

ENVIRONMENT

Title: Feasibility of Transdermal, Needleless Injection Device for Prevention of Pork Carcass Defects - **NPB #01-146**

Investigator: Joseph G. Sebranek

Institution: Iowa State University

Co-Investigators: Brad Thacker, Terry Houser, and Tom Baas

Abstract

A needle-free transdermal injection device was evaluated for effectiveness of vaccine delivery and for injection site lesions. A total of 96 pigs were vaccinated for pseudorabies virus (PRV) and for *Mycoplasma hyopneumonia* (*M.hyo.*). Pigs were divided into three groups; the first group served as unvaccinated controls, the second group was vaccinated with conventional hypodermic needles, and a third group was vaccinated with a needle-free, air powered injection device.

Pigs were tattooed on the neck to mark the injection sites. Blood samples were collected from the pigs at 11-13 days and 23-25 days following injection and the serological response was measured. Injection sites were collected at slaughter and dissected to evaluate tissue damage.

The results showed that both injection methods produced similar serological response in the vaccinated pigs and both were significantly greater than the controls. The injection site examinations have shown no lesions in any of the pigs.

The results show the needle-free, transdermal injection device to be effective and safe. Elimination of needles will prevent residual needle fragments in carcasses and associated carcass defects from injection site lesions.

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For more information contact:

National Pork Board, P.O. Box 9114, Des Moines, Iowa USA

800-456-7675, **Fax:** 515-223-2646, **E-Mail:** porkboard@porkboard.org, **Web:** <http://www.porkboard.org/>