



K-STATE
Research and Extension

PRESERVE IT FRESH, PRESERVE IT SAFE SWEET CORN



When preserving fresh foods at home, follow proper procedures to prevent foodborne illness. These safety-tested methods can be used for freezing or canning sweet corn.

Always wash your hands before preparing any recipe.

Quality

Use sweet corn varieties and preserve within 2 to 6 hours after harvest for best quality. Select ears containing slightly immature kernels or those of ideal maturity for eating fresh. Sweeter varieties may turn brown when canned, especially if processed at 15 pounds of pressure. Can a small amount and check the color and flavor before canning large amounts.

Preparation

Husk the ears, removing silk and insect-damaged kernels. Trim ends of the ears to remove small, fibrous kernels, and rinse with water.

To prepare whole kernel corn for freezing or canning: Place ears in 1 gallon of boiling water and blanch for 4 minutes after water returns to a boil. Cool ears in ice water and cut kernels from the cob at about three-fourths of their depth. Do not scrape the cob.

To prepare cream-style corn for freezing or canning: Blanch ears 4 minutes in boiling water. Cool ears in ice water and cut kernels from the cob at about $\frac{2}{3}$ of their depth. Scrape the cob with a knife to remove remaining kernels and combine them with the half-kernels.

To prepare corn-on-the-cob for freezing: Blanch small ears ($1\frac{1}{4}$ inches or less in diameter) 7 minutes in boiling water; medium-size ears ($1\frac{1}{4}$ to $1\frac{1}{2}$ inches) 9 minutes; and large ears ($1\frac{1}{2}$ inches or more) 11 minutes. Cool in several changes of ice cold water and drain. If desired, cut ears into uniform 4-, 6-, or 8-inch pieces.

Freezing

Freeze only up to 2 pounds of food per cubic foot of freezer capacity per day.

Quantity

An average of $2\frac{1}{2}$ pounds makes 1 pint frozen whole kernel corn.

To package whole kernel or cream style corn: Fill pint- or quart-size freezer bags or containers. Squeeze out air, leaving $\frac{1}{2}$ -inch of head space, label, date, and freeze. Before freezing, bags may be inserted into reusable, rigid-plastic freezer containers for added protection against punctures and freezer burn.

To package corn on the cob: Fill quart- or gallon-sized freezer bags. Squeeze to remove excess air, seal, label, date, and freeze.

Dehydrating

For information on dehydrating fruit or fruit leathers, see <https://www.rrc.k-state.edu/preservation/drying.html> for resources.

Canning

To learn more about canning, see *How-to Guide to Water Bath Canning and Steam Canning* (MF3241) and *How-to Guide to Pressure Canning* (MF3242).

Preparing Jars and Lids

For all canning recipes processed less than 10 minutes, wash and sterilize jars by placing them inside a boiling water canner and cover with water. Boil jars for at least 10 minutes and keep them hot.

Preheating is not required for standard metal lids. Always wash lids in hot, soapy water before use. If using reusable plastic lid systems with rubber rings, follow the manufacturer's directions.

Whole Kernel and Cream-Style Corn

Whole kernel corn may be canned in pints or quarts.

Caution: Cream-style corn must be packed in pint jars only because of the density of the canned product. Add 1 teaspoon of salt per quart or ½ teaspoon per pint if desired. It is for flavor only and may be omitted.

Quantity

A bushel of ears weighs 35 pounds and yields 6 to 11 quarts of whole-kernel style or 12 to 20 pints of cream-style corn. An average of 31½ pounds (in husks) are needed for a 7-quart canner load of whole-kernel corn. An average of 20 pounds is needed for a 9-pint canner load of cream-style corn.

Procedure

For raw-packed whole-kernel corn: Fill hot jars with corn, leaving 1 inch head space. Do not shake or press down. Add boiling water over the corn in each jar, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe sealing surface of the jars with a clean, damp paper towel. Apply lids and rings fingertip-tight. Process in a pressure canner according to process times in Table 1. Turn off heat and let canner depressurize naturally. Remove canner lid. Let jars cool 5 minutes. Remove jars from canner; do not retighten bands. Cool completely, check seals, label, date, and store.

