Light Can Make All the Difference. Meta-data From Zinpro® BlueBox™ presented at PSA Meeting

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A simple idea can spark innovation. Years ago, a colleague put an egg against the flashlight of her mobile phone. Another team member got excited and posed the idea to create a prototype egg scoring machine. Now - 6 years later - we have improved the device and created a wealth of translucency data. At the latest annual PSA meeting, I proudly presented what this information tells us about hatchability, and more.

Unhatched eggs account for the largest nominal loss in the broiler industry. At the same time, improving hatchability is one of the toughest nuts to crack. But we know that eggshell quality can predict the hatchability success of the eggs. Imagine the benefits for large integrators if we can even increase hatchability by only 1%! The money involved is huge.

From Phone to Cardboard Prototype

We have invested a lot of research in confirming the benefits of feeding Zinpro® Performance Minerals® and egg quality. We know that supplementation with the right set of trace minerals improves the ultra-structural organization of the shell membrane, and hence eggshell quality. The question is: What does eggshell quality really mean for hatchability success, and do we have such data? Surprisingly, this connection was never really looked at properly. In addition, a practical, fast and easy device to determine eggshell quality, complemented with a good scoring system and tested methodology for eggs was simply not there. Until now.

During my presentation at the annual Poultry Science Association (PSA) meeting in Philadelphia, I talked about one of our latest innovations: the Zinpro BlueBox. I really like speaking about it, because it is a true innovation, consisting of our simple, yet powerful, device and our in-house expertise. The idea for the hardware actually started some years ago when one of our team members at Zinpro® in Brazil placed her phone flashlight under an egg we had in our office. She noticed a lot of anomalies and spots. Soon after, the first prototype, which was made of cardboard, was developed. Over the years, it was learning by mistake. The device changed and improved, but the concept remained. The real innovation and value lay in how we created, tested, and benchmarked translucency data to combine with our nutritional knowledge and management practice expertise. We also discovered, along the way, that small changes of when, where and how the eggs are evaluated matter.

What All the Egg Data Tell Us

At Zinpro we developed the machine and a new scoring system, but more importantly, we carried out major trials at four industrial hatcheries during a 2-year period. This generated a wealth of data and new insights. I had the opportunity to work closely with our customers during these trials. During my visits I could show them, by examining their own eggs, that even small anomalies in eggshell quality mattered, and where improvements could be made. In our field studies, we looked at the link between translucency score and hatch of fertile eggs, mortality in 0-4 days and contamination. In the trials, we scored and followed over 10,000 eggs from different flocks and genetics up to hatching. Overall, more than 160,000 eggs have been scored using this new methodology from Zinpro.
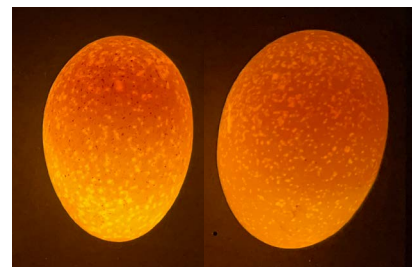
Translucency Score 1	Translucency Score 2	Translucency Score 3
Few to none translucent spots	Several small translucent spots	Many large translucent spots

I summarized the most important findings with the Zinpro BlueBox in my presentation at the PSA meeting. And this created a lot of interest and curiosity from the conference participants, which was great to see and hear. The data showed us that eggs with the highest translucency score (bad quality) have higher moisture loss and lead to lower hatchability (- 6 percentage points!). Also, the highest score leads to more contamination and embryo loss (increase of 45%!). We were also able to detect emerging diseases such as bronchitis and other respiratory challenges in the breeder hens when looking at the eggs they produced.

Innovation, Curiosity and Scoring Never Stops

We know that translucency imperfections are affected by nutrition, disease challenges, and environmental stress among others. Genetics and age also play a role. With the data from Zinpro BlueBox and the ongoing studies, we can now better connect the dots, benchmark, and pinpoint customers on where to improve (i.e., flock #10 needs extra care because the eggs tell us that something is wrong). This will have benefits on multiple levels. It is more sustainable due to optimized operations and increased efficiency. It also increases profitability, due to having more hatched eggs, but also in stronger chicks and less problems in the grower/finisher period. Zinpro is conducting more trials to look at the latter. This way of thinking and working with 'new data' also encourages veterinarians, farm managers and nutritionists to better cooperate with each other. Because innovation, curiosity (and egg scoring) never stops.

Did the Zinpro BlueBox spark your curiosity as well, and are you interested in learning more about how this can help boost your hatchability results? Click here to learn more. Or send me a direct message.