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News & Events for
Poultry Producers from

ChickMaster

One of the Secrets for Producing Good Quality Chicks: Evaluate the Hatch Window

Dr. Carolina Díaz, ChickMaster Poultry Specialist

Often hatchery workers ask themselves, “How can we achieve a hatch with good quality chicks?” or “How can uniformity be improved with the chick that is being hatched?”. There are several routine measurements that must be done and frequently evaluated in the hatchery; the hatch window is one of the most important. It identifies if the hatch is being pulled at the correct time and if the temperature and humidity are adequate in the setters and hatchers. It also shows whether these two parameters, along with the ventilation, have been uniform during the entire process.

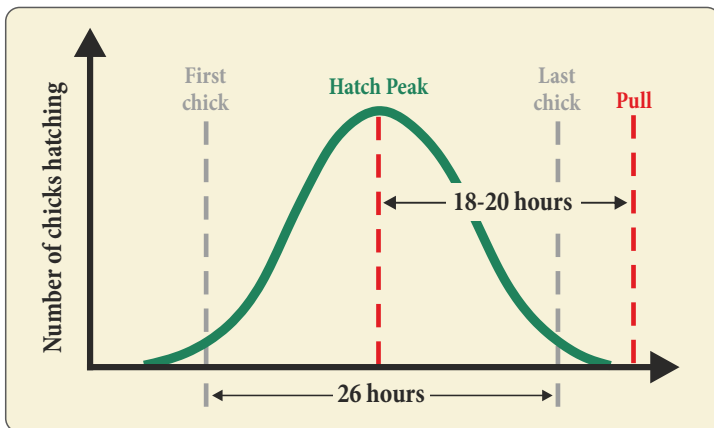
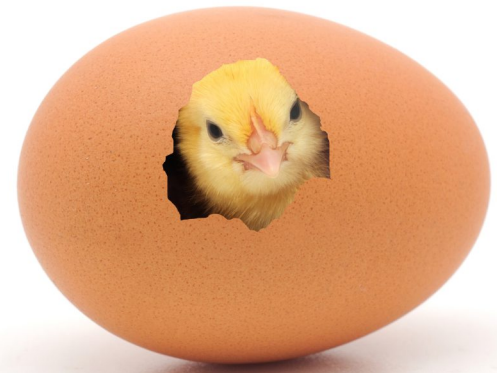


Figure 1: The ideal hatch window

There are several factors that can influence the hatch window, which must be taken into account. First, the breeder characteristics: health status, age and genetic line. Second, the characteristics of the egg: shell conductance, egg size, storage



days and level of embryo development when the eggs are set. Third, the characteristics of the environment of the eggs: temperature, humidity, ventilation uniformity and stage program. It's important to consider that the last factor (characteristics of the environment) begins when the hen lays the egg, which includes the breeder farm, egg transportation, storage room and incubation process.

Factors that cause an extended hatch window are: prolonged pre-heating of the eggs, increased incubation hours, high temperature or humidity in hatchers and setters, hot spots inside the machines and low eggshell conductance. On the other hand, the hatch window can be late when: the temperature, humidity or ventilation are inadequate, the egg storage has been prolonged, the breeders are sick, the eggs are large, there are areas with greater humidity which creates cold micro-environments, the set has been late, or when eggs being loaded in one hatcher have different characteristics (storage days, breeder age or different genetic lines).

An ideal hatch window guarantees good chick quality; it is when 10% of the chicks have hatched at the beginning and the end of the Gauss bell, and 80% of the chicks are in the center. Also, it's when the peak of the hatch is between 18-20 hours prior to the pull and the duration is 26 hours (see figure 1). But how can we achieve the adequate hatch window?

1) Machines must be appropriately sealed, so that the ventilation movement is uniform throughout the egg mass.

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One of the Secrets for Producing Good Quality Chicks:

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- 2) All embryos must be started at the same time with rapid temperature rise and uniform heating.
- 3) Transfer positions must be handled correctly.
- 4) Stage programs must be effectively set up.
- 5) Eggshell temperature must be taken during incubation.
- 6) The hatch window must be monitored with software that helps visualize its progress in real time.

In conclusion, the hatch window will be affected by various factors mentioned, and with good management will result in an ideal hatch condition. Additionally, when a hatch is achieved where there is not a large difference between the first and last chick hatched, you can be assured that the birds will be more hydrated and of good quality. They will perform to their best potential at the farms and first week mortality will decrease. There will be greater weight gain, better feed conversion ratio and more meat per square foot. Finally, remember that a hatchery functions as a complete system, which means there should be good communication between production-quality-maintenance. This is the reason why it is important to train personnel and let them participate in the process to guarantee greater control of all the contributors to a controlled hatch window. This is what **Hatchery in Harmony** is all about.

Meet one of our Poultry Specialists



Dr. Carolina Díaz is part of the ChickMaster team in Latin America. Based in Colombia, she joined ChickMaster in 2015 and has travelled throughout LA to visit our customers. She received her D.V.M. in Veterinary Medicine and Animal Production from The Applied and Environmental

Sciences University in Colombia and completed her thesis in the United States at North Carolina University. She later worked as a Technical/Quality Manager for a large Colombian hatchery. Dr. Díaz consults with customers to increase hatchery performance from a scientific perspective. Her advice on keeping a Hatchery in Harmony can offer greater hatchability and chick quality.



Specials on New ChickMaster Upgrades

A new category is being added to the ChickMaster website. Under the area of “Special Offers”, new upgrades are being offered at a lower price for a limited time only.

Specials currently being offered include a new On-Trolley Actuator and Genesis Control Upgrades. Click the link below to view the special offers available at this time. New offers are being added regularly, so check the website often to see how you can keep your “Hatchery in Harmony” at a lower cost. <http://www.chickmaster.com/special-offers/>

The ‘Beat’: On-trolley Actuator Upgrade

The Beat is a rotary actuator manufactured to ChickMaster specification to replace your existing on-trolley units. Using high quality machined components it is specifically designed for trolley applications with a rotary action for optimum sealing and durability. The Beat will connect to the machines in exactly the same way as the current actuator using the same plug. Visit our specials page for more details.

Supergen S.A. Produces Ross Breeders in Peru



Supergen is a partnership of four large Peruvian broiler producers to supply Aviagen breeding stock for the Peruvian market. We are pleased that Supergen decided to use Avida setters and hatchers for this important new hatchery. Although the partners have used ChickMaster Classic systems in their hatcheries for many years, they decided to use Avida single stage setters for this new joint venture. They recognize the advantages of uniform airflow and simplicity of control in their goal to produce high quality Ross parents. We thank Supergen for choosing ChickMaster’s Avida systems like so many parent stock hatcheries have done around the world.

Around the World with ChickMaster

Recent installations – more “Hatcheries in Harmony”



For more information on recent ChickMaster installations please visit: <http://www.chickmaster.com/resources/news/>

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