



**FORSCHUNG
FÜR DIE
ZUKUNFT**



How to tell if an egg is still fresh?

And how long eggs stay fresh fresh?

Once laid, eggs undergo changes – almost invisible from the outside, but measurable inside.

How to tell if an egg is still fresh?

In a fresh egg, the albumen – the egg white – has a thick and viscous consistency firmly surrounding the yolk. With increasing 'age', the albumen of an egg develops a more and more watery consistency. This causes eggs to go runny when they are cracked open in a frying pan.

Through the pores in its shell, an egg loses moisture. As a result, the air cell inside the egg increases in size. When using a flashlight on an egg that is kept in an upright position the air cell is clearly visible and also the position of the egg yolk. The further down the yolk is located inside the egg, the older the egg.

What's the scientific way of describing an egg's freshness?

Scientifically, freshness is described using the Haugh Unit (HU). A fresh egg reaches HU values between 100 and 72. After 3 weeks of storage, the value should not have dropped below a value of 65.

In a storage experiment at Anhalt University of Applied Sciences, eggs from both young and older hens were stored at a temperature of 20°C. The differences in HU values were quite remarkable. Older hens tend to lay eggs that have a comparably li-

quid albumen from the start; they also age faster than those of younger hens. Legislation stipulates, that eggs for sale in supermarkets do not need to be refrigerated for the first 21 days. Since the consumer does not have any information on the age of the hens responsible for eggs they bought, it is safer and commonly recommended to store eggs in a refrigerator at home. An egg with an HU value of 16 still smells completely 'normal', but, biologically, it is considered 'old'. It is recommended to use these eggs for baking only or in dishes in which they are completely cooked.

Table: Development of HU values

	Eggs from young hens	Eggs from older hens
Day 1 (fresh)	HU 94	HU 61
After 1 week	HU 77	HU 50
After 2 weeks	HU 68	HU 17
After 3 weeks	HU 65	HU 16

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