

A LAYMAN'S
GUIDE TO AN
EGG SHOW

A Booklet Assembled

by

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Introduction

For several years I ran a poultry show in Columbia, Missouri. One of the things we held was an egg show. This was based on the old-time “table egg” judging based on the USDA’s program. This was very similar to what was used in the 4H and FFA Egg Competitions.

Recently the APA has resurrected the Egg Show based on the British system. One of the major differences is the emphasis on exterior quality instead of market qualities and using 3 eggs instead of a full dozen.

In either program the point system can be a bit overwhelming to a first-time judge that is asked to score the Egg Show. What I’ve outlined is a somewhat simplified way of judging that will loosely follow the APA scoring while still taking into account “the good old days” way of judging interior quality. At the end of the show you will find that the final result is almost exactly the same as what you’d get with the point system.

At a recent show in Colorado I debuted this system. The audience and exhibitors liked it. The knowing what the marks meant helped them decipher how the eggs were judged.



The Score Card

There are six categories. Those will be discussed next. Each of those categories was given one of the following “scores”.



The “Plus” indicates a score of “good”. The rare “plus over a plus” indicates exceptional, but that is quite rare, so don’t get too hung up on it.



The “Upright bar” means “ok”. Not bad, but nothing stands out. I’ve found this was used more in a large class where it was necessary to differentiate the levels of “good”.



The “Dash” indicates that you found a fault with one or more eggs.



The “zero” means very bad and almost a Disqualification.

The size of a class will tell you if you’re going to need to use all the scoring symbols. For example, with just a dozen or so in a class it will be easy to use just the Plus and the Dash along with any comments you’ve made on the card. By the time you’ve scored all six categories for an entry the best will “float to the top”.

Judging Categories

The entry of three eggs will be evaluated using six categories. They are:

1. Weight & Breed Correctness
2. Shape
3. Size
4. Shell Texture
5. Appearance
6. Internal Quality

Now let's expand the list and consider some of the most common faults. This list is contained on the following page so that you can take that page with you when judging.

To help you in judging the show I recommend having the following

- A Scale that weighs a low as 1/10th an ounce
- 450 lumen (or higher) LED mini-flashlight
- Magnifying Glass
- Bright colored sharpie marker
- Ink Pen
- Plastic Saucer for egg breakout
- A rag or handkerchief for wiping hands when cracking eggs
- The Category and Some Common Faults List

The Categories and Some Common Faults

Weight and Breed Correctness

- If there is more than 1/10 of an ounce variation reduce to a –
- If there is more than 3/10 of an ounce variation change to a zero
- If the eggs do not look true to type for the breed change to a – or zero.

Shape

- If the eggs are well formed give them a +
- Any distorted or elongated eggs would result in a – or zero.

Size

- Are the eggs uniform? If so then a +
- If you use calipers to check for uniform size (width) give a minus if variation is noticeable

Shell Texture

- A list of items that would reduce the score from a + to a – or a zero
 - Rough
 - Ridges
 - Wrinkles
 - Porous
 - Blind Checks
 - Cracked or checked

Appearance

- A list of items that would reduce the score from a + to a – or a zero
 - Dirty
 - Stained
- List of Serious defects each of which results in an automatic – or zero
 - Glossy or Shiny

Internal Quality

- A list of items to verify the egg deserves a +
 - Quality of Yolk
 - Albumen (White)
 - Chalazae (white cord that holds the yolk to the white)
 - Airspace
 - Freshness
- List of Serious defects each of which results in an automatic – or zero
 - Double Yolk
 - Staleness
 - Embryo
 - Blood spots
 - Meat spots

Below is a list of items that result automatic disqualification of the entire entry.

- Any foreign color added to any of the eggs
- Artificial polishing of any of the eggs

How to Judge the Entries

The show will determine what the classes are. A common breakdown would be:

- Large Fowl
- Bantam
- Waterfowl
- Any Other Fowl

Here are the steps I have found as an efficient way to judge the show.

Determine how big the class is and give it a “once over” to get an idea in your mind of how tight the scoring will be. This seems like a trivial step, however if you immediately see a half dozen of really nice-looking plates, then you know you have to be a little more critical.

Weigh the eggs. Hopefully the show will weigh them for you as they accept the entry. On the card write the ounces and tenth’s of ounces per egg. For example an entry might be “1.7 – 1.6 – 1.7”

For each entry in a class you will give each of the six categories one of the scoring “marks”.

Look at the weights, if the class is big and things look tight then you have to decide if that .1 is a plus, a bar or a minus. In a tight class I’d give it a bar. This is also where you would look at the eggs and see if they are representative of the breed on the card. Write the first mark on the card.

Look at the shape of the eggs. Are they “typical egg shape”. You want a place that is uniform in shape. This is the second mark on the card.

