

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

USE OF ADDITIVES FOR REDUCING AMMONIA VOLATILIZATION IN POULTRY PRODUCTION - EFFECT ON THE PERFORMANCES OF BROILERS

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The goal of this research was to evaluate the effect of feed and litter additives, with the potential to reduce ammonia volatilization, studying its effects on broiler performance. A sample of 832 Ross broilers was used, divided in two fattening cycles. In each experiment, 26 broilers chicks (0 days age) were randomly placed in 16 airtight pavilions (0.07 m² per broiler), divided in 8 treatments (52 animals per treatment, 2 replications each cycle). At 10 days age, the groups were numbered down to 22 broilers per pavilion (0.082 m² per broiler). The remaining animals were removed regarding their size and weight. There were used 4 different feeds according to the growth stage of the animals, distributed *ad libitum* during the whole cycle. Each airtight pavilion had 7kg of rice hulls as litter material (3.8 kg m⁻²). A Control and the following 7 additives were used, matching the 8 treatments applied: no additive in feed or litter, Control; clinoptilolite in the litter (1.6 kg m⁻²), CliCama; clinoptilolite in the feed (2%), CliAlI; aluminum chloride (40 g kg⁻¹ litter) + calcium carbonate (60 g kg⁻¹ litter) in the litter, CIAI; De-Odorase® in the feed (0.16%), DeOd; soybean oil in the litter (5 mL m⁻²), OS; aluminum sulfate in the litter (8%), SulAl, and; magnesium sulfate in the litter (8%), SulMg. During the experiments, data was collected to determine the daily feed intake, liveweight, average daily gain and feed conversion ratio. At the end of each fattening cycle (35 days age), 64 broilers were slaughtered (4 broilers per pavilion) to evaluate carcass yield. Results showed that the liveweight of broilers (35 days age) was higher (P = 0.0014) in the treatments SulMg (2578 g) and OS (2546 g) relative to all other treatments; whereas broilers of the treatment CIAI showed the lowest liveweight (2456 g). During the whole fattening cycle, a similar pattern of treatment effects was observed for the average daily gain results. The daily feed intake was lower (P = 0.0005), in about 4 to 6 g day⁻¹, in the treatments OS, DeOd, Control, CliCama and SulAl when compared with the treatment CIAI (114 g). There were no significant effects of treatments on the conversion ratio. The mortality rate was 4.4% and with no treatment effect. According to the data obtained in this assay, the CIAI treatment showed an unfavorable impact on broiler performance, while SulMg and OS produced positive results.

Keywords: chicks, feed, litter, potential, rice hulls

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