

2005

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Recommended Citation

Johnson, Colin D.; Mabry, John W.; Kliebenstein, James B.; and Neumann, Eric (2005) "The Impact of PRRS on the Pig Cost of Production," *Animal Industry Report*. AS 651, ASL R2045.

DOI: https://doi.org/10.31274/ans_air-180814-1121

Available at: https://lib.dr.iastate.edu/ans_air/vol651/iss1/71

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The Impact of PRRS on the Pig Cost of Production

A.S. Leaflet R2045

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Summary and Implications

Porcine Reproductive and Respiratory Syndrome (PRRS) has had a significant impact on the profitability of swine production. As a means to quantify the financial impact of PRRS to the U.S. swine industry, a study was conducted. This study utilized case studies and a Delphi survey to identify the various impacts PRRS has on farms. Results suggest that impacts to individual farms vary greatly but aggregated data for approximately 100 million market swine being sold each year in the U.S., estimates PRRS adds somewhere between \$5.60 and \$7.62 to the cost per head sold.

Introduction

A health event that has received much attention in the pork industry for than a decade is Porcine Reproductive and Respiratory Syndrome (PRRS). It is a viral disease that has been identified as causing severe endemic problems. In the recent National Animal Health Monitoring System (NAHMS) survey of pork production operations, PRRS was the second most often reported health problem in breeding herds. It was reported as a health problem in 21.4 percent of the breeding herds. The health status of pigs greatly impacts production efficiencies in the swine industry. This in turn can impact producer profits within the industry and the competitive position of the industry.

Materials and Methods

This study used a combination of techniques and data sources to project the annual cost of PRRS on the United States swine industry. A case study approach utilized current production records from farms having experienced PRRS outbreak(s). Production parameters for pigs affected by PRRS are compared to those not affected by PRRS in a variety of settings. Costs of the disease are summarized for the breeding-farrowing phase, the nursery phase, and the growing-finishing phase of production. In order to extrapolate the projection for the case study farms into a national cost aggregate, information was collected by the USDA-NAHMS in their study of swine production in 2000, was used to estimate the prevalence of PRRS affected farms in the U.S. industry. As a comparison to the case study approach for estimating an annual cost of PRRS, a Delphi survey of swine disease experts (primarily swine veterinarians) was conducted.

Results and Discussion

The economic affect of PRRS in the breeding-farrowing phase was calculated to be \$74.16 per litter on affected farms. Of this cost, \$45.00 was derived from a reduction in the number of pigs weaned per litter while \$29.16 was from reduced farrowing rate. The cost of PRRS in the nursery phase was estimated to be \$6.01 per head on an affected farm. Of this increase, increased pig mortality was \$3.58, reduced feed conversion was \$1.17 and reduced average daily gain was \$1.26. The economic affect of PRRS in the growing-finishing production phase was estimated to be \$7.67 per head on affected farms. Of this, increased pig mortality was \$3.23, reduced feed conversion was \$3.00 per head and reduced average daily gain was \$1.44.

Using the NAHMS information and the size of the U.S. pig industry, the cost of PRRS is projected to be \$66.75 million per year in the breeding-farrowing phase; \$201.34 million per year in the nursery pigs and \$292.23 million per year in finishing pigs. Combining the aggregated costs of PRRS yields an annual cost estimate of \$560.32 million.

When the Delphi survey data was summarized and aggregated to a national level, a somewhat higher impact was projected. The cost impact of PRRS was estimated to be \$111.12 million per year on the breeding herd, \$244.53 million on the nursery herd, and \$406.15 million on the finishing herd, for a total impact of \$761.80 million.

Acknowledgements

This study was funded by the National Pork Board with Checkoff support. Thank you to Eric Bush, Ann Seitzinger and Alice Green of NAHMS for their contributions and guidance. A special thank you goes to the pork producers and veterinarians contributing production records and commentary to the case study data and Delphi survey. A full report is available from the National Pork Board.