Egg Evaluation
http://keep-hens-raise-chickens.com/anatomy-of-a-chicken
Julian Date

Starts on January 1.

http://www.fda.gov/ucm/groups/fdagov-public/documents/image/ucm223538.jpg
Two types of Grading

• Interior for individual shelled eggs
• Exterior
How do you evaluate interior quality?

Proper Handling of Egg for Candling

• Hold egg between thumb and index finger with the small end of the egg resting securely against the middle finger.

• Quickly turn the hand and wrist in arc of about 180 degrees to bring the egg contents into motion.

• As egg contents inside egg are spinning, place the large end of the egg against the candler with the long axis of the egg at roughly a 45 degree angle.
Candling
April 8, 2002, 8:45 a.m. CT

http://www.backyardchickens.com/t/462667/incubating-and-hatching-duck-eggs-resources
Interior Grading looks at ...

- Shell
- Air cell
- Yolk
- White (albumin)

And makes grade determination using candler of quality grade AA, A, B, and Loss.
Important rule in grading eggs

• Assign an egg a grade based on the lowest factor.

For instance if an egg is AA in all quality traits, but is a B in one. The egg is graded B quality.

Likewise, if an egg is A quality in all traits, but one makes the egg a loss, the egg is graded as a loss.
Loss Egg

- Inedible, cooked, frozen, contaminated, musty, moldy, large blood spot, large meat spot, bloody or green white, rot, stuck yolk, blood ring, embryo chick, free yolk in the white, or other foreign material.

Shell

• AA/A quality = clean, unbroken, normal shape, texture and strength.
• B quality unbroken egg slightly stained and/or abnormal shape, texture, and strength.
• Loss broken egg with contents leaking
Stained Egg

http://www.caes.uga.edu/Publications/pubDetail.cfm?pk_id=7998
Loss

http://cannundrum.blogspot.com/2009/03/ost_rich-omelettes.html
Air Cell Grading

AA up to 1/8”
A 1/8 to 3/16”
B greater than 3/16”

http://www.colorado.gov/cs/Satellite/ag_ICS/CBON/1251622246899
http://pubs.ext.vt.edu/2902/2902-1091/2902-1091.html
Why air cell forms?

• Chicken internal temperature is roughly 105 degrees F. When she lays an egg into the colder air, the egg contracts.
• As an egg gets older, water is evaporated from the egg.
• Remember an egg is the freshest when it is just laid.

Yolk

• Fresh egg round and firm is ideal.

As you look through the candler you are checking for
• Enlarged and flattened yolk
• Thickness and consistency of albumin
• Condition of the yolk
• Color of yolk
• Free from defects
Grading the Yolk

- AA/A Outline of yolk slightly defined (albumin is covering egg and chalazae chord is holding the egg in the center so that you can barely see it. B yolk is plainly visible.

http://www.culinarylore.com/food-science:do-brown-eggs-taste-different-than-white
FERTILE versus INFERTILE

INFERTILE
The female genetic material (ovum) is merely a light spot on the yolk.

FERTILE
The ovum has fused with a sperm to begin forming an embryo. By the time the fertilized egg is laid, many cells are divided on the surface of the yolk and formed a blastoderm.

http://goldrushgrandma.blogspot.com/2012/08/preserving-foods.html
Yolk Defects

These eggs would be a loss

- Meat spot
- Blood spot


http://curbstonevalley.com/blog/?p=3354
Meat Spot


http://simplethrift.wordpress.com/2011/01/
Albumin

- AA-firm, clear, free from defects
- A-Reasonable firm, clear, free from defects
- B-Weak and watery (small blood or meat spots (not more than 1/8” in diameter).
- Loss-Bloody or blood or meat spots more than 1/8” in diameter.
Albumin defects

http://www.backyardchickens.com/t/598411/meat-spots-from-pullet
Interior Egg Grading Review

http://www.youtube.com/watch?v=GTzDrEYRDP4&list=PLBC1F15C670609AEC
Grading Exterior Quality

- Soundness
- Cleanliness
- Shape
- Texture
- Thickness
Soundness—Broken or not?

- A and B are unbroken.
- Nongradeable are check, dented check, and leaker.

Check is a fine hair line crack with membrane in tact and egg not leaking.
Leaker has a broken membrane with contents leaking.
Dent Check

http://eggsandhens.blogspot.com/
Cleanliness

- A = clean and free of stains and adhering mater.
- B = Localized less than 1/32” of egg, cumulative less than 1/16” of egg
- Nongradable = prominent stain

Shape

• A = normal or practically normal
• B = Decidedly mishappened (irregular or unusual)-round, long, pointed or distorted.

http://tifandtheboys.blogspot.com/2011_08_01_archive.html
Brown eggs do taste different than white.

http://www.culinarylore.com/food-science:do-brown-eggs-taste-different-than-white
Texture

• A-Sound and strong. Few to no calcium deposits. No body checks. Slight to no ridging.

• B-Faulty soundness or strength. Weak, rough areas of calcium deposits, body check, and pronounced ridges.

Thickness

• A-Free or practically free of thin spots
• B-Pronounced thin spots

http://curbstonevalley.com/blog/?p=3301
Review

A. Body check  B. Thin spot  C. Ridges

http://www.youtube.com/watch?v=v_G-6ENNNd8

http://www.ams.usda.gov/AM Sv1.0/getfile?dDocName=STELDEV3004502