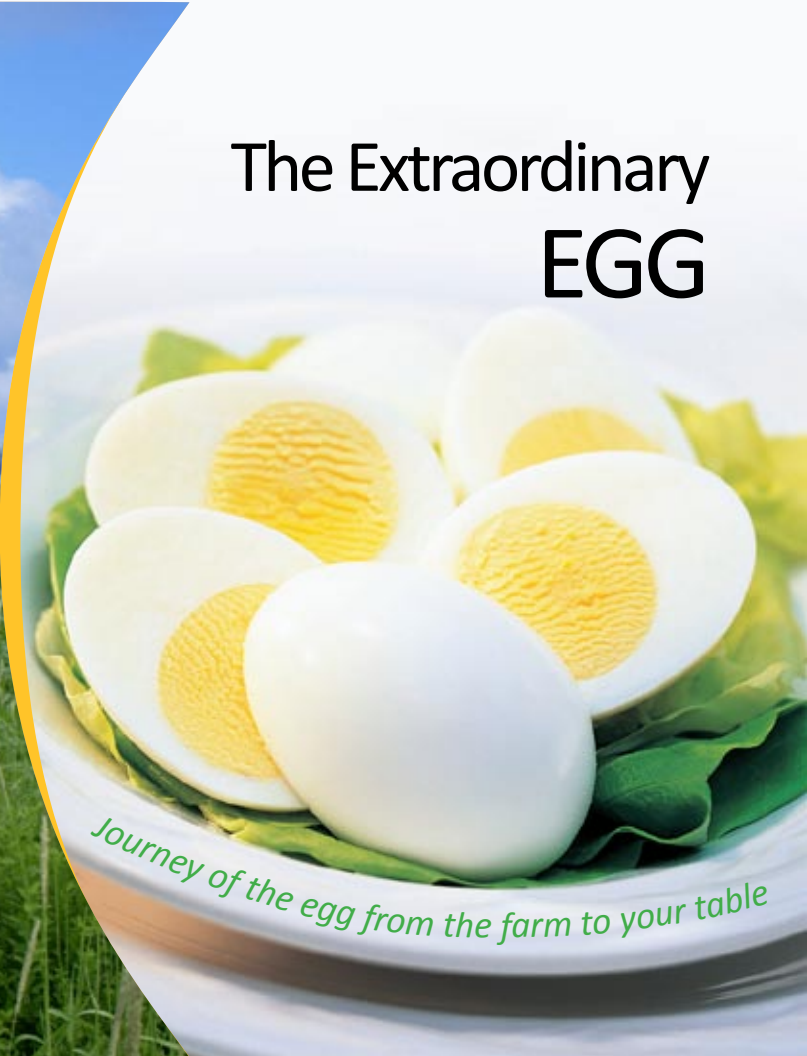




The Extraordinary EGG



Journey of the egg from the farm to your table


Let's Follow the Journey of the Egg

It All Starts at the Hatchery

Here is the extraordinary story about eggs and the journey they take from the farm to your table!

Find out:

- How farmers care for their hens and how measures are put into place to keep eggs safe.
- About the grading process and how the best quality eggs end up in your refrigerator.
- That eggs are one of nature's most nutritious foods.



At the hatchery, eggs from breeding flocks are placed in incubators. After 21 days, the eggs hatch and the chicks are housed in a pullet barn (a pullet is a young hen). At 19 weeks of age, the hens are transferred to a farm to begin laying eggs for the next 12 months. The average laying hen can lay over 300 eggs in one year - that's about 1 egg a day. These eggs are not fertilized and therefore will not hatch into chicks; they are produced strictly for consumption.

Life on the Egg Farm

Hens are housed a variety of ways in Canada. Canada's egg farmers have responded to what consumers want by offering a choice of eggs from different kinds of housing. Whether raised in cages, free run barns or provided pasture for ranging, the hens are well looked after. While times and technology have changed, the level of care we give our hens hasn't.

On most Canadian egg farms, hens are housed in cages inside temperature-controlled laying barns where they can be protected from the elements and from predators like foxes, wolves, hawks and weasels. Eggs gently roll onto collection belts and away from the hen's manure.



Healthy Hens

On some farms, the hens are kept in a free run housing system, where they can walk about the floor of the lay barn. A variation of the free run hen house is the aviary which has different levels for the birds. Other farms have free range housing, which is similar to free run, except the hens have access to the outdoors in a fenced-off pasture.



