Hatchery data management: a manual process

Despite the large amount of information circulating inside any hatcheries, the collection of information from the egg reception up to the day-old-chick expedition is still very manual. In most hatcheries, eggs entering are identified via paper form completed manually by an operator with all important contextual information such as the farm origin of breeder flock information.

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Once completed, this paper form reaches the rest of the forms on the desk of the hatchery manager.

Paradoxically in this low-tech data collection process, hatcheries must comply structural needs where proper data management should play a critical role. Indeed, the daily collection of information performed at the hatchery must guarantee:

● Precise hatchery process traceability: to track accurately the different steps and production parameters from egg reception up to the day-old chick placement.
● Simple day-old chick order management: to manage daily day-old chick placement into broiler farms and the eggs stored availability.
● Detail hatchery activity reporting: to get a daily and historical overview of each hatchery step.

Moreover, a new generation of incubator technology is helping more and more to collect and centralise incubation programs and hatchery process.

However, incubation process is not the full hatchery process and some critical steps, such as the egg transfer, for instance, are missing.

So today, hatchery data collection systems represent major risks:

● Manual collection can be a source of error: operator filling paper form in by mistake with wrong information.
● Information is not available when it is needed: time availability is already a major constraint for every single hatchery manager.

Digitalising every paper form to make it available for analysis and hatchery optimisation is not the priority.
● Performance optimisation across poultry is not possible: as there is no proper consolidation of information at the hatchery, the exchange for added value among different production units (breeder farm, farm, slaughter) is complex.

Collect, centralise and decide

To answer hatchery challenges, the data management solution for any hatchery has to:

● Collect information from the different area of the hatchery, taking into consideration building constraints and the different machines which can deliver information.
● Centralise via a secure system all the hatchery process information collected on a daily basis.
● Help hatchery managers to decide, based on a real time overview of the hatchery process and historical analysis.

Based on these three key concepts, Ceva has developed an innovative data system designed to support hatchery managers with the monitoring of day to day hatchery operations with: Ceva Hatchery Connect.

To run a Ceva Hatchery Connect project inside a hatchery three elements are required:

Ceva Hatchery Connect

By connecting a selected range of Ceva equipment present in different hatchery processes, hatchery managers will get access in real time to the critical production information like the quantity of egg candling, vaccination speed per operator or the quantity of crates ready for shipment.

Ceva Box

All the information shared in real time by each equipment are centralised inside the hatchery into a highly secure system called the Ceva Box. The role of this device is critical as it will collect the information from all the hatchery equipment and transfer it automatically to an online database.

Online platforms

To facilitate the decision-making process of the hatchery manager, two different visualisation platforms have been created for two specific needs.

In one side, the hatchery manager will access via its mobile phone to the real-time overview of its hatchery processes.
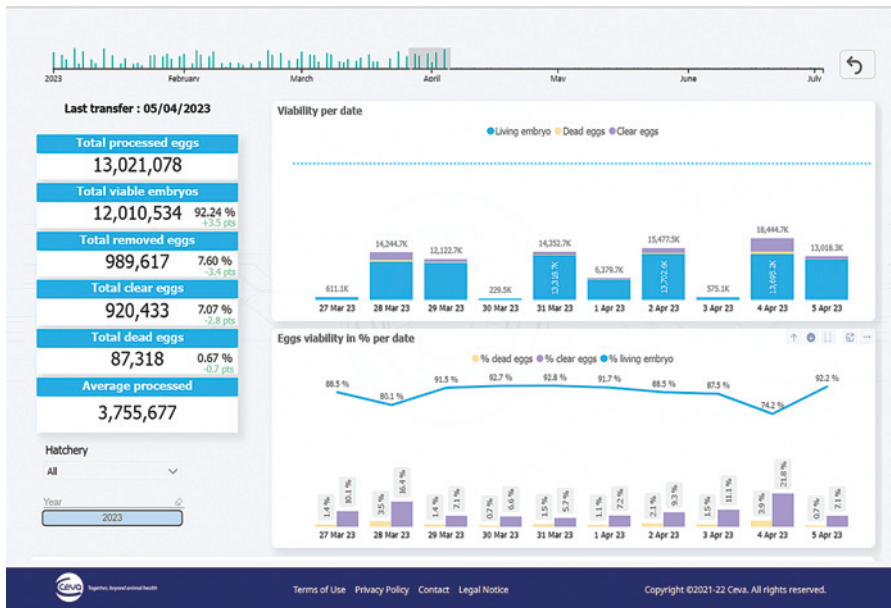
Depending on the devices connected, the hatchery manager will see the status of the day of the transfer process, or the quantity of day-old chicks hatched since the start of the production.

On the other side, via a unique web portal, the hatchery manager will get access to all the historical performances.

With a few clicks, they are able to get insights on main hatchery trends and process optimisation.

By combining the latest technology to allow hatchery manager to monitor in real time the vaccination process and identify hatchery process optimisation.

Real time vaccination monitoring: improve reactivity

By getting the latest news from the chick processing room, chick placement to the farm can be organised in advance. Being alerted that the last cleaning cycle of the in ovo vaccination machine occurred only the day before, allows managers to take immediate action to limit the impact of contamination.

Historical analysis: optimise hatchery performances

Hatchery practices are under permanent changes to adapt to the market needs, egg quality, microbiological risks. Monitoring hatchery production parameters daily is not enough. Deep understanding of historical performances at each step is critical to identify deviations and make corrective actions or to optimise process. For instance, having access to the historical subcutaneous vaccination outputs per operator helps improving vaccination speed efficiency and homogenous speed per

operator every day. In case output variation is observed, maintenance of the machine or dedicated operator training can be scheduled. One other example could be related to the candling data. With new candling technology such as LaserLife, the egg categories identified are broader: infertile, early dead, rotten.

Having access to a consolidated database of egg categories quantity per flock help to forecast hatch quality and to improve egg quality received from breeder farms. ∎

Ceva Hatchery Connect webportal

No doubt that in a few years the hatchery process will be fully connected. The mastering of hatchery information is critical to ensure technical and economical sustainability.

This path has to start today with the connection of some key existing equipment of hatchery processes. Ceva Hatchery Connect has been developed to answer hatchery manager challenges bringing a real time monitoring of vaccination process and historical analysis to optimise hatchery performances.