

Comparative field efficacy of different PCV2 vaccine in China



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INTRODUCTION

Porcine circovirus type 2 (PCV2) is the causative agent of several diseases and syndromes referred to as porcine circovirus disease (PCVD). PCVD is considered to be an economically important disease worldwide, most swine farms control PCVD by vaccination against PCV2. There are many different PCV2 vaccines in the market in China. However these vaccines vary in their efficacy and safety profiles depending on the quality of the antigen and adjuvant, the most important factors that related to vaccine efficacy and safety.

To determine PCV2 vaccine efficacy, production parameter such as average daily weight gain (ADG) and mortality rate are the best criteria for on farm monitoring (Harding, 2009). The vaccine that has a better efficacy will result in higher profit and this is the most important criteria for selection of a vaccine. The purpose of this study was to compare the efficacy of two PCV2 vaccines based on production parameters in the farm.

MATERIALS AND METHODS

The retrospective field observation was conducted in a single site production farm with 800 sows in Fuzhou, China. The sow herd was stable for PRRSV, piglets were weaned at 26 days of age. Age at slaughter is around 186–190 days old. Before the study was conducted the vaccination program for piglets comprised PRV vaccination at 1–3 days, PRRSV at 7 days old, Mycoplasma and local PCV2 vaccine at 14 days old and CSF at 25 days old. The average wean-finish mortality was around 7.8%, however during the fattening stage some pigs often showed signs of PCVD such as respiratory disease, growth variation and in case of clinical disease did not response to antibiotics treatment. In Aug 2015 the farm owner decided to switch the PCV2 vaccine from local brand to Ingelvac CircoFLEX[®] which was given then freshly mixed with Ingelvac MycoFLEX[®] at 2–3 weeks of age for the control of PCV2 and Mycoplasma routinely. The first batch of piglets vaccinated with Ingelvac CircoFLEX[®] was marketed on Feb 2016.

In total 13,751 pigs of 42 weekly batches were evaluated. 24 batches of 7,839 pigs which were marketed during Aug–Jan 2016 were vaccinated with a local PCV2 vaccine (Group A). 18 batches of 5,912 pigs marketed from Feb to Jun 2016 were vaccinated with Ingelvac CircoFLEX[®] (Group B).

Wean-finish performance such as average daily weight gain (ADG) and mortality rate are summarized in Table 1, T-test was used for statistical analysis for ADG and Chi square test for mortality rate.

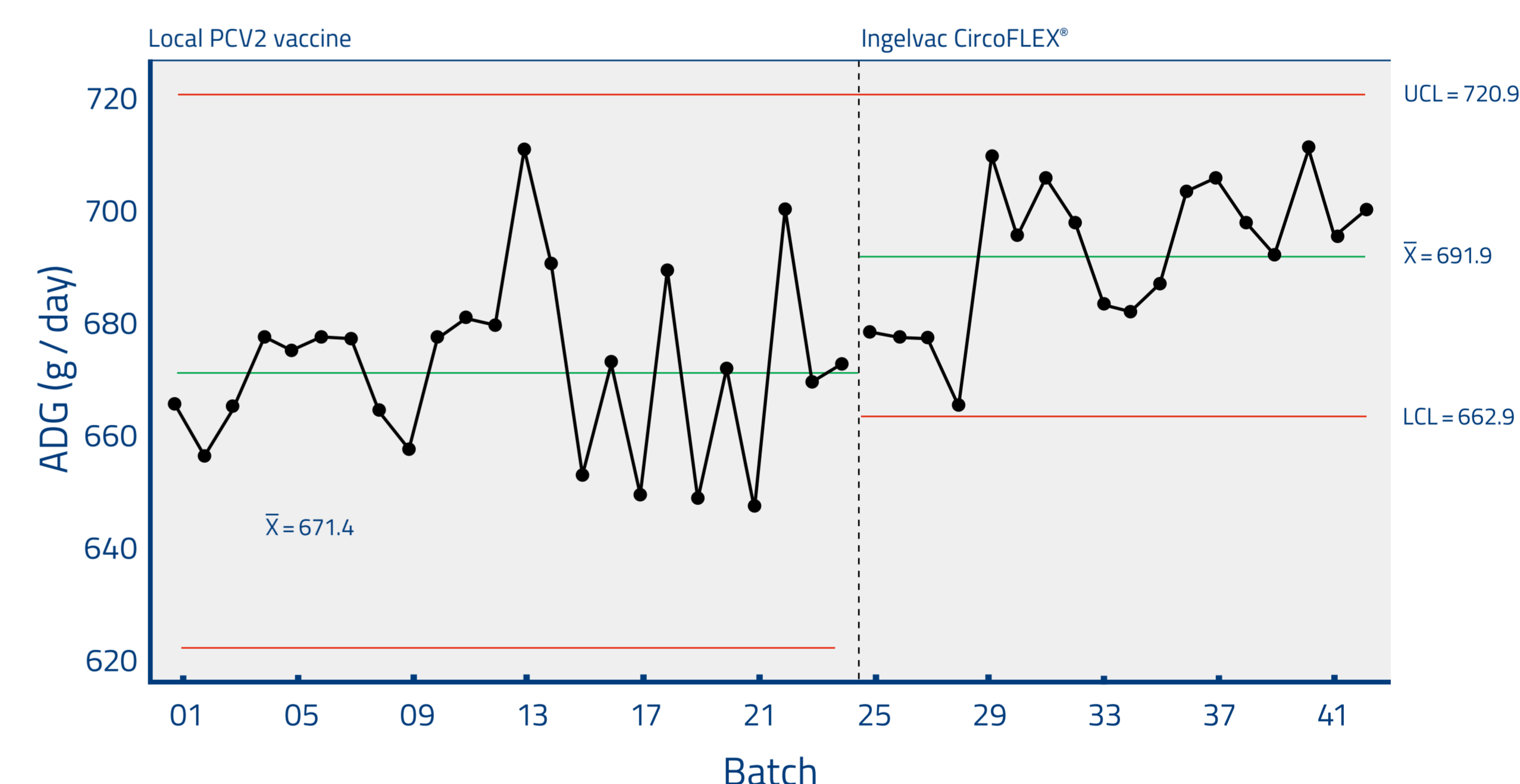
RESULTS

The overall ADG in Group B, which was vaccinated with Ingelvac CircoFLEX[®] was better than Group A which was vaccinated with local PCV2 vaccine 20.5g/day (691.9 and 671.4 respectively), resulting in an average slaughter weight 3.32kg higher in group B (data not shown). The difference in wean-finish mortality between both groups (8.50 vs 8.49%) was statistically not significant.

Table 1: Wean-Finish performance in observed group

Parameter	Group A Local PCV2 vaccine	Group B Ingelvac CircoFLEX [®]	Diff	P-value
ADG (g / day)	671.4	691.9	+ 20.5	0.000
Mortality rate	8.49 %	8.50 %	+ 0.01	0.980

Figure 1: SPC chart of ADG (g/d)



DISCUSSION AND CONCLUSION

The results of this case report indicate differences in vaccine efficacy between vaccines brands which lead to differences in profitability for the pigs production. (CW, 2016)

REFERENCES

Harding, J. *Pig progress* vol. 25 No. 7.2009
CW, Im. et al. *IPVS*. 2016

