

# Evaluation of two vaccination programs against PRRS virus, PCV2 and *Mycoplasma hyopneumoniae* in a swine production system in Mexico



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## INTRODUCTION

Nowadays swine farms in México are facing challenges by multiple agents. Within the Porcine Respiratory Disease Complex (PRDC), 3 agents of elevated prevalence worldwide can be highlighted; the Porcine Reproductive and Respiratory Syndrome Virus (PRRSv), *Mycoplasma hyopneumoniae* and Porcine Circovirus type 2. PRDC pathogens are diagnosed in the field by Veterinarians and control programs are established through vaccines, management interventions and strategic medications. The objective of this study is to evaluate the efficacy of 2 vaccination protocols under similar field conditions.

## MATERIALS AND METHODS

Pigs in a 4,200 multi-sites sow farm situated in the south of Mexico were treated under 2 different vaccination protocols. The farm is positive for PRRSv, PCV2, M. hyo and SIV. The last PRRSv outbreak was 9 years ago and according to the standard herd classification, the farm is considered a category II-A, positive stable<sup>1</sup>. 52,846 pigs, born July to November 2014 and referred to as "group A" received 2 ml IM of Ingelvac® PRRS MLV and 2 ml IM of FLEXcombo® (Ingelvac CircoFLEX® and Ingelvac MycoFLEX®) at 14 and 21 days of age respectively. The other group ("group B") included 44,889 pigs which were born from November 2014 to March 2015 and received one IM dose of 2 ml of 3FLEX at 21 days of age. Through BECAL (Boehringer Ingelheim Economic Calculator), the efficacy and profitability of the new vaccination protocol was calculated at the end of the trial, comparing the performance of both groups.

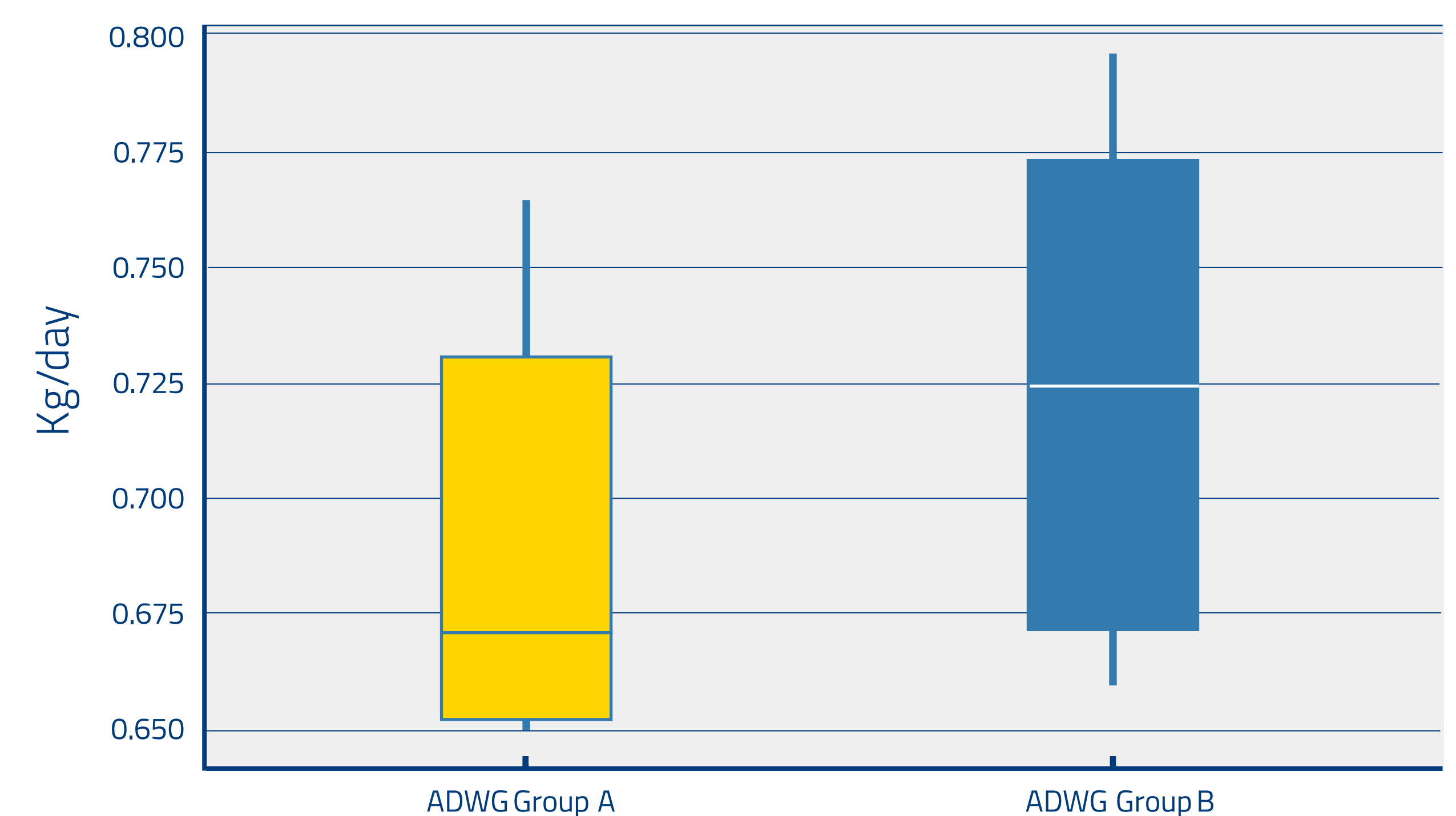
## RESULTS

A total of 97,735 healthy pigs participated in this trial. Parameters as FCR (feed conversion ratio), ADWG (average daily weight gain), mortality, carcass yield %, ADOF (average days on feed), and others were evaluated in order to compare the efficacy of the new vaccination schedule. The results are shown in table 1.

