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## Effectiveness of transdermal, needle-free injections for reducing pork carcass defects

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### Abstract

A needle-free, transdermal injection device was evaluated for effectiveness of vaccine delivery and for injection site lesions in swine. Small pigs, finisher pigs, farrowing sows and gestating sows have been assessed for immunological responses to pseudorabies virus (PRV) *Mycoplasma hyopneumoniae* (M. hyo), swine influenza (SI) and other vaccines in a series of trials. In a study of PRV and M. hyo. vaccines, a total of 130 pigs were vaccinated as part of three groups; one group served as unvaccinated controls, the second group was vaccinated with conventional hypodermic needles and the third group was vaccinated with a needle-free,

airpowered transdermal injection device. Blood samples collected for up to 36 days post-injection showed that both injection methods produced similar serological responses that were significantly greater than for unvaccinated controls. Injection sites, collected at slaughter from each carcass, showed minimal development of lesions and no carcass defects. Similar results have been observed with small pigs and sows for several other vaccines. The results show the needle-free, transdermal injection system to be effective and safe. Elimination of needles will prevent residual needle fragments in carcasses and associated carcass defects that develop from needle-induced injection-site lesions.