



Celebrate with Safe Salsa

Salsa is one of the most popular condiments used in the United States. Because it is such a popular condiment and party food, many consumers experiment with making and canning their own salsa. If a salsa recipe is not properly prepared and processed, however, it could be unsafe to eat. This bulletin provides some important guidelines for preparing home-canned salsa that's safe.

What are the safety concerns?

Most salsa recipes combine onions, peppers, and tomatoes with acetic acid, in the form of either vinegar or lemon juice. The amount of acid is critical to the salsa's safety. A proper amount of acid will reduce the pH, which is a measure of how acid a food is. For safe salsa, the pH of the vegetable ingredients should be less than 4.6.

Foods with a pH less than or equal to 4.6 are labeled "high-acid" foods. Those with a pH greater than 4.6 are "low-acid." This distinction is very important because only high-acid foods can be processed safely in a boiling water bath. Low-acid foods must always be processed in a pressure canner; if not, they can support the growth of the potentially harmful bacterium, *Clostridium botulinum*.

That's why it's important to use only tested recipes when canning your own salsa. Food scientists have evaluated a tested recipe to ensure that the amount

of acetic acid in combination with the other ingredients will sufficiently reduce the mixture's pH so that it can be safely processed in a boiling water bath. The processing times also have been tested to ensure that harmful microorganisms are destroyed. Nine tested recipes for safe salsa are included at the end of this bulletin.

What types of acids can I use to make my salsa safe?

When canning salsa use only bottled lemon juice or vinegar that is at least 5 percent acetic acid (acidity). Never use homemade vinegar or freshly squeezed lemon juice because the level of acid present is not known.

Bottled lemon juice tends to be more acidic than vinegar. It also has less effect on the overall flavor of the product in which it is used. Equal amounts of bottled lemon juice can be substituted for vinegar in recipes calling for vinegar. Vinegar, however, should not be used when a recipe calls for lemon juice.

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What type of vinegar can I use to make salsa?

Any type of vinegar can be used as long as the product label states that it is at least 5 percent acidity. If this is not stated on the label, do not use the vinegar for canning or pickling. White vinegar has a tart flavor but will not discolor the salsa. Cider vinegar, on the other hand, has a milder flavor but tends to change the salsa's color. Balsamic and other seasoned vinegars are more expensive than white or cider vinegar, but they are safe to use. Because the acidity of homemade vinegar is often unknown, do not use it to can salsa.

Can I change the amount of ingredients in my salsa recipe?

No. The only modifications that you can make safely in a salsa recipe are the amounts of spices used. Changing any other ingredient or amount could lead to an unsafe product. It is safe to double or halve a recipe.

Can salsa that contains no bottled and labeled vinegar or lemon juice be safely canned?

No. These types of salsa should be eaten immediately or stored in the refrigerator for up to one week.

Can I thicken my salsa recipe?

No. Adding a thickening agent makes it more difficult to adequately heat the center of the salsa to destroy harmful microorganisms, so the processing time must be increased. Because processing times are thoroughly tested in a laboratory setting, one cannot simply add to the processing time stated in a tested recipe to compensate for changes made to the recipe. If thicker salsa is desired, add cornstarch or other thickeners after opening. Remember to refrigerate all opened jars of salsa.

Can I add sugar to sour salsa?

Yes. Sugar can safely be added to a salsa recipe. Sugar is often added to offset the tartness of the vinegar. But you should never alter the amount of vinegar. Vinegar is essential to making the salsa acidic enough. Remember, properly acidified salsa can be safely canned; improperly acidified salsa cannot.

Where should I store my home-canned salsa?

Store home-canned salsa in a clean, dry, dark area. Exposure to prolonged light can affect its color, making it look less appetizing. The temperature of the storage area should be between 50°F and 70°F. As a rule of thumb, the higher the storage temperature, the shorter the shelf life of the product. Do not store in areas where pipes are located. Pipes can leak and contaminate the food. Be sure to label foods with the canning date so they will be used before the quality of the product erodes due to storage.

How long can I keep home-canned salsa?

If canned and stored properly, its shelf life is about 12 to 18 months. Salsa older than this is safe to eat if the jar is in good condition and the seal is still intact. Its quality, however, may be poor.

Why do I need to increase my processing time when I live at a higher altitude?

The processing time is the amount of time required to kill microorganisms. Because atmospheric pressure is lower at altitudes higher than 1,000 feet above sea level, water boils at a lower temperature at higher elevations. To ensure that microorganisms are killed, you must process food mixtures for a longer time. Contact your local Cooperative Extension center for more information about safely processing home-canned foods at higher altitudes.

