





Morrison Swine Health Monitoring Project (MSHMP) 2022 Summary Cesar A Corzo Principal Investigator <u>corzo@umn.edu</u>

As we have been doing it every year, we would like to provide you a general summary of our 2022 activities on this science page. During 2022 we continued to fine tune our internal processes based on requests and feedback obtained from all of you.

Database and Operations – We have continued to develop and improve our database and operational abilities. This includes improving the user interface for data input, access, and management, increasing the amount of fine scale site information we track, and expanding our general operational functions. Additionally, we now have real time access to the UMN VDL sequences. As always, we have continued to monitor and improve our data security.

In addition, we are currently on the pilot phase of our "The Early Regional Occurrence Warning (TEROW)". If a regional change in status occurs the TEROW tool will inform MSHMP participants of regional disease occurrence in their neighborhood which in essence is a "FAD fire drill" but using endemic pathogens. Ultimately, this program tests our database for accuracy while making the whole project more actionable.

PRRS sequence monitoring – Our system contributed with over 20 sequence comparison requests from participants and industry partners over the course of 2022 to aid in the investigation of PRRS outbreaks. We continue to monitor L1C 1-4-4 affected herds and are investigating participating sites that exhibited clinical re-breaks or recirculation of this variant. Additionally, we are collaborating with the AASV PRRS nomenclature working group to define PRRSV variants, relevant for epidemiological investigations and for prospective monitoring of newly emerged variants.

Transport data capture and analysis – As you may recall, we have installed GPS devices in pig trucks to understand the data acquisition and analysis process. We are happy to report that data continues to be generated after 4 years. Few things we have learned from this are: 1) Data reliability – consistently, data was being generated unless devices lost power or were disconnected. 2) Data analysis – very rapidly we learned that this process is complex as the amount of data generated is important making it a demanding task if we want to draw conclusions. 3) Real time – we were able to follow vehicles in real time. 4) Epi-trace – During the L1C 1-4-4 emergency, we were able to use this dataset to trace back truck movements helping with outbreak investigation. 5) Biosecurity compliance – We confirmed that this system allows us to assure that trucks go through the truck wash facility before visiting another pig site.

Expansion – During 2022 we completed the enrollment paperwork for 3 additional production systems and have one more pending. These systems will be included in the MSHMP report and database over the next couple weeks, and will improve our geographical data representation in key areas. We continue our growing pig inclusion and at the end of 2022 we have reached a total of 12 (we had 6 at the end of 2021) participants from which we have both breeding and growing pig data. These numbers continue to increase as producers share their data.

Furthermore, the financial support through the Swine Health Information Center (SHIC) has been key to continue to move forward and build capacity towards foreign disease preparedness through MSHMP.

We look forward to working with you throughout 2023! Sincerely, Cesar A Corzo



