

Sow Herd Filter Study

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Porcine reproductive and respiratory syndrome virus (PRRSv) continues to challenge the swine industry. Since the beginning of the MSHMP, at least 20% of the sow herds become infected. High density pig farm regions have had higher odds of outbreaks and it is thought that herd to herd transmission of PRRSv may occur through direct or indirect routes. In addition to strict biosecurity protocols, one additional preventive measure is filtration of incoming air to reduce the risk of airborne transmission of PRRSv. Air filtration has proven to be effective in reducing the frequency of viral introductions^{1,2}; however, filtered sow farms continue to have introductions throughout the year. Currently there is scarce data on risk factors associated to PRRSv outbreaks in filtered sow farms; therefore, we would like to invite MSHMP participants to be part of this study.

Objectives

The objectives of the study are to describe the occurrence of PRRSv in the filtered sow herd population within MSHMP and to assess the associations between farm-level factors and the introduction of PRRSv into filtered sow herds. The results of the study may guide practitioners and veterinarians to modify their management and biosecurity practices in filtered sow herds.

Design and methods

All filtered sow herds of MSHMP participants will be eligible for the study. The database will be used together with the PRRSv incidence measure to understand occurrence of PRRS before and after filters were installed. A survey has been created to collect farm specific data such as:

- *Date when herd was filtered*
- *Type of ventilation (negative or positive)*
- *Back draft prevention methodology*
- *Type of pre-filter and filter*
- *Pre-filter and filter replacement frequency*
- *Number of barns and load outs*
- *Audit frequency*
- *Frequency of gilt introduction and weaning events*
- *Regional density*

Several different analyses will be performed. For example, the frequency of PRRSv introductions before and after filters were installed will aid in understanding the value of filters in conjunction with other biosecurity procedures implemented. To control the influence of regional hog density, we aim to compare the incidence of PRRSv in filtered farms with neighboring farms to evaluate the influence of filtration together with other biosecurity measures on the risk of PRRS introduction.

Enrollment

To enroll in the study or request further information please contact: Cesar Corzo (corzo@umn.edu) or MSHMP (shmp@umn.edu).

Alonso et al. Epidemiological study of air filtration systems for preventing PRRSV infection in large sow herds. *Prev Vet Med.* 2013. Oct 1;112(1-2):109-17.

Alonso et al. Financial implications of installing air filtration systems to prevent PRRSV infection in large sow herds. *Prev Vet Med.* 2013. Sep 1; 111(3-4):268-277.

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