Where do I get safe recipes?

The North Carolina Extension Service provides only tested recipes. To determine if your recipe is safe, contact the family and consumer educator at your county Extension center. The recipes in this bulletin have been tested and proven to be safe for home canning. And to stay safe while making salsa, you should never touch your face while handling chili peppers. They contain capsaicin, a compound that produces the burning sensation many salsa lovers enjoy. If chili pepper juice gets on your face or in your eyes, it can be extremely irritating. Wear rubber gloves and keep your hands away from your face while handling chilies. Or if you prefer not to wear gloves, always wash your hands thoroughly with soap and water before touching your face.

Tomato Taco Sauce

Yield: 11 pints

Ingredients

8 quarts peeled, cored, finely chopped paste tomatoes
2 cloves garlic, crushed
5 cups chopped onions
4 jalapeno peppers, seeded, chopped
4 long green chili peppers, seeded, chopped
2½ cups vinegar
2 tablespoons salt
1½ tablespoons black pepper
1 tablespoon sugar
2 tablespoons dried oregano leaves, optional
1 teaspoon ground cumin, optional

Procedure: *Wear rubber gloves and do not touch your face while handling chilies. If you don't wear gloves, wash your hands thoroughly with soap and water before touching your face.* Combine ingredients in a large saucepan. Bring to a boil, and then reduce heat and simmer, stirring frequently until thick (about 1 hour). Ladle hot mixture into pint jars, leaving ½-inch headspace. Adjust lids and process in boiling water canner: 15 minutes at 0 to 1,000 feet altitude; 20 minutes at 1,001 to 6,000 feet; 25 minutes above 6,000 feet.

Source: Adapted from Val Hillers and Richard Dougherty. 1992. *Salsa Recipes for Canning*. Washington State University, Extension publication PNW0395.

Tomatillo Green Salsa

Yield: 5 pints

Ingredients

5 cups chopped tomatillos
1½ cups seeded, chopped long green chili peppers
½ cup seeded, finely chopped jalapeno peppers
4 cups chopped onions
1 cup bottled lemon juice
6 cloves garlic, finely chopped
1 tablespoon ground cumin, optional
3 tablespoons dried oregano leaves, optional
1 tablespoon salt
1 teaspoon black pepper

Procedure: *Wear rubber gloves and do not touch your face while handling chilies. If you don't wear gloves, wash your hands thoroughly with soap and water before touching your face.* 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. Ladle hot into pint jars, leaving ½-inch headspace. Adjust lids, and process in a boiling water canner: 15 minutes at 0 to 1,000 feet altitude; 20 minutes at 1,001 to 6,000 feet; 25 minutes above 6,000 feet.

Source: Adapted from Val Hillers and Richard Dougherty. 1992. *Salsa Recipes for Canning*. Washington State University, Extension publication PNW0395.

Tomato Salsa (using paste tomatoes)

Yield: 13 pints

Ingredients

7 quarts peeled, cored, chopped tomatoes
4 cups seeded, chopped long green chili peppers
5 cups chopped onion
½ cup seeded, finely chopped jalapeno peppers
6 cloves garlic, finely chopped
2 cups bottled lemon juice
2 tablespoons salt
1 tablespoon black pepper
2 tablespoons ground cumin, optional
3 tablespoons oregano leaves, optional
2 tablespoons fresh cilantro, optional

Procedure: *Wear rubber gloves and do not touch your face while handling chilies. If you don't wear gloves, wash your hands thoroughly with soap and water before touching your face.* Combine all ingredients except cumin, oregano, and cilantro in a large pot and bring to a boil, stirring frequently; then reduce heat and simmer 10 minutes. Add spices and simmer for another 20 minutes, stirring occasionally. Ladle hot into pint jars, leaving ½-inch headspace. Adjust lids and process in a boiling water canner: 15 minutes at 0 to 1,000 feet altitude; 20 minutes at 1,001 to 6,000 feet; 25 minutes above 6,000 feet.

Source: Adapted from Val Hillers and Richard Dougherty. 1992. *Salsa Recipes for Canning*. Washington State University, Extension publication PNW0395.

