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Comparative performance of barns of pigs vaccinated with Ingelvac CircoFLEX or other PCV2 vaccines

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Introduction and Objectives

Porcine Circovirus type 2 (PCV2) is the necessary agent of Porcine Circovirus Associated Disease (PCVAD).¹ When combined with other infections, such as PRRS virus (PRRSv) or Swine Influenza Virus (SIV), mortality may exceed 20%. Vaccines against PCV2 have been shown to reduce losses in herds PRRS and *Mycoplasma hyopneumoniae*-negative or positive pigs.²⁻⁴ This paper describes the results of a field evaluation of a novel PCV2 vaccine, Ingelvac[®] CircoFLEX[™] (Boehringer Ingelheim Vetmedica, Inc., St. Joseph, MO), and two other commercially available PCV2 vaccines, in a conventional production system positive for PRRSv, *Salmonella typhimurium* and SIV.

Materials and Methods

A commercial production system utilizing conventional nursery and finishing barns implemented vaccination against PCV2 at weaning. Pigs were vaccinated within an 11 day age range, from a minimum of eight days of age to a maximum of 18 days of age. Additionally, pigs were vaccinated against *Mycoplasma hyopneumoniae* after placement into nurseries and again three weeks later.

Barns were placed over a three month period through a single production flow. A total of 51 barns of vaccinated pigs were included in the evaluation, with the following allocation: Intervet PCV2 conditionally licensed vaccine, 19 barns (Intervet, Millsboro, DE), Suvaxyn[®] PCV2 One Dose[™], 15 barns (Ft. Dodge Animal Health, Overland Park, KS), and Ingelvac[®] CircoFLEX[™], 17 barns (Boehringer Ingelheim, St. Joseph, MO). Some barns were housed on sites with all other vaccines (15/51), while others were housed only with barns vaccinated with the same product (36/51). Mortality rate was the parameter of interest in this evaluation. Statistical analysis was made using Chi Square and comparison of proportions using Statistix 8.0 (Analytical Software, Tallahassee, FL).

Results

Chi square data are provided in Table 1. Significant differences were detected among the vaccine treatments, with Suvaxyn PCV2 One Dose having significantly (p <0.05) higher

mortality (392 died/22,321 placed = 3.7%) compared to Intervet (591 died/16,153 placed = 1.8%) and CircoFLEX (398 died/19,842 placed = 2.0%). Mortality was not significantly different (p = 0.71) between the Intervet and CircoFLEX vaccinated groups.

Table 1 – Frequency data mortality rate

| Treatment | Died | Survived |
|--|------|----------|
| Intervet PCV Vaccine Type 2 ^a | 392 | 21,929 |
| Suvaxyn PCV2 One Dose ^b | 591 | 15,562 |
| Ingelvac CircoFLEX ^a | 398 | 19,444 |

a,b: P<0.05

Discussion

In this evaluation, all vaccines reduced the mortality rate in vaccinated barns. Various reports have shown improved results in vaccinated pigs in both acute^{2,3} and chronic/endemic situations.⁴ The production system in this study suffered acute PCVAD, with losses prior to vaccine implementation more than double the baseline mortality.⁵ Following vaccination, some groups had performance meeting or exceeding pre-PCVAD outbreak levels.

A single dose of Ingelvac CircoFLEX provided protection similar to a two dose vaccination program, and significantly better than another one dose vaccine, in this system. It should be kept in mind that not all sites contained equal numbers of barns vaccinated with each product, and assumptions about consistency of management between sites were made. Vaccination against PCV2 virus at or prior to weaning provided long lasting protection against PCVAD challenge through the finishing period.

References

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