

## Innovative Solutions Canada Program

### Challenge EN578-170003/38: Foot-and-mouth disease vaccine matching

#### Attachment 1 Question and Answer #1

This document contains questions and answers related to this challenge.

##### Question #1:

I am wondering whether the North American FMD vaccine bank (NAFMDVB) and/or the CFIA will make neutralization data and reference sequences (or NCBI Nucleotide/GenBank numbers) for reference circulating FMDV strains accessible to applicant/bidder? Or is this information something that the applicant would have to search for in the literature/databases/search engines?

##### Response #1:

Some virus neutralization test (VNT) data is available in the literature. It is also possible to get some vaccine matching data (including VNT data) from the World Reference lab for FMD, the Pirbright Institute, UK and other FMD reference laboratories. However, if this were to happen, the terms will have to be negotiated and some agreements signed. The other possibility is to generate the post vaccinal bovine sera for specific vaccine strains, perform the VNT to generate the required data. The NCFAD has a collection of FMDV isolates over the years and the most recent strains can be acquired from the Pirbright Institute and/or through other collaborators.

Sequences for reference (prototype) strains for each FMDV serotype and topotypes and FMDV sequences from multiple countries over multiple years are available on the World Reference Laboratory for FMD website. In addition, GenBank is up-to-date with recent and historical FMDV sequences. However, information and sequence data for some vaccine strains are proprietary information of the vaccine manufacturers. Furthermore, vaccine banks don't give out information about their stockpiles. However, through the Pirbright Institute, the bidder can gain access to the recommended vaccines for currently circulating FMDV strains, which most likely include vaccines held in most vaccine banks. In summary, the applicant can find some of the information in the literature/databases/search engines. In addition, the applicant can plan to fill the gaps by generating some data in partnership with the NCFAD and/or other labs authorized to work with FMDV.