



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.

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 wash.

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 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 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, 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, and freeze.

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).

Wash and sterilize jars, keeping them hot. Preheating is optional for standard metal lids. If desired, heat them in simmering, but not boiling, water. If using reusable plastic lids with rubber rings follow manufacturer's instructions.

Whole Kernel and Cream-Style Corn

Whole kernel corn may be canned in pints or quarts. Cream-style corn must be packed only in pint jars because of the density of the canned product. Add 1 teaspoon of salt per quart or $\frac{1}{2}$ 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 $31\frac{1}{2}$ 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.

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 head space. 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, 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 of 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, and store.

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 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 and store.

Southwestern Vegetable Soup

Yield: about 9 pints or 4 quarts

- 1½ quarts whole kernel corn, uncooked
- 1 quart peeled, cored, chopped tomatoes
- 2 cups husked, cored, chopped tomatillos
- 1 cup sliced carrots
- 1 cup chopped onion
- 1 cup chopped sweet red pepper
- 1 cup chopped sweet green pepper
- ¾ cup stemmed, seeded, chopped banana pepper
- ¼ cup stemmed, seeded, chopped jalapeño pepper
- 3 tablespoons minced cilantro

- 2 teaspoons chili powder
- 1 teaspoon cayenne pepper
- 1 teaspoon black pepper
- 1 teaspoon salt (optional)
- 1½ quarts tomato juice
- 1 cup water
- 4 teaspoons hot pepper sauce

Combine all ingredients in a large saucepot. Bring to a boil. Reduce heat and simmer 15 minutes. Ladle hot soup into hot jars, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a damp clean 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, and store.

Note: When cutting or seeding hot peppers, wear rubber gloves to keep from burning your hands.

Vegetable Soup

Yield: About 14 pints or 7 quarts

- 2 quarts peeled, cored, chopped tomatoes (about 12 medium)
- 1½ quarts peeled, cubed potatoes (about 9 medium)
- 1½ quarts trimmed, peeled, sliced carrots (about 12 medium)
- 1 quart lima beans
- 1 quart whole kernel corn, uncooked (about 8 medium ears)
- 2 cups trimmed, sliced celery (about 4 stalks)
- 2 cups chopped onions (about 2-3 medium)
- 1½ quarts water
- Salt and pepper to taste (optional)

Wash and prepare all vegetables. Combine all ingredients except salt and pepper in a large saucepan. Bring the mixture to a boil. Reduce heat and simmer for 15 minutes. Season with salt and pepper if desired. Ladle hot soup into hot jars, leaving 1 inch headspace. Remove air bubbles and wipe jar rims with a damp, clean paper towel. Apply lids and rings fingertip-tight. Process in a pressure canner according to the directions 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

Table 1. Recommended processing times for corn in a pressure canner

Product	Style of pack	Jar size	Process time (min.)	Canner gauge pressure needed at different altitudes (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
		Quarts	85	11	12	10	15
Southwestern	Hot	Pints	55	11	12	10	15
Vegetable Soup		Quarts	85	11	12	10	15
Vegetable Soup	Hot	Pints	55	11	12	10	15
		Quarts	85	11	12	10	15

retighten bands. Cool completely, check seals, label and store.

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

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, filling to ½ inch from the top. Remove the air bubbles, wipe the jar rims, and adjust the lids.

Process 15 minutes in a boiling-water bath or steam canner for altitudes 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 and store.

Problems and Solutions

1. Why does canned corn turn brown after processing?

This could be due to an unsuitable variety of corn for canning. 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.

Corn Nutritional Analysis

Nutrient	Whole Kernel (½ cup)	Cream Style (½ cup)	Southwestern Vegetable Soup (1 cup)	Vegetable Soup (1 cup)	Pickled Corn Relish (1 tablespoon)
Calories	66.0	92.0	80.0	130.0	11.0
Carbohydrate (g)	15.2	23.0	17.0	27.0	2.8
Fat (g)	0.8	0.5	1.0	1.0	0.0
Protein (g)	2.1	2.2	3.0	5.0	
Dietary Fiber (g)	1.1	1.5	3.2	5.0	0.2
Sodium (mg)					
With salt	278.0	278.0	159.2	NA	66.0
Without salt	11.6	11.6	30.0	40.0	NA

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Adapted from original by Karen P. Penner, Ph.D., and Jeanne Dray, April 1995

Complete Guide to Home Canning, USDA AIB No. 539, 2009; and *So Easy to Preserve*, 6th ed., The University of Georgia Cooperative Extension Service.

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