LE RENDEZ-VOUS avicole AQINAC

What are the table egg farmers, graders or buyers expecting from egg grading?

What could be improved?

FARMER OWNED NUTRI FERMIERS PROPRIÉTAIRES

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About egg grading

Egg grading

Quality and areas of improvement

Egg grading per category

Requirements of the grader

Safe Food for Canadians Regulations

(SFCR of the Canadian Food Inspection Agency)

- **Pre-grading**
- **Canada A**
  - **From Peewee <42 g to Jumbo> 70 g**

Table for Size Designations for Canada A Eggs

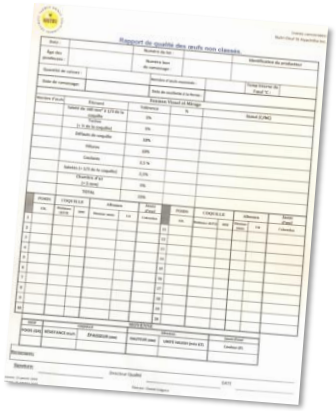
	Column 1	Column 2	Column 3
Item	Size Designation	Egg Weighs Not Less Than	Egg Weighs Less Than
1.	Jumbo Size	70 g	
2.	Extra Large Size	63 g	
3.	Large Size	56 g	
4.	Medium Size	49 g	
5.	Small Size	42 g	
6.	Peewee Size		42 g

https://inspection.canada.ca

Egg grading
Pre-grade report

CFIA pre-grade requirements, a prerequisite for grading:

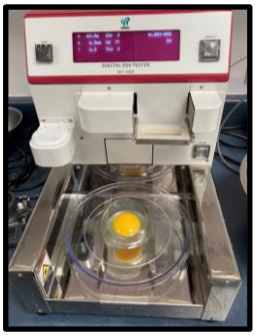
- Dirt 160 mm^2 on < 1/3 of the shell (5% tolerance)
- Dirt > 1/3 of the shell (2.5%)
- Cracks (10%)
- Leakers (2.5%)
- Air cell > 5 mm (5%)
- Stains > ½ of the shell (5%)
- Shell defects (10%)
- And the total of the tolerances must not exceed 15%.
- Minimum of 67 Haugh units



Quality and areas of improvement

Layer flock monitoring with quality control (QC)

- Pre-grading monitoring program in collaboration with FPOQ for 35-, 55- and 65-week-old flocks
- Egg analysis with the Digital Egg Tester (DET)

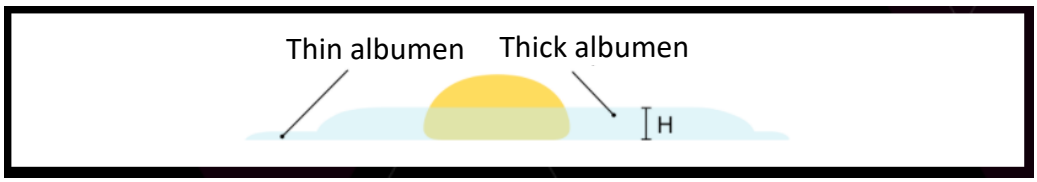


http://www.nabel-shanghai.cn

Haugh units (HU)

Definition

Haugh unit indicates the egg quality as it was conceived by Dr. Raymond Haugh in 1937. The Haugh unit is a correlation between egg weight and the height of the thick albumen. The higher the score, the better the quality



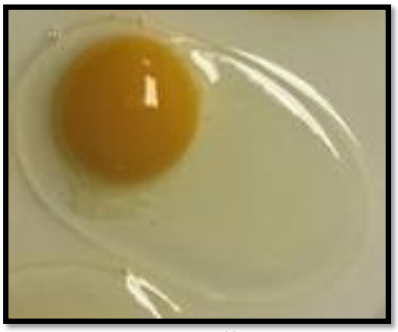
Haugh units (HU)

Images

In practice, what does it look like?

The following example shows a 95 HU egg vs. 75 HU egg

95 Haugh units



75 Haugh unit and off-centre vitellus

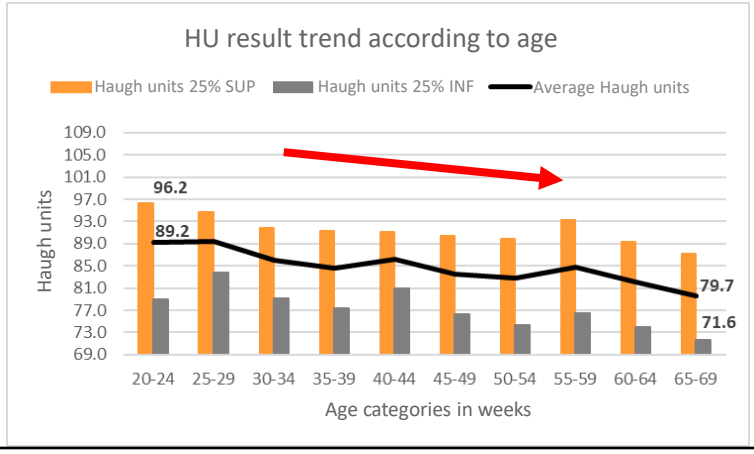
Haugh units (HU)

Trend in numbers

Why monitor this data?

