

e-news

News & Events for Poultry Producers from

ChickMaster

Don Pollo Saves Energy with CC3 Ventilation



One of the leading broiler producers in Chile, Don Pollo, has commissioned a CC3 in their hatchery. They came to us several months ago with concerns about the hatchery results and offered us the challenge to find improvement.



When we sent our technicians to review the hatchery, we recommended upgrading the ventilation to give them more control over the hatchery environment.

Also recognizing that Chile has cold conditions in many months of the year, we showed how the CC3 can reduce energy costs by using our unique Heat Recovery System. Now that the CC3 has been working for several weeks, they are already seeing the benefit of 100% fresh air with no re-circulated air that can lead to contamination.

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Melo in Panama has a 'Hatchery in Harmony'



The key to a successful hatchery is a great incubation system that works in concert with the ventilation to manage temperature, humidity and room pressures while reducing operation costs. Empresas Melo in Panama have now achieved that goal by adding a CC3 Energy Management System in its broiler hatchery. The CC3 not only manages the room temperatures and moisture, but it does so while reducing the overall energy consumption. Using the recaptured heat from the incubator cooling system, the CC3 dehumidifies the tropical air so that the setter and hatcher rooms are running at close to ideal conditions both day and night. The net result is a better quality chick produced at a lower cost.

While dehumidifying the room air with free heat, the water that

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Managing Incubation Temperature



Dr. Carolina Díaz (ChickMaster Poultry Specialist)

Successful incubation hinges on putting every effort into providing the best surroundings for the embryo so that the chick can reach its maximum potential in the grow-out farm. One of the determining factors is the temperature which sets the rhythm for growth and cellular differentiation of the future chick.



Figure 1. Chicks delayed in the hatching process

Excessive or insufficient heat may cause problems of quality, as well as with the development of the chicks at the farm. That is why the setter that the eggs are to be set in, must have adequate: (1) cooling capacity; (2) heating; (3) ventilation; (4) turning, with uniformity being one of the main objectives.

A temperature that is lower than that which is required by the embryo during the process will cause a lower rate of cellular development, generating wet chicks and pipped, unhatched chicks that are found to be developmentally delayed (Figure 1). On the other hand, a temperature that is higher than that which is required will increase embryonic development, generating a greater demand for energy and oxygen. Likewise, it will produce low chick quality with signs of dehydration, incorrectly healed navels, red beaks and hocks. Breakouts will show increased percentage of malformations (Figure 2) and incorrect positions.

From a technical point of view, when temperatures are higher than the embryonic comfort range, urates begins to be seen as a consequence of using

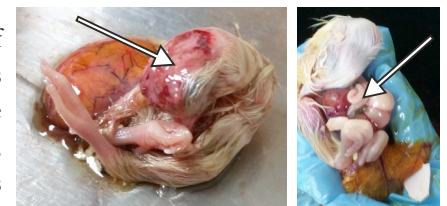


Figure 2. Malformations: Exposed brain and ectopic internal organs

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They have also improved the management of the room pressures to better control the conditions around each setter and hatcher.

We worked closely with them throughout the commissioning process and through hatching to monitor and review the CC3 functions remotely via an internet connection. Our team quickly identified how the hatchery is getting heat but without adding new energy to do so. Besides the energy savings, they are also seeing the improved chick quality that they were hoping for. We thank all of the team at Don Pollo for having the confidence in ChickMaster and in the CC3 to get their Hatchery in Harmony.

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returns to the water cooling system has a lower temperature and requires less energy to chill down to the cooling temperature for supply back to the setters and hatchers. Also considering that Melo has new setters and others with upgraded features, they take advantage of sensor based controls and balanced cooling that reduces energy usage in the hatchery.



We congratulate Empresas Melo on achieving a Hatchery in Harmony using the unique systems ChickMaster offers to get there.

ChickMaster Parts Corner: The Importance of a Good Trolley Caster

Trolleys are the key to protecting eggs as they move through the hatchery. A well maintained caster is the tool that allows the eggs to move from place to place, both in the hatchery and inside the setters and hatchers. Ease of movement and proper trolley height are all affected by the casters.

ChickMaster provides a wide range of high-quality casters for setter and hatcher trolleys to meet all hatchery requirements. ChickMaster caster designs are strong and durable featuring steel top plates and yokes specifically designed for use in frequent trolley movement. Designed for transport and Avida setter trolleys as well as hatcher dollies, having a good quality caster can keep your eggs moving smoothly and safely throughout the incubation process.



6.0" Avida Hatcher
404B-68-4169 (swivel)



5.0" Avida Setter
CS 1002 (swivel)



3.5" CVH Hatcher
404B-41-4169 (rigid)
404B-40-4169 (swivel)



5.0" Classic Setter
404B-16-4169 (rigid)
404B-14-4169 (swivel)

Managing Incubation Temperature

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muscular glycogen (Figure 3). This is required when the energy of the yolk sac becomes insufficient or cannot be metabolized, effecting the tissues that will later be meat, or in other words, the muscle (Christensen et al.2006, Oviedo et al. 2008).

Adequate embryonic development takes place when the shell temperature is maintained between 100-101°F (37.7-38.3°C). This temperature allows the rhythm of cellular differentiation and development to take place naturally, and so the organs are adequately formed to conform to the different systems that make up the chick's body. Because of this, adequate machine calibration is extremely important, being sure that the calibration kit is also correctly certified.



Figure 3. Presence of urates in the shell and embryos

So far we've seen the importance of managing the setter's temperature during the 18-19 days of embryonic development. It's relevant to remember that managing the temperature in the setter is useless, if at the end of the process the temperature in the hatcher is not controlled. For that reason, we'll look at hatcher temperature management in our next article, as well as the defense mechanisms that the chick has to be able to regulate body temperature.

Upcoming Events



Join us to learn how you can optimize your hatchability and chick quality with integrated equipment, management systems and environmental control at the following events:

Avicola Porcinosa
August 23-25, Buenos Aires, Argentina

SPACE 2016
September 13-16, Rennes, France

Congreso Peruano de Avicultura 2016
September 13-15, Lima, Peru

ChickMaster Avida Training Academy
September 27-29, Medina, Ohio, USA

Visit our website for more information:
www.chickmaster.com/resources/events/

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