Tomato Salsa (using slicing tomatoes)

Yield: 4 pints

Ingredients

4 cups peeled, cored, chopped tomatoes
2 cups seeded, chopped long green chili peppers
2 cups seeded, chopped jalapeno peppers
¼ cup chopped onions
4 cloves garlic, finely chopped
2 cups vinegar (5 percent acidity)
1 teaspoon ground cumin
1 tablespoon oregano leaves, optional
1 tablespoon fresh cilantro, optional
1½ teaspoons salt

Procedure: *Wear rubber gloves and do not touch your face while handling chilies. If you don't wear gloves, wash your hands thoroughly with soap and water before touching your face.* Combine all ingredients in a large saucepan, and bring the mixture to a boil, stirring frequently. Reduce heat and simmer 20 minutes, stirring occasionally. Ladle hot into pint jars, leaving ½-inch headspace. Adjust lids and process in a boiling water canner: 15 minutes at 0 to 1,000 feet altitude; 20 minutes at 1,001 to 6,000 feet; 25 minutes above 6,000 feet.

Source: Adapted from Val Hillers and Richard Dougherty. 1992. *Salsa Recipes for Canning*. Washington State University, Extension publication PNW0395.

Tomato and Tomato Paste Salsa

Yield: 7 pints

Ingredients

3 quarts peeled, cored, chopped slicing tomatoes
3 cups chopped onions
6 jalapeno peppers, seeded, finely chopped
4 long green chili peppers, seeded, chopped
4 cloves garlic, finely chopped
2 12-ounce cans tomato paste
2 cups bottled lemon juice
1 tablespoon salt
1 tablespoon sugar
1 tablespoon ground cumin, optional
2 tablespoons oregano leaves, optional
1 teaspoon black pepper

Procedure: *Wear rubber gloves and do not touch your face while handling chilies. If you don't wear gloves, wash your hands thoroughly with soap and water before touching your face.* Combine all ingredients in a large saucepan. Bring to a boil. Reduce heat and simmer for 30 minutes, stirring occasionally. Ladle hot into pint jars, leaving ½-inch headspace. Adjust lids and process in a boiling water canner: 15 minutes at 0 to 1,000 feet altitude; 20 minutes at 1,001 to 6,000 feet; 25 minutes above 6,000 feet.

Source: Adapted from Val Hillers and Richard Dougherty. 1992. *Salsa Recipes for Canning*. Washington State University, Extension publication PNW0395.

Tomato and Green Chili Salsa

Yield: 3 pints

Ingredients

3 cups peeled, cored, chopped tomatoes
3 cups seeded, chopped long green chili peppers
¾ cup chopped onions
1 jalapeno pepper, seeded, finely chopped
6 cloves garlic, finely chopped
1½ cups vinegar (5 percent acidity)
½ teaspoon ground cumin, optional
2 teaspoons oregano leaves, optional
1½ teaspoons salt

Procedure: *Wear rubber gloves and do not touch your face while handling chilies. If you don't wear gloves, wash your hands thoroughly with soap and water before touching your face.* Combine all ingredients in a large saucepan, and heat, stirring frequently, until mixture boils. Reduce heat and simmer for 20 minutes, stirring occasionally. Ladle hot into pint jars, leaving ½-inch headspace. Adjust lids and process in a boiling water canner: 15 minutes at 0 to 1,000 feet altitude; 20 minutes at 1,001 to 6,000 feet; 25 minutes above 6,000 feet.

Source: Adapted from Val Hillers and Richard Dougherty. 1992. *Salsa Recipes for Canning*. Washington State University, Extension publication PNW0395.

Chili Salsa (Hot Tomato- Pepper Sauce)

Yield: 6 to 8 pints

Ingredients

10 cups peeled, cored, chopped tomatoes
6 cups seeded, chopped chili peppers (mild and hot)
4 cups chopped onions
1 cup vinegar (5 percent acidity)
3 teaspoons salt
2 teaspoons pepper

Procedure: *Wear rubber gloves and do not touch your face while handling chilies. If you don't wear gloves, wash your hands thoroughly with soap and water before touching your face.* Combine ingredients in a large saucepan. Heat to a boil and simmer 10 minutes. Ladle hot into pint jars, leaving ½-inch headspace. Adjust lids and process in a boiling water canner: 15 minutes at 0 to 1,000 feet altitude; 20 minutes at 1,001 to 6,000 feet; 25 minutes above 6,000 feet.

Source: Adapted from Val Hillers and Richard Dougherty. 1992. *Salsa Recipes for Canning*. Washington State University, Extension publication PNW0395.