Feed

Taking good care of their hens is egg farmers number one priority, no matter what kind of housing system is used. It's a commitment that must be met seven days a week. It requires farmers to check on their hens every day, feed their birds a balanced diet with all of the vitamins and minerals needed, and to make sure all of the watering and ventilation equipment is working properly. Yes, the responsibility of taking care of laying hens requires much work but our Canadian egg farmers wouldn't have it any other way.

Laying hens will only receive antibiotics in very rare or special circumstances. They are approved by Health Canada and would only be used under the care of a veterinarian. It is illegal to give hormones or steroids to hens that lay eggs. This is the case for all eggs you buy, whether they be regular white or brown, free range, free run or organic.

Egg Production

As soon as the eggs are laid, they roll down the cage onto a conveyor belt. They are often counted using a laser counter so the egg farmer can track the number of eggs produced each day. Eggs are collected daily from the conveyor belt and placed in a cool room until they are ready to be graded.

Colour...What's the Difference

The most common laying hen in Canada is the White Leghorn - a small bird that lays white eggs. The Rhode Island Red hen which lays brown eggs, is another common breed. There are no nutritional differences between white and brown eggs.

The colour of the egg yolk is determined by the feed a hen eats. A hen that eats a wheat-based diet, which is more common in the western provinces, will produce eggs with pale yellow yolks, while a hen that consumes a corn or alfalfa-based diet produces eggs with dark yellow yolks.



Yolk Colour

On Farm Food Safety



Farmers take great care to ensure their eggs meet the high standards expected by Canadians. Food safety and cleanliness are important concerns on the farm. Egg farmers in Canada follow the Start Clean - Stay Clean™ program, which is a national producers' program designed to ensure the production of safe, clean, high-quality eggs. This program has national standards that must be adhered to by farmers. Egg farms are inspected regularly to ensure that farmers are following the program requirements. Canadian eggs are among the cleanest and safest in the world.

Egg Grading

In Transit

Our journey continues as the eggs are transported from the farm to the grading station. It is important to maintain the correct temperature during transportation to prevent the growth of bacteria and deterioration of the egg's quality.

Making the Grade

Egg farmers sell their eggs to grading stations. When the eggs arrive at the grading station, they are immediately washed and sanitized in water of regulated temperature and acidic balance to remove any dirt or bacteria from their shells. The eggs are then thoroughly rinsed and dried in a special machine.

Next, they go through a quality control process known as candling. In a darkened environment, a strong light is shone through each egg so both the shell and the inside of the egg can be inspected. Using an electronic sensor, eggs are divided into three grades: Grades A, B and C.

In order to be classified as a Canada Grade A egg, it must have an uncracked shell, a perfectly round and centred yolk, a firm white, and a small air cell.



Candling

CANADA GRADE A

- sold at retail stores
- yolk is round and well-centred
- white is thick
- shell is clean, uncracked and of normal shape
- small air cell (less than 5 mm deep)
- frequently used for processed egg products

CANADA GRADE B

- may be used in baking or in the production of processed egg products
- yolk is slightly flattened and enlarged
- white is moderately thin
- shell is uncracked, possibly with rough texture and may be soiled

CANADA GRADE C

- used in the production of processed egg products
- white is thin and watery
- yolk is flattened and enlarged
- shell may be cracked and stained

Only those eggs that meet all of these rigorous standards are then weighed and sent to the appropriate area for packaging. Depending on the weight of the egg, it will automatically be packaged as either peewee, small, medium, large, extra large or jumbo. Egg size depends on the age of the hen; generally, the younger the hen, the smaller the egg. Eggs in a carton may not be the exact same size, but they are within a specific weight range. Egg farmers in Canada carefully follow the Egg Regulations developed by the Government of Canada. The Regulations contain guidelines on egg size, quality, packaging and nutrition labelling; they help consumers make informed choices when shopping for eggs.

PEEWEE less than 42 g

SMALL at least 42 g

MEDIUM at least 49 g

LARGE at least 56 g

EXTRA LARGE at least 63 g

JUMBO 70 g or more



Packaging eggs

As part of the packaging process, the “Best Before” date is stamped on the cartons. This date indicates how long the eggs will maintain their Grade A quality. It is usually set at about 35 days after grading.

