



EGGS AND EGG CONTESTS

By: Dirk de Jong

An egg

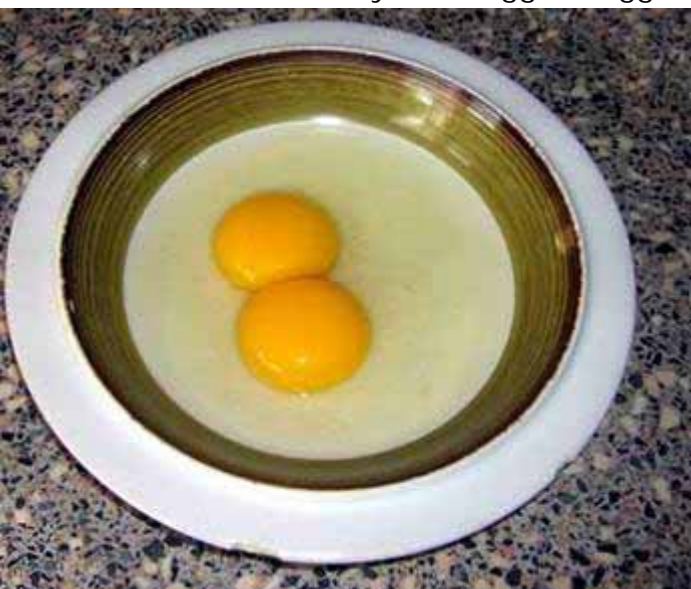
An egg is one of the best and healthiest food ingredients; very all round, but also undervalued, misused and exploited by the economy. The price for this small nugget of gold is ridiculously low. Years ago a poorly-informed scientific researcher got the egg wrong and stated that eggs contained a high doses of cholesterol. He forgot to mention that the cholesterol was of a good nature and even fitted in a low cholesterol diet. Obviously the return on an egg is too low and the sale is going too well to change this fundamentally.



Use of eggs centuries old

Over the ages the chicken egg has fascinated mankind. All birds lay egg, and also turtles, crocodiles and fishes. With reptiles the gender is decided by the temperature of hatching. I wonder if such research has been done for birds.

Ostriches lay the biggest eggs, but the egg of the chicken is most popular anywhere. There are hundreds of recipes to prepare an egg.



Left: Double egg yolk.

Eggs are rich in various vitamins, like A, D1, B1 and B2 and minerals like calcium, phosphorus and iron. Next to that eggs are very tasty and offer ample opportunity for recipes. Besides the egg has many additional functions like binding agent, dye and decoration. In the old days eggs were used by painters to make paint.

I am going to explain why one egg is better than the other and what to look for in so-called egg contests. The principle of an egg contest is that a good hatching egg is also a good consumption egg. Although these are completely different cases they have some common ground.

EGG CONTEST

At an egg contest the exterior of the eggs is examined for the following components; shape, weight, shell, colour and cleanliness. The judge looks at these components – which total to 100 points – and deducts points.

The egg with most points is the best egg. Let us look in detail at the different components.

The shape of an egg

An egg must clearly have the exterior of an egg, with a pointed end and a nicely round bottom. There must be a clear difference between the blunt pole, with the air sac, and the long axis. Egg of hybrid laying hens, which you normally buy in the supermarket, often lack the common egg shape; they have an oval form and you have to guess the whereabouts of the air sac. These eggs are very uniform in shape and weight, but would give, if fertile, only a few chickens; thus they would be poor hatching eggs.

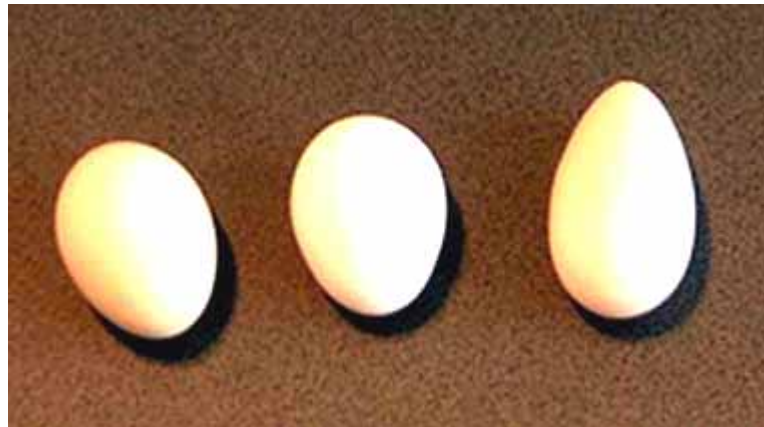
Right: Egg shapes F.I.t.r. normal, too round, too pointed.

The egg shape of the various chicken breeds varies, and every hen lays her 'own' egg, although that shape can gradually change over time. Pullets often lay eggs which are somewhat pointed, or too small or too long. Old hens lay often round eggs. Laying of thick round eggs can also be a feature of a breed or strain, which by selection is fixed genetically in a breed or strain.

However, this is not optimal. There is an ideal combination between the length and the width of an egg; this we call form index and this lies ideally between 0.72 and 0.76. The form-index can be calculated simply by dividing the length by the width. With a result below 0.72 the egg is too long. With a result above 0.76 the egg is too round.

