

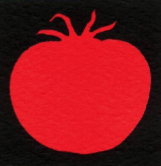
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Using, Storing and Preserving Tomatoes
Michigan State University Extension Service
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TOMATOES

Michigan-grown tomatoes are at their prime in August and September.

NUTRITION INFORMATION

One medium raw tomato has:

- 26 Calories.
- 0 grams fat.
- 1 gram fiber.

Tomatoes are a good source of vitamin A and high in vitamin C. A food is a good source of a nutrient if a serving provides 10 to 19 percent of the Daily Value for that nutrient. It is high in a nutrient if a serving provides 20 percent or more of the Daily Value for that nutrient.

Nutrient information is based on the USDA nutrient composition database.

HOW TO STORE

Store ripe tomatoes in the refrigerator. Ripe tomatoes will usually keep 2 to 3 days in the refrigerator. For best flavor, bring tomatoes to room temperature before serving.

If tomatoes need to ripen, place them in a loosely closed paper bag at room temperature. Check daily.

FOOD SAFETY TIPS

Keep tomatoes away from raw meat so that meat juices do not contaminate them.

Wash tomatoes using cool running water before preparing or eating them.

HOW TO BUY



- Choose tomatoes that are red or reddish orange and "give" very slightly to gentle pressure.
- Do not buy bruised, soft or moldy tomatoes.

QUICK AND EASY SERVING TIPS

- Add fresh sliced tomatoes to salads, nachos, burritos, scrambled eggs, pizza, macaroni and cheese and sandwiches.
- Top tomato halves or slices with a little Parmesan cheese and oregano. Broil until cheese is melted.
- Cut a whole tomato crosswise and scoop out seeds. Stuff the tomato with chicken or tuna salad, cottage cheese or potato salad.
- To peel fresh tomatoes, place them in boiling water for about 30 seconds. Remove with a slotted spoon and dip them into cold water. The skins will come off easily.

YIELD

1 pound of tomatoes equals about:

- 3 medium tomatoes.
- 2 cups chopped tomatoes.
- 2 1/2 to 3 pounds equal 2 pints canned tomatoes.
- 14 pounds equal a canner load of 9 pints (crushed tomatoes or juice).
- 22 to 23 pounds equal a canner load of 7 quarts (crushed tomatoes or juice).
- 1 bushel yields 17 to 20 quarts or crushed tomatoes or 15 to 18 quarts of tomato juice.

TOMATOES

RECIPE

Tomato and Bean Burritos

3 large fresh tomatoes, washed
1 tablespoon vegetable oil
1/2 cup onion, peeled and chopped
1 teaspoon minced garlic
1 to 2 tablespoons chili powder
1 teaspoon ground cumin
1 1/4 cups cooked red kidney beans or 1 can (10 1/2-ounce) red kidney beans, drained
1/4 cup water
2 tablespoons chopped cilantro or parsley
8 (6-inch) flour tortillas, warmed
Fresh chopped tomato (optional for garnish)
Shredded Monterey Jack cheese (optional for garnish)
Chopped onion (optional for garnish)

Core tomatoes and coarsely chop. In a medium saucepan heat oil until hot. Add onion and garlic. Cook over medium heat and stir until softened, 3 to 4 minutes. Add chili powder and cumin. Cook and stir for 1 minute. Add kidney beans, water and chopped tomatoes. Bring mixture to a boil, reduce heat and simmer, uncovered, until mixture is thickened, about 20 minutes. Stir in cilantro and remove from heat. To serve, spoon about 1/3 cup bean mixture into the center of each tortilla. Sprinkle, if desired, with chopped fresh tomatoes, shredded Monterey Jack cheese and chopped onion. Roll up. Repeat with remaining tortillas. Makes 4 servings (2 tortillas per serving).

This is an official 5 A Day recipe. Official recipes of the 5 A Day program meet specific criteria developed by the Produce for Better Health Foundation in cooperation with the National Cancer Institute.

Nutritional analysis per serving: 300 Calories; 9 grams (g.) fat; 4 milligrams (mg.) cholesterol; 9 g. fiber; 237 mg. sodium.

HOW TO PRESERVE



Campbell 1327, Heinz 1350 and 1370, Ramapo, Big Girl, Big Boy, Lady Luck and Supersonic are good selections for making juice or crushed or whole tomato products. Roma and San Marzano make excellent paste, sauce or puree.

To freeze tomato juice

Wash, sort and trim firm, vine-ripened tomatoes. Cut into quarters or eighths and put into a saucepan. Simmer 5 to 10 minutes. Press through a sieve. Pack juice into airtight freezer containers, leaving 1/2 inch headspace. Seal, label, date and freeze. Use frozen tomato juice within 8 to 12 months for best quality.

Freeze no more than 1 quart (2 to 3 pounds) of food per cubic foot of freezer capacity per day. A cubic foot will hold 30 quarts of food.

