



Agriculture
Canada

PREPARING VEGETABLES FOR 50



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To restaurateurs and food service operators

Over the years, Agriculture Canada has provided the food industry with grading and inspection services to ensure high quality foods on the market. Federal inspectors in each province enforce the grade standards required for fruits and vegetables at wholesale markets and in inter-provincial and export trade. Most fresh Canadian produce is sold by grade and marked with a "Canada" grade name. Fruits and vegetables bearing a federal grade name must meet grade and label specifications and must be in standard packages. Imported produce is not required to show the "Canada" grade name on packages.

Safe, quality foods are available to all, but it takes know-how to buy, store and prepare foods with a minimum of waste. The information in this booklet has been especially assembled for food

service operators. Keep it handy for frequent reference.

For more information to help you make the best use of Canadian foods in your menus, please contact:

Food Consultants
Food Advisory Division
Agriculture Canada
Ottawa K1A 0C5
(613) 995-5880

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Marketing Services Division
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INFORMATION SERVICES
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Contents

VEGETABLE COOKERY	5
PURCHASING, PORTION SIZE	6
PREPARATION FOR COOKING	7
COOKING METHODS	8
HOW TO SERVE	10
FEATURES FOR DIET-CONSCIOUS CUSTOMERS	11
COMMODITY MARKETING INFORMATION	12

Preparing Vegetables for 50

It is possible to serve fresh vegetables that have eye and taste appeal in any food service operation. But you must buy fresh, top-quality vegetables, cook them properly and serve them quickly. They can make any meal colorful and attractive, particularly when served with imagination and seasoned with-flair.

Did you know that less than 10% of the Canadian food service dollar is spent on fresh, frozen or canned vegetables? These relatively inexpensive items can pay dividends in customer satisfaction.

People are becoming more nutrition conscious every day and vegetables are a "natural" to promote in this respect. When you serve top quality vegetables you serve good value for the money. At the same time, diet-conscious customers should be able to choose low-calorie vegetables from your menu.

Canada's Food Guide recommends at least two servings of vegetables per person per day. Try serving a variety of vegetables — yellow, green, or green leafy vegetables. They are good sources of vitamin A, vitamin C and folic acid. Some are particularly rich in iron and most are low in calories. They are also one of the most important contributors of dietary fiber.

Vegetable cookery

Prepare vegetables just before cooking in order to retain a maximum of nutrients, appearance and flavor.

Choose a vegetable in terms of the entrée with which it is to be served. Strive for a balance between soft and firm foods, e.g. mashed potatoes with tender crisp green beans rather than squash. Contrast shapes, e.g. meat loaf rather than meat balls with Brussels sprouts.

Contrast colors — serve a green vegetable with a yellow one.

Serve a mild-flavored vegetable with a stronger-flavored vegetable, e.g. potatoes with turnips.

Sort or cut vegetables into equal-size pieces to prevent excess waste in the vegetable peeler and ensure uniform cooking. If possible, leave the peel on the vegetable since it contains many nutrients.

Never soak vegetables prior to cooking unless absolutely necessary. Some vegetables such as cauliflower, broccoli, cabbage and Brussels sprouts may need to be soaked to remove insects. Soak them in cold, salted water for half an hour — longer soaking results in vitamin losses.

Cook them right

Cook vegetables until tender crisp. They look best, taste best and are most nutritious when given a minimum of cooking. They should not, however, taste raw.

Root vegetables and squash should be cooked until soft if they are to be mashed.

Fried vegetables in batter should be crisp on the outside and soft on the inside.

Do not add baking soda to cooking vegetables as it greatly increases the loss of vitamin C and thiamin. Properly cooked, fresh vegetables should not lose much color.

Combine one vegetable with another one or with other foods, e.g. green beans with almonds, a combination of yellow and green beans, or cauliflower mixed with peas.

Do not add acid foods, such as tomatoes, to other vegetables until they are cooked tender. Acid fruits or vegetables slow down the cooking process.

Save the liquid from cooked vegetables for use in soups, sauces and gravies.

Avoid overcooking vegetables as they become mushy, and color and vitamins are destroyed. Overcooking has a greater effect on vegetable quality than does holding time.

Holding and serving

A long holding period results in nutrient loss and a less attractive product. If vegetables must be held before serving, they should be slightly undercooked to allow for cooking which takes place on the steam table.

Always serve hot vegetables hot and cold vegetables cold.