For hot pack whole kernel corn: Add 1 cup of hot water to each quart of whole-kernel corn in a large pan, and heat to boiling. Simmer the whole-kernel corn 5 minutes. Fill the jars with hot corn and cooking liquid, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe the sealing surface of the jars with a clean, damp paper towel. Apply lids and rings fingertip-tight. Process in a pressure canner according to process times in Table 1. Turn off heat and let canner depressurize naturally. Remove canner lid. Let jars cool 5 minutes. Remove jars from canner; do not retighten bands. Cool completely, check seals, label, date, and store.

Nutrition: Whole Kernel Corn, with salt added
Serving size: ½ cup — 60 calories, 1 g fat, 13 g carbohydrates, 1 g protein, 2 g fiber, 320 mg sodium, 0 g sugar

For hot pack cream style corn: To each quart of corn and scrapings in a saucepan, add 2 cups of boiling water. Heat to boiling. Add ½ teaspoon salt to each pint jar, if desired. Fill hot pint jars with hot corn mixture,

leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims with a damp clean paper towel. Apply lids and rings fingertip-tight. Process in a pressure canner for time specified in Table 1. Turn off heat and let canner depressurize naturally. Remove canner lid. Let jars cool 5 minutes. Remove jars from canner; do not retighten bands. Cool completely, check seals, label, date, and store.

Nutrition: Cream Style Corn, no salt added
Serving size: ½ cup — 93 calories, 0 g fat, 24 g carbohydrates, 2 g protein, 2 g fiber, 4 mg sodium, 4 g sugar

Vegetable Soup

Vegetable, dried bean or pea, meat, poultry, or seafood soups can be canned.

Caution: Do not add noodles or other pasta, rice, flour, cream, milk, or other thickening agents to home canned soups. If dried beans or peas are used, they must be fully rehydrated first.

Procedure

Select, rinse, and prepare vegetables, meat and seafoods as described for the specific foods in their own canning instructions. **Caution: If there is not a canning recommendation for a vegetable, do not include it.** Cover meat with water and cook until tender. Cool meat and remove bones. Cook vegetables as described for a hot pack. For each cup of dried beans or peas, add 3 cups of water, boil 2 minutes, remove from heat, soak 1 hour, and heat to boil; drain.

Combine solid ingredients with meat broth, tomatoes, or water to cover. Boil 5 minutes. **Caution: Do not thicken.** Salt to taste, if desired. Fill jars halfway with solid mixture. Add remaining liquid, leaving 1-inch headspace.

Wipe jar rims with a clean, damp paper towel. Apply lids and rings fingertip-tight. Process according to instructions in Table 1. Turn off heat and allow canner to depressurize before removing the lid. Cool jars for 5 minutes. Remove from canner. Do not retighten bands. Cool completely, check seals, label, date, and store.

Nutrition: Varies based on ingredients used.

Table 1. Recommended processing times using a pressure canner

Product	Style of pack	Jar size	Process time (min.)	Canner gauge pressure needed at different elevations (in feet)			
				Dial gauge (lbs.)		Weighted gauge (lbs.)	
				0-2,000	2,001-4,000	0-1,000	Above 1,000
Corn, cream style	Hot	Pints	85	11	12	10	15
Corn, whole kernel	Hot or raw	Pints	55	11	12	10	15
Vegetable Soup	Hot	Quarts	85	11	12	10	15
		Pints	60	11	12	10	15
		Quarts	75	11	12	10	15
Mixed Vegetables	Hot	Pints	75	11	12	10	15
		Quarts	90	11	12	10	15

Mixed Vegetables

Yield: 7 quarts

- 6 cups sliced carrots
- 6 cups cut whole kernel sweet corn
- 6 cups cut green beans
- 6 cups shelled lima beans
- 4 cups whole or crushed tomatoes
- 4 cups diced zucchini

Optional mix: You may change the suggested proportions or substitute other favorite vegetables except leafy greens, dried beans, cream-style corn, winter squash, sweet potatoes, broccoli, cauliflower, or cabbage.

Rinse and peel carrots, rinse again. Cut into ½-inch slices. Husk corn, remove silk and rinse. Water blanch 3 minutes. Cut corn from cob at about three-fourths the depth of the kernels. Do not scrape cobs. Shell lima beans and rinse well. Rinse snap or Italian beans and trim ends. Cut into 1-inch pieces. Rinse tomatoes and remove cores. Dip in boiling water 30-60 seconds or until skins split; place in ice cold water. Slip off skins. Leave whole or crush. Rinse, trim, and slice or cube zucchini; combine all vegetables in a large pot or kettle and add enough water to cover pieces. Add 1 teaspoon salt per quart to the jar, if desired. Boil 5 minutes and fill jars with hot pieces and liquid, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe the sealing surface of the jars with a clean, damp paper towel. Apply lids and rings fingertip-tight. Process according to instructions in Table 1. Turn off heat and allow canner to depressurize before removing the lid. Cool jars for 5 minutes. Remove from canner. Do not retighten bands. Cool completely, check seals, label, date, and store.

