

ANIMAL SCIENCE

Title: The effects of PRRSV infection in commercial pigs on growth performance, energy and nutrient digestibility – **NPB #12-151**

Investigator: Nicholas Gabler

Institution: Iowa State University

Date Submitted: April 23, 2014

Scientific Abstract. Digestibility data on 122 growing pigs infected with the porcine reproductive and respiratory syndrome (PRRS) virus (PRRSV) were used to estimate genetic parameters and to perform a genome-wide association study. The digestibility traits (energy and dry matter) had moderate to low heritabilities and moderate genetic correlations with weight gain and viral load. Quantitative trait locus (QTL) for the digestibility traits were found on *Sus scrofa* chromosome (SSC) SSC1, SSC4, SSC6, and SSC13, jointly explaining over 8% of the genetic variance. Most of these regions have been previously associated with growth- or feed intake- related traits, and harbor genes that are involved in important mechanisms related to energy and nutrient usage. In addition, we identified one Single-nucleotide polymorphism (SNP) on SSC1 that was associated with dry matter and energy digestibility in PRRSV infected growing pigs, as well as provided associations with the WUR10000125 SNP on SSC4, which has previously been associated with the response to PRRSV infection.

These research results were submitted in fulfillment of checkoff-funded research projects. This report is published directly as submitted by the project's principal investigator. This report has not been peer-reviewed.

For more information contact:

National Pork Board • PO Box 9114 • Des Moines, IA 50306 USA • 800-456-7675 • Fax: 515-223-2646 • pork.org
