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[Controlling Immunomodulation Effects of Deoxynivalenol Mycotoxins by NanoZinc Oxide and Probiotic in Broiler Chickens](#)

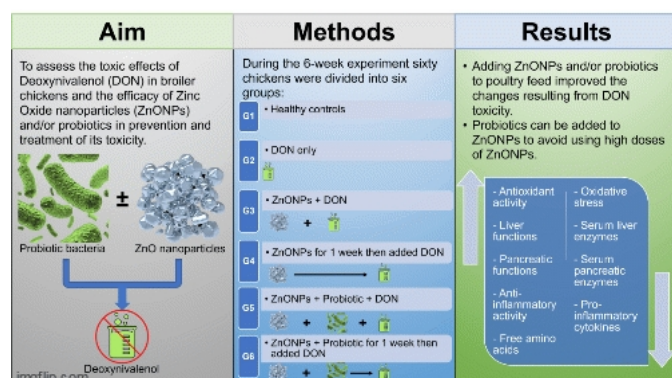
Research Paper

Controlling Immunomodulation Effects of Deoxynivalenol Mycotoxins by NanoZinc Oxide and Probiotic in Broiler Chickens

Sayed-ElAhl RMH, Hassan AA, Mogda K Mansour, Abdelmoteleb AMM, and El-Hamaky AMA.

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ABSTRACT: The elimination of adverse toxic effects of mycotoxins is currently the main strategy in animal production, particularly in poultry. The current study investigated the influence of chronic administration of deoxynivalenol on the health status, biochemical and immunological parameters of broiler chickens and the efficacy of ZnO-NPs and probiotics in preventing and treating the effect of toxicity. The experiment program lasted 6 weeks and was performed on a total of 60 broiler chickens aged 5 days, divided into six groups. Group 1 received healthy feed free of toxins, group 2 was fed with deoxynivalenol (DON), group 3 received Zinc Oxide nanoparticles (ZnO-NPs) and DON, group 4 had ZnO-NPs for 1 week, then DON was added for the remaining 5 weeks, group 5 was fed on ZnO-NPs, 1 g probiotic powder/kg of diet, and DON, group 6 had ZnO-NPs and 1 g probiotic powder/kg of diet for 1 week, then DON was added for 5 weeks. The used dose of ZnO-NPs was 50 ppm, and DON was 5 ppm in the diet. The intoxicated chickens showed adverse changes as increased pro-inflammatory cytokines, serum hepatic, and pancreatic enzymes, as well as decreased free amino acids. The supplementation of ZnO-NPs and/or probiotics improved all toxic changes resulting from DON toxicity, indicating that the metal nanoparticles and probiotics can be used together in poultry feed to avoid the addition of high doses of ZnO-NPs. Therefore, the use of 50 ppm of nanomaterial supplementation plus 1 g probiotic/ kg feed for the degradation of mycotoxins in poultry feed is recommended as it is safe and affordable.

Keywords: Deoxynivalenol, *Fusarium* spp., Nanoparticles, Poultry, Probiotic

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[A Microscopic Study on Morphology of Reactive Thrombocytes in Duckling](#)

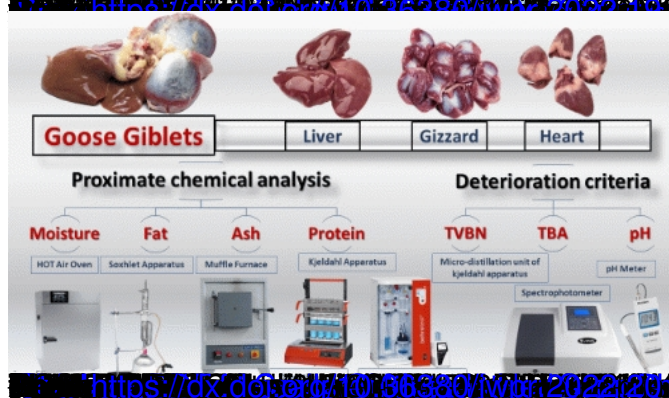
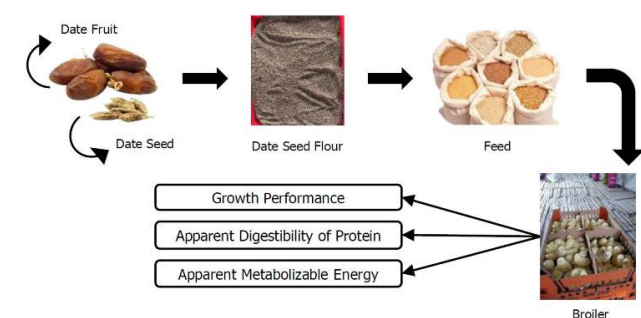
Research Paper

A Microscopic Study on Morphology of Reactive Thrombocytes in Duckling

Cotter PF.

J. World Poult. Res. 12(3): 142-150, 2022; pii: S2322455X2200016-12

DOI: <https://dx.doi.org/10.36380/jwpr.2022.16>





Al Hanna R (2022).

The Impacts of Locally Cultivated Herbs on Physical Parameters and Meat Quality of Broiler Chickens.

J. World Poul. Res., 12 (3): 171-180.

DOI: <https://dx.doi.org/10.36380/jwpr.2022.20>

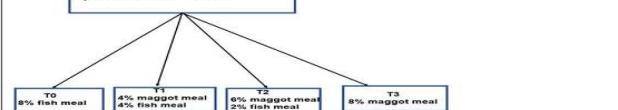
Graphical abstract

The Long-term Effects of Dietary Replacement of Fish Meal with Black Soldier Fly (*Hermetia illucens*) Larvae on Nutritional Content and Eggshell Quality in Layer Chickens



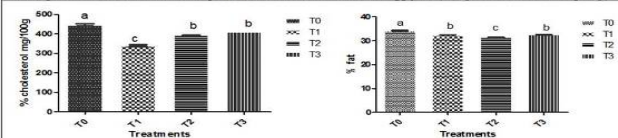
METHODOLOGY

480 one-day-old Isa brown laying chicks assigned to 4 treatments groups; each treatment group had 6 replicates of 20 chicks each.



RESULTS AND DISCUSSION

Feeding insect meal decreased total lipid levels and total cholesterol of egg yolk (compared to the control group)



Milag KÖ, Arıvı K, Ağboka K, Öneri E, and Toma K (2022). The Long-term Effects of Dietary Replacement of Fish Meal with Black Soldier Fly (*Hermetia illucens*) Larvae on Nutritional Content and Eggshell Quality in Layer Chickens. *J. World Poul. Res.*, 12 (3).

AIM

To investigate the comparative effect of Sasso broiler breeder feed supplemented with sodium selenite (SS) and selenomethionine (SM) on the zootechnical performance, hematology, and hatching process of chickens

<https://dx.doi.org/10.36380/jwpr.2022.23>