There is, among other things, buyers' expectations for the internal egg quality regarding the egg aspect during and after the cooking process

Results based on individual white egg data from conventional and enriched housing by age categories:



Haugh units (HU)

Areas of improvement

Some aspects can be controlled, others not so much, like:

- The internal quality of the egg has a tendency to naturally deteriorate as the layer hens age
- Disease episodes
- Pay attention to the cold chain:
  - Storage in higher temperature than the recommended temperature
  - Eggs left on the belts for prolonged periods during summer

Eggshell thickness and Eggshell strength

Definition

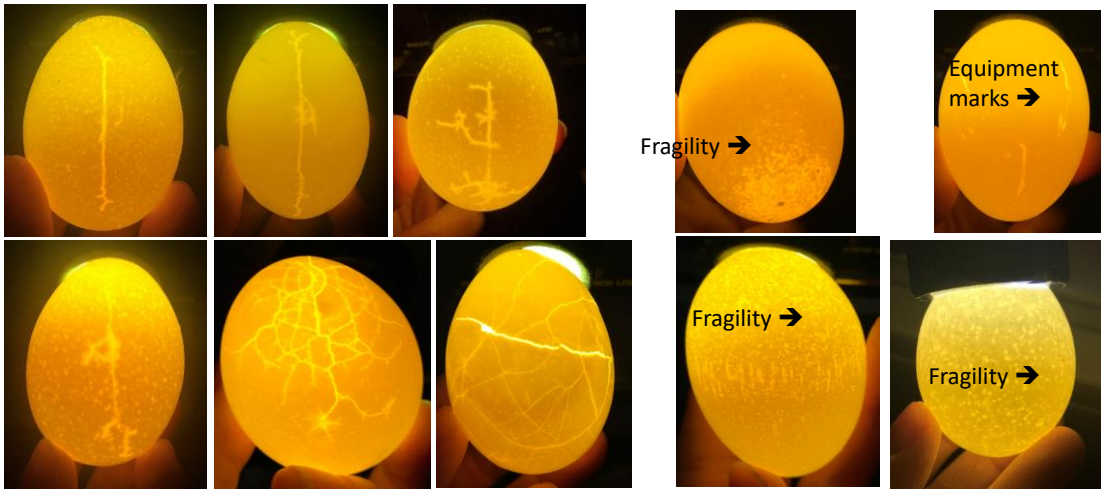
The device uses a low-pressure piston to measure the force required to crack the shell. Expressed in kilogram-force kgf x 9.8 = in Newton, and a high-precision thickness gauge

https://digitaleggtester.com/

Eggshell thickness and eggshell strength

Images

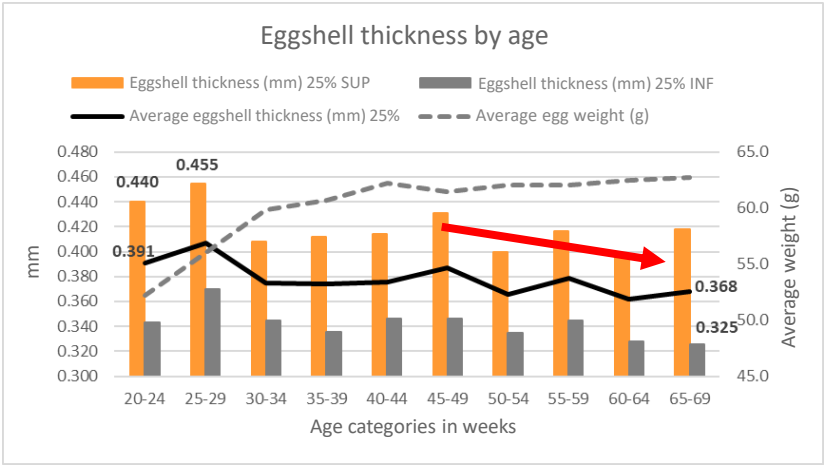
In practice, what does it look like?