AMOUNT OF FRESH VEGETABLES TO PURCHASE FOR 50 SERVINGS BASED ON AVERAGE PREPARATION AND COOKING LOSSES

<i>Fresh Vegetable</i>	<i>As purchased mass (A.P.)¹ kg</i>	<i>Edible portion (E.P.)¹ kg</i>	<i>Suggested serving portion</i>	
			<i>g</i>	<i>mL or pieces</i>
Asparagus	6.0	3.4	50–60	3–4 stalks
Beans, green and wax	4.5	3.6	70	125 mL
Beets, without tops	4.0	—	70	1 beet
Broccoli	6.0	3.6	65–70	2 stalks
Brussels sprouts	5.0	3.5	55–60	5–6 sprouts
Cabbage				
— wedges	6.0	4.8	110	15 cm wedges
— shredded	6.0	4.8	50–60	125 mL
Carrots				
— new	4.6	4.1	70	5 carrots
— storage	6.2	4.5	70	125 mL
Cauliflower, trimmed	7.0	4.8	85–90	150 mL
Celery	5.2	4.1	70	125 mL
Corn on the cob	15.0 (50 ears)	9.0	200	1 ear
Mushrooms	6.0	5.3	65–70	75 mL
Onions				
— whole	6.0	5.2	90–115	1 medium
— sliced	4.4	4.0	75	75 mL
Parsnips	8.5	6.4	110–115	125 mL
Potatoes				
— new	4.0	3.9	70–75	1 small potato
— storage	5.0	4.0	70–75	½ potato
— whole for baking	9.5	9.4	140–165	1 potato
Rutabagas (yellow turnip)	8.5	6.4	110–115	125 mL
Spinach, untrimmed	5.0	5.6 ²	80	125 mL
Squash				
— acorn	10.0	8.2	150 with shell 110 without shell	85 mL mashed
— buttercup	11.0	8.2	150 with shell 110 without shell	85 mL mashed
— butternut	8.0	6.1	110–115	125 mL (85 mL mashed)
— hubbard	10.0	8.5	150 with shell 110 without shell	85 mL mashed
— vegetable marrow	10.0	7.9	150 with shell 110 without shell	85 mL mashed
— zucchini				
— slices	6.5	6.0	110	125 mL
— halves	5.4	4.9	90	1 half
Tomatoes	4.5 (25 whole)	4.3	75–80	1 half

¹Weights are average and can vary widely

²Spinach gains weight on washing

PREPARATION FOR COOKING

<i>Fresh vegetable</i>	<i>Preparation</i>
Asparagus	Break off base where it snaps easily. Remove sand from under scales.
Beans, green and wax	Remove ends. Leave whole or cut in 3 cm pieces.
Beets, without tops	Wash without bruising skin. Peel after cooking.
Broccoli	Trim leaves and woody stems. Cut lengthwise in serving portions.
Brussels sprouts	Trim stems and outer leaves.
Cabbage	Trim stems and outer leaves, quarter, core. Cut in wedges or shred.
Carrots — new — storage	Brush or scrape. Leave whole. Peel, cut in 3 cm chunks.
Cauliflower, trimmed	Trim stem and outer leaves. Separate into flowerets.
Celery	Trim root and leaves. Cut in 3 cm pieces.
Corn on the cob	Remove husks and silk. Cut off most of stalks.
Mushrooms	Trim stem.
Onions	Remove dry skin, root and stem. Leave whole or slice.
Parsnips	Peel, cut in 1.5 cm slices or chunks.
Potatoes — new — storage — whole	Scrub, leave skins on. Peel, leave whole, halve, or quarter. Leave skins on, leave whole, pierce.
Rutabagas (yellow turnip)	Peel, cut in 3 cm chunks.
Spinach, untrimmed	Trim roots and heavy stems. Wash several times, lifting out of water each time. Leave water on leaves for cooking.
Squash — acorn — buttercup — butternut — hubbard — vegetable marrow — zucchini	Scoop out seeds from all except zucchini. Leave skin on, cut in serving portions. Leave skin on, cut in serving portions. Peel and dice. Leave skin on, cut in serving portions. Leave skin on, cut in 2 cm slices. Leave skin on, cut in 3 cm slices or in half.
Tomatoes	Remove stem. Cut in half.

Cooking methods

There are many ways of cooking vegetables to add variety to the menu. Try steaming, baking, sautéing, braising, deep frying and broiling vegetables for a change. These methods result in very little nutrient loss. The most acceptable cooking methods for many of the vegetables are marked with an asterisk (*) in the tables.

Baking

Baking allows little or no contact with water with the result that there is greater nutrient, color and flavor retention in the vegetables than in other methods. Place prepared vegetable in baking pan, add water, cover and bake. Potatoes and squash are best baked dry in their skin.

Sautéing

A few vegetables lend themselves to this method of cooking. Prepare and sauté on grill in 200 g fat until just tender and browned. Turn or stir during cooking.

Broiling

Prepare vegetables as indicated below and place on broiler rack about 8 cm from heating unit. Turn or stir during cooking. Broil until vegetables are just tender and lightly browned.

