



**Technical Bulletin # 005**  
**Pulse 200 Effective Application Method for Finisher Vaccines**  
**September 17, 2002; by; David L. Cook, Ph.D.**

**Objective:** The Pulse 200 is the first needle- free method for administering swine vaccines. In this study Maxivac Excel (Schering Plough) was injected into finisher pigs at a large swine integrater with the Pulse 200 and the immunologic response was compared to finisher pigs given the same vaccine with convention needle and syringe.

**Materials and Methods:**

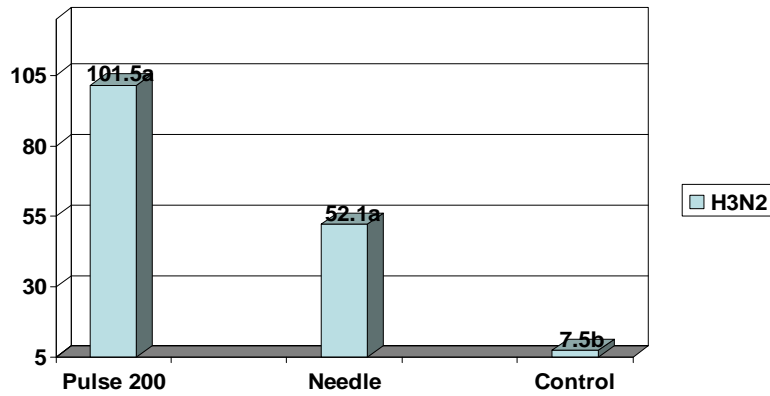
Evaluation using SIV (Maxivac Excel – Schering Plough)

1. 3 treatment groups – 1/3 Needleless; 1/3 Syringe & Needle and 1/3 Unvaccinated Control (N= approximately 125) (5 pens per treatment);
2. Pen treatment assignments random in barn (sick pens excluded) (A= Felton B=needle C= control)
3. 2 sera collection points – day 0 and day 35 (3 weeks post vac) (N=35; 7 hogs per pen tagged and sampled)
4. Sera tested using H<sub>3</sub>N<sub>2</sub> HI test @ ISU submitted as a group
5. Estimated variance = 0.74; 1.0 difference; P = 0.1; N = 30

**Results and discussion:**

Three weeks post vaccination mean H<sub>3</sub>N<sub>2</sub> titers for finisher pigs injected with Maxivac Excel were 101.5 and 52.1 (Fig. 1) for pigs injected with the Pulse 200 and needle and syringe respectively and did not differ between treatment groups. However, both vaccinated treatment groups exhibited significantly (P<.05) higher mean optical densities than unvaccinated controls (fig. 1).

**Figure 1: Three week post vaccination HI titers for finisher pigs injected with Maxivac Excel with the Pulse 200 or needle and syringe**



H3N2 Post Vaccination HI Titers

a,b means with different superscripts differ P<.05

**Summary:**

1. Three week post vaccination mean HI titer for nursery pigs administered Maxivac Excel did not differ when the injections were given with the Pulse 200 or needle and syringe.
2. This study demonstrates that the Pulse 200 can be used to give this vaccination to finisher pigs effectively.