

A head start for healthy broiler chickens



Young chicks have very different digestive and nutritional requirements than older broilers. The highly digestible protein in **HP AviStart** helps chicks get the very best start in life, improving your return on investment.

Chicks grow and develop at a high rate during the first two weeks after hatching. Each chick doubles in weight several times as the heart, liver and digestive tract gain the necessary size to support developing muscles and bones.

Many nutrients are necessary to assure proper growth, but the ability to absorb nutrients is impaired by the chick's underdeveloped digestive tract. As a result, the chick draws energy from the immunoglobulins and unsaturated fatty acids in its yolk sac instead of using them for development and immunity.

To overcome the limitations of the immature digestive tract, a special feed is essential. When nutrient uptake is enhanced during the first days of life, overall performance is improved right up to slaughter. Tests prove **HP AviStart** can make a significant difference.

How HP AviStart is superior to soybean meal

HP AviStart is a unique product made by co-processing yeast and soy. Compared to hi-pro soy proteins, it contains a very low level of the anti-nutritional factors that limit the absorption of feed nutrients. High digestibility ensures the chicks gain full benefit of the product's high level of essential amino acids.

Application

- 5-10% dosage in broiler starter feed

Benefits

- Lower feed conversion ratio
- Higher end weight
- Lower mortality
- High return on investment

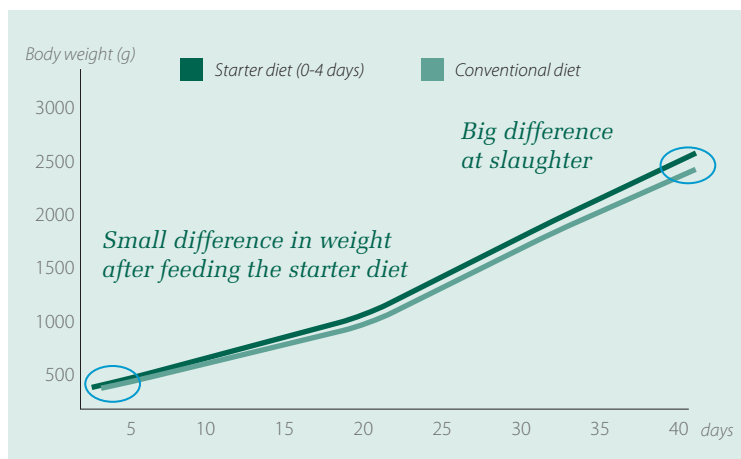


Figure 1: Effect of starter diet on the whole growing period in broilers (Swidersky 2002)

The best performer in global trials

The effect of **HP AviStart** in starter feed for broiler chickens has been tested in 19 feeding trials around the world. Our meta-analysis of the results confirms that **HP AviStart** significantly improves broiler performance compared to other, more expensive ingredients.

HP AviStart – key findings

End weight and feed conversion ratio are improved when 5% and 10% **HP AviStart** are included in broiler starter feed, compared to the control and other more costly ingredients.

The feeding trials in brief

- 19 feeding trials
- Conducted around the world
- Performed by external partners

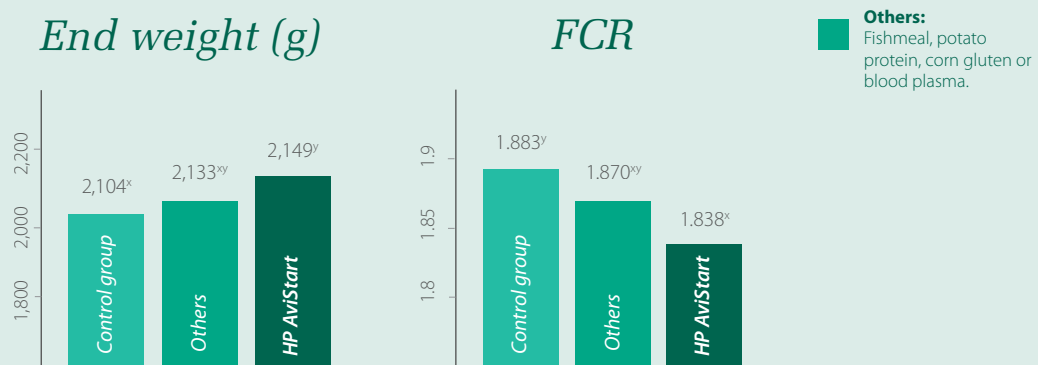
HP AviStart was fed during the starter phase from day 7 to 14. In two of the trials, the starter period was 28 days out of a total 60-day experimental period. Most trials ran for 35 to 42 days.