Chile Salsa (Hot Tomato- Pepper Sauce)

Yield: 6 to 8 pints

Ingredients

5 pounds tomatoes
2 pounds chili peppers
1 pound onions
1 cup vinegar (5 percent acidity)
3 teaspoons salt
½ teaspoon pepper

Procedure: *Wear rubber gloves and do not touch your face while handling chilies. If you don't wear gloves, wash your hands thoroughly with soap and water before touching your face.* Wash and dry chilies. Slit each chili pepper on its side to allow steam to escape when the chilies are roasted. Roast and peel peppers using one of the two following methods: (1) Place chilies in oven (400° F) or broiler for 6 to 8 minutes until skins blister. (2) Cover hot burner, either gas or electric, with heavy wire mesh; place chilies on burner for several minutes until skins blister. Allow peppers to cool by placing them in a pan and covering with a damp cloth. This will make peeling the peppers easier. After several minutes of cooling, 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 onions and tomatoes, and combine chopped peppers, chopped onions, and remaining ingredients in a large saucepan. Heat to boiling, and then simmer for 10 minutes. Fill jars, leaving ½-inch headspace. Adjust lids, and process in a boiling water bath: 15 minutes at 0 to 1,000 feet; 20 minutes at 1,001 to 6,000 feet; and 25 minutes above 6,000 feet.

Source: Adapted from Elizabeth A. Andress and Judy Harrison. 1999. *So Easy to Preserve*. University of Georgia, Cooperative Extension Service.

Hot Pepper Salsa — Hot Tomato- Pepper Sauce

Yield: 6 to 8 pints

Ingredients

10 cups tomatoes, peeled, cored, and chopped
5 cups chili peppers, seeded and chopped (about 15 chilies)
1 cup onion, chopped (about 1 medium)
6 cloves garlic, minced
1 cup cider vinegar (5 percent acidity)
1 tablespoon salt
¼ cup fresh cilantro, minced
1 teaspoon cumin

Procedure: *Wear rubber gloves and do not touch your face while handling chilies. If you don't wear gloves, wash your hands thoroughly with soap and water before touching your face.* Use a mixture of mild and hot peppers, 5 cups total. Combine ingredients in a large saucepan. Heat to a boil, and boil gently 10 minutes. Ladle hot salsa into hot pint jars, leaving ½-inch headspace. Wipe jar rims, and cap with properly pretreated lids. Adjust lids. Process in a boiling water canner for 20 minutes.

Source: B. Ingham. 2000. *Canning Salsa Safely*. University of Wisconsin, Extension

Spicy Cranberry Salsa

Yield: About 6 pint
jars

Ingredients

6 cups chopped red onion
4 finely chopped serrano peppers
1½ cups water
1½ cups cider vinegar (5 percent acidity)
1 tablespoon canning salt
1½ cups sugar
¾ cup bottled lemon juice
6 tablespoons clover honey
12 cups rinsed, fresh whole cranberries

Procedure: *Wear rubber gloves and do not touch your face while handling chilies. If you don't wear gloves, wash your hands thoroughly with soap and water before touching your face.* Wash and rinse 6 pint canning jars; keep hot until ready to use. Prepare lids according to manufacturer's directions. Combine all ingredients except cranberries in a large Dutch oven. Bring to a boil over high heat; reduce heat slightly and boil gently for 5 minutes. Add cranberries, reduce heat, and simmer mixture for 20 minutes, stirring occasionally to prevent scorching. Fill the hot mixture into clean, hot pint jars, leaving ¼-inch headspace. Leave saucepot over low heat while filling jars. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel; apply two-piece metal canning lids. Process in a boiling water bath: 15 minutes at 0 to 1,000 feet altitude; 20 minutes at 1,001 to 6,000 feet; and 25 minutes above 6,000 feet. Let cool, undisturbed, 12-24 hours and check for seals.

Source: Adapted from recipes by Elizabeth A. Andress, University of Georgia, Cooperative Extension Service and the National Center for Home Food Preservation. These recipes are based upon work supported by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, under Agreement No. 00-51110-9762.

Spicy Jicama Salsa

Yield: About 7 pint jars

Ingredients

9 cups diced jicama (you will need about 4 pounds of purchased jicama root)
1 tablespoon whole mixed pickling spice
1 2-inch stick cinnamon
8 cups white vinegar (5 percent acidity)
4 cups sugar
2 teaspoons crushed red pepper
4 cups diced yellow bell pepper
4½ cups diced red bell pepper
4 cups chopped onion
2 fresh fingerhot peppers (each about 6 inches long), finely chopped and partially seeded