The size of the eggs is when you’d break out the calipers to determine are the eggs uniform in size. You don’t have to read the calipers, just find the widest point and then compare that to the other two eggs but sliding them through the calipers. This is surprisingly easy and helps eliminate optical illusions. This is the third mark on the card.

Shell texture includes both internal and external. I like to shine the mini-flashlight on the egg, similar to how you candle them. This helps you see any small cracks, subtle striations, etc. Two common faults you can detect with this is highly porous shells and variation in air cell size. I like to circle any fault that is visible. This is the fourth mark on the card.

Appearance is easy. Are the eggs clean and look like they were freshly collected. Any old dull, dirty or shiny eggs would be downgraded. If you see a dirty spot, circle it with the marker. This is the fifth mark on the card.

Crack one egg into a plate and evaluate the egg to see if it is fresh. Attached is a good “cheat sheet” to help on this one. After judging the internal quality, pour the egg onto the plate with the other two eggs. This is the sixth and final mark on the card.

Slip the finalized card under the edge of the plate. Be sure to make any notations on the card that you want to remember about the entry. On the example on the first page you see I wrote “WOW!”

When you are done judging each entry (plate of eggs) in a class it is time to pick the champions. Most shows will want first through third.

To pick your first-place plate you are looking at the highest scoring plate. If you have 4 plates each with all 6 pluses, then you have to look at the smaller details to make the decision on which is first, second then third.

After you have judged all the classes you will probably be asked to pick the Champion of the Egg Show. You would compare the top plate from each class to find the best entry overall. Honestly, this is relatively easy because by that time you will pretty much know which was the best-of-the-best.

Setting Up the Show

These are the items needed for the show:

- Tables
- Table Cloths
- Entry/Score Cards
- Ink Pen
- Scales
- Paper Plates
- Fine Shavings

Each show will determine when the cut-off is for entries. Often it is the morning of show as usually the cards are not made out until the entry is presented.

For each entry place a few shavings on the plate and have the owner arrange them with small points inward.

Fill out the entry/score card.

If the staff is weighing eggs instead of the judge (recommended) then write the three weights on the card. Then slide the card under the edge of the plate.

Some shows require entry ahead of time and prepayment as well. Others take payment for the Egg Show at the time they are presented for display.

The goal of the show staff is to arrange the eggs in their classes and keep everything organized. For presentation sake we've found that arranging each class by color of eggs. This results in all the white eggs together, the brown eggs, etc. The better organized the display the smoother the judging will go.

30 OZ.	27 OZ.	24 OZ.	21 OZ.	18 OZ.	15 OZ.
Minimum wt. per 30 dozen case					
56 lbs.	50.5 lbs.	45 lbs.	39.5 lbs.	34 lbs.	28 lbs.

Egg Quality

			
	Grade AA	Grade A	Grade B
Break Out Appearance	Covers a small area	Covers a moderate area	Covers a wide area
Albumen Appearance	White is thick and stands high; chalazae prominent	White is reasonably thick, stands fairly high, chalazae prominent	Small amount of thick white, chalazae small or absent. Appears weak and watery
Yolk Appearance	Yolk is firm, round and high	Yolk is firm and stands fairly high	Yolk is somewhat flattened and enlarged
Shell Appearance	Approximates usual shape; generally clean,* unbroken; ridges/rough spots that do not affect the shell strength permitted		Abnormal shape; some slight stained areas permitted; unbroken; pronounced ridges/thin spots

COMPOSITION

Shell

- Outer covering of egg, composed largely of calcium carbonate
- May be white or brown depending on breed of chicken.
- Color does not effect egg quality, cooking characteristics, nutritive value or shell thickness

Air Cell

- Pocket of air formed at the large end of egg
- Caused by contraction of the contents during cooling after laying
- Increases in size as egg ages

Yolk

- Yellow portion of egg.
- Color varies with feed of the hen, but doesn't indicate nutritive content
- Major source of egg vitamins, minerals, and fat

Shell Membranes

- Two membranes-inner and outer shell membranes surround the albumen
- Provide protective barrier against bacterial penetration
- Air cell forms between these two membranes

Germinal Disc

Vitelline (Yolk) Membrane

- Holds yolk contents

Chalazae

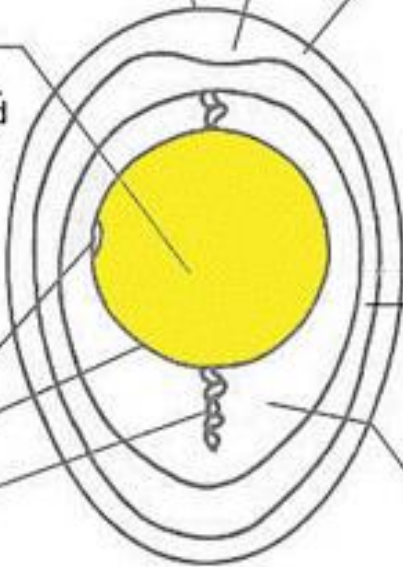
- Twisted, cordlike strands of egg white
- Anchor yolk in center of egg.
- Prominent chalazae indicated freshness

