

USING, STORING, AND PRESERVING



CORN

Michigan-grown corn is available August through September.

NUTRITION INFORMATION

One-half cup cooked corn kernels has:

- 89 Calories.
- 1 gram fat.
- 2 grams fiber.

Nutrient information is based on the USDA nutrient composition database.

HOW TO BUY



- Choose corn that is fresh from the farmer's field or from a refrigerated case in the grocery store.
- The husk should be tight, green and fresh-looking, not dry or yellow.
- Look for small kernels at the tip when the husk is peeled back.

YIELD

One pound equals about:

- 5 medium ears of corn.
 - 5 to 6 half-cup servings of corn kernels.
- 4 to 5 pounds of corn equal 2 pints frozen or canned corn kernels.
- 20 pounds (in husks) equal a canner load of 9 pints.
- 31 1/2 pounds (in husks) equal a canner load of 7 quarts.
- 1 bushel (in husks) is about 35 pounds.

HOW TO STORE

Store corn in its husk in the refrigerator. For best flavor, eat soon after picking or buying.

FOOD SAFETY TIPS

Keep corn away from raw meat so that meat juices do not contaminate it.

After removing husk and silk, wash corn under cool running water before preparing it.

QUICK AND EASY SERVING TIPS

- Make a quick succotash by combining cooked corn kernels and cooked lima beans.
- Add corn kernels to other raw vegetables in a salad.
- Add canned corn kernels to corn muffin batters, soups, chowder, chili and casseroles.

HOW TO PREPARE

To boil whole ears of corn

Remove husk and silk from ears. Wash corn using cool running water. Fill a large pot with water and bring water to a boil. Drop ears of corn, one at a time, into boiling water. Cover and boil for 1 to 3 minutes.

To blanch

Remove husk and silk from ears. Wash corn using cool running water. Put corn into boiling water. Blanch corn kernels for 4 minute or whole ears of corn for 7 to 11 minutes, depending on size of ear.

To microwave

Remove husk and silk from corn. Wash corn under cool running water. Put 2 ears of corn into a microwave-safe dish with 3 tablespoons of water or wrap ears in wax paper. Microwave on high for 3 to 6 minutes.

Note: Microwave cooking times are provided as a guide. Cooking times vary due to differences in microwave ovens. Check product often for desired doneness.

To roast

Peel back husk and remove silk. Then replace husk. Soak corn in husk in cold water for 5 minutes (or wrap in aluminum foil if no husk). Put on hot grill for 8 to 15 minutes.

CORN

RECIPE

Microwave Spanish Corn

2 tablespoons low-fat margarine
1/2 cup green pepper, washed, with seeds removed, and chopped
1/2 cup onion, peeled and chopped
2 cups cooked corn kernels
1 (16-ounce) can tomatoes
1/4 teaspoon oregano

Sauté pepper and onion in margarine until tender. Combine all ingredients in a 2-quart microwave-safe dish. Cover and cook on high power for 2 to 3 minutes or until bubbly hot. Makes 8 (1/2 cup) servings.

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: 61 Calories; 2 grams (g.) fat; 0 milligrams (mg.) cholesterol; 2 g. fiber; 129 mg. sodium.

HOW TO PRESERVE



To freeze corn

Select ears with plump, tender kernels and thin, sweet milk. Remove husks and silk. Wash corn under cool running water. Blanch ears for 4 minutes. Cool promptly in several changes of cold water and drain. Cut kernels from the cob at about 2/3 the depth of the kernels. (For cream-style corn, cut the kernels at about the center of the kernel and then scrape the cobs with the back of the knife to remove the juice and hearts of the kernels.) Pack corn into freezer containers, leaving 1/2 inch headspace. Seal, label, date and freeze. Use frozen corn within 8 to 12 months for best quality.

Do not freeze more than 1 quart (2 to 3 pounds) of food per cubic foot of freezer capacity per day. One cubic foot will hold 30 quarts of food.

If freezing corn on the cob, increase blanching time to 7 minutes for small ears, 9 minutes for medium ears and 11 minutes for large ears. After cooling, tightly wrap ears individually in moisture vapor-proof film and pack in plastic freezer bags. Seal, label, date and freeze.

To can corn

Pressure canning: **PRESSURE CANNING IS THE ONLY SAFE METHOD FOR CANNING CORN.**

Whole-kernel

Prepare corn: Select ears containing slightly immature kernels, or corn of ideal quality for eating fresh. Canning some sweeter varieties or too immature kernels may result in browning. Can a small amount and check color and flavor before canning large quantities. Remove husk and silk. Wash corn under cool running water. Blanch 3 minutes in boiling water. Cut corn from cob at about 2/3 the depth

of the kernels. An electric knife works well. **CAUTION: DO NOT SCRAPE COB.** Scraping removes the starchy liquid from the kernels and increases the time required to safely process the corn.

