



## 7<sup>e</sup> Symposium du CRIPA

### Présentation par affiche (poster)

#### **Viral indicators suggest a role for livestock transportation and slaughterhouses in harbouring and spreading of enteric pathogens in swine production networks**

**Virginie Lachapelle<sup>1</sup>, Julie Brassard<sup>1</sup>, Ann Letellier<sup>2,3,4,5</sup>, Philippe Fravallo<sup>3,4,5</sup>, Yvan L'Homme<sup>1</sup>**

<sup>1</sup> Agence canadienne d'inspection des aliments

<sup>2</sup> Chaire de recherche en salubrité des viandes (CRSV)

<sup>3</sup> Groupe de recherche et d'enseignement en salubrité alimentaire (GRESA)

<sup>4</sup> Groupe de recherche sur les maladies infectieuses du porc (GREMIP)

<sup>5</sup> Faculté de médecine vétérinaire, Université de Montréal

Modern swine production systems involve different interacting stakeholders, including companies specialized in live animal transport, which connect farms on a daily basis and converge to slaughterhouses. This dynamic and interconnected system increases the likelihood of pathogen dissemination within the network although little information is available in that regard. In the present study, we investigated the role of the slaughterhouse environment and livestock transport trucks in harbouring and spreading viral enteric pathogens throughout a network of nine farms and one slaughterhouse. Environmental samples were collected from the slaughterhouse environment and animal transport trucks. Samples were screened using targeted RT-PCR and sequencing for two viral indicators, rotaviruses and astroviruses, both prevalent swine enteric viruses. Results revealed frequent viral contamination of trucks as well as different sites of the slaughterhouse such as the animal unloading dock, the carcass loader, and crossroads where intense vehicle circulation in and out of the courtyard occurs. In addition, swabs were collected from trucks following cleaning and disinfection routines to investigate the efficacy of this biosecurity measure implemented by transport companies. Interestingly, results show that the actual cleansing methodology of trucks is inefficient in removing all traces of faecal material containing pathogenic viruses, particularly during the winter season. Overall, results from this study reveal the potential role of slaughterhouses and livestock transport as a reservoir and transmission route for enteric pathogens respectively. In the present crisis context, these results are of great concern and underscore the importance of tightening biosecurity measures in swine production networks.