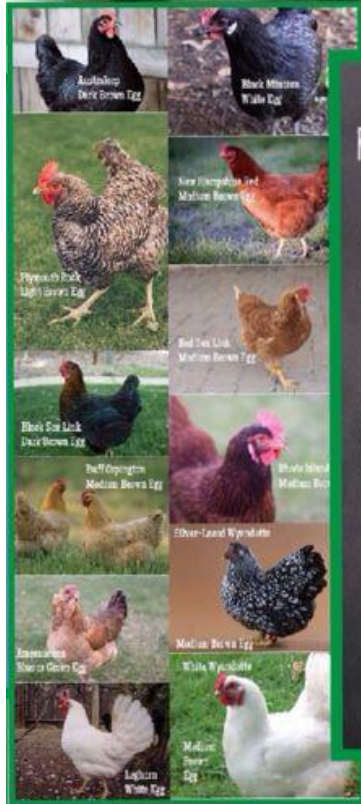
Thin Albumen (White)

- Nearest to the shell.
- Spreads around thick white of high-quality egg

Thick Albumen (White)

- Major source of egg riboflavin and protein.
- Stands higher and spreads less in higher-grade eggs
- Thins and becomes indistinguishable from thin white in lower-grade eggs







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 nicarbazin



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.

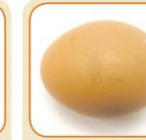
- Causes:**
- Immature shell gland
 - Disease: Newcastle disease, infectious bronchitis, Avian Influenza, Egg Drop Syndrome 76 etc.
 - Inadequate nutrition: Calcium, phosphorus, manganese or vitamin D3



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 D3
 - Mycotoxins



Corrugated Eggs

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

- Causes:**
- Heat stress
 - Saline water
 - Bird age: Higher incidence in older hens
 - Poor nutrition, especially calcium and vitamin D3
 - Mycotoxins



Wrinkled Eggs

These eggs have thin creases and wrinkled surfaces.

- Causes:**
- Stress
 - Disease e.g. infectious bronchitis
 - Defective shell gland
 - Overcrowding



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 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 coloured 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
 - Overcrowding



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
 - Overcrowding



Broken and Mended Eggs

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
 - Overcrowding



White Banded Eggs

These eggs are the result of two eggs coming into 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

Acknowledgement:

Some information has been extracted from the book "Egg Shell Quality Problems: Causes and Solutions" published by University of New England, Australia. We thank the Australia Egg Corporation Limited and the University of New England for their permission to use the oviduct photo.

APA National Egg Show Rules

Main Egg Competition (only an entry in this division may qualify for Egg Show Champion)

- One entry consists of a group of 3 eggs.
- Open and Junior in each division.
- Judging Criteria: Shell color (when breed standard has stated color, variation from this is penalized), Shape, Texture, Uniformity.
- Entries shall note the breed of eggs, non standard (not recognized by APA), mix or unknown ancestry.

Divisions –

- Large Eggs – Breed, Non-Standard or mix noted on entry card. Classes: White, Brown, or other colors (speckled or mottled entered by background color).
- Bantam Eggs – Breed or Non-Standard noted on entry card. Classes: White, Brown, or other colors (speckled or mottled entered by background color).
- Waterfowl eggs – Breed or Non-Standard noted on entry card. Classes: White, brown, or other colors (speckled or mottled entered by background color).
- All Other Eggs – Emu, Turkey, etc. Classes: White, brown, or other colors (speckled or mottled entered by background color).

Painted Egg Competition

- 1 egg consists of one entry. Multiple entries accepted.
- Open and Junior (please note age category: 5-7yrs, 8-11 yrs, 12-16 yrs.).
- Egg must be hard boiled or blown.
- Egg is painted or inked. NO adornment or decorations added.
- Some type of upright support recommended.
- Egg must be painted/inked by exhibitor.

Decorated Egg Completion

- 1 egg consists of one entry. Multiple entries accepted.
- Open and Junior (please note age category: 5-7yrs, 8-11 yrs, 12-16 yrs.).
- Egg must be hard boiled or blown.
- Egg is to be adorned or decorated, but may have paint added.
- Outline of egg must be recognizable.
- Egg decoration must be created by the exhibitor.

Exhibitors in egg competition are NOT required to enter birds. They may enter in egg competition only.