Procedure: Wash and rinse 1-pint canning jars (7 or 8); keep hot until ready to use. Prepare lids. Wash, peel, and trim jicama; dice. Place pickling spice and cinnamon on a clean, double-layer, 6-inch-square piece of 100 percent cotton cheesecloth. Bring corners together and tie with a clean string. (Or use a purchased muslin spice bag.) In a 4-quart Dutch oven or saucepot, combine pickling spice bag, vinegar, sugar, and crushed red pepper. Bring to boiling, stirring to dissolve sugar. Stir in diced jicama, sweet peppers, onion, and fingerhots. Return mixture to boiling. Reduce heat and simmer, covered, over medium-low heat about 25 minutes. Discard spice bag. Fill relish into hot, clean pint jars, leaving ½-inch headspace. Cover with hot pickling liquid. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel; adjust two-piece metal canning lids. Process in a boiling water bath: 20 minutes at 0 to 1,000 feet altitude; 25 minutes at 1,001 to 3,000 feet; 30 minutes at 3,001 to 6,000 feet; and 35 minutes above 6,000 feet. Let cool, undisturbed, for 12 to 24 hours, and check for seals.

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Peach Apple Salsa

Yield: About 7 pint jars

Ingredients

6 cups (2¼ pounds) chopped Roma tomatoes (about 3 pounds of unchopped tomatoes)
2½ cups diced yellow onions (about 1 pound or 2 large onions)
2 cups chopped green bell peppers (about 1½ large peppers)
10 cups (3½ pounds) chopped hard, unripe peaches (about 9 medium peaches or 4½ pounds of unchopped peaches)
2 cups chopped Granny Smith apples (about 2 large apples)
4 tablespoons mixed pickling spice
1 tablespoon canning salt
2 teaspoons crushed red pepper flakes
3¾ cups (1¼ pound) packed light brown sugar
2¼ cups cider vinegar (5 percent acidity)

Procedure: Wash and rinse pint canning jars; keep hot until ready to use. Prepare lids according to manufacturer's directions. Place pickling spice on a clean, double-layered, 6-inch-square piece of 100 percent cotton cheesecloth. Bring corners together and tie with a clean string. (Or use a purchased muslin spice bag).

Wash and peel tomatoes (place washed tomatoes in boiling water for 1 minute, immediately place in cold water, and slip off skins). Chop into ½-inch pieces. Peel, wash and dice onions into ¼-inch pieces. Wash, core, and seed bell peppers; chop into ¼-inch pieces. Combine chopped tomatoes, onions, and peppers in an 8- or 10-quart Dutch oven or saucepot. Wash, peel and pit peaches; cut into halves and soak for 10 minutes in an ascorbic acid solution (1,500 milligrams in ½-gallon water). Wash, peel and core apples; cut into halves and soak for 10 minutes in ascorbic acid solution. Quickly chop peaches and apples into ½-inch cubes to prevent browning. Add chopped peaches and apples to the saucepot with the vegetables.

Add the pickling spice bag to the saucepot; stir in the salt, red pepper flakes, brown sugar and vinegar. Bring to boiling, stirring gently to mix ingredients. Reduce heat and simmer 30 minutes, stirring occasionally. Remove spice bag from pan and discard. With a slotted spoon, fill salsa solids into hot, clean pint jars, leaving 1¼-inch headspace (about ¾ pound solids in each jar). Cover with cooking liquid, leaving ½-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened, clean paper towel; apply two-piece metal canning lids. Process in a boiling water bath: 15 minutes at 0 to 1,000 feet; 20 minutes at 1,001 to 6,000 feet; and 25 minutes above 6,000 feet. Let cool, undisturbed, for 12-24 hours, and check for seals.

Serving Suggestion: Serve as a side with or spooned on top of grilled pork chops or any grilled meat.

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Mango Salsa

Yield: About 6 half-pint jars

Ingredients

6 cups diced unripe mango (about 3 to 4 large, hard 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
1¼ cups cider vinegar (5 percent acidity)
½ cup water

Procedure: *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 this reaction, wear plastic or rubber gloves while working with raw green mangoes. Do not touch your face, lips, or eyes after touching or cutting raw green mangoes until all traces are washed away.* Wash and rinse half-pint canning jars; keep hot until ready to use. Prepare lids according to manufacturer's directions. Wash all produce well. Peel and chop mangoes 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 5 minutes.

Fill hot solids into clean, hot half-pint jars, leaving ½ -inch headspace. Cover with hot liquid, leaving ½ -inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened, clean paper towel; apply two-piece metal canning lids. Process in a boiling water bath: 10 minutes at 0 to 1,000 feet altitude; 15 minutes at 1,001 to 6,000 feet; and 20 minutes above 6,000 feet. Let cool, undisturbed, for 12 to 24 hours, and check for seals.

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