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Playing the long game: The role of Hamlet Protein in pullet rearing to maximize laying hen production

Egg producer focus is often on the laying phase, ensuring optimum management to maximise production and returns. However, if we don't maximise the developmental potential of the pullet during rearing, we will never achieve maximum laying performance.

Why? Because bodyweight, body condition and uniformity at the end of rear are the best predictor of future laying performance. Because early gut health and intestinal development are crucial for later life.

Hamlet Protein products provide us with a tool to give pullets the best possible growth and gut health to gain the benefits at the end.

Early growth and development

In the first 8-10 weeks of the rearing period, the young pullet grows rapidly, developing the immune system and internal organs further while the skeleton grows muscle is built to support the frame (Figure 1).

Figure 1. Growth and development of the laying hen

<table>
<tr><td>Phase</td><td colspan="4">Rear</td><td colspan="4">Lay</td></tr>
<tr><td>Months</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr>
<tr><td rowspan="3">Growth/ Development phase</td><td>Immune system</td><td colspan="3" rowspan="2">Muscles</td><td colspan="4">Fat deposition</td></tr>
<tr><td>Digestive system</td><td colspan="4">Reproductive tract</td></tr>
<tr><td colspan="4">Skeleton (cortical bone)</td><td colspan="4">Medullary bone</td></tr>
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In the first 2 weeks, the intestinal tract is developing rapidly as gut morphology takes shape, but gut development is extremely vulnerable to upset.

Post-hatching access to feed and feed composition and characteristics are the most important factors for the rapid development of the gut.

The higher metabolic rate of the modern layer chick and time in the hatcher also means she can no longer rely on the yolk sack to provide sufficient nutrients in the first few days.

Digestive capability is also limited in the young chick. Enzymatic activity is designed to process lipids and carbohydrates from the yolk sac, while trypsin (the enzyme responsible for protein digestion) is almost non-existent.

Yet the young chick needs proteins and amino acids as the building blocks of intestinal development. While digestibility of key nutrients is related to age, the absorption of key nutrients is critical to early development.

The quicker a nutrient e.g. protein, can be digested and absorbed, the quicker it can be utilized. We call this protein kinetics.

Hamlet Protein is a *fast protein*

Fast protein such as Hamlet Protein is digested and absorbed in the early small intestine and is rapidly available in the bloodstream for utilization.

In contrast, slow protein is slower to digest and takes longer to be absorbed and used. Intestinal amino acid transporters are regulated by the dietary protein level, composition, and quality; hence protein kinetics is an important factor.

Hamlet Protein products are digested faster than other soy proteins, so it is more readily available to the growing pullet in the first 10 weeks when it is crucial she develops optimally.

And unlike animal protein, there is no risk of undigestible protein sources reaching the lower gut and creating challenges such as dysbiosis.

Using Hamlet Protein products, the gut microbiota is no longer impacted by poor protein digestion and gut health, antioxidant and immune status are also improved.

These are all essential considerations during pullet rearing when the immune and metabolic demands of the bird are high.

Playing the long game: *the best start for the best finish*

Feeding Hamlet Protein products to the pullet early on has numerous benefits. She is able to grow more efficiently, and her gut and associated morphology is developed to maximise nutrient absorption.

This allows her to focus physiologically on developing the reproductive tract and skeletal calcium stores ready for lay. By establishing the early, ideal conditions for nutrient absorption and gut health, the pullet is in optimal condition as she moves into the laying period.

The benefits? Healthier, more productive laying hens, for longer.

In early field evaluations using Hamlet Protein products for up to the first 10 weeks of the rearing cycle, we have seen improved uniformity (> 93%) and higher bodyweights at the end of rear, which have translated into considerable increases in egg production.

Hamlet Protein products are the optimal choice of fast protein for pullet rearing to deliver improved laying performance.

However, Hamlet Protein products are more than a classical feed ingredient; they promote good gut health, improved intestinal morphology, and lower oxidative stress throughout life.

Want to know more?

Contact your local Hamlet Protein representative for more information.

Scan the QR code to find your local contact.

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