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This publication is intended for use by individuals with a basic understanding of canning procedures. For more detailed information consult the *USDA Complete Guide to Home Canning* (http://nchfp.uga.edu/publications/publications_usda.html).

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