

# Effects of litter material on the growth performance, excretion and ammonia concentrations of chicken house for broiler<sup>(1)</sup>

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## Abstract

The purpose of this study was to investigate the effects of litter material on the growth performance and excreta amount of broiler chicken and ammonia concentration of chicken house. A total of 720 one-day-old Cobb commercial broilers were assigned to four litter treatments with different volume ratio of rice hull and rice straw, those arrangements were respectively rice hull 100% (group H100), rice straw 25% plus rice hull 75% (group H75), rice straw 50% plus rice hull 50% (group H50) and rice straw 75% plus rice hull 25% (group H25). Each treatment had four pens and each pen raised 45 birds. Feed and water were provided ad libitum during the whole experimental period from 1 to 35 days of age. The results showed that the survival rates of broiler reached 97% for all of the treatments. There were no effects of different litter materials on the average daily gain, average daily feed intake, gain/feed of the broilers. The ammonia concentration measured at the entrance of group H75 chicken barn was significantly higher ( $P < 0.05$ ) than that of group H100 at 18 days of age. The barn H25 had higher ( $P < 0.05$ ) average ammonia concentration than groups H100 and H50 at 25 days of age, but did not affect the ammonia concentration at 32 days of age. The dry weight of manure litter and excreta produced were between 1.49-1.67 kg/bird and 17-20 g/bird/day during the experiment period. In conclusion, using rice straw to replace rice hull as litter material do not affect the growth performance of broiler and ammonia concentration of chicken house.

Key words: Ammonia concentration, Broiler, Growth performance, Litter material, Manure litter.

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