

# 20 COMMON EGG SHELL QUALITY PROBLEMS



### Pale-shelled Eggs

The degree of brown colour in the egg shell is dependent on the quality of pigment in the cuticle deposited onto the shell.

**Causes:**

- Infectious bronchitis
- Bird age: higher incidence in older hens
- High stress in the flock
- Egg Drop Syndrome 76
- Use of chemotherapeutic agents, e.g. sulfonamides and nicarbazine



### Lilac Eggs/ Pink Eggs

The egg appears to be a pink or lilac colour because of the association between the cuticle and an extra calcium layer.

**Causes:**

- Stress
- Excess calcium in the feed



### Dirty Eggs

All or part of the egg shell is stained by faeces. Feed ingredients which can cause wet and sticky droppings should be avoided.

**Causes:**

- Wet-droppings
- High indigestible compound in feed
- Poor gut health
- Electrolyte imbalance/ saline water



### Blood Stained Eggs

Smears of blood are more common on eggs from pullets in early lay. These eggs become contaminated by blood from a prolapsed cloaca, cannibalism or vent pecking.

**Causes:**

- Pullets are over-weight or coming into lay
- Sudden large increases in day length
- Poor hygiene in cage, trays and belt pick-up system



### Shell-less Eggs

The eggs are laid without a shell layer and are only protected by the shell membrane.

**Causes:**

- Immature shell gland
- Disease: Newcastle disease, infectious bronchitis, avian influenza, Egg Drop Syndrome 76 etc.
- Inadequate nutrition: calcium, phosphorus, manganese or vitamin D<sub>3</sub>



### Soft-shelled Eggs

These are eggs that are laid with an incomplete shell. A thin layer of calcium is deposited on the shell membrane.

**Causes:**

- Excess phosphorus consumption
- Heat stress
- Bird age: higher incidence in older hens
- Saline water
- Mycotoxins



### Cracks

This problem could range from hair line cracks to star cracks to large cracks that result in a hole in the shell.

**Causes:**

- Heat stress
- Saline water
- Bird age: higher incidence in older hens
- Poor nutrition, especially calcium and vitamin D<sub>3</sub>
- Mycotoxins



### Corrugated Eggs

These eggs are characterised by a very rough and corrugated surface. These are thought to be produced when there is an inability to control and terminate plumping.

**Causes:**

- Inherited
- Newcastle disease or infectious bronchitis
- Excessive use of antibiotics
- Excess calcium consumption
- Copper deficiency



### Wrinkled Eggs

Wrinkled eggs have thin creases and wrinkled surfaces.

**Causes:**

- Stress
- Disease e.g. Infectious bronchitis
- Defective shell gland
- Over-crowding



### Pimpled Eggs

Small lumps of calcified material appear on the egg shell. The severity of pimples depends on the foreign material present during the calcification process.

**Causes:**

- Bird age
- Strain of bird
- Inadequate nutrition



### Calcium Coated Eggs

These type of eggs have an extra layer of calcium all over the egg or on just one end of the egg.

**Causes:**

- Defective shell gland
- Disturbances during calcification
- Poor nutrition, e.g. excess calcium



### Calcium Deposits

White colour irregular shaped spots deposited on the external surface of the shell.

**Causes:**

- Defective shell gland
- Disturbances during calcification
- Poor nutrition, e.g. excess calcium



### White Speckled Eggs

Similar to calcium deposits, except that the speckles are smaller and may be laid down either before or after the cuticle is formed.

**Causes:**

- Defective shell gland
- Disturbances during calcification
- Poor nutrition, e.g. excess calcium



### Brown Speckled Eggs

Similar to white speckled eggs, except spots are pigmented brown.

**Causes:**

- Defective shell gland
- Disturbances during calcification
- Poor nutrition, e.g. excess calcium



### Mottled Shells

When placed in front of a light source, the translucent areas of the egg appear mottled or glassy as a result of the failure of the shell to dry out quickly.

**Causes:**

- High humidity in the shed
- Disease and mycotoxins
- Manganese deficiency
- Over-crowding



### Body-Checked Eggs

The egg is cracked in the shell gland pouch and then repaired before lay.

**Causes:**

- Incorrect lighting
- Stress
- Bird age: higher incidence in older hens
- Over-crowding



### Broken and mended

In this case, a diagonal break occurs during formation and is mended again before lay.

**Causes:**

- Stress during calcification



### Misshapen Eggs

A misshapen egg is an egg that differs from the normal shape and size is too small or large, round instead of oval or has major changes in the shape.

**Causes:**

- Immature shell gland
- Disease: Newcastle disease, infectious bronchitis, laryngotracheitis, Egg Drop Syndrome 76, etc.
- Stress
- Over-crowding



### White Banded Eggs

These eggs are the result of two eggs coming in contact with each other in the shell gland pouch. At this point, normal calcification is interrupted and the first egg retained in the pouch will have an extra layer of calcium - seen as the white band marking.

**Causes:**

- Stress
- Changes in lighting
- Disease



### Slab-sided Eggs

The slab-sided egg is the second egg that enters the pouch. The second egg is not as complete as the first egg and is flattened at the point where the eggs made contact.

**Causes:**

- Stress
- Changes in lighting
- Disease