Eggs sold in grocery stores are packaged in foam, fibre or clear plastic cartons containing 6, 8, 12 or 18 eggs. Eggs sold at warehouse club stores can also be packaged in flats containing 30 eggs. Once the eggs have been packaged, they are stacked and stored in a refrigerated cooler at 10 degrees Celsius to preserve their freshness, until they are shipped to the store. Eggs are usually shipped to the store within a week of being laid.

Egg Anatomy

Air Cell

- Formed at the wide end of the egg as it cools after being laid.
- The fresher the egg, the smaller the air cell.

Yolk

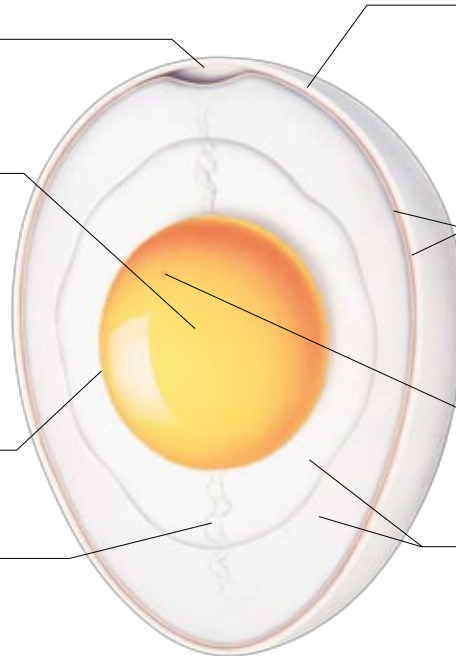
- The egg's major source of vitamins and minerals.
- Contains 3 g of protein and essential fatty acids.
- Represents 30% of the egg's weight.
- Colour ranges from light yellow to deep orange, depending on the feed; yolk colour is not an indicator of nutritional value.

Yolk Membrane (Vitelline Membrane)

- Surrounds and holds the yolk.
- The fresher the egg, the stronger the membrane.

Chalazae

- A pair of spiral bands that anchor the yolk in the centre of the thick egg white.
- The fresher the egg, the more prominent the chalazae.



Shell

- The egg's first line of defence against the entry of bacteria.
- Can be brown or white, depending on the breed of hen; nutritional value of the egg is the same.
- Approximately 10,000 tiny pores allow moisture and gases in and out.

Shell Membranes

- The egg's second line of defence against bacteria.
- There are two membranes on the inside of the shell: outer and inner.
- One membrane sticks to the shell and one surrounds the egg white.

Germinal Disk

- Appears as a slight depression on the surface of the yolk.
- The entry for the fertilization of the egg.

Egg White (Albumen)

- Contains 3 g of protein, riboflavin and water.
- Represents 70% of the egg's weight.
- When a fresh egg is broken, the egg white stands up firmly around the yolk.

The Breaking Station

What are Processed Eggs?

You may only think of eggs in the shell, but they are also sold in liquid, frozen and powdered form.

Liquid eggs are processed at a breaking station, using eggs of all grades. When eggs arrive at a breaking station, they are loaded onto a conveyor belt on flats, washed and candled to verify that they meet Canadian standards and requirements for liquid egg products. Next they are loaded onto a breaking machine equipped with sharp blades to break the egg shells and separate the yolks and the whites. From here, the yolks and whites are pasteurized. In the case of liquid blended products, the yolks and whites are mixed together before they are pasteurized.

While some liquid egg products processed in the breaking station are sold in stores, others are sold to manufacturers to produce food products such as mayonnaise, ice cream, baked goods and noodles.



Breaking eggs for processed products

At the Grocery Store

Smart Shopping

All shell eggs sold in grocery stores are delivered in a refrigerated truck. Upon arrival, they are immediately transported to a cold storage area to preserve their freshness.

Egg farmers have responded to consumers by offering a variety of different kinds of eggs. The eggs are produced by changing the hens' feed or by using different types of housing. In Canada, all eggs are produced to the same high standards of cleanliness, quality and freshness. Plus, they all make a nutritious and delicious choice. Regular or classic eggs are an outstanding and affordable choice. They are an excellent source of high-quality protein and provide many vitamins and minerals, including vitamin B₁₂, riboflavin, vitamin D, folate, iron and selenium. Some specialty eggs may be different in nutrient value and in price than classic eggs.

Eggs found in grocery stores from coast to coast:

Regular white and brown – the majority of eggs produced in Canada are classic white eggs. There is no nutritional difference between white and brown eggs. The colour of the shell depends on the breed of the hen.