BAKING TIMES FOR 50 SERVINGS

Vegetable	Water	Time (min)		
		160°C	190°C	220°C
Asparagus	1 L	—	—	32
Carrots, storage	1 L	2 h 15 min	1 h 45 min	1 h 40 min
Onions, whole	—	—	—	65–70
Parsnips	1 L	2 h	2 h 15 min	—
Potatoes	—	2 h 5 min	1 h 20 min	1 h 40 min
Squash, acorn	—	85–90	70–75	—
Tomatoes, halves	—	25	15	10
Zucchini, halves	1 L	60	60	—

SAUTÉING AND BROILING TIMES FOR 50 SERVINGS

Vegetable	Sauté	Broil
	Time (min)	Time (min)
Mushrooms, whole	5	24
Onions		
— whole	—	60
— slices	8–10 (transparent) 18–20 (browned)	—
Tomatoes, halves	—	10
Zucchini, halves	—	12–13 per side

Boiling (Top Range and Steam Jacketed Kettle)

Add prepared vegetable to boiling salted water. Use very little water, to ensure a minimum of nutrient loss. Start timing when water has returned to the boil. Reduce heat and boil gently. Stir vegetables as little as possible to avoid breaking. Vegetables are cooked when they are just fork tender.

Steaming

This is the quick method of cooking vegetables. Place prepared vegetables in perforated or solid steamer pan. Start timing once the steamer has come up to pressure. Steaming in shallow pans allows for quicker cooking than in deep ones. The times recommended are based on steaming in shallow perforated pans.

BOILING AND STEAMING TIMES FOR 50 SERVINGS

Vegetable	Water (L)	Boil Time (min)		Steam jacketed kettle	Steam Time (min) Pressure steamer	
		Salt (mL)	Top range		35 kPa (5 lb)	100 kPa (15 lb)
Asparagus	4	15	5	3	7	1
Beans, green and wax						
— whole	4	15	8–10*	8–9*	6	4
— 3 cm pieces	4	15	15*	15*	7	3
Beets	to cover	—	55–60	45–55	45	30
Broccoli	4	15	10*	5*	5	30 sec.
Brussels sprouts	4	15	10*	10*	5–6	2
Cabbage						
— cut in wedges	4	15	8–10	8	10–12	4
— shredded	4	15	15*	5*	5–6	1
Carrots						
— new	4	15	13	10	9	6
— storage	4	15	12–17	10–12	10	7
Cauliflower	4	15	12*	8*	8	—
Celery	4	15	12*	8*	5	2
Corn on the cob	4	15	8	5	15	3
Onions						
— whole	to cover	15	25	25	15–18	10
Parsnips	4	15	11	15–17	17	10
Potatoes						
— new	4	15	20	22	20	13
— storage	4	15	20	23–25	20–22	10
Rutabagas (yellow turnip)	4	15	35–40	40	17	8
Spinach	—	—	15	5	8	4
Squash						
— acorn	—	—	—	—	13	6
— buttercup	4	15	14	11	12	8
— butternut	4	15	10–15	10–12	5	2
— hubbard	4	15	20	15	10	3
— vegetable marrow	4	15	15*	12	8	5
— zucchini slices	—	—	—	—	8	4

*most acceptable method

Frozen Vegetables

Purchase approximately 4.5 kg frozen vegetables for 50 portions (80–85 g each). Use a minimum of water and do not boil or overcook.

Canned Vegetables

Pour off the vegetable liquid into pot or kettle and boil it quickly to reduce the volume by half. Add the vegetable and heat to serving temperature. Do not boil.

COOKING TIMES FOR 50 (80–85 g) PORTIONS OF FROZEN VEGETABLES

Vegetable	Boil Time (min)		Steam Time (min)
	Top Range (500 mL water)	Steam Jacketed Kettle (2 L water)	Pressure Steamer 100 kPa (15 lb)
Beans, green and wax	10	7	5–7
Broccoli	5	3	Not recommended
Brussels sprouts	10	5	4
Cauliflower*	3	4	4
Corn, whole kernel	3	3	2
Mixed vegetables	7	3	2
Peas	5	3	3
Peas and carrots	5	3	3
Squash, diced*	4	1	1

*Additional water may be required

How to serve

Spices, herbs and toppings can enhance the flavor of vegetables when the right combinations are used. These should not be allowed to mask the pleasant, natural flavor of vegetables. Start with a small amount of a seasoning, adding more to taste.

