Ensure resources are well employed in your hatchery

Competitive advantage is defined as the advantage of proactively perceiving market trends ahead of competitors.

Any business aspires to have a competitive advantage and a poultry business is no different.

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One of the strategies to increase competitiveness is to increase productivity by ensuring the resources are well employed. In recent years, hatcheries around the world, have integrated automation into their operations.

However, they have not only integrated technology to reduce operator-dependent processes but also new technologies like LaserLife that, on top of being an automated candling system, can improve early health thanks to reducing contamination.

Healthy day-old chicks will always perform better in the field, and that is a huge competitive advantage.

Factors influencing early health

Within hatcheries there are plenty of factors influencing early health. However, hatching eggs are the raw material and, therefore, their quality is of particular importance to ensure the optimum early health of day-old chicks. Basically, healthy chicks come from good quality eggs. However, contamination is one of the main challenges for all hatcheries all over the world.

Even if many of the practices in breeder farms aim to maximise the sanitary status of hatching eggs, such as training hens during rearing to jump into nests and avoid laying eggs on the floor, plus appropriate height of slats and frequent egg collections etc, nature is still nature.

The sanitary status of breeder farms, and especially nests, do not end how they begin but will always contain a higher level of dirt.

Moreover, without exception, the older the flock the more porous and thin the eggshells. This means the eggs will be more susceptible to contamination and the generation of explosive eggs.

Impact of rotten eggs

The impact of rotten eggs on early health varies from decreasing the hatchery's sanitary status, and therefore increasing cross contamination of other flocks, to direct embryo mortality and suboptimal chick quality due to bacteriological challenge of day-old chicks in the hatchers. One way or another, their presence has a huge impact on early health.

Up until a few years ago, the impact of rotten eggs in production was minimised by hatchery practices striving to arrange logistics and implement procedures at transfer to manually remove as many rotten eggs as possible. However, with such practices, it is unavoidable that some rotten eggs will explode and spread contamination to the hatchery environment, and those that are not visible to the operator's naked eye will arrive at the hatchers anyway.

Those practices make being a transfer operator one of the most uncomfortable roles in a hatchery and has an influence on the turnover of personnel.

The latest development in candling technology, named LaserLife, has provided a unique solution to the poultry market.

Through careful analysis of heat emission and laser technology, up to 99.8% of live embryos are accurately identified, while clear, dead and rotten eggs remain untouched in the incubation trays.

Compared to traditional candling systems or manual practices, the automatic differentiation of live embryos from dead and contaminated eggs, thanks to LaserLife, represents a major competitive advantage for poultry producers. It allows them to comply with the highest hygiene standards required to improve early health. This is demonstrated once again by a LaserLife user in Asia. The production data that has been kindly shared belongs to a hatchery processing 1.4 million eggs per week. The company switched from manual candling to LaserLife.

Parameters	Manual process	LaserLife
Processing time (hours)	7	6.5
Manpower (workers)	8	7
Work process	Unstable	Stable
Hatching forecast	+	+++

Table 1. Comparison of key performance indicators.

Field example

Several key performance indicators (manual candling vs LaserLife) were compared between years and the results in Table 1 show an upside of €103,000 per year with LaserLife due to the improvement in hatch and discarded chicks (-0.4%), clear egg detection accuracy (+1.3%), reduction in processing time (-104 hours per year) and the manpower required (one worker less).

Other additional benefits, such as a better hatching forecast due to a reduction of dead-in-shell, have been reported but these are not included in this economic benefits calculation. ■

Fig. 1. Results from a hatchery in Asia. Day-old chick selling price = €0.31/bird, operator salary = €220/month, price of clear/infertile eggs = €0.01/egg.