Omega-3 – produced by hens that are fed a diet containing 10 to 20% flaxseed or marine oils, providing a higher level of omega-3 polyunsaturated fatty acids, which are beneficial for heart health.

Vitamin-enhanced – contain higher levels of certain nutrients including vitamin E, folate, vitamin B₁₂ and vitamin B₆.

Organic – produced by hens fed certified organic grains.

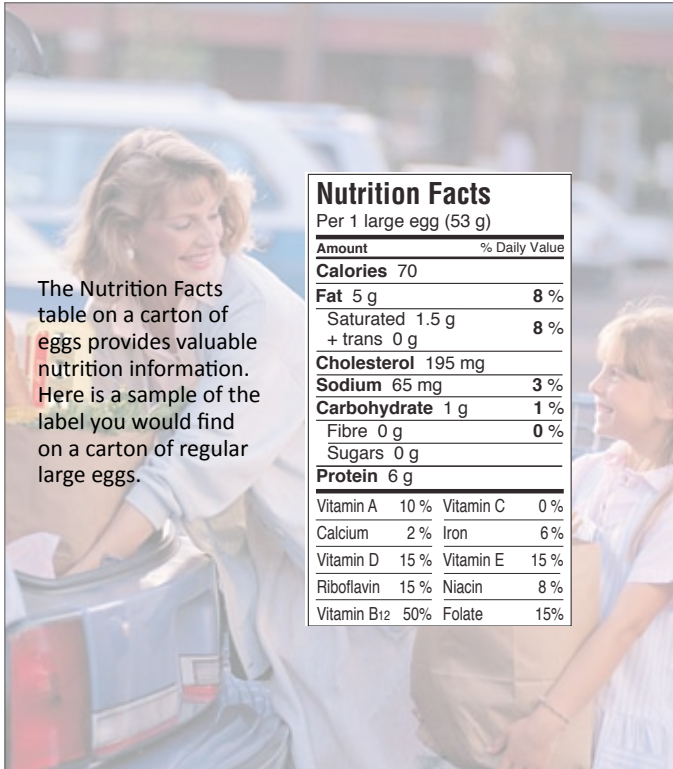
Vegetarian – produced by hens fed a diet containing only ingredients of plant origin.

Premium quality – exceed the requirements of Grade A eggs.

Free run – produced by hens that are able to move about the floor of the barn.

Free range – produced by hens that have access to the outdoors when weather permits.

The type of eggs is clearly labelled on the carton and easy to identify.



The Nutrition Facts table on a carton of eggs provides valuable nutrition information. Here is a sample of the label you would find on a carton of regular large eggs.

Nutrition Facts	
Per 1 large egg (53 g)	
Amount	% Daily Value
Calories 70	
Fat 5 g	8 %
Saturated 1.5 g	8 %
+ trans 0 g	
Cholesterol 195 mg	
Sodium 65 mg	3 %
Carbohydrate 1 g	1 %
Fibre 0 g	0 %
Sugars 0 g	
Protein 6 g	
Vitamin A 10 %	Vitamin C 0 %
Calcium 2 %	Iron 6 %
Vitamin D 15 %	Vitamin E 15 %
Riboflavin 15 %	Niacin 8 %
Vitamin B12 50 %	Folate 15 %

Read the Label

Look for the maple leaf symbol on the carton indicating Canada A. The “Best Before” date indicates the length of time for which the eggs will maintain their Grade A quality.

Health Check™

All Canadian eggs are part of the Health Check™ program and may display the Health Check™ logo, indicating that eggs can be part of a healthy diet according to *Canada’s Food Guide*.

*The Heart and Stroke Foundation’s registered dietitians have reviewed this product to ensure it meets the specific nutrient criteria developed by the Health Check™ program based on the recommendations in *Canada’s Food Guide*. A fee is paid by each participating company to help cover the cost of this voluntary, not-for-profit program. See healthcheck.org



Important things to look for when buying eggs:

- Canada Grade “A” symbol
- Nutrition Facts table
- Best Before Date

Pick up eggs near the end of your shopping trip. Pack them with frozen items to keep them cold. Keep them in the coolest part of your vehicle or place them in a cooler. Get them into the fridge as soon as possible.

