

The egg is nature's most complete food. It is a unique and well-balanced source of nutrients for all age groups and a multifunctional ingredient in the food manufacturing industry.

The good things in eggs

Protein

- Eggs are a highly digestible source of high-quality protein. They are the standard against which other protein foods are measured for digestibility.
- Eggs contain high, well-balanced levels of the nine amino acids essential for human health. Egg protein has an amino acid rating of 1.0 (perfect).

Fat

- Eggs are a good source of healthy fats.
- Two-thirds of the fat in an egg is unsaturated (49% monounsaturated, 15% polyunsaturated).
- Eggs also contain omega 3-polyunsaturated fatty acids and other essential fatty acids which are essential for brain function and visual activity. They are especially important in the nutrition of pregnant and nursing mothers, and infants.
- Another important nutrient in eggs is choline, which plays a key role in foetal brain development, liver function and cancer prevention.

Cholesterol

- Cholesterol is essential for numerous body functions.
- Much of the cholesterol in the blood is manufactured in the body.
- Saturated fat plays a greater role in heart disease risk than dietary cholesterol.
- The amount of cholesterol in an average-size egg is 175mg, down from the previously reported 202mg.
- People at risk of heart disease can eat up to six eggs per week (the limit previously was three). Healthy adults can enjoy an egg a day.

Vitamins

- Eggs contain many vitamins except for vitamin C. They are particularly high in vitamins A, D and B12, and are also rich in B1, B2 and folate.
- Vitamins A, D, E and K are present in the yolk and the vitamin B complex is mainly found in the albumen.

Minerals

- The major minerals found in eggs are phosphorus, calcium, sulphur, sodium, chlorine, potassium and magnesium.
- Trace elements include iron, zinc, copper, iodine, manganese and selenium.

Bioactive Components

- Eggs contain unique bioactive molecules which enhance health and wellbeing and prevent diseases.
- The yolk contains choline, immunoglobulins, phosphatidylcholine, omega 3-fatty acids, carotenoids and sialyloligosaccharides.
- The albumen contains important lysozyme, cystatin and peptides.
- The bioactive properties of eggs are also used to preserve foods, to contribute to food safety and to add value to many industries.

The Incredible EGG!

Shell

The shell is composed primarily of calcium carbonate and contains tiny pores which allow air and gases to escape.

On the outside of the shell is a filmy layer called the bloom which acts as a barrier against bacteria. This bloom disappears as the egg ages, allowing moisture to evaporate through the pores.

- The shell may be brown or white, depending on the breed of hen.
- Brown hens lay brown eggs. White hens lay white eggs. All commercial laying hens in New Zealand are brown.
- Colour does not affect the quality, nutritional value, cooking characteristics or taste of an egg.

Shell Membranes

The shell membranes are two thin skins lining the inside of the shell and the albumen which form a protective barrier against bacteria. The shell membranes separate at the broad end of the egg to form the air cell.

Albumen (The Egg White)

The albumen, or egg white, surrounds the yolk and accounts for nearly two-thirds of the weight of the egg. It has three distinct layers: a thin outer layer near the shell membranes, a thick central layer and another thin layer around the yolk. The albumen is a good source of riboflavin and protein.

Thin Albumen

- The thin albumen is nearest to the shell.
- It surrounds the thick albumen of a fresh egg.

Thick Albumen

- The thick albumen is a major source of riboflavin and protein. As the egg ages the thick albumen thins and becomes indistinguishable from the thin albumen.

Chalazae

The chalazae are two white cord-like strands attached to the yolk. They are anchored in the thick layer of the albumen and prevent the yolk from moving around inside the egg. Prominent chalazae are a sign that the egg is fresh.

Air cell

When an egg cools after laying, its contents contract and an air cell is formed at the large end of the egg. The air cell increases in size as the egg ages.

The yolk

The yolk, or yellow-orange portion of the egg, occupies the centre of the egg and is enclosed by the vitelline membrane. The colour of the yolk varies with the feed of the hen and does not indicate any superior or inferior nutritional content. The yolk contains the entire fat content of the egg and almost half of the protein. It is a good source of vitamins and minerals.

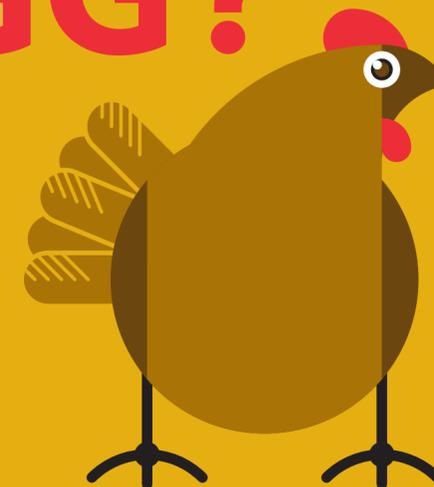
The Germinal Disc or Germ Spot

The germinal disc is a spot on the surface of the yolk just below the vitelline membrane. In fertile eggs it is the point at which the chick starts to develop. All eggs laid by commercial laying hens in New Zealand are non-fertile.

Vitelline membrane

The vitelline membrane is a clear seal which surrounds the yolk and helps hold it together.

So, what's in an EGG?



How to store eggs and keep them fresh

Storage

- Store eggs in a cool place with a stable temperature such as a pantry or refrigerator.
- Store eggs with the broad end up and the pointed end down to protect the air cell and the quality of the egg.
- Store eggs away from strong-smelling foods: odours can penetrate the porous shell and taint the eggs.
- Store eggs in their cartons or on special egg racks to prevent breakages.
- Egg whites can be stored in an airtight container in the refrigerator for up to seven days.
- Remove eggs from the refrigerator 30 minutes before cooking to prevent the shells from cracking when boiling. This also gives greater volume when beating eggs or egg whites.

Freshness

A high-quality fresh egg has:

- A clean, unbroken normal shell
- A high yolk index: the yolk stands up high in the centre of the white
- A firm round yolk free from defects
- A clear firm albumen that stands high
- A thick white that resists spreading
- Prominent chalazae
- A smaller air cell not more than 5mm in depth.

To maintain optimum freshness

- Always observe the Best-Before date on the egg carton
- Keep eggs refrigerated or in a cool pantry
- Avoid subjecting eggs to fluctuating temperatures and excess humidity.

NUTRITION INFORMATION

Large (7) 62g egg min, contents 54g/egg

Serving size	54g	
	Average Quantity per Serving	Average Quantity per 100g
Energy	322kJ	596kJ
Protein	6.9g	12.8g
Fat, total	5.4g	10.1g
- saturated	1.7g	3.1g
Carbohydrate	0.2g	0.3g
- sugars	0.2g	0.3g
Sodium	72mg	133mg

Source: Egg and Egg Products Labelling Requirements - Food Standards Australia New Zealand Food Standards Code.

For more health and nutritional information about eggs, including delicious recipes, how-to videos and a free recipe e-book, visit eggs.org.nz and eggfarmers.org.nz

