



Aleta™, a tool to support PCV-2, *M. hyopneumoniae* and *H. parasuis* vaccination in gilts

Key Conclusions

This study provides evidence that Aleta was able to improve serum antibody titers for different vaccines (PCV-2, *M. hyopneumoniae* and *H. parasuis*) in breeding gilts.

INTRODUCTION

Gilts are undergoing an intensive vaccination program, that may consist of vaccines against following diseases. Any tool to support the gilts during this vaccination program is welcome.

Porcine circovirus Type 2 (PCV-2) has been reported from nearly every country with a significant commercial swine production industry. It is strongly associated with the occurrence of Postweaning multisystemic wasting syndrome (PMWS) and also appears to have an association with porcine dermatitis and nephropathy syndrome (PDNS), porcine respiratory disease complex (PRDC), and occasionally reproductive failure. The best protection is prophylaxis with vaccination, mostly inactive vaccines who need a strong adjuvant to induce a strong humoral and cellular immune response.

Mycoplasma hyopneumoniae is a common cause of pneumonia in pigs worldwide. The disease is called enzootic pneumoniae and is a chronic, typically clinically mild, infectious pneumonia of pigs. Clinical signs consist of a persistent dry cough, impaired growth, occasional flares of overt respiratory distress, and a high incidence of lung lesions in slaughtered pigs. It tends to become endemic in infected herds and occurs worldwide. Prevention is key and can be achieved via improved management practices, antimicrobial treatment, and vaccination.

Infection with the bacteria, *Haemophilus parasuis*, causes Glässer disease in pigs. *H. parasuis* is a commensal organism of the upper respiratory tract of swine that causes severe systemic disease characterized by fibrinous polyserositis, arthritis, and meningitis. Disease has a sudden onset, short course, and high morbidity and mortality. Young animals (4–8 weeks old) are primarily affected, although sporadic disease can be seen in adults. Survivors can develop severe fibrosis in the abdominal and thoracic cavities, which can result in reduced growth rate and carcass condemnation at slaughter. Glässer disease is seen worldwide. Antibiotic treatment remains the first option to control a disease outbreak, but prevention is key through several commercially available vaccines.

A beta-1,3-glucan derived from algae, *Euglena gracilis*, commercially available as in feed supplementation, Aleta, is an immunomodulatory molecule as it interacts with the immune system through the dectin-1 receptor in antigen presenting cells. Aleta has previously shown to improve vaccination efficiency for multiple diseases, in several animal species. The objective of this study was to evaluate the impact of Aleta™ in development gilts on serological response to PCV-2, *M. hyopneumoniae* and *H. parasuis* vaccines.