At Home – Handling & Cooking Eggs



The Best Before Date

The last stop in the egg's journey is your home. Eggs should be stored in their original carton in the main body of the refrigerator. The carton protects the eggs and prevents them from absorbing strong odours and flavours of other foods through the thousands of tiny pores in the shell. It also means the Best Before date is available for reference. Keeping eggs in the main body of the refrigerator ensures they are stored at a consistent and cool temperature which will limit the growth of bacteria and maintain freshness.

Egg farmers, graders and retailers all do their part to keep eggs safe. It is important that you do your part in the kitchen as well.



For more information on safe food, visit the Canadian Partnership for Consumer Food Safety Education at befoodsafe.ca or canfightbac.org.

The News About Nutrition

In addition to being nutritious and delicious, eggs are also one of the easiest foods to prepare. You can even cook them in a microwave in less than a minute. Here's how:

For a hard-cooked egg:

- Sprinkle a few grains of salt in the bottom of a microwave egg cooker or a microwave safe mug.
- Crack an egg into the egg cooker or mug.
- With a fork, pierce the yolk and the egg white. Cover with egg cooker lid or microwave-safe plastic wrap.
- Microwave on HIGH for 40 seconds, or until almost cooked.
- Let stand for 30 seconds. The egg will continue to cook while standing.

Enjoy!

For more delicious egg recipes and to order your free* Microwave Egg Cookers, visit eggs.ca.

*Please note that there is a shipping and handling fee of \$5.99 (taxes incl.) for each order.

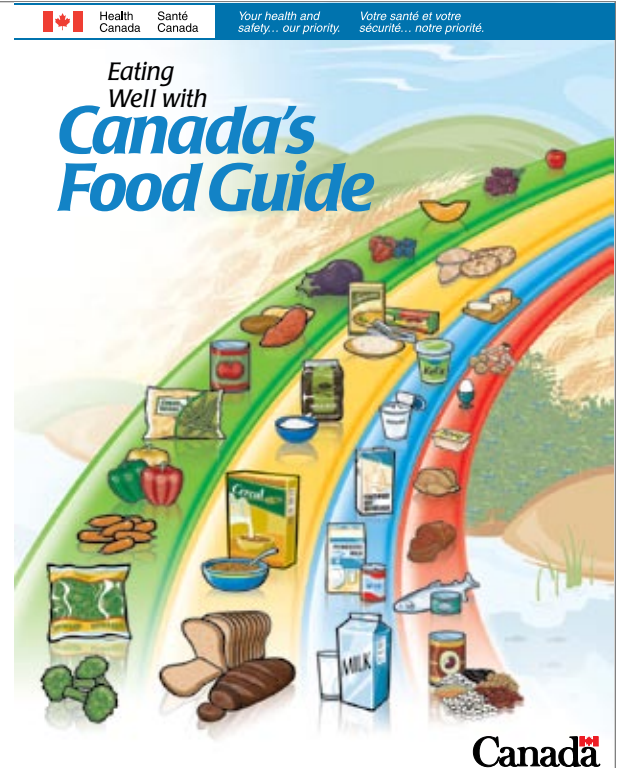


Eggs are one of nature's most nutritious foods. They are an excellent source of high-quality protein, which is essential for growth and development. Eggs contain all nine essential amino acids, making them a complete protein. In fact, the pattern of amino acids found in eggs is so perfect for our bodies that scientists use eggs as a standard to measure the protein quality of other foods.

Canada's Food Guide



Canada's Food Guide considers two eggs one serving of the Meat and Alternatives food group. Choosing a wide variety of foods from the four food groups and an active lifestyle are recommended in order to maintain a healthy body.



Canada's Food Guide

Recommended number of Food Guide servings per day

Age in Years Sex	Children			Teens		Adults			
	2-3	4-8	9-13	14-18		19-50		51+	
	Girls and Boys			F	M	F	M	F	M
Vegetables and Fruit	4	5	6	7	8	7-8	8-10	7	7
Grain Products	3	4	6	6	7	6-7	8	6	7
Milk and Alternatives	2	2	3-4	3-4	3-4	2	2	3	3
Meat and Alternatives	1	1	1-2	2	3	2	3	2	3

You can learn more about eggs at [eggs.ca!](http://eggs.ca)

We hope you enjoyed following the egg's journey. As you have learned, great care is taken to ensure that Canadians are provided with a steady supply of the best quality eggs, produced in the safest manner. Canadian egg farmers are proud to provide Canadians with the wholesome, nutritious and delicious Extraordinary Egg.

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