To freeze stewed tomatoes

Remove stem ends, peel and quarter ripe tomatoes. Put into a saucepan. Cover and cook until tender, 10 to 20 minutes. Place the saucepan containing tomatoes in cold water to cool. Pack into freezer containers, leaving 1/2 inch headspace. Seal, label, date and freeze.

To can tomatoes

Select only disease-free, preferably vine-ripened, firm tomatoes for canning. CAUTION: DO NOT CAN TOMATOES FROM DEAD OR FROST-KILLED VINES. Tomatoes from dead or frost-killed vines have decreased acidity and can not be canned safely.

Acidification: To ensure safe levels of acidity in whole, crushed or juice tomatoes, add 2 tablespoons of bottled lemon juice or 1/2 teaspoon of citric acid to each quart of tomatoes. For pints, use 1 tablespoon bottled lemon juice or 1/4 teaspoon citric acid. Acid can be added directly to the jars before filling them with tomatoes. If desired, add sugar, 1 tablespoon at a time, to offset the acid taste. Four tablespoons of vinegar (5 percent acidity) may also be used to acidify a quart of whole, crushed or juiced tomatoes, but vinegar may cause undesirable flavor changes.

Tomatoes, crushed with no added liquid

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 cut into quarters. Heat one-sixth of the quarters quickly in a large saucepan, crushing them with a wooden mallet or spoon as they are added to the saucepan to make them release juice. Continue heating the tomatoes, stirring to prevent burning. Once the tomatoes are boiling, gradually add remaining quartered tomatoes, stirring constantly. These tomatoes do not need to be crushed because they will soften as the mixture is stirred. Continue until all tomatoes are added. Then boil gently for 5 minutes.

Acidify the tomatoes using the directions above. Add 1 teaspoon salt per quart to the jars, if desired. Fill clean, hot canning jars immediately with hot tomatoes, leaving 1/2 inch headspace. Remove air bubbles and wipe jar rims. Place each lid, gasket down, onto the cleaned jar-sealing surface. Then fit metal screw band over the flat lid and follow the manufacturer's guidelines enclosed in or printed on the box for tightening the jar lids properly. Process in a boiling water canner using the general boiling-water canning directions and recommended process times on page 3.

TOMATOES

General boiling-water canner directions

1. Fill the canner halfway with water.
2. Preheat water to 140 degrees F for raw-packed foods and to 180 degrees F for hot-packed foods.
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, one jar at a time, with a jar lifter.
4. Add more boiling water, if needed, so the water level is at least 1 inch above jar tops.
5. Turn heat to its highest position until water boils vigorously.
6. Set a timer for the minutes required for processing the food.
7. Cover with the canner lid and lower the heat setting to maintain a gentle boil throughout the process schedule.
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.
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.

Recommended process times

Crushed tomatoes, in a boiling-water canner

Style of pack	Jar size	Process times (in minutes) at altitudes of			
		0-1,000 ft.	1,001-3,000 ft.	3,001-6,000 ft.	6,001-8,000 ft.
Hot	Pints	35 min.	40 min.	45 min.	50 min.
Hot	Quarts	45 min.	50 min.	55 min.	60 min.

Tomato juice

Wash, 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 a saucepan. Heat immediately to boiling while crushing tomatoes. Continue to slowly add and crush freshly cut tomato quarters into 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 separating after canning, 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. Acidify the tomatoes using the directions on page 2. Heat juice again to boiling. Add 1 teaspoon salt per quart to the jars, if desired. Fill clean, hot canning jars with hot tomato juice, leaving 1/2 inch headspace. Remove air bubbles and wipe jar rims. Place each lid, gasket down, onto the cleaned jar-sealing surface. Then fit metal

screw band over the flat lid and follow the manufacturer's guidelines enclosed in or printed on the box for tightening the jar lids properly. Process in a boiling water canner using the general boiling-water canning directions on page 3 and recommended process times below.

Recommended process times

Tomato juice, in a boiling-water canner

Style of pack	Jar size	Process times (in minutes) at altitudes of			
		0-1,000 ft.	1,001-3,000 ft.	3,001-6,000 ft.	6,001-8,000 ft.
Hot	Pints	35 min.	40 min.	45 min.	50 min.
Hot	Quarts	40 min.	45 min.	50 min.	55 min.

Tomato and vegetable juice blend

NO MORE THAN 3 CUPS OF ANY COMBINATION OF OTHER VEGETABLES MAY BE ADDED FOR EACH 22 POUNDS OF TOMATOES. Other vegetables might be finely chopped celery, onions, carrots and peppers.

