

SWINE HEALTH

Title: An assessment of air filtration for reducing the risk of PRRSV infection in large breeding herds in swine dense regions – **NPB #09-209**

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Abstract

The filtering of incoming air to has been proposed as a means to reduce the risk of porcine reproductive and respiratory syndrome virus (PRRSV) infection of at-risk populations of pigs. To test this intervention, a study was conducted utilizing 10 treatment (filtered) herds and 26 (non-filtered) control herds over a 24-month period involving large breeding herds in swine dense regions. Following installation of filters in the 10 treatment herds the PRRSV status was monitored for a 24-month period of time (September 2008-August 2010) across both groups. Throughout the study period eight of the treatment herds remained free of infection; however, two herds experienced clinical PRRS secondary to the introduction of a new variant of the virus from an external source determined to be contaminated transport in one case and a personnel biosecurity breach in the other. In contrast, 24 of 26 (92 percent) of control herds experienced severe clinical episodes of PRRS secondary to the introduction of new variants. Chi square analysis indicated that treatment herds were significantly less likely ($p = 0.0001$) to become infected throughout the 24-month trial period when compared to control herds. These results indicate that air filtration is an effective means to reduce the risk of external PRRSV introduction to large breeding herds located in swine dense regions. Studies are currently underway to continue to assess the sustainability of air filtration and to calculate its cost: benefit.

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