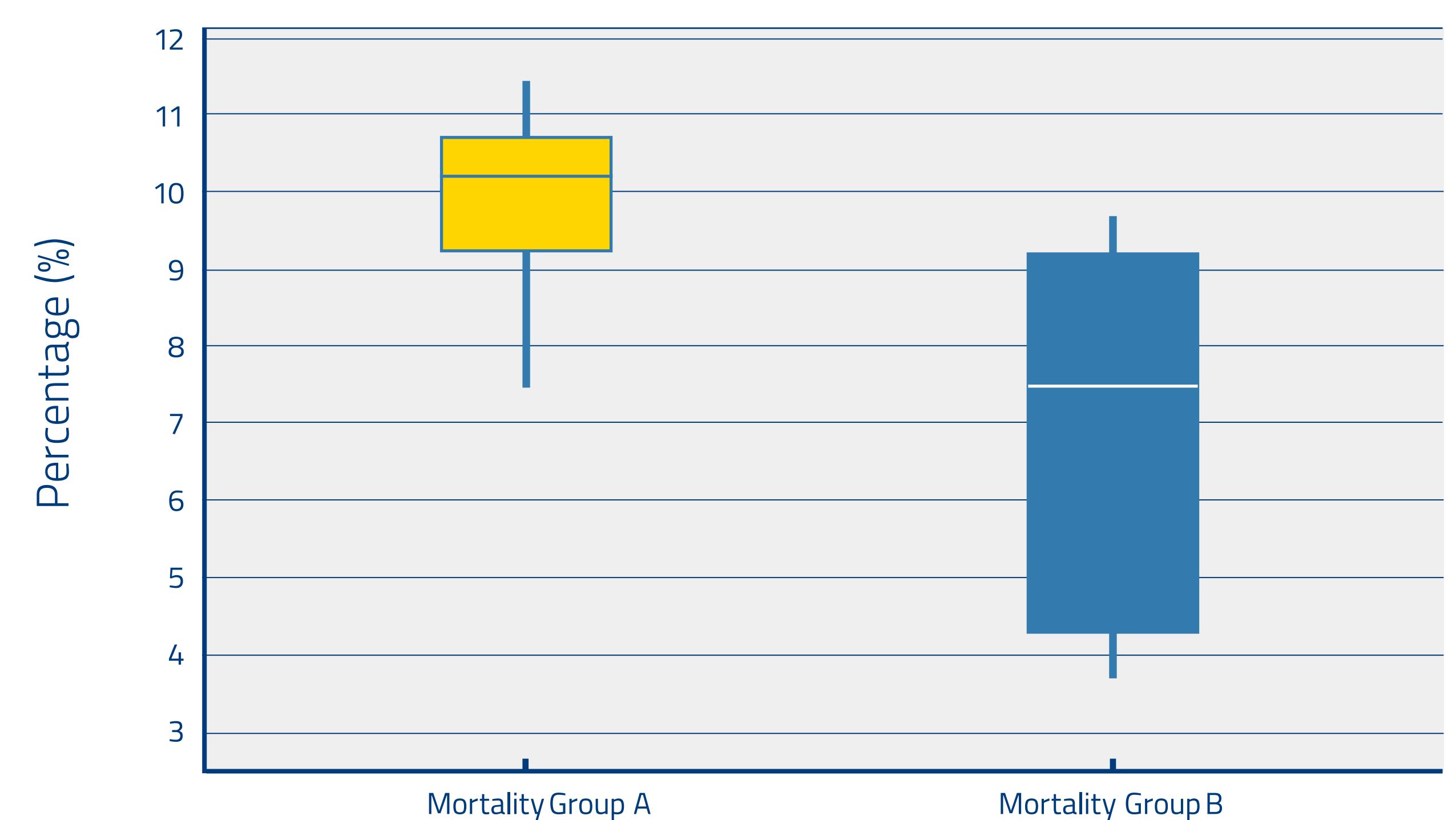
**Table 1: Comparison of two vaccination protocols**

Parameters	Group A	Group B
FCR	1.91	1.92
ADWG (kg / day)	0.69	0.72
Mortality %	9.91	6.99
ADOF (days)	146.32	142.82

**Figure 1: Difference observed in ADWG**



**Figure 2: Difference observed in mortality**



The difference observed in mortality compared with group A was 2.92 %, which equals a profit of 2.42 \$ for each pig. The difference observed in ADWG compared with group A was 0.036 kg / day, and equals a profit of 2.92 \$ for each pig. Using BECAL, the reduction in mortality of  $\geq 2.25\%$  and improvement in ADWG of  $\geq 0.023$  kg / day demonstrates the efficacy and economic benefit of the product.

## CONCLUSION AND DISCUSSION

3FLEX® is the first and only vaccine worldwide approved by the USDA for mixing the PRRSv, PCV2 and *Mycoplasma hyopneumoniae* vaccines in a single injection, showing efficacy and safety within the market<sup>2,3</sup>.

From this study we can conclude that 3FLEX is safe and efficacious. The economic benefit of 3FLEX in comparison to the identical but separately administered vaccines can at least partly be assigned to the reduction of stress caused by multiple handling and injections.

## REFERENCES

- Holtkamp, D. et al. Leman Conference Proceedings. 2010.
- Piontkowski, M. et al. Leman Conference Proceedings. 2010.
- Blood, S. et al. Leman Proceedings, 2011. p 263.

