

EVALUATION OF AFLATOXIN RESIDUE AND EGG QUALITY OF LAYER CHICKENS IN LAMONGAN

Shelly Kusumarini, R

ABSTRACT

This study was aimed to evaluate the effect of aflatoxin residue on quality of chicken egg of layer chickens in the district of Lamongan, Province of East Java, Indonesia. Aflatoxine is the result of secondary metabolism produced by fungus *Aspergillus flavus*, well known as maize contaminates, the main ingredient of chicken feed. When layer chickens consume aflatoxine-contaminated feed, the aflatoxine residues on eggs will also cause decreasing of egg quality. The samples used in this study were 40 eggs collected from 20 chicken farms that have been screened by UV light with positive result showed fluorescent. The egg samples then were observed according to the physical qualities which includes the egg weight, egg measurements and egg shell weight, and internal egg quality such as egg yolk color index, egg albumin index, egg yolk index, and Haugh Unit. Aflatoxine residue in eggs were tested using ELISA. Significant result ($P < 0.05$) was obtained using Structural Equation Modelling (SEM). An increase of aflatoxine residue of 1 ppb in egg will cause decreasing of 0.624 of its physical quality and 0.891 of its internal quality. Hence, it is concluded that the higher the aflatoxin residue content is the lower the egg quality.

Key words: Aflatoxin residue, feed, egg quality, ELISA