Morrison Swine Health Monitoring Project (MSHMP) 2020 Summary

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The past 12 months certainly tested the robustness of MSHMP in many ways. Most importantly, our team was able to quickly navigate through several technical challenges, as accessing and maintaining our database while working from home had not been possible prior to this year. Thankfully, we were able to maintain the data flow and provide you with the weekly report. We wouldn't had been able to do that if it wasn't for your commitment as well. We certainly appreciate your efforts.

Our work has continued moving forward and we here summarize the major accomplishments throughout 2020.

1) System and Database –The new webtool continues to be refined, tested and used. Through this tool, we have been able to add *Mycoplasma hyopneumoniae* breeding herd status to specific systems and we are currently tracking incidence in this pilot project. We will continue to add more herds to the *Mycoplasma hyopnuemoniae* disease monitoring. We have also begun tracking PDCoV incidence through the webtool directly. The SQL database has been updated throughout the year to continue reducing potential error possibilities and the ability to quickly add new pathogens allow us to be prepared in the case of a FAD introduction.

2) PRRS sequence monitoring – Database continues to grow as you send samples to the lab and is updated monthly. We have been able to support 29 different outbreak investigations by running sequence comparison analysis with sequence similarity results that range between 98-100%. Towards the end of last year, a virulent 1-4-4 virus was identified in our database and through preliminary analysis we confirmed that it is a Lineage 1C virus that had been circulating as early as June 2020.

3) Transport data capture and analysis – Great advances were made in understanding the capability technology. Through movement data analysis a high degree of interconnectivity was characterized as expected. Interestingly, the analysis showed that within the production system three communities (e.g. groups of farms) were identified. This piece of information is key should a system level segregation be needed in an emergency event.

4) Expansion – Throughout the year, 2 systems have joined the project; however, COVID-19 forced 2 systems to stop operating. We continue adding farms, including non-sow sites. We currently have 31 boar studs from 13 companies. From a growing pig perspective, we have over 1890 sites from 4 companies. We will continue moving forward with this initiative.

Last but not least, all this would not have been possible without 1) MSHMP Participants willingness to share their data and 2) Funding from the Swine Health Information Center.

We look forward to continuing working with and for the industry during 2021.

Sincerely,
Cesar A Corzo