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COGLAPIX®

Efficacy against heterologous serotypes of *A. pleuropneumoniae*

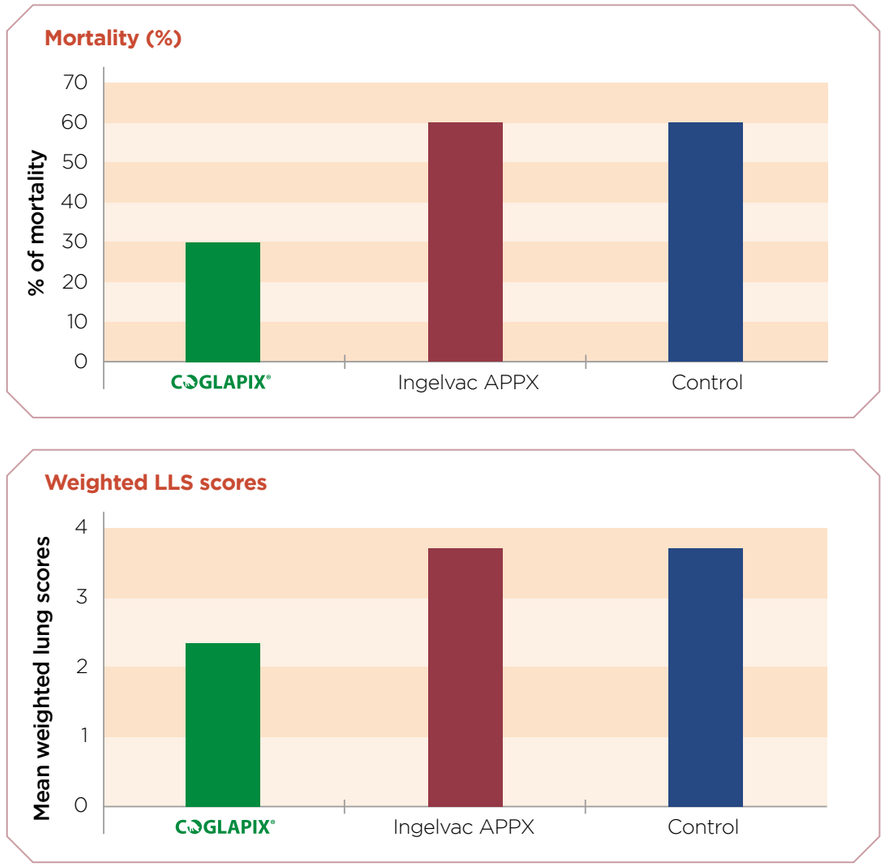
EFFICACY

INTRODUCTION

Porcine pleuropneumonia caused by *Actinobacillus pleuropneumoniae* (A.p.) is a highly contagious respiratory disease, characterized by rapid onset, short course, high morbidity and mortality. The distribution of various serotypes differs substantially among countries in Europe. The presence of various serotypes in the farm as well as in a given area doesn't stay stable, but evolves over the time. That is why the serotype specific vaccines such as commercial bacterin or autogenous vaccines require frequent monitoring of the A.p. bacteria present in the farm and their serotype characteristics.

The protection induced by serotype specific vaccines can fail and a outbreak can occur if a virulent strain of a serotype not present in the vaccine is circulating in the farm and was not properly diagnosed and isolated. Their efficacy is also only partial because they do not induce immunity against the major factors of virulence namely the Apx toxins. It was demonstrated previously that toxoid-based vaccines can provide protection which is independent on the serotype specificity (Frey 1995).

COGLAPIX® the inactivated A.p. vaccine contains all three toxoids of Apx I, II and III besides the bacterins of the serotypes 1 and 2. The protection against virulent A.p strains belonging to homologous as well as various heterologous serotypes such as A.p. 5, 7 and 9 was confirmed previously in the well controlled experimental challenge studies.



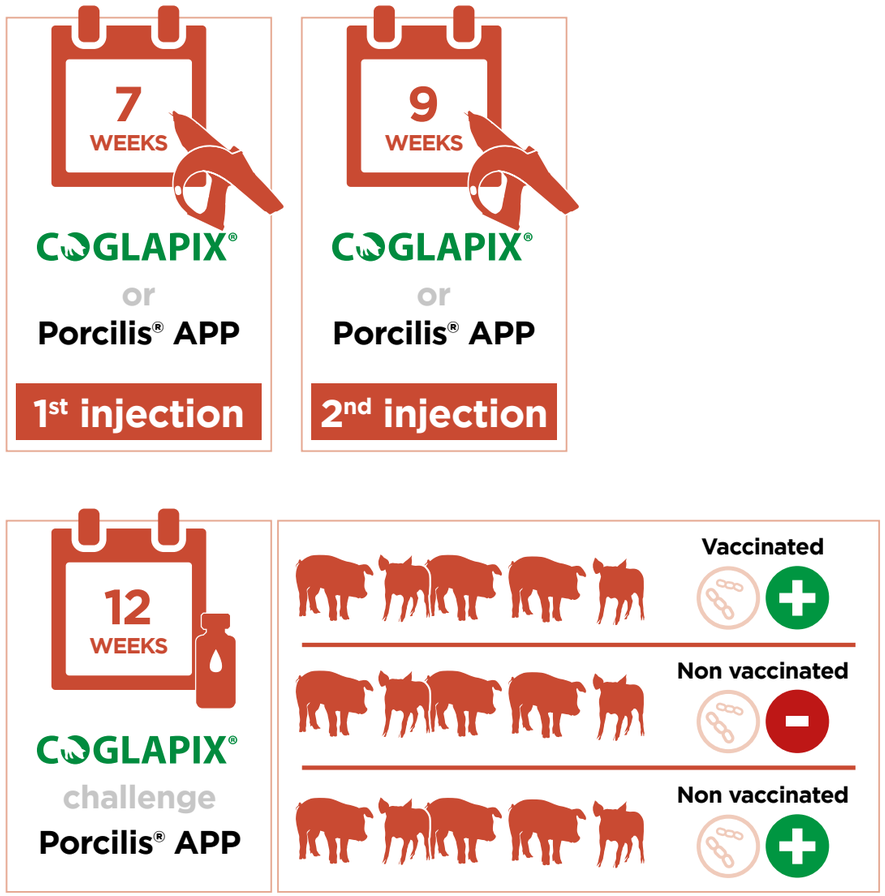
Graphs 1-2 Mortality and mean lung lesion scores in pigs vaccinated either with COGLAPIX® or Ingelvac APPX in comparison to the control non-vaccinated controls. All pigs were challenged with the virulent strain of A.p. serotype 9.

