SENSATIONAL SALSA!

CANNING SALSA

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CANNING SALSA AT HOME

Many salsa recipes are mixtures of low-acid foods, such as onions and peppers, with high-acid foods, such as tomatoes or fruits. When making salsa to can at home, all ingredients must be measured carefully using tested recipes that can be processed safely in a boiling water bath canner. All tested salsa recipes are developed to be processed in a boiling water bath canner.

IMPORTANT: It is not recommended to water bath process salsa mixtures or use recipes that have not been tested for safety. To preserve these, it is best to freeze them or simply eat them fresh.

ONIONS and PEPPERS - It is important not to increase the total amount (pounds or cups) of peppers or onions in any recipe. Also, do not substitute the same number of whole large peppers for the same number of smaller peppers. This will cause a change in acid content which could be unsafe. If substituting hot and mild peppers, any kind of pepper can be used, just use the same weight stated in the recipe.

THICKENERS – Do not thicken salsas with flour, cornstarch or other starches before canning. If a thicker salsa is desired, pour off some of the liquid or add these thickeners after opening.

ACID INGREDIENTS - Bottled lemon juice, bottled lime juice, or vinegar with at least 5% acidity helps preserve canned salsas and must be added to salsas processed in a boiling water bath canner. This is because the natural acidity of the salsa mixture alone will not be safe enough without them. Do not use homemade vinegar or fresh squeezed lemon or lime juice in canning because the acid content can vary making the finished salsa unsafe.

The amounts of vinegar, lemon juice, or lime juice should not be reduced for water bath canning of salsa. Sugar can be added to overcome the tart taste if it is undesirable. Bottled lemon juice or bottled lime juice may be safely substituted for vinegar in recipes. Do not substitute vinegar for lemon juice or lime juice. This will result in a less acid mixture which could be unsafe when canned.

TOMATOES - Use high quality, disease-free, preferably vine-ripened, firm tomatoes for any canned product. Do not use tomatoes from dead or frost-killed vines. Green tomatoes, yellow tomatoes, orange tomatoes and tomatillos can be used in place of red tomatoes safely. These types of tomatoes may change the flavor.
TOMATO-VEGETABLE MIXTURES

Unless a tested recipe is used, all tomato-vegetable mixtures **MUST** be processed in a pressure canner, according to the directions for the vegetable in the mixture that has the longest processing time.

For example, if your tomato salsa also contains onions, peppers, and corn, you must pressure can pints of this mixture for 55 minutes because corn has the longest processing time.

As an alternative to canning, freeze these mixtures for later use.

These are the processing times and pressures for selected salsa ingredients:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Style of Pack</th>
<th>Jar Size</th>
<th>Process Time (minutes)</th>
<th>Dial Gauge</th>
<th>Weighted Gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>0-2,000 ft</td>
<td>2,001-4,000 ft</td>
<td>0-1,000 ft</td>
</tr>
<tr>
<td><strong>Dry or Canned Beans</strong></td>
<td>Hot</td>
<td>Pints</td>
<td>75</td>
<td>11 lb</td>
<td>12 lb</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quarts</td>
<td>90</td>
<td>11 lb</td>
<td>12 lb</td>
</tr>
<tr>
<td><strong>Whole Kernel Corn</strong></td>
<td>Hot and Raw</td>
<td>Pints</td>
<td>55</td>
<td>11 lb</td>
<td>12 lb</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quarts</td>
<td>85</td>
<td>11 lb</td>
<td>12 lb</td>
</tr>
<tr>
<td><strong>Peppers</strong></td>
<td>Hot</td>
<td>Pints</td>
<td>35</td>
<td>11 lb</td>
<td>12 lb</td>
</tr>
<tr>
<td><strong>Onions</strong></td>
<td>Hot</td>
<td>Pints or Quarts</td>
<td>40</td>
<td>11 lb</td>
<td>12 lb</td>
</tr>
</tbody>
</table>
CANNING FAQ’S

Do I really need to leave a certain amount of headspace in the jar?
Yes. Leaving the specified amount of headspace in a jar is important to assure a vacuum seal. If too little headspace is allowed the food may expand and bubble out when air is being forced out from under the lid during processing. The bubbling food may leave a deposit on the rim of the jar or the seal of the lid and prevent the jar from sealing properly. If too much headspace is allowed, the food at the top is likely to discolor. Also, the jar may not seal properly because there will not be enough processing time to drive all the air out of the jar.

What causes the underside of some metal lids to discolor?
Natural compounds in some foods, particularly acids, corrode metal and make a dark deposit on the underside of jar lids. This deposit on lids of sealed, properly canned foods is harmless.