The feeding trials primarily compared **HP AviStart** with soybean meal plus other higher cost ingredients, such as fishmeal, potato protein, corn gluten and blood plasma.

In the control group, soybean meal is the only protein source. The 'other' group in each trial compared **HP AviStart** with fishmeal, potato protein, corn gluten or blood plasma.

A meta-analysis has evaluated the difference between the control group, 'other' group and **HP AviStart** group in the feeding trials.

Improved performance



Note: Numbers shown for treatment groups are averages across all dietary treatments. Different subscripts indicate P value < 0,01.

Performance – 5% dosage of **HP AviStart** versus control

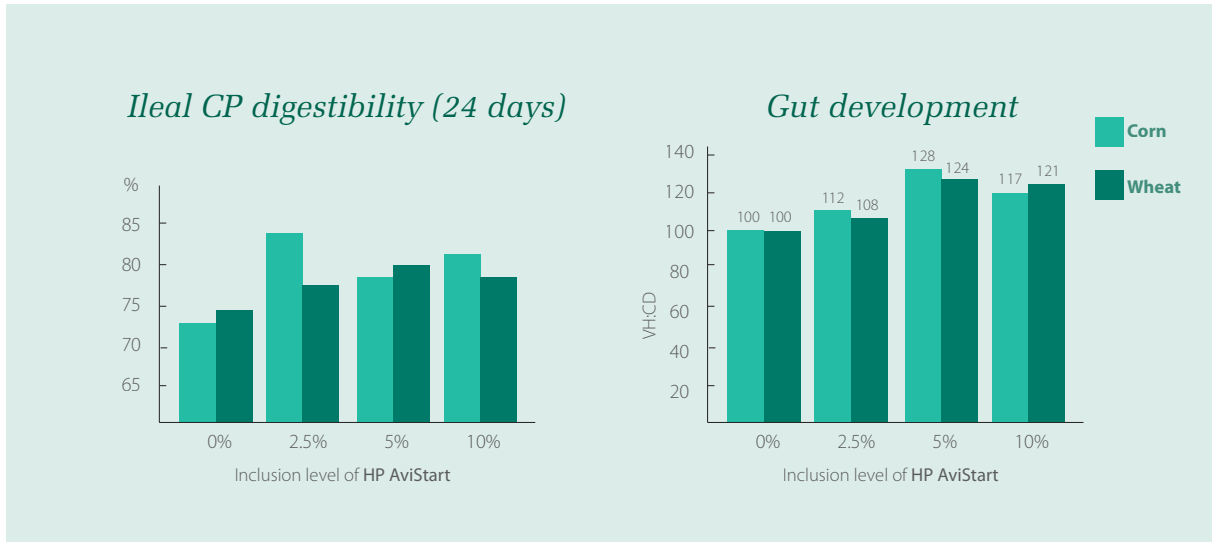
End weight
+45g

FCR
-4.5

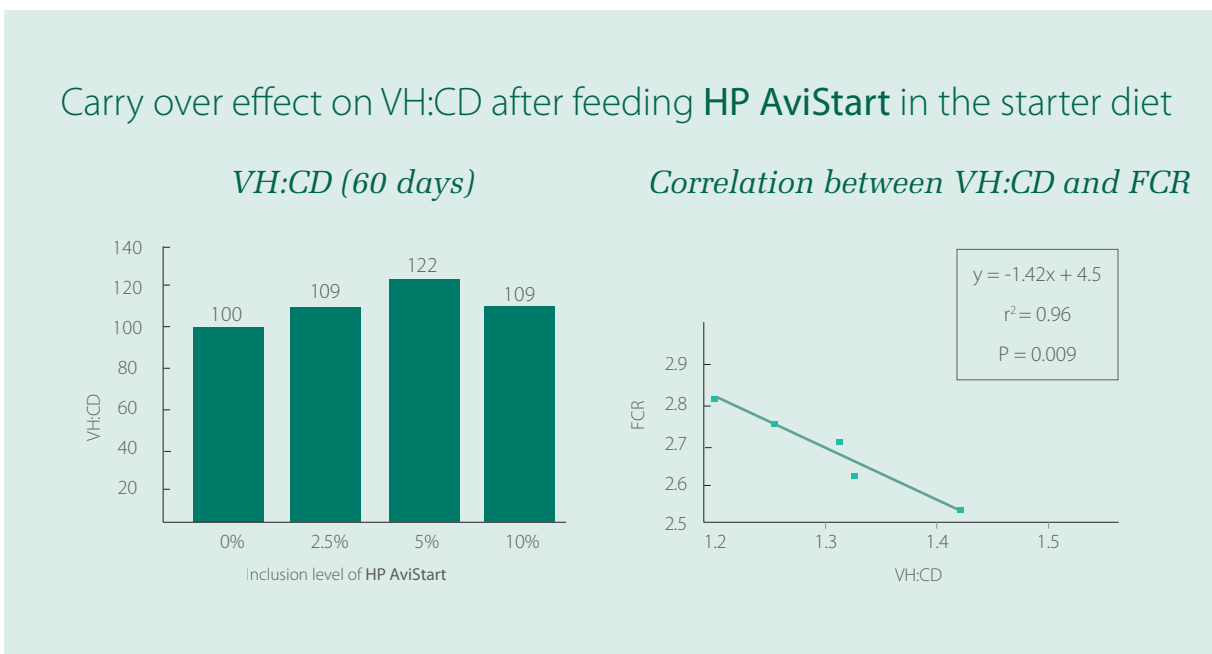
Correlation between digestibility and intestinal development with HP AviStart

Digestibility is the quality parameter used to measure both nutrient availability and the part of an ingredient that is not digested. Some studies have shown a strong correlation between a well-developed gut and improved FCR when protein digestibility is high, and the amount of undigested nutrients available to non-beneficial bacteria in the hind gut is decreased.

In broilers fed a 10-day corn or wheat-based starter diet with **HP AviStart**, villi height: crypt depth ratio (VH:CD) was seen to increase and was highest at a 5% inclusion rate. A strong correlation ($r^2 = 0.81$) was observed between VH:CD and apparent ileal protein digestibility (Source: Feeding Trial FTB05, HAMLET PROTEIN).



