

INTERNATIONAL TRADE

Title: Survival of porcine reproductive and respiratory virus and porcine circovirus on pork and pork products - **NPB # 08-135**

Investigator: Devi P. Patnayak, DVM, Ph.D.

Institution: University of Minnesota

Date Submitted: March 30, 2011

Scientific Abstract

There is a risk of virus transmission through contaminated meat and many viruses are considered potential hazards for both man and animals. The risk of transmission may be elevated with importation/exportation of meat between countries globally. Hazards associated with porcine reproductive and respiratory syndrome virus (PRRSV) and porcine circovirus type 2 (PCV2) in pork and pork products have not been studied. In this project, we studied the survival of these two viruses in fresh pig meat and in four different pig products (fresh sausage, ham, bacon and acidified sausage). For survival of PRRSV in fresh meat, different concentrations of virus representing natural infectivity level and worst case scenario were studied. PRRSV was detected in all concentrations of virus in fresh meat for up to 48 hrs. At 4⁰C, the virus survived for 6 days when high virus concentration was used and for 3 days at lower concentration. At higher concentration, the virus was detected for up to 60 days in higher concentration and for 7 days in lower concentration of virus. Survival of porcine circovirus type 2 was studied with a single virus concentration. The PCV2 was detected for up to 48 hrs at room temperature. At 4⁰C and -20⁰C, PCV2 survived for 96 hrs and one month, respectively.

For studying survival of these two viruses in pork products, fresh meat was injected with either virus and the contaminated meat was used to prepare four different products e.g., fresh sausage, ham, bacon and acidified sausage. PRRSV was detected only in fresh sausage for up to 15 days at 4⁰C and 30 days at -20⁰C. No PRRSV was detected at any temperatures in any of the other three products. In contrast, PCV2 was detected for up to 48 hrs in all products at room temperature. At 4⁰C, it was detected for up to 6 days in three products and for 4 days in acidified sausage. At -20⁰C, the virus was found for up to 4, 6, 28 days in acidified sausage, fresh sausage and bacon respectively. PCV2 was not found in acidified sausage at day 6 and in bacon at 2 month. In ham, it was detected for up to 2 months.

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