Vegetable	Toppings	Seasonings
Asparagus	French dressing Grated or melted cheese Lemon butter	Freshly ground pepper Chopped parsley Oregano
Beans, green and wax	Pimiento and slivered almonds Garlic croutons Butter, lemon juice and parsley	Basil Chervil Rosemary
Beets	Orange juice Horseradish Sour cream, plain or mixed with sliced green onion	Dill Ground cloves
Broccoli	Grated cheese Clear French dressing Mayonnaise mixed with lemon juice	Dry mustard Nutmeg Rosemary

Brussels sprouts	Sautéed mushrooms and crumbled cooked bacon Clear French dressing Mixture of Worcestershire sauce, prepared mustard and cayenne pepper	Caraway seed Dill seed Thyme Crushed garlic
Cabbage	Grated cheese Sour cream Clear French dressing	Caraway seed Dry mustard
Carrots	Grated Parmesan cheese Honey or maple syrup Lemon juice	Dill Mint Tarragon
Cauliflower	Grated cheese or cheese sauce Melted butter, curry and parsley	Basil Paprika Parsley
Celery	Sour cream mixed with Thousand Island Dressing Grated Swiss cheese Soy sauce	Sliced green onion Nutmeg Parsley
Onions	Chopped pimiento Cream sauce	Nutmeg Thyme Cloves
Parsnips	Grated cheese Honey glaze Buttered bread crumbs	Chervil Ginger Mace
Potatoes	Sour cream Lemon butter Grated sharp cheese	Chervil Chives Mint
Rutabagas (yellow turnip)	Grated cheese Mashed with brown sugar Sour cream and chopped parsley	Ginger Nutmeg Parsley
Spinach	Cream Grated cheese Crumbled cooked bacon	Basil Nutmeg Savory
Tomatoes	Grated cheese Buttered breadcrumbs Sour cream	Basil Thyme Chopped onion

Features for diet-conscious customers

check calorie content of one serving of these vegetables:

UNDER 30 CALORIES

asparagus
green or wax beans
broccoli
carrots
celery pieces
cauliflower
cucumber
lettuce
radishes
summer squash

UNDER 50 CALORIES

Brussels sprouts
shredded cabbage
onions
cooked spinach
tomato slices
canned tomatoes
sauerkraut
rutabaga (yellow turnip)

Commodity Marketing Information

The following reports are available free of charge from:

Marketing Services Division
Agriculture Canada
Sir John Carling Building
Ottawa K1A 0C5
(613) 995-5880

POULTRY

- Poultry Market Report (Weekly)
- Poultry Market Review (Quarterly & Annual)

DAIRY

- Dairy Produce Market Report (Weekly)
- Dairy Market Review (Annual included as supplement to the Weekly)

LIVESTOCK

- Canada Livestock and Meat Trade Report (Weekly)
- Livestock Market Review (Annual)

FRUIT AND VEGETABLES

- Daily Potato Market Report (Daily — Oct.—June)
- Fruit, Vegetable and Honey Crop and Market Report (Weekly)
- Wholesale-To-Retail Quotations on Imported Fruit and Vegetables (Weekly. Available separately for Montreal and Toronto)

FOOD OUTLOOK REPORT

- This is a 2 page bulletin issued monthly. It indicates to food buyers the direction in which Canadian food supplies and prices will move in the next month. Food Outlook is available free of charge from:
Policy and Economics Directorate
Agriculture Canada
SIR JOHN CARLING BUILDING
Room 303
OTTAWA K1A 0C5

NOTE:

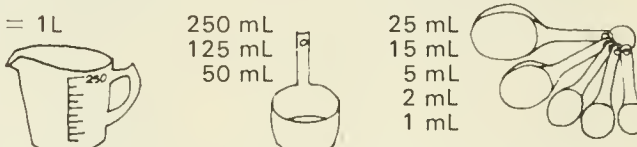
For more information on buying, grading, seasonal availability and storage of vegetables, see Publication 1656, BUYING AND STORING CANADIAN FOODS, available from Information Services, Canada Department of Agriculture, Ottawa K1A 0C7.

KITCHEN METRICS

VOLUME

Use metric measures for metric recipes. Measures are marked in millilitres (mL) and are available in the following sizes:

1000 mL = 1L	250 mL	25 mL
500 mL	125 mL	15 mL
250 mL	50 mL	5 mL
		2 mL
		1 mL



TEMPERATURE

Most commonly used oven temperatures

°C replaces	°F	°C replaces	°F
100	200	190	375
150	300	200	400
160	325	220	425
180	350	230	450

Refrigerator temperature: 4°C replaces 40°F
Freezer temperature: -18°C replaces 0°F

MASS

1 kg (1000 g) is slightly more than 2 pounds
30 g is about 1 ounce


LENGTH

1 cm (10 mm) is slightly less than 1/2 inch
5 cm is about 2 inches

PRESSURE

Pressure for pressure cookers and canners is measured in kilopascals (kPa) instead of pounds per square inch (PSI).

kPa replaces	PSI
35	5
70	10
100	15

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