Nutrition: Mixed Vegetables, no salt added
Serving size: ½ cup — 60 calories, 0 g fat, 12 g carbohydrates, 3 g protein, 3 g fiber, 35 mg sodium, 3 g sugar

Pickled Corn Relish

Yield: About 9 pint jars

- 10 cups whole kernel corn — Use fresh (16 to 20 medium-sized ears) or frozen (six 10-ounce packages)
- 2½ cups sweet red pepper, diced
- 2½ cups sweet green pepper, diced
- 2½ cups chopped celery
- 1¼ cups chopped onions
- 1¾ cups sugar
- 5 cups vinegar (5% acidity)
- 2½ tablespoons salt
- 2½ teaspoons celery seed
- 2½ tablespoons dry mustard
- 1¼ teaspoons turmeric

Procedure

Fresh corn: Remove the husks and silks. Cook the ears of corn in boiling water for 5 minutes; remove and plunge into cold water. Drain and cut the corn from the cob. Do not scrape the cob.

Frozen corn: Defrost in the refrigerator overnight or in a microwave oven.

To make relish: Combine the peppers, celery, onions, sugar, vinegar, salt, and celery seed in a saucepan. Cover the pan until the mixture starts to boil, then simmer uncovered for 5 minutes, stirring occasionally. Mix the dry mustard and turmeric in a ½ cup of the simmered mixture. Add this mixture with the corn to the hot mixture. Return it to boiling and simmer for 5 minutes, stirring occasionally.

The relish may be thickened when the corn is added by adding ¼ cup of flour blended with ¼ cup of water. Stir frequently to prevent sticking and scorching.

Pack loosely while the mixture is boiling hot into hot pint jars, leaving ½-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe the sealing surface of the jars with a clean, damp paper towel. Apply lids and rings fingertip-tight.

Process 15 minutes in a boiling-water bath or steam canner for elevations of 0 to 1,000 feet; process 20 minutes for 1,001 to 6,000 feet. Turn off heat and remove canner lid. Let jars cool 5 minutes. Remove jars from canner; do not retighten bands. Cool completely, check seals, label, date, and store.

Nutrition: Pickled Corn Relish

Serving size: 1 tablespoon — 10 calories, 0 g fat, 2 g carbohydrates, 0 g protein, 0 g fiber, 40 mg sodium, 2 g sugar

Problems and Solutions

1. Why does canned corn turn brown after processing?

This could be due to an unsuitable variety of corn for canning. Supersweet corn varieties are not recommended for canning as high temperatures cause browning of kernels. The corn could have been harvested at the wrong time. The kernels should be plump, shiny, and filled with milk. If liquid does not cover the corn in the jar, it can turn brown. Also, if the processing temperature is too high, it will overcook and cause browning.

2. Why does frozen corn taste “cobby”?

Inaccurate blanching time or not blanching corn at all will cause it to taste like the cob. Be sure to follow recommended blanching times.

3. Can the husks be left on when freezing corn-on-the-cob?

There is no way to blanch the cob with the husks on. Enzymes naturally present in the corn cause off flavors. Quality will deteriorate after 1 to 2 months. Blanching offers best results.

4. What makes corn expand during processing?

Corn contains starch which absorbs liquid and expands during cooking. Pack corn loosely in jars to allow for expansion.

5. Can corn be added to salsa recipes before canning?

No. There are no salsa recipes for canning that include corn. Randomly adding corn or any other low acid vegetable prior to canning salsa will result in an unsafe product. A safer option is to add corn when ready to serve home canned salsa.

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Complete Guide to Home Canning, USDA AIB No. 539, 2015; and *So Easy to Preserve*, 6th ed., The University of Georgia Cooperative Extension Service.

Nutrition data provided by USDA FoodData Central, <https://fdc.nal.usda.gov/index.html> and ESHA Genesis R&D Food Formulation & Labeling Software, version 11.13

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