

Title: DETECTION OF VANCOMYCIN-RESISTANT ENTEROCOCCI IN SHEEP AND GOAT FARMS FROM CENTRAL-EASTERN AND NORTHEASTERN REGIONS OF SÃO PAULO STATE

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Demands for sanitary-hygienic conditions in animal farming have been growing progressively given the need to ensure productivity and high quality products to support demanding markets. In this context, antimicrobial drugs used in prevention as well as in therapy remain as the control strategy for several pathogenic microorganisms, not only important in animal but also human health, although restrictions for the use of these drugs have been intensified. Excessive usage of these products has been associated to the selection of resistant microorganisms in production areas. On the other hand, investigation on strains of public health importance circulating in animal herds is still limited in Brazil. *Enterococcus* genus bacteria, usually present in animal and human gastrointestinal microbiota, are ambient indicators of fecal contamination and have become a concerning subject in public and veterinary health given the occurrence of strains resistant to vancomycin (VRE). The present study aimed to isolate and quantify VRE present in stool samples of sheep and goats from several farms in the center-east and northeast regions of São Paulo State. One hundred and thirty three stool samples were collected by swabs either directly from the animal's rectum or from the ground and were classified in four categories: sheep, goats, sheep ambient and goat ambient, including animals aging from 1 year to less than a year old. Samples were plated onto m-*Enterococcus* agar plates, obtaining typical dark-red/brown colony growth, which were subcultivated in Bile esculin agar with 6 µg/mL of vancomycin (BEAV) to confirm and detect resistant *Enterococcus* spp. Colonies were identified by colonial morphology, Gram's staining, and biochemical profile. The highest colony count was equal to 2.6×10^5 and 1.7×10^5 CFU/g from ambient and animal samples, respectively. Regarding biochemical characterization, *E. casseliflavus*, *E. faecalis* and *E. mundtii* were the most prevalent species. VRE was detected on BEAV in 43 out of 92 sheep samples and in 12 out of 41 ambient samples, indicating a positivity rate of 45.6% and 29.3% respectively in the investigated samples. The preliminary results obtained in this study indicate, for the first time in the studied areas, the circulation of VRE in sheep and goat farms, with no occurrence of apparent clinical signs in the animals, but with possible health risks to the farmers and workers involved, as well as potential consumers.

Keywords: Vancomycin-resistant Enterococcus (VRE), animal production, sheep, goat

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