Raw pack: Wash jars. Pack hot jars loosely with raw kernels, leaving 1 inch headspace. Do not shake or press down. Add 1 teaspoon of salt per quart to each jar, if desired. Add fresh boiling water, leaving 1 inch headspace. Remove air bubbles and wipe jar rims. Place each lid, gasket down, onto the cleaned jar-sealing surface. Then fit the 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.

Hot pack: Wash jars. To each clean quart of kernels in a saucepan, add 1 cup of hot water, heat to boiling and simmer 5 minutes. Add 1 teaspoon of salt per quart to each jar, if desired. Pack hot jars with corn and cooking liquid, leaving 1-inch headspace. Remove air bubbles and wipe jar rims. Place each lid, gasket down, onto the cleaned jar-sealing surface. Then fit the 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 pressure canner using the following general pressure canner directions and recommended process times.

General pressure canner directions (for a dial-gauge or weighted-gauge canner)

1. Put 2 to 3 inches of hot water in the canner. Place filled jars on the rack, using a jar lifter. Fasten canner lid securely.
2. Leave weight off vent port or open petcock. Heat at the highest setting until steam flows from the petcock or vent port.
3. Maintain high heat setting, exhaust steam 10 minutes, and then place weight on vent port or close petcock. The canner will pressurize during the next 3 to 4 minutes.
4. Check the chart for the recommended process time for jar size and altitude. Start timing the process when the pressure reading on the dial gauge indicates that the recommended pressure has been reached, or when the weighted gauge begins to jiggle or rock.
5. Regulate heat under the canner to maintain a steady pressure at or slightly above the correct gauge pressure. Quick and large pressure variations during processing may cause unnecessary liquid losses from jars.
6. When the timed process is completed, turn off the heat, remove the canner from heat, if possible, and let the canner depressurize. **DO NOT FORCE-COOL THE CANNER.** Standard-size heavy-walled canners require about 30 minutes to cool when loaded with pints and 45 minutes with quarts. Newer thin-walled canners cool more rapidly and

CORN

are equipped with vent locks. These canners are depressurized when the vent lock piston drops to a normal position.

7. After the canner is depressurized, remove the weight from the vent port or open the petcock. Wait 2 minutes, unfasten the lid, and remove it carefully. Open the lid away from you so that the steam does not burn your face.

8. Remove jars from canner with a jar lifter and place them on a towel or rack. DO NOT retighten screw bands. Air cool jars 12 to 24 hours. Remove screw bands and check lid seals. If the center of the lid is indented, wash, dry, label and store the jar in a clean, cool, dark, dry place. If after 12 to 24 hours the lid is unsealed, examine and replace the jar if defective, use a new lid and a screw band, and REPROCESS as before. Dump out corn and liquid into a pan, reheat until boiling, and fill hot jars with corn and liquid, leaving 1 inch headspace. Place NEW LIDS and screw bands on jars and process for the time recommended below. When jars have sealed and cooled, remove, wash and store screw bands separately. Corn is highest quality if consumed within a year and safe as long as lids remain vacuum sealed.

Recommended process times

Whole-kernel corn, in a dial-gauge pressure canner

Style	Jar of pack size	Process time	Canner pressure (pounds pressure) at altitudes of			
			0-2,000 ft.	2,001-4,000 ft.	4,001-6,000 ft.	6,001-8,000 ft.
Raw	Pints	55 min.	11 lb.	12 lb.	13 lb.	14 lb.
Raw	Quarts	85 min.	11 lb.	12 lb.	13 lb.	14 lb.
Hot	Pints	55 min.	11 lb.	12 lb.	13 lb.	14 lb.
Hot	Quarts	85 min.	11 lb.	12 lb.	13 lb.	14 lb.

Recommended process times

Whole-kernel corn, in a weighted-gauge pressure canner

Style	Jar of pack size	Process time	Canner pressure (pounds pressure) at altitudes of	
			0-1,000 ft.	Above 1,000 ft.
Raw	Pints	55 min.	10 lb.	15 lb.
Raw	Quarts	85 min.	10 lb.	15 lb.
Hot	Pints	55 min.	10 lb.	15 lb.
Hot	Quarts	85 min.	10 lb.	15 lb.

RECIPES

Pickled Corn Relish (makes about 9 pints)

10 cups fresh whole-kernel corn (16 to 20 medium ears),

OR

6 (10-ounce) packages of frozen whole-kernel corn

2 cups diced sweet red peppers

5 cups vinegar (5% acidity)

2 tablespoons canning or pickling salt

2 cups diced sweet green peppers

2 cups chopped celery

1 cup diced onions

1 cup sugar

2 teaspoons celery seed

2 tablespoons dry mustard

1 teaspoon turmeric

NOTE: ADDING THE AMOUNT OF VINEGAR INDICATED IN THIS RECIPE IS CRUCIAL FOR THE RECIPE TO BE SAFE TO CAN USING A BOILING-WATER CANNER.

