Longitudinal clustered data analysis for pododermatitis in a rabbit population

Audrey Yeo, M Nursing, M Sci Biostats, RN

ABSTRACT

Pododermatitis is a debilitating skin disease in many rodents, birds and rabbits. In rabbits, the worsening of the condition sometimes lead to premature slaughter by farmers. Nevertheless the welfare of rabbits are in question, and risk factors such as weight, age, claw length, have been found to impact the progress of this disease through a multivariate analysis by Ruchti et. al (2019). A new finding from their research is that disease may improve and worsen over time. A dataset has been collected within one year about the progression of pododermatitis in 'does', which are female rabbits. This dataset includes disease scores and covariates over 13 time points. The goal of this longitudinal study is to find out more about the progression of pododermatitis in the Swiss group housing systems. Furthermore, to identify risk factor associated with the occurrence of pododermatitis in these particular housing systems.

This interdisciplinary research will also involve assessing the state of the art clustering of longitudinal data by means of the kml, which will also be featured.

References:

- Genolini, Alacoque, Sentenac, Arnaud, 2017 kml and kml3d: R Packages to Cluster Longitudinal Data *kml and kml3d: R Packages to Cluster Longitudinal Data*
- Ruchti, Kratzer, Furrer, Hartnack, Wuerbel, Gebrhardt-Henrich, 2019 Progression and risk factors of pododermatitis in part-time group housed rabbit does in Switzerland *Preventative Veterinary Medicine*