## ABSTRACT

## THE EFFECT OF POST-HATCH INITIAL FEEDING TIMES ON SMALL INTESTINES AND OTHER DIGESTIVE ORGANS GROWTH AND PERFORMANCE IN BROILERS

Belgin BAYIRLI
M.Sc. Thesis, Department of Animal Sciences
Supervisor: Prof. Dr. Mustafa AKŞİT
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The objective was to evaluate the effects of post-hatch initial feeding times on small intestines and other digestive organs growth and performance in broilers. In the study, 560 newly hatched broiler chicks determined the biological ages (age of hatching) were wing banded and weighed and then they were randomly divided into four experimental groups with four replicate floor pens (35chicks/pen). Feeding of chicks was initiated after 3 h (group I), 9 h (group II), 18 h (group III) and 36 h (group IV) post-hatch, taking into account the chronological age of chicks (after 3 hours from hatching). At 0 (initial), 2, 6 and $12^{th}$ d of treatment, eighth chicks were randomly selected and killed and then digestive organs were removed. Organs weights and jejunum lengths were determined. The maltase enzyme was analyzed in the samples taken from jejunum of small intestine. The body weighing of the chicks in groups and feed intake was determined.

During experiment, the chickens which were began to be fed in the first 9 hours post-hatch had higher body weight than the other groups. At 0, $2^{nd}$ and $6^{th}$ d of the treatment, the organ weights of digestive system in chicks negatively affected to delay of feed intake, but at $12^{th}$ day, this effect disappeared. The maltase enzyme activity of small intestine was not affected by post-hatch initial feeding times. Also feed intake and mortality were not affected. At first 21 d, the initial feeding group was better evaluated to feed. But at $21^{st}$ - $42^{nd}$ and 0 - $42^{nd}$ d. this difference disappeared among the groups. According to economic analysis, the highest gross margin was recorded in group II.



**Key words:** broiler, initial feeding time, small intestine, maltase enzyme