

Animal Welfare at the Hatchery



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Equally important to the sustainability of poultry production is **bird welfare**, which is a **top priority for Aviagen**, as well for other parts of the industry.

The welfare of meat chickens is considered within a framework that was developed by the Farm Animal Welfare Committee (FAWC), and known as the **'Five Freedoms'**, which form the guiding principles for the assessment of welfare within any system, together with the actions necessary to safeguard welfare within the constraints of an efficient livestock industry.



The five freedoms are:

1. Freedom from hunger and thirst;
2. Freedom from discomfort;
3. Freedom from pain, injury or disease;
4. Freedom to express normal behavior;
5. Freedom from fear and distress.



It is essential working in line with internationally accepted “Five Freedoms” as the ideal state to strive for, providing birds with fresh water, feed, proper handling, health care and environments appropriate to their species needs and use.

Over the years, throughout the adherence of welfare guidelines, **Aviagen has been working on genetic improvement focusing simultaneously on bird performance and on welfare traits.**

In conjunction with the Five Freedoms, we strive to provide a **framework to meet the needs and wants of the birds**, in line with the “**Three Essentials of Stockmanship**”, which are essential for animal welfare establishment and are the following:

1. Knowledge of Animal Husbandry
2. Skills in Animal Husbandry
3. Personal Qualities





Even though welfare is essential for poultry production, the industry faces a big challenge which is related to wrong concepts on animal welfare, based on a narrow link between welfare organizations all over the world and activists.

By applying quick, professional, rich and emotional strategies, besides providing funds to support the activism, these groups easily achieve higher levels society and celebrities, making use of social media to spread the wrong concept of Animal welfare.

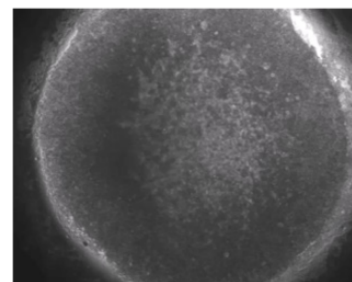
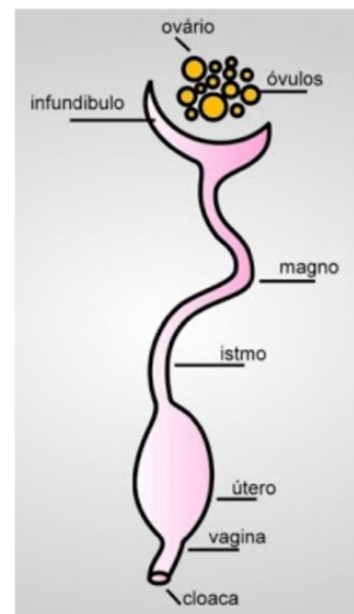


It is our mission as technicians, veterinarians, farmers and managers to promote the real concept of Animal welfare, which basically involves not only meeting the welfare needs perceived by the society, but also meeting the welfare that the animal can perceive.

Investing money not only on what the customer perceives but also making sure it also slots that the bird also feels it and that is perceived by the society is fundamental.

Another big challenge when it comes to bird welfare is that it is common for the industry to focus only on farms and slaughter houses, completely excluding an important step on the chain which is the Hatchery.

Still in the body of the hen, right after fertilization, the embryo starts its development and, when the egg is laid, it already contains between 30 to 60.000 cells. Any event that happens to this embryo will affect its development and affect how this day old chick will perform in future life, therefore, **a bird welfare should start immediately after the egg laid.**

