**DELAYED POST-HATCH FEEDING INFLUENCES THE PERFORMANCE, GUT DEVELOPMENT AND THE EXPRESSION PROFILES OF GUT ASSOCIATED GENES IN MEAT-TYPE CHICKENS**

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**ABSTRACT**

The effects of post-hatch (PH) feed deprivation (FD) for 6, 12, 24 and 36h were assessed on the performance, gut development and differential expression of gut associated genes (*Cdx*, *FABP, SGLT* and *EAAT*)) in meat-type chickens. A significantly higher (P=0.001) yolk sac weight was observed in all of the FD chicks. The residual yolk sac of 24h and 36h FD chicks had a higher ether extract but lower protein content than that of control (immediately fed) chicks. The relative weights of the proventriculus, gizzard, intestine, liver and pancreas were lower in 24h and 36h FD chicks. The 36h FD chicks had lower (P<0.05) body weights, lower feed intake and inferior feed conversion ratios than those of control or 6h FD chicks. Villus height and width in the duodenum, jejunum and ileum decreased (P=0.001) with an increase in the FD period, and significant changes were primarily observed in 36h FD chicks. The relative expression of *Cdx* decreased with the feed restriction period. Expression of the *SGLT* and *FABP* genes did not differ significantly in FD and control chicks, while that of the *EAAT* gene increased in 24h and 36h FD chicks. Villus height correlated positively with *Cdx* gene expression, but negatively with *SGLT* or *EAAT* gene expression. It may be concluded that PH feed deprivation for the first 24h did not affect growth performance, digestive organ development and intestinal morphology. Correlation of jejunum villi morphology with *Cdx* and *EAAT* gene expression indicates its role in intestine development in meat-type chickens.

**Keywords:** Delayed post hatch feeding; growth performance; villi morphology; gut associated gene expression; meat-type chickens.