EGG STORE

Check hatching egg quality with UV light

Hatching egg quality has a significant impact on hatchability and chick quality.

Not every problem with the egg shell can be seen with the naked eye, but a device in your pocket can help you go beyond that biological limit. A UV flash light can be an invaluable tool to help identify egg shell hygiene and cuticle damage issues. Many hatcheries receive only a limited history of the eggs delivered from the farms. Some incorrect spray disinfection methods are being used, which cause cuticle damage. However, wiped, washed, scraped or otherwise "cleaned" eggs can cause serious contamination issues in a hatchery.

Even when eggs are put through selection and grading on arrival, some problematic eggs can still go undetected on a simple visual assessment. If we can find these eggs, segregating and setting them in a separate incubator or at least setting them in the bottom trays, can help a lot to avoid contamination.

A UV flashlight can be used to identify:

- **Washed eggs**
- **Harsh sprayed eggs**
- **Wiped eggs**
- **Scraped/physically cleaned eggs**
- **Dirty/floor eggs**

Using a pocket-size UV light is very easy. The UV light has 365nm wavelength and is equipped with black filter. A special black UV filter lens makes the UV light pure by blocking out other 99% visible light, providing more accurate appraisal results. You do need a dark environment when doing an investigation.

Direct the UV light source on the eggs and try to find shiny and different looking eggs. Under UV light, the egg cuticle shows a red color. Eggs can be evaluated based on its presence, color intensity, and distribution of this fluorescence.

Urate crystals appear white under UV light and manure residue, may appear yellow, brown or green.

Some examples of problem eggs are shown below, with the cause identified:

Figure 1 *Floor/Dirty egg*

Figure 2 *Poor spray sanitation*

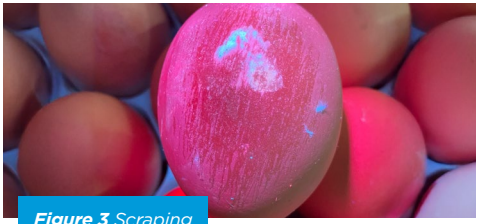

Figure 3 *Scraping*

Avoid looking into the UV light directly; this can cause serious eye damage. If a monitoring system is set up to do regular random checks for all flocks, the information generated can provide timely feedback or warning to increase the focus on flock management and egg selection on farm.