Managing feed inputs with innovative solutions

Optimal nutrition is essential for poultry and providing the right balance of feed inputs profoundly impacts overall bird health, feed efficiency, egg quality and reproductive success, all of which are essential to maximising productivity.

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For layers, the goal is to feed in a way that maximises egg production and quality, while breeders need feed to support consistent reproductive performance.

With their specialised functions, nutritional requirements for layers and breeders differ significantly.

As such, poultry producers recognise the key to maximising both egg production and overall flock health lies in providing comprehensive, targeted nutrition solutions that address both specific needs throughout various stages of life cycles.

By understanding the physiological demands of layers and breeders, the poultry and feed industries can deliver nutrition solutions that not only enhance productivity but also contribute to bird health and longevity.

From egg quality and fertility to gut health and overall health and wellness, essential nutrients such as proteins, vitamins and minerals, alongside other feed additives, must be carefully calibrated to support the specific life stage and productivity goals of the birds.



ESTABLISHING THE FOUNDATION

Poultry productivity is fundamentally linked to bird health and wellness. Birds that are in good health are more likely to absorb nutrients effectively, maintain consistent energy levels and perform well over their productive lifetimes.

An important focus area is gut health, which is central to nutrient absorption and immunity.

Studies conducted by ADM have demonstrated that an innovative and patented Copper Exchanged Clay has the capability to modulate the intestinal microbiota at low concentration thanks to the well-known anti-microbial properties of copper (Meyer et al. 2015, Gall-David et al, 2017). The role of microbiota in digestion, nutrient absorption and the link with the animal's growth performance is well established.

During specific periods, a disbalance of the gut microbiota may occur and affect the animal's performance and well-being.

Improved gut health not only supports Keeping the animal in good health supports immune function but also translates into better feed efficiency and long-term productivity, allowing layers to produce more eggs and breeders to maintain reproductive performance.

By addressing gut health early on, producers can support their flocks' short-term and long-term productivity.

For breeders, a healthy gut translates into better reproductive health and fertility, while layers benefit from maintained egg production due to increased nutrient uptake efficiency.

UNDERSTANDING EGG PRODUCTION AND QUALITY

Layers need nutrient-rich diets that promote consistent and high-quality egg production, while breeders require diets that support reproductive health and production of high-quality hatching eggs. Egg quality and

production are critical measures of productivity.

Achieving high-quality eggs requires a balanced supply of essential nutrients, such as amino acids, calcium and phosphorus, which support both the formation of eggshells and the health of the bird itself.

Laying hens are expected to produce 500 quality eggs up to 100 weeks of age, with many producers seeking solutions to extend the egg production cycle and control overall eggshell quality.

However, in the last phase of the cycle, egg production declines and the likelihood of cracked eggs increases due to decreased shell quality in terms of shell weight, thickness and breaking strength 's liver and ovarian metabolism.

As the production periods for laying hens extend, the reduction in egg production becomes more pronounced, resulting in decreased production profitability.

For instance, ADM's Perfegg helps egg producers improve their hens' laying performance and their profitability at the end of the laying period when egg production decreases.

This solution optimises the producers' investment in the genetics of pullets and also contributes to lower feed costs thanks to the improvements to FCR (Hao et al., 2021). For breeders, Perfegg contributes to improve the number of day-old chicks.



IMPROVING FEED EFFICIENCY

Efficiency in feed conversion is critical to profitability in poultry production as it determines how much product (egg mass or meat) is produced per unit of feed.

Layers focus on sustained, high-level egg production, while breeders require a balanced nutritional intake to support fertility and avoid excess weight gain.

Both of these are managed through energy-dense feeds that ensure birds receive the nutrients they need to fuel their essential functions.

For example, during peak egg production, layers require higher energy levels to maintain consistency in egg-laying. If energy needs are not met, the birds may exhibit reduced productivity, as their bodies will divert resources away from egg production to sustain essential metabolic functions, whereas excessive feed intake can lead to weight gain and can negatively impact fertility in breeders.

ADM's PowerJet addresses these challenges by offering a feed additive solution that helps poultry producers strike this delicate balance. Field and R&D trials run in Morocco and France demonstrated that PowerJet™ contributes to improve the feed intake and nutrient levels while allocating the maximum of "efficient energy" to poultry's needs during peak production periods.

Additionally, precise nutrition strategies seek to mitigate these challenges by recognising the unique dietary requirements of each animal. Factors such as age, weight, activity level and health status are considered in creating tailored feeding solutions for each segment. Poultry receive the proper amount and composition of nutrients they require, promoting optimal growth, efficient FCR and minimised waste.

By providing customised diets, poultry producers can help prevent under- or over-nutrition while also reducing the risk of metabolic disorders, nutrient deficiencies and other health-related issues—ultimately leading to greater profitability.

At ADM, our commitment to optimising productivity in poultry stems from a holistic understanding of nutrition. For both layers and breeders, precision feed formulations that account for protein, energy, minerals, vitamins requirements and gut health are essential.

By tailoring our feed inputs to meet the specific needs of each type of bird, we are able to enhance not only productivity but also the long-term health and sustainability of both poultry and poultry operations.

Through innovation in feed technology and a science-based approach to nutrition, partnering with a global partner like ADM can support poultry producers in maximising poultry productivity, ensuring both layers and breeders perform at their best. ■



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He joined ADM in 2021 and previously was a Project Manager within R&D for EMEA and APAC regions.

Prior to ADM, Vahid worked in various roles, as a researcher at Wageningen University and at INRAe, and in industry as a product manager.

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