

Monitoring and updating the value of productivity losses due to porcine reproductive and respiratory syndrome virus

Derald Holtkamp, Daniel Linhares, Gustavo de Sousa e Silva, Will Lopez, Cesar Corzo, Carles Vilalta

Keypoints:

- Productivity in breeding herds affected by PRRSV relative to unaffected herds has improved since 2010, suggesting producers and veterinarians have made progress in controlling PRRSV.
- Combined effect of these changes resulted in a net reduction in the value of productivity losses due to PRRSV of **\$138 million, a 20.8% reduction compared to the \$664 million per year estimated in 2010.**

Introduction

The value of lost productivity due to porcine reproductive and respiratory syndrome virus (PRRSV) in the US was last updated for 2005 to 2010 (2010 Study). The value was estimated to be US\$664 million annually. In 2014, the National Pork Board (NPB) developed a strategic plan aiming to decrease the annual economic impact of PRRS by 20 percent measured against the 2012 PRRSV economic impact baseline study. The objective of this study was to provide semi-annual updates of the estimated value of lost productivity in the US swine herd attributable to PRRSV. The semi-annual update reported here (Oct. 2018) is an assessment of the value of lost productivity due to PRRSV for time period extending from October of, 2013 to September of 2018.

Methods

The same economic classification of breeding herds and growing pigs, sources of data, and methods used to estimate the value of productivity losses due to PRRSV used for the 2010 study were used for this update. Changes in the value of lost productivity due to PRRSV at the national level is a function of four factors; 1) the distribution and 2) productivity of breeding herds and growing pigs in PRRSV affected herds relative to PRRSV unaffected herds; 3) pig prices, input prices and costs; and 4) the size of the national herd. The contribution of each factor to changes in the value of lost productivity due to PRRSV was assessed independently. The combined effect of changes in all factors was also estimated to determine the overall impact on the value of lost productivity due to PRRSV. For the purpose of monitoring progress toward the NPB's goal of reducing the impact of PRRSV, changes in the prices and costs as well as the size of the national herd, factors that were not directly influenced by producer and veterinary efforts to manage PRRSV, were fixed at the values used for the 2010 study. Changes in the percentage of breeding herds and growing pigs in each PRRS economic classification were updated using information from the Morrison Swine Health Monitoring Project (MSHMP). Estimates of productivity losses due to PRRSV were derived from an analysis of farm production records from 71 US breeding herds with known PRRSV infection status and outbreak histories. For this analysis, production records for groups of growing pigs were not updated.

Results and conclusions

A summary of changes in the value of productivity losses since the 2010 study is shown in Figure 1. Results from the independent assessment of each of the four factors indicated that changes in the herd distribution, prices and costs, and the size of the national herd contributed to an increase in the value of losses attributed to PRRSV while changes in productivity contributed to a decrease in the value of losses. The net effect of changes in all factors was to decrease the total annual losses due to PRRSV by \$103.6 (from \$664 to \$560.3) million annually. The combined effect of changes in the distribution of PRRSV affected and unaffected herds and productivity in PRRSV affected herds relative to PRRSV unaffected herds, resulted in a net reduction in the value of losses attributed to PRRSV of \$138.2 million annually.

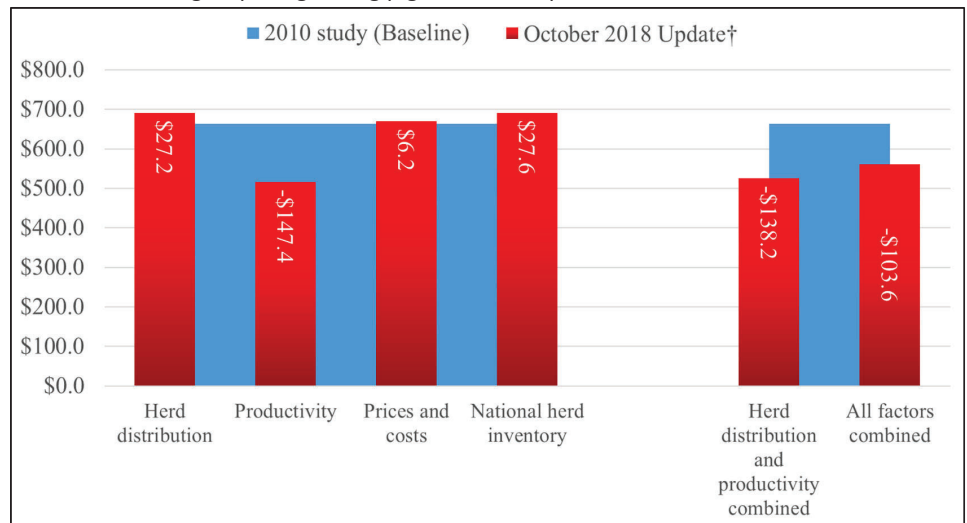


Figure 1. Summary of changes in the annual value of productivity losses due to PRRSV since the 2010 study. Bar labels are changes (\$ million) from \$664 million annual losses estimated in 2010 study.

* Estimates made for 2010 study were for January 2005 to December 2010

† Estimates made for the October 2018 update were weekly averages for October 2013 to September 2018