Can salsa be frozen?
Yes. Freezing salsa is safe from a food safety perspective, but may not result in a product that is as tasty as when canned or fresh. Frozen salsa may be more watery and the flavors will have altered, some getting stronger with freezing and some fading.

Do I have to process salsa in a hot water bath or pressure canner? Can’t I just heat it, put it in a jar, and let it seal itself?
The open kettle method of canning where the vegetables were heated, placed in jars, the lid and bands put on and then either turned upside down to seal or not processed further is unsafe. The temperature obtained in open kettle canning is not high enough to destroy all spoilage and foodborne illness producing microorganisms, such as Clostridium botulinum, that may be in the food. Open kettle canning is not safe for any kind of product including jellies, jams, pickles, tomatoes, or any other fruit or vegetable.

The boiling water bath method of canning is acceptable for vegetable blends that are naturally high in acid, such as tomatoes, AND have had an appropriate amount of acid added in the form of vinegar, lemon juice or citric acid. If acid has not been added, then the product should be canning in a pressure canner.

I have a great salsa recipe I’d like to produce and sell. How do I do this?
The Kansas State University Kansas Value-Added Foods Lab works with small food processors across Kansas to help entrepreneurs produce safe product to sell to the public. They also work with you to ensure proper labeling and nutritional information.
Contact: Dr. Fadi Aramouni, faramoun@ksu.edu or 785-532-1668
WHAT’S THE DIFFERENCE IN HIGH AND LOW ACID FOODS?  (Ball Blue Book, 2000)

Approximate growth limits for:

1. Strong Acid

High-Acid Foods
- Lemons
- Pickles
- Gooseberries
- Apricots
- Plums
- Apples, Blackberries
- Sour Cherries
- Peaches
- Sauerkraut
- Pears
- Tomatoes

Process at 212°F in Boiling-Water Canner

2. Molds

3. Yeasts

4. Bacteria

5. Okra
- Carrots
- Beets, Turnips
- Green Beans, Spinach
- Asparagus
- Lima Beans

6. Neutral

7. Peas
- Corn

Low-Acid Foods

Process at 240°F in Steam-Pressure Canner

14. Strong Alkali
### GROWTH AND DESTRUCTION OF MICROORGANISMS

(Ball Blue Book, 2000)

<table>
<thead>
<tr>
<th>Temperature (°F)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>240</td>
<td>Temperature at which bacterial spores are destroyed in low-acid foods</td>
</tr>
<tr>
<td>220</td>
<td></td>
</tr>
<tr>
<td>212</td>
<td>Boiling point of water at sea level. Processing temperature for high-acid foods in a boiling-water canner when processed at or below 1,000 feet above sea level</td>
</tr>
<tr>
<td>180-212</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>Temperature at which molds, yeasts, and some bacteria are destroyed in high-acid foods</td>
</tr>
<tr>
<td>160</td>
<td></td>
</tr>
<tr>
<td>140-179</td>
<td>Growth of molds, yeasts and bacteria prevented, but may allow survival of some microorganisms</td>
</tr>
<tr>
<td>140</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
</tr>
<tr>
<td>40-139</td>
<td>Active growing range of molds, yeasts, and bacteria</td>
</tr>
<tr>
<td>40</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Growth of some molds, yeasts and bacteria slowed</td>
</tr>
<tr>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

**50°-70°**
Best storage temperature for home canned and dehydrated foods
RESOURCES FOR HOME-CANNED SALSA

National Center for Home Food Preservation – University of Georgia Cooperative Extension
www.uga.edu/nchfp/how/can_salsa.html

USDA Complete Guide to Home Canning
www.uga.edu/nchfp/publications/usda/utah_can_guide_03.pdf

Freshpreserving.com – From the makers of Ball and Kerr canning products
www.freshpreserving.com/

Ball® Blue Book of Preserving

Ball® Complete Book of Home Preserving
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Various State Cooperative Extension publications
SALSA TIPS

1. The heat of hot peppers is concentrated in the veins and seeds. To reduce the heat, remove the seeds and veins to taste. Adjusting the heat after preparing the salsa is almost impossible.

2. After chopping tomatoes, place them in a colander to drain off excess liquid.

3. Use a variety of peppers to regulate the heat of salsa.

4. Salsa flavors tend to mellow during storage. The optimum flavor is typically achieved after 3-4 weeks.

5. When canning fruit salsas with fruits that brown, such as pears and peaches, measure the acid (vinegar, lemon juice or lime juice) in the recipe and chop the fruit directly into the acid.