Recently a strain of A.p. serotype 8 was acquired from England. 8 is the most prevalent in the UK and was isolated also in other countries as highly virulent. The aim of this study was to determine the efficacy of COGLAPIX® and compare the efficacy with Porcilis APP.

Materials and methods

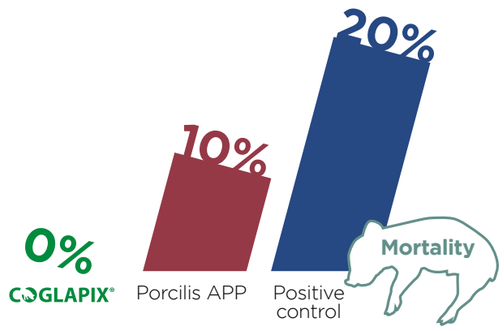
Twelve weeks old pigs vaccinated either with **COGLAPIX®** or Porcilis APP and non-vaccinated positive controls were challenged with ~10^5 CFU/pig by the aerosol route. Five pigs served as non-vaccinated non-challenged negative controls. After one week of observation the surviving pigs were euthanized and their lung and pleura lesions scored, weighted, and compared to each other.

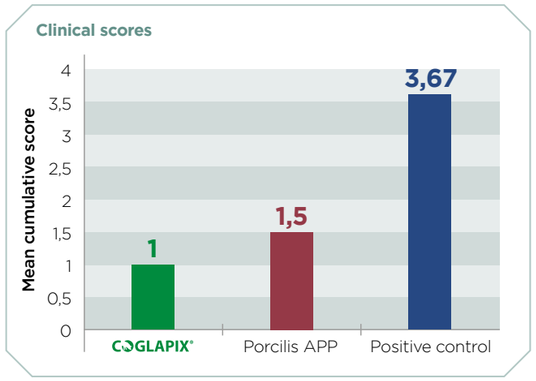
Vaccination program

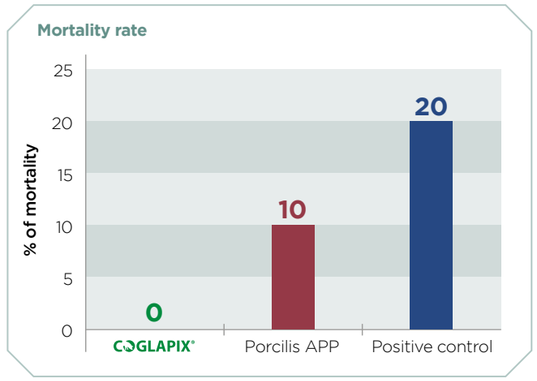


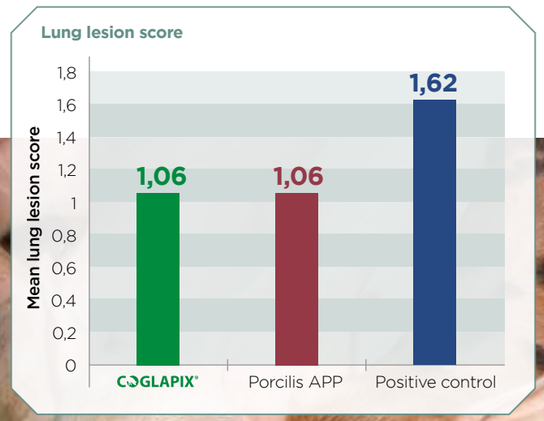
Results

The mortality was 0% for **COGLAPIX®**, 10% for Porcilis APP and 20% for the positive control. The clinical scores were 1 for **COGLAPIX®**, 1.5 for the Porcilis APP and 3.67 for the positive control group. The weighted mean lung and pleura lesion scores were 1.06 for both vaccines and 1.62 for the positive control. The differences between those two vaccines were not statistically significant.









Graphs 3-5 Clinical scores, mortality and lung lesions scores of pigs vaccinated with **COGLAPIX®** or Porcilis APP, compared to the control after the challenge with the virulent A.p. serotype 8.

CONCLUSION

In this experimental chalenge trial COGLAPIX® documented high efficacy against the serotype 8 of *A. pleuropneumoniae*, isolated in the UK. There was the lowest rate of clinical symptoms and no mortality in pigs vaccinated with COGLAPIX®.
The mean lung lesion score was equal as in pigs vaccinated with Porcilis APP. This study confirmed that Coglapix® vaccination provides a high degree of the protection even against serotypes, which are heterologous for the vaccine.
Therefore COGLAPIX® is suitable for the vaccination against porcine pleuropneumonia regardless the serotype specificity of the circulating strains in the farm.

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Keep it clear

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