



XXXV SALÃO de INICIAÇÃO CIENTÍFICA

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Título	Impact of hydroxy selenomethionine in broiler diets on performance, intestinal integrity and Glutathione peroxidase (GSHPx) activity
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Selenium (Se) maintains a critical role as a trace element within different species representing a fine line between essentiality and toxicity, thus generating the need for comprehensive investigations. Therefore, the study aimed to evaluate the impact of Hydroxy-selenomethionine (OH-SeMet), an emerging source of organic Se, on broiler growth, meat yield, number of goblet cells in the small intestine and glutathione peroxidase activity in tissues. For this, 1.500 one-day-old, slow-feathering male chicks were distributed in 60 experimental pens, submitted to three-phase feeding programs (starter, grower, finisher) from day 1 to 42, and received diets enriched with different levels of OH-SeMet-based Se concentrations (0.0, 0.15, 0.30, 0.45, and 0.60 mg/kg). Glutathione peroxidase (GSHPx) activity was assessed in blood, liver, intestines, and breast muscle. Photomicrographs of the jejunum of 42-day-old broiler chickens were captured for both selenium-supplemented and non-supplemented groups highlighting the presence and prominence of goblet cells. A reduction in goblet cell count was observed in the selenium-supplemented group, indicating the antioxidant's protective effect. Furthermore, the study's results indicated that body weight gain (BWG) increased from d1 to 21, d1 to 35 and d1 to 42 when Se was supplemented at 0.30, 0.45 or 0.60 mg/kg in comparison to the non-supplemented diets. Through a regression analysis it was verified that the best performance of the animals was with a selenium supplementation of 0.47 mg/kg. The Se levels that yielded the highest breast and carcass yield at the 42-day were 0.48 mg/kg and 0.41 mg/kg, respectively. In addition, Se concentration of 0,27 mg/kg positively affected the GSH-Px activity in erythrocytes. These findings emphasize the potential of OH-SeMet supplementation to enhance broiler performance and yields.