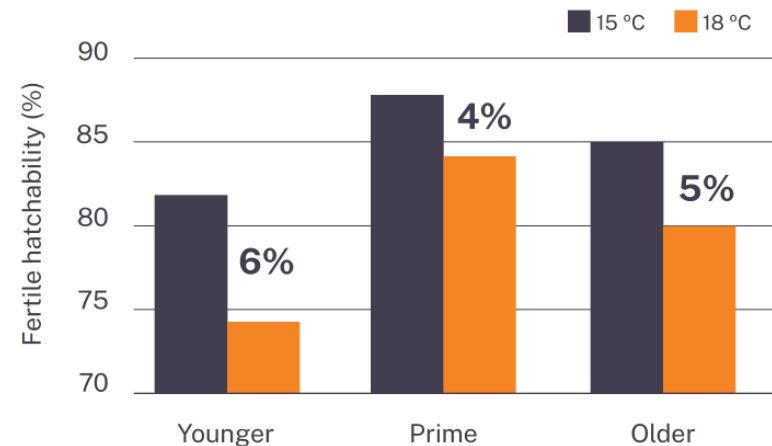


At the farm, different ways of providing welfare to those embryos include cooling down the eggs right after they are laid, removing the eggs as fast as possible from the nests to avoid pre incubation, cracks and contamination, other than assuring a great health status of the mother hen. Equally important as in the farm, is egg handling during **egg transport to the hatchery**.



The temperature should be descending and vibration or rough handling should be avoided to prevent embryonic mortality or malformations.

When the eggs arrive at the hatchery, watching for embryo welfare is crucial, not only when it comes to optimal temperature for egg storage in order to keep egg structure and embryo livability, but also length of storage. **Failing to keep enough amount of viable embryonic cells on this stage will not only increase the risk of embryonic mortality, but will also bring consequences to further development and also to chick quality.**



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Day after day after the eggs are laid, the number of embryonic cells drops because they suffer apoptosis and die as storage time increases. Sometimes, the number of remaining live cells is so small that it's not enough to trigger embryo development. This means that the embryos are not going to make it to the beginning of incubation because the minimal number of cells necessary for embryo development to continue are not present. If those embryos make it through incubation, chick quality will be poor as the development will be slower, impacting on animal welfare.

During the last 10 years, *Aviagen developed in partnership with an incubator manufactures a new technology that allow us to preserve the embryo cells better and to rescue embryo cells before incubation.* This technology is called **S.P.I.D.E.S. (Short Periods of Incubation During Egg Storage).**



Finally, after storage, incubation starts. **Welfare at the hatchery involves both the thermal and the physical comfort of the embryo. Knowing what this embryo needs to develop is essential for being able to provide welfare during its growth.**

The parameters known as **Essentials of Incubation (turning, humidity, temperature and gas exchange)** will affect this embryo welfare during incubation and may have a negative impact on the chick later life throughout different kinds of mechanisms.

Not only the incubation process itself can bring welfare challenges to the bird, but also **the process of transferring eggs from the setters to the hatchers as egg shell is very sensitive at this point.**

Another *common mistake* when it comes to animal welfare is **failing to provide welfare while the birds are in the hatchers.** Even if the whole process is **controlled during incubation, hatcher conditions or extended holding period of these birds in the hatcher can go against welfare guidelines.**



This is an important step to be checked during a welfare audit in the hatchery: transfer time, egg handling during transfer and *in ovo* vaccination management and timing.





It is crucial to be aware of different incubation time needed for different crosses to make sure that the birds will hatch according to process speed and will always be “fresh” at takeoff (Chick yield between 67 and 68% - not dehydrated- not green).

The challenges don't stop at hatch. **Once the chicks leave the hatchers, they are exposed to many others anti- well-being factors** such as processing toe/comb/spur treatments (even though those are less common nowadays), sexing (feather and vent), vaccination, holding and transport.

Both the chicks' physical and thermal comfort are crucial at this stage to guarantee animal welfare.

In fact, **the hatchery roll in guarantying animal welfare to the bird only ends when the birds are unloaded at the farm, eating and drinking.**



It is very clear that Welfare at the hatchery is a team work, where everyone which function is somehow related to the eggs and the birds handling, *should be trained, knowing what to do, learning skills and developing affinity with the eggs (embryos) and birds.*

Audits are important and should not be faced as a threat for the industry. They **are necessary to help the business** (owners, workers, consumers) **by guiding and regulating how each person is responsible for providing the animals the appropriate welfare.**





LITERATURE

Aviagen Internal data

Aviagen How to's

Aviagen Hatchery Tips

*Guidance for the Welfare of Meat Chickens and
Meat Breeding Chicken- Scottish Government*

*Code of Practice for the Disposal of Chicks, 2019-
Humane Slaughter Association*

Thank you!

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