



Technical Bulletin # 004
Pulse 200 Effective Application Method for Nursery 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 Suvaxyn Respifend was injected into nursery pigs at a large swine integrater with the Pulse 200 and the immunologic response was compared to nursery pigs given the same vaccine with convention needle and syringe.

Materials and Methods:

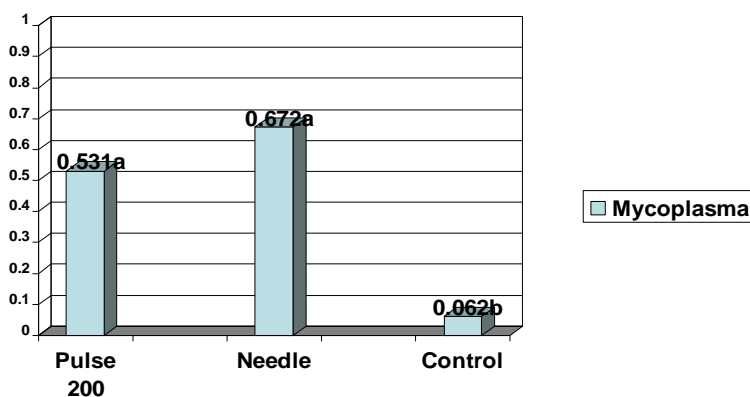
Evaluation using mycoplasma (Suvaxyn Respifend MH – Fort Dodge)

1. 3 treatment groups – 1/3 Needleless; 1/3 Syringe & Needle and 1/3 Unvaccinated Control (N= approximately 100) (4 pens per treatment)
2. Pen treatment assignments randomized in room (sick pens excluded) (A= Felton B=needle C= control)
3. sera collection points – day 0 and day 35 (3 weeks post vac) (N=36; 9 hogs per pen tagged and sampled)
4. Sera tested using mycoplasma IDEXX ELISA test @ ISU submitted as a group
Estimated variance = 0.04; 0.15 difference; p=0.1; N=30

Results and discussion:

Three weeks post vaccination mycoplasma mean optical density for pigs injected with Suvaxyn Respifend MH were .534 and .672 (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 optical density means for nursery pigs injected with Suvaxyn Respifend MH-Fort Dodge with the Pulse 200 and needle and syringe



Mycoplasma OD Values Post
Vaccination

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

Summary:

1. Mean optical density for nursery pigs administered Suvaxyn Respifend 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 nursery pigs effectively.