One can see at the shape of an egg whether the hen has (had) a disease. For instance hens which lay irregular-shaped eggs with abnormalities such as ridges in the shell texture, might have (had) Infectious Bronchitis or another respiratory infection.

Left: Well shaped bantam eggs.



The advantages of a good shaped egg

In summary, a well shaped egg is stronger, so it does not break that easily. It is clear where the air sac is located and where the shell is most porous and air can enter easily. When hatching, a chicken can turn round better in a well shaped egg.

The shell

The quality of the egg shell is the most important subject which we can judge. A good shell protects the valuable content against mechanical and bacteriological attacks. At the same time a good shell protects against dehydration and therefore the egg does not age so quickly and lose its good (hatching) qualities (if properly stored).

Right: An egg shell with pitting and pimpling (=calcium deposits)
Photo: Avicultura Europe.



The same applies to eggs with large pores and/or structural flaws, so-called spotted or marbled eggs. These eggs age quickly and are a bad start for chicks, which use calcium and other foodstuff for their bones from the shell. A good shell always produces a chicken with better bones. This chalk is mainly taken from the shell.

You don't have to fear that the chickens would not be able to hatch because of the thick shell; nature has taken care of that. What you do have to realize when you use an incubator is the relative humidity within the incubator. The humidity must be low; it is best to hatch the eggs without additional moisture.

An egg with an even shell has fine pores. Together with the protecting cuticle this results in a nicely glossy egg.

In summary:

a good shell gives the chicken a good start; the chicken will have a better bone structure. The egg can be kept longer, both as hatching egg and consumption egg. Besides, a good shell protects against external infections. Furthermore, a good shell gives fewer risks of breakage.



Left: Abnormally heavy egg (113 grams).

Weight

The weight of an egg tells us something about the contents and, in relation to the size, the air sac. Relatively, a bantam lays bigger and heavier eggs than large fowl. The weight is part of the selection process. A specialty club for a breed should decide what the ideal weight is. In several countries the minimum weight is mentioned in the Standard of Perfection, but in the Netherlands it is up to the breeders. Strange, because every new chicken starts as an egg.

If so, let us give a chicken a good start. The weight indicates the content of an egg; a large egg with low weight is an old egg or one with a bad shell.

Advantage of a good weight

A good hatching egg is relatively heavy. The content gives a chicken a good start to grow up as a healthy chicken. In a uniform strain the weight of the eggs is almost the same.

Dirty eggs

It is difficult to collect clean eggs when it is raining if we have free ranging chickens. However, it is important to prevent the eggs from becoming dirty.

Collecting eggs regularly and ample litter to pass before the hens enter the laying nests, prevents inconvenience. Eggs have an almost invisible coating for protection; we call this 'bloom' or cuticle. It can only be witnessed as a shiny gloss on a polished-like egg.

Dirt and manure are a source of infections and affect this protecting coating. Eggs should never be washed since this way we also wash off the bloom and thus a part of the protection. There is an additional disadvantage for hatching eggs, since, by washing them, dirt is rubbed in the pores, which are essential for the 'breathing' of the egg.

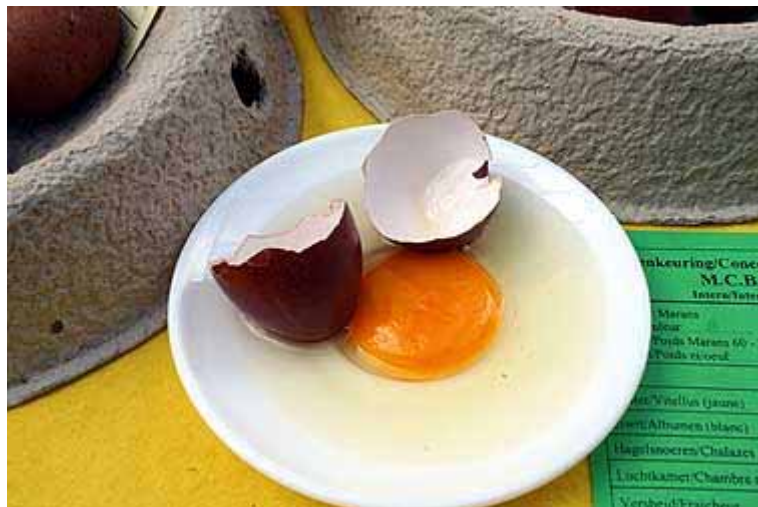


Advantages of clean eggs

In summary we have less chance of external infections when we have clean eggs. Heavy pollution closes part of the essential pores. Many people refuse to eat a dirty egg.

Left: Nice fresh thick albumen.

Left: Old egg; albumen is mixed and the egg has a very large air sac.



An egg as an open book

When the inside of an egg is judged at a show, the judge opens the egg. This happens by breaking the egg in the middle, with a small knife. The contents are put carefully on a plate. Now the interior of the egg can be judged.

We start with the egg yolk. This should rise like a small bulb from the albumen. The colour must be orange/yellow; a pale yolk is not good, nor a too dark (reddish) yolk. An old egg has a flat yolk with a somewhat wrinkled membrane.

