

TITLE: MICROBIOLOGICAL EVALUATION OF THE INTERNAL ENVIRONMENT OF A FOWL BROILER PRODUCTION SHED

AUTHORS: FERREIRA, L. R.; MORESCO, T. R.; JACOME. I. M.T. D.; DUARTE, S. W.; MANFIO E. S.; GADEA, M. G.;

INSTITUTION: UNIVERSIDADE FEDERAL DE SANTA MARIA, PALMEIRA DAS MISSÕES, RS (AVENIDA INDEPENDÊNCIA, 3751, CEP 98300-000, PALMEIRA DAS MISSÕES - RS, BRASIL)

ABSTRACT:

The poultry production process has undergone a large development in recent decades, seeking low production costs coupled with quality throughout the system. Biosecurity programs ensure the health of the animals, ensuring their development in an environment with healthy microbiota and low levels of pathogenic micro-organisms. However, the microbiological quality of air is neglected by poultry breeding programs, allowing it to become an important factor related to development of respiratory problems. In this context, the purpose of this work was to evaluate the microbiological air quality in one chicken breeding shed of the Cobb 500® lineage. The experiment was carried out from June to August of 2018, at “Universidade Federal de Santa Maria - Palmeira das Missões.” One shed containing 12 boxes, 10 birds per box, with a bed of shavings was evaluated and submitted to light programs recommend by lineage (Fowl Broiler Management Guide COBB). The collection of air samples was performed according to the methodology described by Pasquarella (2000), with changes in the time of exposure, for being a environment with high microbial load. The samples were carried out during the 35 days of accommodation, by spontaneous sedimentation, 1 minute of exposure, in Plate Count Agar (PCA), in duplicate. The plates were incubated for 24H at 37°C. To calculate the CFU/m³ of air, the study took into account the 1:36 proportion suggested by Friberg and Burman (1999). It was observed that the microbial count of air in the shed increased 1,490.35% during the days of accommodation. The counts increasingly progressed: 0,54x10³ at 7 days, 1,17 x10³ at 14 days, 4,13 x10³ at 21 days, 4,45 x10³ at 28 days, 5,44 x10³ at 35 days, and 8,07 x10³ CFU/m³ of air at 42 days. It is believed that the progressive increase of waste and bed movement by the animals had contributed to this increase. However, due to absence of research about the microbiological air quality of aviary, it was not possible to compare the results. It is known that housed birds in environments with low microbial counts present better growth due to lower disease rates present capable of compromising the performance of the chickens. It is important to be aware of the microbial condition of the animal production environment so that you can review your prophylactic management practices, ensuring a safe environment for animals housed, with greater profitability for the producer.

Keywords: air, animals, aviary, chicken, quality