KEYWORDS

Aleta™, vaccination, serology, PCV-2, *M. hyopneumoniae* and *H. parasuis*

MATERIAL AND METHODS

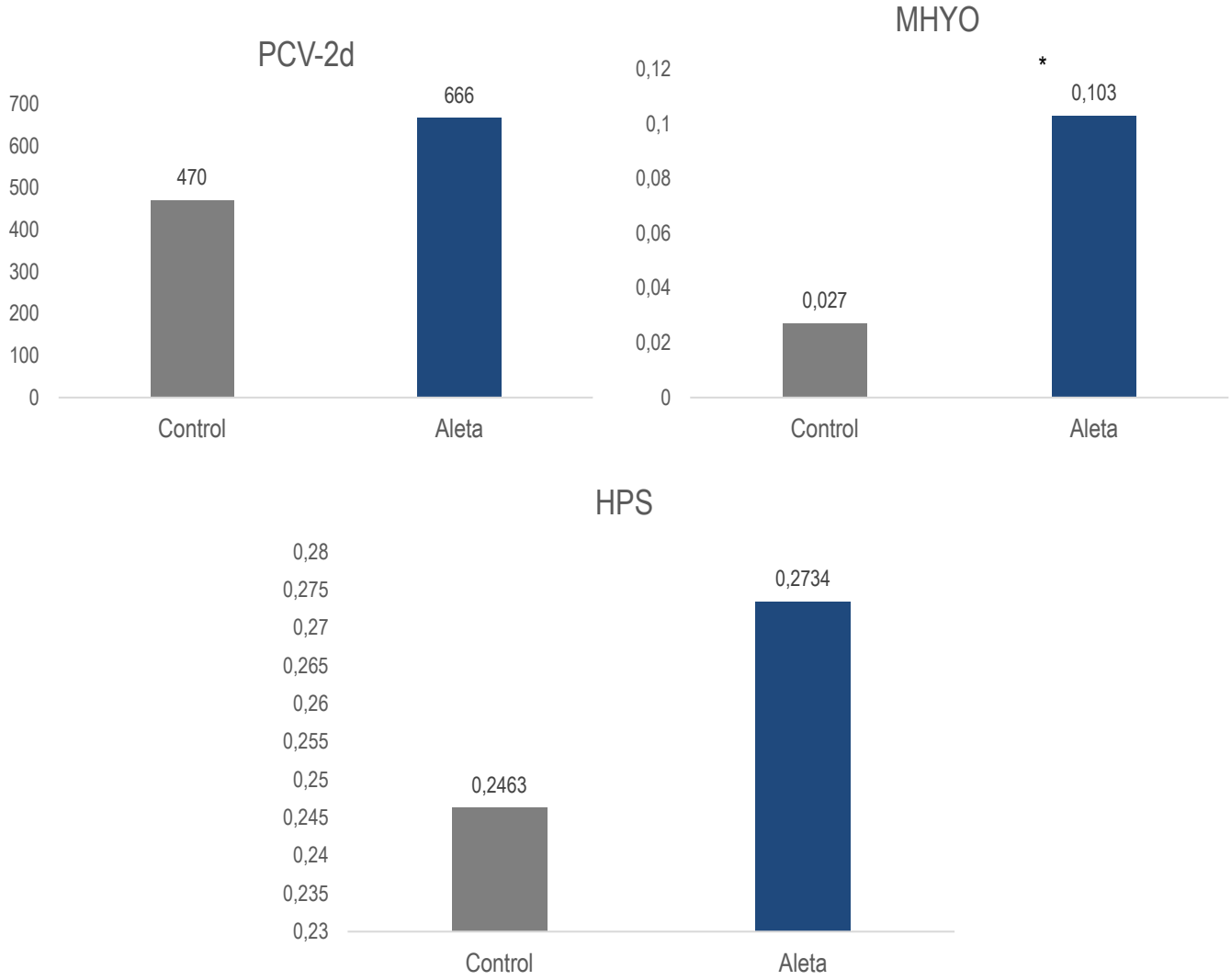
A total of 1,252 gilts were sourced from a multiplication breed-to-wean farm, that was negative for PRRSv and *Mycoplasma hyopneumoniae*. Every four weeks, one group of (313) 6-month-old breeding gilts were received in the isolation facility and randomly assigned to 1 of 2 treatments:

1. negative control
2. negative control + Aleta at 200 g per ton of feed.

On d0 (placement in isolation room) and d28 (post-vaccination), the same gilts were bled (43 gilts per group) to establish a before and after serological profile. Serum antibody titers were evaluated for PCV-2d, *Mycoplasma hyopneumoniae* (MHYO), and *Haemophilus parasuis* (HPS). Statistical analyses were performed using JMP® (SAS Institute, Cary, NC) software and significance was determined at $P \leq 0.05$.

RESULTS AND DISCUSSION

A positive impact of Aleta™ on PCV2d, *M. hyopneumoniae*, and *H. parasuis* antibody titers was noticed on day 28 compared to the control group. (* indicates a trend $p=0.09$)



CONCLUSION

Overall, these results provide evidence that Aleta was able to improve serum antibody titers for different vaccines in breeding gilts.



ACKNOWLEDGEMENTS

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REFERENCES

1. AB-21-1951