The germinal disc, also called true ova or female egg, is of utmost importance and is visible as a small white circle on top of the yolk. The germinal disc is never beneath the yolk and always floats on top. An egg with no germinal disc can not be fertile. Do not blame the cock for that! Often the first eggs of pullets are missing the germinal disc.



Left: The germinal disc.

Then we look at the egg white; a good egg has two different sorts of albumen. The thick or dense albumen is located round the yolk and the thinner egg white is situated on the outside. The more thick egg white you can see, the better and fresher the egg.

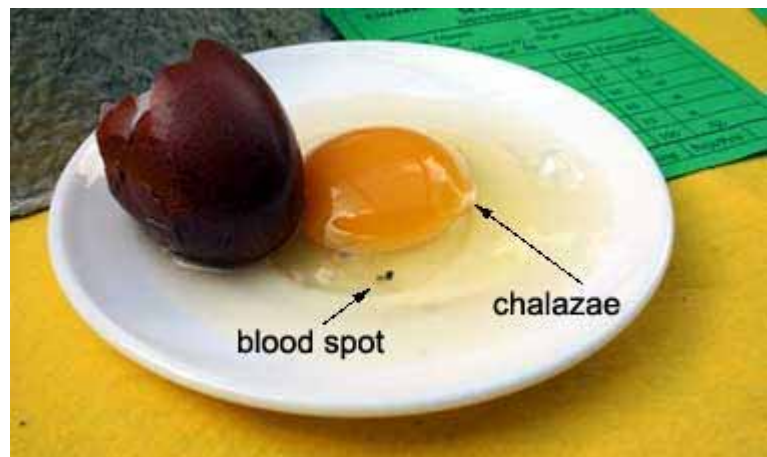
The next components are the chalazae or ropes of egg white which hold the yolk in the centre of the egg. The chalaza at the

point of the egg is the strongest and thickest. It is about twice as thick as the chalaza on the other side.

It is best is to conserve eggs on their point; the yolk pulls like a balloon on the strongest rope.

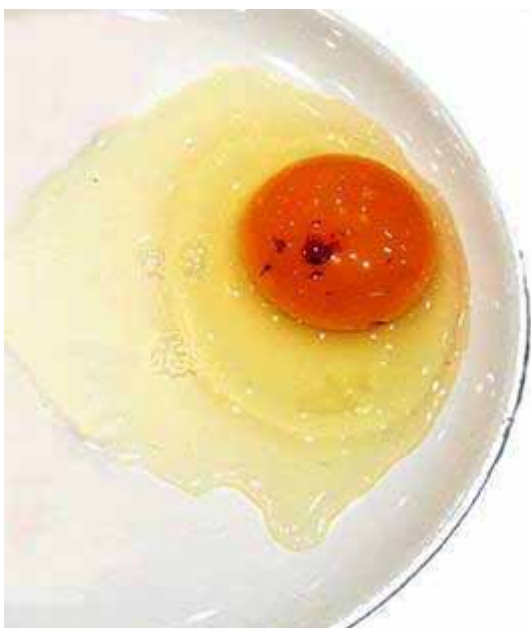
Right: Chalazae and a blood spot in the egg white.

Below left: Blood spot on the yolk.



The air sac is the next component to be judged. The air cell should be as small as possible and is situated obliquely at the blunt end of the egg. An old egg has a relatively large air sac. The freshness of an egg is judged on the basis of the overall judgement of the prolapsing egg yolk, albumen and size of the air cell.

Additional points for deduction are blood spots in the albumen or yolk. This is not a problem for a hatching egg, but a consumer does not like it. These blood spots have nothing to do with the egg being fertile. They deposited on the yolk as it is released from the follicular sac, in which the yolk matured, splits open and a vein is touched. We also know the so called bloody eggs; these are eggs with strongly red coloured albumen which is caused by bleeding in the oviduct.



An egg, a miracle in nature, an egg that must be felt

Midas Dekker, a well known Dutch author and biologist, says in his 'Ode to the chicken' the following about the egg: "Have you ever thought how it would feel to lay an egg? I did. It seems wonderful to me. Watch how wonderfully an egg is constructed. The pretty streamline and pleasantly pointed, so nicely smooth at the exterior, not too long and not too thick. In short: the ideal shape for the hen. It is not created for people. Our offspring come less smoothly into the world. Our babies have all kind of obstacles. Often they lie upside down or have problems with the fontanel. We need a doctor then. If only could lay eggs! Has anyone ever heard of an egg with a Caesarian section or forceps delivery?"



Left: Eggs waiting for a contest.

This literary piece demonstrates the philosophy of an egg contest in a nutshell; an egg needs quality. That can be felt.

Right: Five excellent dark brown Maran eggs.

Egg shell, shell quality, weight and dirt, it all stands out when an egg is taken in the hand. Only the colour cannot be felt; that is breed specific and in that respect relevant.

It will become clear if you have the opportunity to visit an egg contest. Even better, if you send eggs yourself to the contest. It is true; eggs must be felt!



Below: The contest has been completed.