Wash, 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 a saucepan. Heat immediately to boiling while crushing tomatoes. Continue to slowly add and crush freshly cut tomato quarters into the boiling mixture. Make sure the mixture boils constantly and vigorously while you add the remaining tomatoes. Add other vegetables and simmer 20 minutes. If you are not concerned about juice separating after canning, simply slice or quarter tomatoes into a large saucepan. Crush, heat, add all pieces and other vegetables and simmer 20 minutes. Press both types of heated juice through a sieve or food mill to remove skins and seeds. Acidify the tomatoes using the directions on page 2. Heat juice again to boiling. Add 1 teaspoon salt per quart to the jars, if desired. Reheat tomato and vegetable juice blend to boiling. Fill clean, hot canning jars with boiling tomato-vegetable juice blend, leaving 1/2 inch headspace. Remove air bubbles and wipe jar rims. Place each lid, gasket down, onto the cleaned jar-sealing surface. Then fit metal screw band over the flat lid and follow the manufacturer's guidelines enclosed in or printed on the box for tightening the jar lids properly. Process in a boiling water canner using the general boiling-water canning directions above and the recommended process times below.

Recommended process times

Tomato vegetable juice blend, in a boiling-water canner

Style of pack	Jar size	Process times (in minutes) at altitudes of			
		0-1,000 ft.	1,001-3,000 ft.	3,001-6,000 ft.	6,001-8,000 ft.
Hot	Pints	35 min.	40 min.	45 min.	50 min.
Hot	Quarts	40 min.	45 min.	50 min.	55 min.

TOMATOES

Standard tomato sauce

Thin sauce: On average, 35 pounds of fresh tomatoes are needed per canner load of 7 quarts, and 21 pounds per canner load of 9 pints. A bushel yields 10 to 12 quarts of sauce.

Thick sauce: On average, 46 pounds are needed per canner load of 7 quarts, and 28 pounds per canner load of 9 pints. A bushel yields 7 to 9 quarts of sauce.

Wash, 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 a saucepan. Heat immediately to boiling while crushing tomatoes. Continue to slowly add and crush freshly cut tomato quarters into 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 separating after canning, 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. Acidify the tomatoes using the directions on page 2. Heat juice again to boiling. If desired, add 1 teaspoon salt per quart to the jars. Boil until volume is reduced by about one-third for thin sauce or one-half for thick sauce. Fill clean, hot canning jars with hot tomato juice, leaving 1/4 inch headspace. Remove air bubbles and wipe jar rims. Place each lid, gasket down, onto the cleaned jar-sealing surface. Then fit metal screw band over the flat lid and follow the manufacturer's guidelines enclosed in or printed on the box for tightening the jar lids properly. Process in a boiling-water canner using the general boiling-water canning directions on page 3 and the recommended process times below.

Recommended process times

Tomato sauce, in a boiling-water canner

Style of pack	Jar size	Process times (in minutes) at altitudes of			
		0-1,000 ft.	1,001-3,000 ft.	3,001-6,000 ft.	6,001-8,000 ft.
Hot	Pints	35 min.	40 min.	45 min.	50 min.
Hot	Quarts	40 min.	45 min.	50 min.	55 min.

Chile Salsa (Hot Tomato-Pepper Sauce, makes 6 to 8 pints)

- 5 pounds tomatoes
- 2 pounds chile peppers
- 1 pound onions, peeled and chopped
- 1 cup vinegar (5% acidity)
- 3 teaspoons salt
- 1/2 teaspoon pepper

CAUTION: TO KEEP HOT PEPPER JUICE OUT OF YOUR EYES, WEAR RUBBER GLOVES WHILE HANDLING CHILE PEPPERS OR WASH HANDS THOROUGHLY WITH SOAP AND WATER BEFORE TOUCHING YOUR FACE.

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. Place peppers in oven (400 degrees F) or under a broiler for 6 to 8 minutes until skins blister. Allow peppers to cool. Place in a pan and cover with a damp cloth. Peel peppers. Discard seeds and chop peppers. Coarsely chop tomatoes and combine with chopped onions, peppers and remaining ingredients in a large saucepan. Heat to a boil and simmer 10 minutes. Fill clean, hot canning jars with hot salsa, leaving 1/2 inch headspace. Remove air bubbles and wipe jar rims. Place each lid, gasket down, onto the cleaned jar-sealing surface. Then fit metal screw band over the flat lid and follow the manufacturer's guidelines enclosed in or printed on the box for tightening the jar lids properly. Process in a boiling water canner using the general boiling-water canning directions on page 3 and recommended process times below.

Recommended process times

Chile Salsa, in a boiling-water canner

Style of pack	Jar size	Process times (in minutes) at altitudes of		
		0-1,000 ft.	1,001-6,000 ft.	6,001-8,000 ft.
Hot	Pints	15 min.	20 min.	25 min.

INFORMATION

For more information on food, food preservation, USDA-tested and approved canning recipes, nutrition and health, see <<http://www.msue.msu.edu>>.

Information in this bulletin is based on the USDA Canning Guide (September 1994), E-1702 Using and Storing Tomatoes (Michigan State University Extension, 1993), E-1880 Food Preservation Series-Tomatoes (Michigan State University Extension, 1995) and So Easy to Preserve (University of Georgia Cooperative Extension Service, 1993).



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