6. Do not add extra ingredients to tested salsa recipes. This will affect the acidity of the final product and make it unsafe for canning.

7. To roast peppers, place in a 400°F oven or under the broiler. Place peppers on a baking sheet and roast. Turn them two or three times until the skin is blackened, about 20 minutes. Place roasted peppers in a heatproof bowl. Cover with a plate or covering and cool. Use a sharp knife to lift skins off the peppers. Discard skins and chop peppers.

8. If using a packaged salsa mix for seasoning, only use those designed for canning.

9. Some tested recipes provide an approximate number of each vegetable to use, such as number of peppers or number of tomatoes. Do not rely on these numbers for measuring the produce. Always measure these ingredients for safe results.

STORING HOME-CANNED SALSA

After canning salsa, check the lid for proper vacuum seal after 12 to 24 hours of cooling. If any jars do not seal, refrigerate them and use within one week. For sealed jars, remove the rings, and clean the jars and lids to remove any residue.

Store home-canned salsa, and other home-canned foods, in a cool, dry, dark location. This protects the salsa from changing colors, quality deterioration, or spoilage. When stored properly, home-canned foods should have good quality for 12-18 months. It is best to use them within one year of canning. Once opened, store in the refrigerator. Always label and date the jars with the date the product was canned.

Before opening a jar, look for any signs of problems. This includes unsealed jars, rusty or bulging lids, leaks or any unusual appearance with the food. Look for any dried streaks or residue that originate from the top of the jar. Look for moving bubbles or unnatural colors. When opening the jar, watch for excessive spurting liquid and mold on the food or lid. If off-odors are present, spoilage has occurred. Do not use the food if any of these signs are present. **Do not taste the food if any signs of spoilage are present. When in doubt, throw it out!**
SALSA GLOSSARY

SALSA – Spanish for sauce. Traditionally, a Mexican cold sauce made from tomatoes flavored with cilantro, chiles and onions. Generally, it is a cold chunky mixture of fresh herbs, spices, fruits and/or vegetables used as a sauce or dip. The Italians use it as a general term for pasta sauce. In Portuguese, it means parsley.

SALSA CRIOLLA – A Caribbean salsa of chopped onions, tomatoes, jalapenos, garlic, parsley and vinegar. It is traditionally served with matambre.

SALSA DE MANI – A Caribbean salsa of chopped onion, jalapenos, tomatoes and roasted peanuts. It is traditionally served with lapingachos.

SALSA PARA ASADOS – A South American barbecue sauce flavored with vinegar, paprika, thyme, garlic and oregano and mixed with olive oil.

SALSA PICCANTE – Italian for chutney.

SALSA VERDE – A green sauce, made with tomatillos

PICO DE GALLO – In Spanish, it means “rooster’s beak”. It is a fresh sauce made of tomatoes, onions and chiles. It may also contain lime juice, cilantro, avocado, cucumber, or radish.

PICADILLO – This is a favorite dish in many Spanish-speaking countries. It consists of ground pork and beef or veal plus tomatoes, garlic, onions and whatever else the regional version dictates. In Cuba it is served with rice and black beans. In Mexico, picadillo is used as a stuffing for various dishes.

PICCALILLI – A highly seasoned pickled vegetable relish. The vegetables used vary from recipe to recipe and can include tomatoes, sweet peppers, onions, zucchini, cucumber, cauliflower, beans, etc.

CAPSICUM – Chili genus; any of the plants which produce chiles as their fruit; the chile itself.
Sources:
The Encyclopedia of American Food & Drink, John F. Mariani
So Easy to Preserve, 5th ed., The University of Georgia Cooperative Extension
Perk Up Summer Meals with Salsa, Colorado State University
From the Garden to the Table: Salsa, FN-584, North Dakota State University
Grow Your Own Peppers, EC1227, Oregon State University
Recommended Vegetable Varieties, L-41, K-State Research and Extension
Preserving Food: Sensational Salsas, FDNS-E-43-16, University of Georgia Cooperative Extension Service
Canning Salsa Safely, B3570, University of Wisconsin-Extension Cooperative Extension
Food Lover's Companion, 3rd ed., Sharon Tyler Herbst
Webster's New World Dictionary of Culinary Arts, 2nd ed., Steven Labensky, Gaye G. Ingram, Sarah R. Labensky
CDC Mortality and Morbidity Report, http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5610a2.htm
Joy of Cooking, Irma S. Rombauer, Marion Rombauer Becker and Ethan Becker
It's Salsa Time, Donna Martinson, Geary County FCS Agent

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April 2007

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