EVALUATION OF ANARCHIC USE OF ANTIBIOTIC IN FARM POULTRY FARMING

KOME ELONG Vincent*[,1, 2] ; Prof SADO KAMDEM Sylvain[2] ; Dr AHMADOU Alkaissou[1]

1- Ministry of Livestock Fisheries and Animal Industries, Cameroun
2- Biotechnogie Center ,University of Yaoundé 1,Cameroun
*Corresponding author`s Email: elongvincent@gmail.com

Abstract

Antibiotics are administered in presence and/or absence of disease. In the aim of setting up an evaluation assay for the uncontrolled use of antibiotics in poultry farming. A survey conducted in some poultry farms within the Mfoundi Sub-division. The survey permitted to screen the most used antibiotics in farms and to collect poultry droppings. These droppings permitted to have presumed isolates of salmonella through the Salmonella-Shigella selective medium and then an antibiogram was carried out to determine the inhibition diameter in conformity with the recommendations of the Antibiogram Committee of the French Society of Microbiology (CASFM). A protocol based on the principle according to which, an abundant growth of salmonella presumed colonies in a broth containing an antibiotic at the Minimum Inhibitory Concentration (MIC) of the germ is an indication of resistance, was performed by spectrophotometry at 600nm after 10h. This protocol was extended on fecal samples without isolation of salmonella germs. We noticed that the spectrophotometry method had a better percentage in prediction of results of 66.07% (20/30) as compared to the classical method. Regarding the prediction errors, we noticed that 23.33% (7/30) of the sensitive cases by the classical method were evaluated as being resistant by spectrophotometry. Whereas, 6.67% (2/30) of the revealed resistant cases by the classical method were evaluated as being sensitive by spectrophotometry. Oxytetracyclin appears to be the antibiotic for which the results are least comfortable with those of the disc method. (4/6 poor predictions). The elimination of oxytetracyclin in the spectrophotometry assay led to improvement of the predicted results. Thus we obtained a good prediction percentage of 76.9% and 20% of resistant cases by the classical method were assessed as being sensitive by spectrophotometry. The prevalence of the antibiotics utilized is 16.67% of sensitivity to salmonalla isolates for the tested antibiotics and the resistant percentage is 83.33%. Hence, the proposed protocol could be used to assess the level of utilization of antibiotics in poultry farming and to prevent increase in microbial resistance due to antibiotic use.

Key words: Antibiotic, antibiogram, poultry farming, salmonella, and spectrophotometry