Eggshell thickness and eggshell strength

Trend in numbers

Results based on individual white egg data from conventional and enriched housing by age categories:



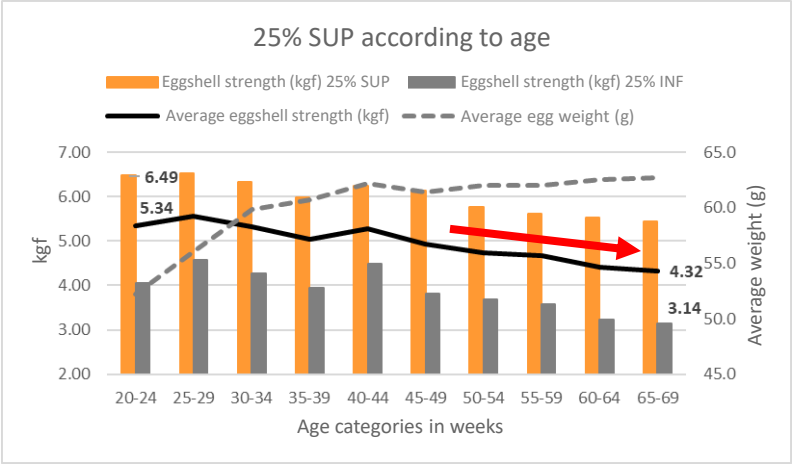
Eggshell thickness and Eggshell strength

Trend in numbers

Why monitor this data?

A good shell allows the egg to withstand mechanical transfers from the farm to the grocery store…

Results based on individual white egg data from conventional and enriched housing by age categories:



Eggshell thickness and eggshell strength

Areas of improvement

Some aspects can be controlled, other less so, like:

- Pay attention to what the hens are eating, to meet eggshell requirement according to their age
- Disease or condition episodes that can affect specifically the shell gland efficiency or the normal feed intake of the hens
- The type of cracks can help identify or detect the most likely places in the nest to crack the eggs

Eggshell thickness and eggshell strength

Areas of improvement

In the most likely places to crack eggs:

- Nest retention
  - Morning inspection before the egg collection
- The Eggsaver and the belt in proper timing with the moment of laying and the egg spread out evenly across the belt in front of the nest
- The transfer area before the elevator or the transfer area after the elevator to the conveyor, and the speed
- To make sure the packer bed have a good flow and avoid congestion and impacts between eggs.

Eggshell thickness and eggshell strength

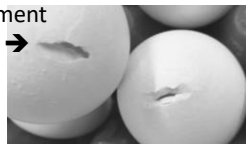
Areas of improvement

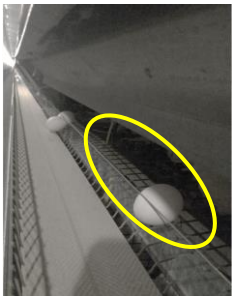
➔ Morning inspection of the nests and egg's belt before the egg collection

- for example, debris that could interrupt the egg flow

➔ The adjustments of the *EggSaver* for proper timing with the moment of laying and the egg spread out across the belt

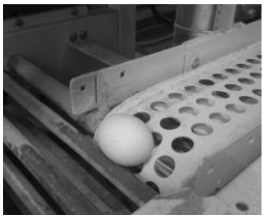
Equipment marks ➔

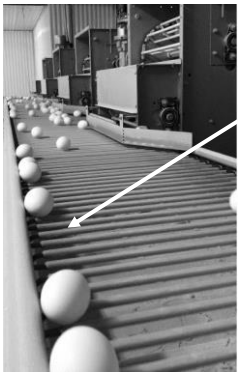




Eggshell thickness and eggshell strength
Areas of improvement

➔ The *transfer area before* the elevator or the *transfer area after* the elevator to the conveyor, and the speed



Eggshell thickness and eggshell strength

Areas of improvement

➔ Good flow to the packer bed to avoid congestion and/or impacts between eggs



➔ $$$

As egg consumers…

The first reflex of egg consumers is to open the dozen at the grocery store:

- ➔ No cracked eggs, no dirty eggs
- ➔ Fresh eggs
- ➔ Increasingly looking for local products or products made in Québec

Traceability https://oeuf.ca/ (In French only)

Conclusion

Reminder

➔ Grading stations must meet the CFIA requirements

➔ Table egg market = Canada A Table Egg

➔ This presentation gave me the opportunity to share trends and comparisons related to Haugh units, shell mm, kgf to crack an egg and areas of improvements

➔ Thanks for the collaboration of QC teams, FPOQ and to AQINAC for the invitation to this event

Thank you! If you have questions:

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