

e-news

News & Events for
Poultry Producers from

ChickMaster

Managing Incubation Temperature - Part 2

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In part one of this article, published last month, temperature management in the setter was emphasized. Yet a successful beginning is useless if the process fails at the end. The temperature of the hatcher cabinet, where the hatch and dry-down take place, is also very important and directly influences the final quality of the chick. At this point in the process, neither the embryo nor the baby chick possess heat-regulating capacity. Therefore, they depend on the temperature of their surroundings to maintain their comfort point. Even so, the chick body is equipped with defense mechanisms to handle inappropriate environmental temperatures.



Figure 1. Chicks with red hocks

On one hand, if the chick has low body temperature, it reduces heat loss. Blood flow will be reduced, causing peripheral vasoconstriction (cutaneous and subcutaneous) and feathers will increasingly insulate the body's surface. Likewise, muscular tension will increase heat production,

metabolical acceleration, increased feed consumption and reduced surface of caloric exchange. The birds will be seen in groups, curling up their bodies, covering their thighs and legs, placing the beak under the wing.

To the contrary, if the chick feels increased bodily temperature, heat disipation will be increased, originating cutaneous

vasodilatation especially in the feet and the crest, transferring heat from the deep tissues to the surface. The chick will begin to pant. Also, it reduces heat production; metabolism slows down because thyroid hormone activity diminishes. The birds are seen to be resting and separated one from another.

To be able to control the surroundings of the embryos and the chicks, not only must the temperature set points be adjusted, according to the readings obtained, such as the cloacal temperature (ideal 104-105°F); but the chicks must also be observed, correlating the adjustments to their activity.

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Aviagen Turkeys Expands with Avida Symphony

Aviagen Turkeys in West Virginia, USA, has completed phase 2 of its hatchery renovation with more Avida Symphony setters and hatchers. Based on the results they have seen with the phase one, the management has moved quickly to adding more of the single stage incubators. Aviagen Turkeys has been able to take advantage of the uniform airflow and sealed cabinets to maximize good quality poult production. The multizone setter with Genesis IV controls gives the hatchery the tools to maximize production capacity and control to produce superior poults for its customers.

Managing Incubation Temperature

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If in the hatch process, there are chicks with red beak or hocks (Figure 1), open navels, hatcher baskets stained with meconium, panting and signs of dehydration such as a visible metatarsis vein, or if the hatch begins before schedule, then overheating at some point of the process should be considered.



Figure 2. Chicks grouped together because of cold surroundings

On the other hand, if the chicks are hovering together (figure 2), with cold feet, and pipped, unhatched chicks or wet chicks, there were probably cold points during the incubation process. In either of these two cases, the machine maintenance and uniformity in the surroundings should be checked, and temperature adjustments should be made. But first of all, be sure that the sanitary conditions of the breeders is favorable and that the eggs are not stored more than 7 days.

In conclusion, there are different external factors within the hatchery. The goal of incubation is to offer the embryo the best conditions for a life that will eventually be a chick at the grow-out farm. That is why currently there are preventative tools that allow for real-time temperature monitoring so that decisions can be made at the right time. It must be remembered that embryonic temperature depends on several factors, such as the genetic line, size of the egg, conductivity of the shell and breeder age, among others.

The embryos and future chicks cannot control their body temperature so it's our responsibility to ensure their surroundings during the 21 day process offer them the best resources to finish their embryonic development, together and well formed.

The chicks that have been kept in a comfortable temperature during the process generate greater feed conversion, and therefore, greater profit.



Keep your Maestro or Advisor System Up-to-Date

To receive the latest update to your system's software package, please send us an email to maestro@chickmaster.com and we will be happy to assist you.

ChickMaster CC3 System Upgraded in Malaysia

A ChickMaster CC3 Energy Management System was installed in Malaysia at Eng Peng Poultry Farm a few years ago. Seeing the real energy saving benefits of the ChickMaster CC3, Eng Peng recently upgraded the system to monitor and control even more rooms in the hatchery.

The Hatchery Ventilation Equipment Package is an integral part of the existing CC3 system that optimizes the performance of the system in each of the rooms and plenums. These items are installed inside the hatchery and communicate with the Zeus CC3 control system to manage room conditions properly in conjunction with the operation of the current CC3 unit. The net result is a better quality chick produced at lower cost.

We congratulate Eng Peng on maximizing the use of the ChickMaster CC3 Energy Management System to achieve a "Hatchery in Harmony".



Technical Training Seminar in Bridgwater

The installation and commissioning of new equipment is a principle part of the manufacturing process. Incubation equipment leaves our factory in many individual parts and assemblies. It all has to be put together on site. Ventilation equipment requires testing and commissioning prior to startup to make sure it is balanced and running to meet the parameters of the building design. We recognize the complexity of the process and the importance of continued training for our excellent technical team. To support this process, we organized a seminar for our technical group that is responsible for new installations and service in Europe, Asia, Africa, and the Middle East hatcheries. Technicians from a number of countries came to our Bridgwater, England plant for a four day review of our latest equipment and the



best practices for proper equipment commissioning. We also included sessions lead by team members from our Medina, Ohio US facility who traveled to England as well. It was a very positive event and great opportunity to get this group together. Members of our UK and USA team spent the four days with those that work directly with ChickMaster customers to turn all the components into working hatcheries. Events like this one are an important component of the 'Hatchery in Harmony' process that we invest in regularly to seek improvement in this critical and important step in the process of getting equipment into good working operation.

CM Parts Corner: Fan Boards for Classics

The wooden fan board was replaced over 16 years ago with the high efficiency fiberglass board that includes the Vostermans fan and fan blade. Those boards, fans and motors are standard components of the Classic setter that increase airflow and reduce energy consumption. Many customers do not realize that a damaged fan board can also negatively affect hatch results with air not able to reach into the egg mass.



The Vostermans Fan Upgrade offers many advantages and benefits. We also offer a more economical solution for an upgrade to wooden boards. ChickMaster offers a unique fiberglass fan board that can be used with the standard ½ horse power motor and fan blade used prior to 2000. This board is available with cut-outs for duct heaters if you still have copper ducts in the setters. It can be supplied as solid boards (#600D-03-5005) if the setter has been upgraded with the Ventilation Upgrade Kit and two-zone cooling. The advantage of a fiberglass board is that it's easier to clean giving greater bio-security. They are quick to install and a good solution to replacing your corroded and damaged wooden boards that are lowering your ability to have a 'Hatchery in Harmony'. Contact your ChickMaster sales manager or representative for more info !



Complete Fiberglass Fan Board Kits for Classic Setters 540/576 (all 6 panels)

Setter with copper ducts: **600D-01-5005** (with duct cut-outs). Setter with two-zone cooling and ventilation upgrade kit: **600D-03-5005** (solid boards)

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