

WHITEPAPER

Intra Chickpaper supports intestinal and immune development of hatchling chicks

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The arrival of day-old chicks at the farm is a critical period at which husbandry practices can impact the development of the intestinal and immune system. Of many crucial practices, the laying of Intra Chickpaper to stimulate immediate feeding and drinking of the chicks is a practice that has been successfully adopted for many years.

The degree of growth of the modern broiler chicken highlights the importance of each day in the production cycle to achieve the target performance. It has been shown that chicks greatly benefit from early adequate access to feed and water (Jha et al. 2019). This is essential for the development of the gastrointestinal tract and the immune system of poultry.

Why is early access to feed and water essential?

The importance of early access to feed and water and its effect on growth performance and gut health have already been examined extensively (Ao et al. 2012; Bar et al. 2004; Batal and Parsons. 2002; Hollemans et al. 2018; Geyra et al. 2001). For newly hatched chicks it is essential to get direct access to water and feed for optimal bodily development such as their digestive tract, and their immune and thermoregulatory systems.

The difference of “direct access to feed” or “after 36 hours” on intestinal development is expressed in figure 1. Direct access gives a significant difference on villus length in the intestinal tract (duodenum, jejunum, ileum).

An increased villus height represents an increased digestive and absorptive function of the intestine due to increased absorptive surface area.

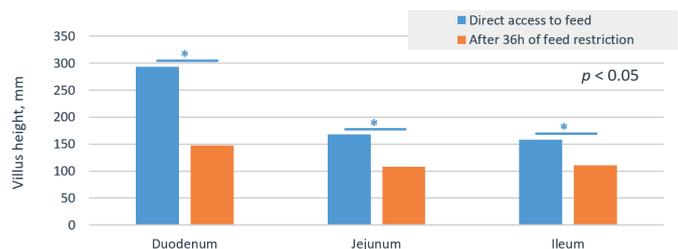


Figure 1: Quick access to feed after hatch stimulates intestinal development, Schothorst Feed Research, symposium Nutrition in Transition, November 2019

Results market with * indicates significant difference between treatment Groups ($p < 0.05$)

Egg yolk is the colostrum for young chicks

Not only is early access to water and feed important for gastrointestinal tract development but it also a major contributor for the chick's immune development. Contradictory to mammals which can impact the immune development of their newborns even after parturition via colostrum, avian species can influence this only via the residual yolk. Due to this restriction, all necessary immune factors need to be present in the residual yolk. The main fraction of proteins within a developing and fertilized egg is made up of maternal antibodies (Dibner et al., 1998). During incubation these maternal antibodies are generally not digested and can be found in the abdomen of new born chicks as residual yolk. This indicates that the proteins or immunoglobulins of the residual yolk is being used for passive immunity of the chicks. The maternal antibodies (dominantly IgY) present in the residual yolk sac provides the chick protection against infections until the chick's immune system has matured.

Quick utilization of the residual yolk is essential to provide the newly hatched chick early immunity. It is shown that residual yolk is utilized faster by chicks who had early access to feed compared to chicks that are

fasted due to the stimulatory effects feed in the gut had on yolk movement (Noy and Uni, 2010; Panda et al., 2015, Jha et a. 2019). Besides, when chicks are deprived from feed the nutrients from the residual yolk is digested as an energy source, thereby wasting the important antibodies.

For the broiler farmer Intra Chickpaper will be the tool to guide all hatchlings as soon as possible to feed and water. Fast access to feed will result in use of the egg yolk for intestinal and immune development. A healthy intestine and a good level immunity protects the chicks against invasion by pathogens and intestinal diseases.



Intra Chickpaper Strong & Regular

Intracare has over 20 years of expertise with Intra Chickpaper.

Annually **3.5 billion** young chicks around the globe are raised on Intra Chickpaper, representing **15%** of the world poultry population.

Nowadays it is common practice at the start of a new broiler round to lay Intra Chickpaper (on top of bedding) underneath the drinking lines and apply pre-starter feed on the paper. Intra Chickpaper will not only provide hygienic benefits in the chick's first days of life by absorbing the first droppings and prevent litter picking, but also stimulates early feed intake. The rustling noise of the Intra Chickpaper triggers the sensory system of the chicks and guides them to the required feed and drinking water.



BEFORE ARRIVAL
Pre-starter feed
on Intra Chickpaper

1 HOUR AFTER ARRIVAL
All chicks on
Intra Chickpaper

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