Fresh corn: Remove husks and silks. Wash corn under cool running water. Boil ears 5 minutes. Dip in cold water and drain thoroughly. Cut whole kernels from cobs. Do not scrape.

Frozen corn: Defrost frozen corn overnight in refrigerator.

Combine peppers, celery, onions, sugar, vinegar, salt and celery seed in a saucepan. Bring to boiling and simmer 5 minutes, stirring occasionally. Mix mustard and turmeric in 1/2 cup of the simmered mixture. Add this mixture and corn to the hot mixture. Simmer another 5 minutes. If desired, thicken mixture with flour paste (1/4 cup flour blended in 1/4 cup water) and stir frequently. Fill clean, hot jars with hot mixture, 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 the 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 following general boiling-water canner directions and recommended process times.

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.

CORN

Recommended process times in a boiling-water canner

Pickled Corn Relish (9 pints)

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

Succotash (7 quarts)

15 pounds unhusked sweet corn or 3 quarts cut whole kernel corn

14 pounds mature green-podded lima beans or 4 quarts shelled limas

2 quarts crushed or whole tomatoes (optional)

Corn: Husk corn, remove silk and wash ears. Cut corn from cobs at two-thirds the depth of kernels. Do not scrape corn from cobs.

Lima beans: Shell beans and wash thoroughly. Add 3 cups of water for each cup of dried beans. Boil 2 minutes, remove from heat and soak 1 hour. Drain. Heat to boiling in fresh water, and save cooking liquid for hot pack succotash.

Crushed tomatoes: 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. Trim away any bruised or discolored portions and quarter. 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 kettle. Once the crushed tomatoes are boiling, gradually add remaining quartered tomatoes, stirring constantly. These tomatoes do not need to be crushed – they will soften as the mixture is stirred. After adding all tomatoes to the saucepan, boil gently for 5 minutes.

Raw pack: Fill hot jars with equal parts of all prepared vegetables, leaving 1 inch headspace. Do not shake or press down pieces. Add 1 teaspoon of salt to each hot quart jar, if desired. Add fresh boiling water, leaving 1 inch headspace. Remove air bubbles and wipe jar rims. Place each lid, gasket down, onto the cleaned jar-sealing surface. Then fit the 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.

Hot pack: Combine all prepared vegetables in a large kettle with enough water to cover the pieces. Boil gently 5 minutes, then fill hot jars with vegetables and cooking liquid, leaving 1 inch headspace. Add 1 teaspoon of salt to each hot quart jar, if desired. Remove air bubbles and wipe jar rims. Place each lid, gasket down, onto the cleaned jar-sealing surface. Then fit the 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 using general pressure canner directions 1 through 8 on pages 2 and 3, and the following recommended processing times.

Recommended process times

Succotash, in a dial-gauge pressure canner

Style of pack	Jar size	Process time	Canner pressure (pounds pressure) at altitudes of			
			0-2,000 ft.	2,001-4,000 ft.	4,001-6,000 ft.	6,001-8,000 ft.
Raw	Pints	60 min.	11 lb.	12 lb.	13 lb.	14 lb.
Raw	Quarts	85 min.	11 lb.	12 lb.	13 lb.	14 lb.
Hot	Pints	60 min.	11 lb.	12 lb.	13 lb.	14 lb.
Hot	Quarts	85 min.	11 lb.	12 lb.	13 lb.	14 lb.

Recommended process times

Succotash, in a weighted-gauge pressure canner

Style of pack	Jar size	Process time	Canner pressure (pounds pressure) at altitudes of	
			0-1,000 ft.	Above 1,000 ft.
Raw	Pints	60 min.	10 lb.	15 lb.
Raw	Quarts	85 min.	10 lb.	15 lb.
Hot	Pints	60 min.	10 lb.	15 lb.
Hot	Quarts	85 min.	10 lb.	15 lb.

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-1888 Food Preservation Series-Corn (Michigan State University Extension, 1990) and So Easy to Preserve (University of Georgia Cooperative Extension Service, 1993).



MSU is an affirmative-action equal-opportunity institution. Michigan State University Extension programs and materials are open to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status, or family status. ■ Issued in furtherance of Extension work in agriculture and home economics, acts of May 8 and June 20, 1914, in cooperation with the U.S. Department of Agriculture. Margaret A. Bethel, Extension director, Michigan State University, E. Lansing, MI 48824.

■ This information is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by MSU Extension or bias against those not mentioned. This bulletin becomes public property upon publication and may be printed verbatim with credit to MSU. Reprinting cannot be used to endorse or advertise a commercial product or company. Reprinted 5/02-15M-KMF/BRD, Price 25¢, single copy free to Michigan residents