

## SWINE HEALTH

**Title:** Attempt to transmit swine hepatitis E virus (HEV) by consumption of fresh and frozen pork loin or liver – NPB 04-087

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### II. Abstract

Hepatitis E virus (HEV) was discovered in pigs in the U.S. in 1997 and swine HEV is now known to be widespread in the global swine population. Direct evidence has recently emerged that swine HEV is a food-borne zoonotic disease. The primary objectives of this study were to determine if swine HEV can be transmitted by oral consumption of uncooked pork contaminated with HEV-positive pig feces or consumption of raw livers from pigs infected with U.S. strains of HEV. Furthermore, we wanted to determine if conventional cooking or storage of HEV-contaminated pork loin or livers from HEV-infected pigs decreases the infectivity and risk of transmission of the virus.

The results demonstrated that HEV could be transmitted by oral consumption of pork meat contaminated with feces from HEV-infected pigs; however, based on the results of this study it appears that cooking does not destroy the infectivity of HEV in pork meat samples spiked with feces containing HEV. This was an unexpected finding. Similarly, we demonstrated that HEV could be transmitted through consumption of fresh liver from HEV-infected pigs and that cooking did not destroy the infectivity. We also demonstrated that HEV remains infectious in refrigerated or frozen meat samples.

These unexpected results could have substantial implications for food safety and pork trade if they can be extrapolated to human consumption of pork. Because of this, we are in the process of repeating parts of the experiment and conducting additional testing to further confirm these findings.

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