Another study showed a significant correlation ($r^2 = 0.96$, $P = 0.009$) between a well-developed gut and improved FCR. Compared to a control starter diet, VH:CD also benefited from a carry-over effect when the starter diet contained **HP AviStart** (Source: Feeding Trial FTB15, HAMLET PROTEIN).



In the large intestine of older animals, the gut microflora are able to stay in balance. However, in a newly hatched chick, the microflora are not yet fully established, and an influx of undigested nutrients may cause a proliferation of non-beneficial bacteria.

HP AviStart with its high digestibility of $\pm 98\%$ is proven to boost the intestinal development of young chicks. This not only ensures well-balanced microflora but is also reflected in the overall performance of older chickens.



Try our online calculator to see your return on investment with HP AviStart

Calculate your benefits

HP AviStart improves broiler performance and your profits

Using our calculator, you can estimate the potential return on investment for your farm.

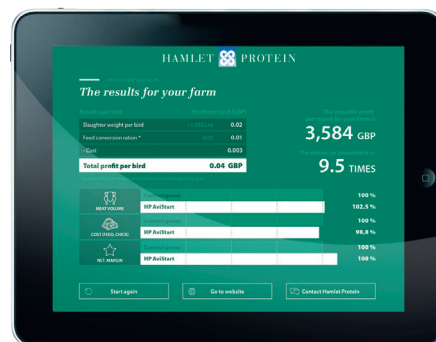
Just enter your key feed and production figures to find out how much more profit you can expect when you replace soybean meal in your broiler starter feed with as little as 5% **HP AviStart**.

After just 10 days of using **HP AviStart**, chick performance at slaughter is clearly improved:

- Lower feed conversion ratio
- Higher end weight
- Lower mortality
- High return on investment



Enter your farm data



See how much you can gain

The calculator draws on the results of our global feeding trials. Find our calculator at www.hamletprotein.com – or contact us.

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