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A comparison of the ammonia emission rates and some physio-chemical properties of the litter of broilers fed diets with or without fish meal

U D Belpagodagamage, N S B M Atapattu* and P W A Perera
Department of Animal Science, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya

Dietary factors are among the important determinants of the poultry litter quality parameters. The objectives of this study were to compare some physio-chemical properties of the litters of broilers fed diets with (FM+) or without fish meal (FM-). Broiler chicks (n=300) in 12 pens were raised from day 21 to 35. Birds in six pens were fed a broiler finisher diet with 5% FM, while other six groups were fed a diet without FM. Random litter samples collected from each cage on day 28 and 35 were analyzed for moisture, pH, total solids, electrical conductivity and mineralized carbon. Ammonia emission rates were also determined. The litter moisture and pH levels were not affected by the feed, but were high in both litters. The total litter solid content of the FM-litter (4080 mg/l) was tended to be higher than that of FM+litter (3486 mg/l). In contrast, the electrical conductivity (8176 ms/cm) and the mineralized carbon content (2598 mg/kg liter) of the FM+litter were significantly higher than those of the FM- litter (6934 ms/cm and 2022 mg/kg liter, respectively). Litter or faecal N contents were not significantly different between two litters. It was concluded that broiler finisher diets with or without FM had no significant effects on important litter quality parameters such as litter moisture, total litter solid pH and ammonia emission rates, but had significant effects on litter parameters such as total litter solid pH, electrical conductivity and mineralized carbon contents.

*nsbm@ansci.ruh.ac.lk Tel: 041-2292200