Investigating the seroprevalence of equine arteritis virus among standardbred racehorses on Prince Edward Island

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Equine viral arteritis (EVA) is a disease caused by equine arteritis virus (EAV) characterized by upper respiratory symptoms, limb edema, infertility, and interstitial pneumonia in neonates. A 2023 outbreak among standardbreds on Prince Edward Island (PEI) led to 7 PCR-confirmed neonatal foal deaths and many affected breeding stock. Since then, surveillance has been targeted towards mares and stallions used for breeding and few resources have been dedicated to the racehorses. The aim of this study is to determine the extent of the spread of EAV within the racehorse population housed at racetracks on PEI. Due to the separate nature of the stabling it is hypothesized that the seroprevalence of EAV will be low (< 20%), but that the horses which are seropositive will have been on or from larger farms that also house seropositive breeding animals. A combination of owner surveys, the Track-IT database, and blood samples used for serum neutralization testing are utilized to gain better understanding of how the virus spread through the population. Out of 159 tested, 40 horses are EAV-SN positive (25%). The majority are either 2-year-olds likely exposed through their dams on breeding farms or more seasoned racehorses who spent time housed at other farms with high seropositivity rates. The demographics of this group means it is unlikely EAV is actively circulating around the racetracks, though a higher prevalence than initially hypothesized indicates potential for EAV to become endemic among PEI standardbreds. This information provides a clearer picture of how the outbreak occurred across the island and where biosecurity measures need to be strengthened to prevent a similar event from happening in the future.

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