**Vaccination against PCV2 versus tissue homogenate in finishing phase.**

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## Introduction

Infection of pigs with Porcine Circovirus Type 2 (PCV2), may lead to high mortality, reduced weight gain or outright wasting, and reduced through put of pigmeat[1]. This clinical condition is known as Porcine Circovirus Associated Diseases, or PCVD. Prior to the advent of commercially approved vaccines, such experimental controls as serotherapy or tissue homogenate injection were tried, with varying reports of limited success[2].

A field trial was conducted in Chile comparing barns of pigs vaccinated with a commercial PCV2 vaccine, Ingelvac® CircoFLEX (Boehringer Ingelheim Animal Health), treated with tissue homogenate or receiving no PCV2 specific control. In the nursery phase a thirteen fold reduction of mortality in vaccinated barns compared to non-vaccinated animals (7.78% vs 0.59%) and a seven fold decrease compared to tissue homogenate (4.27% vs 0.59%) was reported[3].

This paper evaluates the effects in the finishing phase from about 10 weeks of age through to slaughter.

## Materials and Methods

The field study involved a commercial pig production system containing 4,200 sows in one site production, operating all-in, all-out per barn. The system was PRRS virus negative, Mycoplasma hyopneumoniae, APP and Lawsonia intracellularis positive. Pigs had either been vaccinated at approximately two weeks of age, treated twice with tissue homogenate in the nursery or left as controls. Approximately thousand pigs were placed contemporarily into each finishing barn at 70 days of age and followed through to slaughter. In total 18,600 pigs were evaluated. Barns contained pigs that were either vaccinated (n=5), injected with tissue homogenate (n=9) or left as controls (n=5). Mortality was the primary parameter to evaluate efficacy and was analyzed using a chi-square test (Statistica®v8, Statsoft). Vaccinated, tissue homogenate and control groups were compared pairwise. Further production data (Table 1) was recorded but not statistically evaluated.

## Results

Best performing barns were those vaccinated with Ingelvac CircoFLEX®. Vaccinates had significantly lower mortality rates than either controls (1.8% vs. 6.8%, $p \leq 0.0001$) or tissue homogenate (1.8% vs. 5.1%, $p \leq 0.0001$). Tissue homogenate had lower mortality than controls (5.1% vs. 6.8%, $p \leq 0.0001$).

Additional performance parameters are summarized in table 1.

Table 1 Descriptive performance parameters for all treatment groups

| | Ctrl. | Tissue homog. | Vaccine |
|---|---|---|---|
| Days at market | 169.5 | 170.4 | 169.1 |
| Final weight, kg | 103.1 | 107.9 | 112.3 |
| Heavy pigs[1], % | 64.8 | 80.5 | 91.4 |
| Light pigs[2], % | 30.1 | 17.0 | 8.4 |
| Cull pigs, % | 5.1 | 2.5 | 0.2 |
| $ADG_{finish}$, g/day | 723 | 781 | 837 |
| Feed conversion (F/G) | 2.99 | 2.97 | 2.90 |

[1]Heavy pigs = pigs with a live weight > 95 kg at slaughter; [2]light pigs = pigs with a live weight 85-95 kg.

## Conclusion

PCV2 vaccination clearly reduced finishing mortality to a larger extent, than tissue homogenate. Production data further support that vaccination is very efficacious and superior to tissue homogenate in controlling the negative effects of PCV2 infection on pig production.

### References

1. Allan G, et al. 2000 *Arch Virol (145)* :2421-29.
2. Barcellos D. 2007 *Proc 13th Abraves*:217.
3. Gonzalez C. 2008 *Proc 20th IPVS, Durban*