FIELD STUDY COMPARING TWO NEONATAL DIARRHOEA VACCINES IN BRAZIL

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INTRODUCTION

Neonatal diarrhoea is an important and devastating disease to swine producers, responsible of a big economic impact in farms worldwide (1).

In general, most of the neonatal infections can be prevented by passive calostral and lactogenic immunity obtained by vaccination of the sow. Neonatal diarrhoeas induced by *E.coli* are commonly prevented through sow vaccination that are booster vaccinated 2-3 weeks before farrowing (2).

The aim of this study was to compare the production parameters in the farrowing units of a Brazilian commercial farm suffering recurrent neonatal diarrhoea, during two 10 months consecutives periods using two different vaccines against neonatal diarrhoeas. Two different vaccines against neonatal diarrhoeas were utilized in each of the periods compared. In the first period, sows were vaccinated with a bacterin vaccine which included different *E.coli* strains (Vaccine A) and in the second period sows were vaccinated with SUISENG® which contains purified adhesion factors (F4ab, F4ac, F5 and F6) and the heat labile toxin (LT) of *Escherichia coli*, the β toxin of *Clostridium perfringens* type C and the α toxin of *Clostridium novyi*.

MATERIALS AND METHOD

The study was carried out in a 1000 sow's farm in Mato Grosso state, Brazil. The vaccination protocol included a commercial inactivated *E. coli* vaccine (Vaccine A). The main concern in the farrowing units was neonatal diarrhoea appeared in piglets after 3 day of life. Crushed piglets, starvation and diarrhoea were the main causes of death. The Colibacillosis diagnosis of the diarrhoea was carried out by a multiplex PCR. This PCR is able to detect different Coli adhesins factors linked with virulence (F4, F6, F5) and toxin β and α produced by different types of Cl. Perfringens (3). Sampling was performed using fecal samples from piglets showing acute signs of the diarrhoea. *E. Coli* F4 and F6 adhesins were detected from the samples, so Colibacillosis by E.coli was confirmed.

Vaccination using SUISENG® was implemented at the beginning of October 2014 and the vaccination program used was two doses in gilts, one dose 8 weeks before farrowing and a revaccination 4 weeks later; and in multiparous sows a booster dose was administrated 4 weeks before the subsequent farrowing.

Periods compared:

1st period January2014 to September2014 – Vaccine A

2nd period October2014 to July2015 - SUISENG®

In order to assess the field efficacy of SUISENG® data of piglet mortality, piglets weaned per litter, weaning weight and ADG were reported during the two periods analysed.

RESULTS

The different parameters assessed are shown in the next figures (Figure 1, 2, and 3). Statistical differences between periods were observed in all the parameters evaluated. ($p<0,05$, t-test for independent samples).

Figure 1:
Mean piglet mortality rate in farrowing units (± SEM).

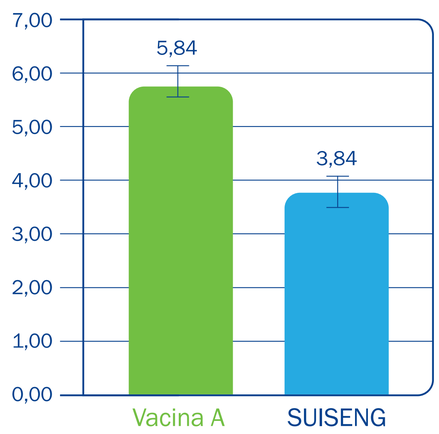
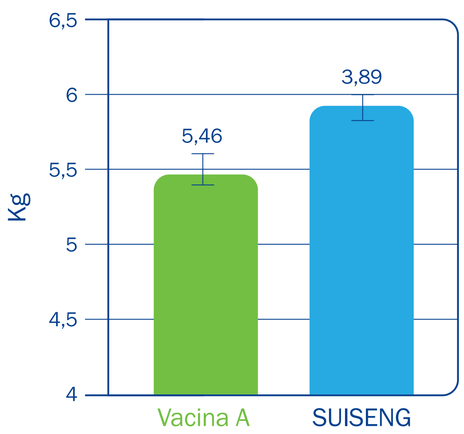


Figure 2:
Mean body weight at weaning (± SEM).



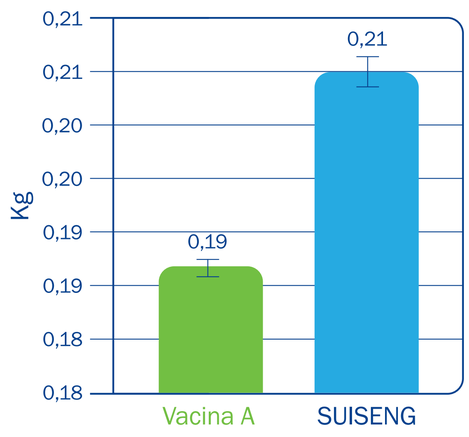


Figura 3: ADG mean during lactation period (±SEM).

CONCLUSIONS AND DISCUSSION

Based on the data presented, SUISENG® vaccination program implemented in a farm affected by a recurrent o persistent Colibacillosis was able to prevent the negative effects of *E. coli* infection in suckling piglets; thus improving pre-weaning mortality, the weaning weight and consequently the ADG during the lactation period.

Also in previous studies, SUISENG® has demonstrated better levels of efficacy than other *E.Coli* vaccines, even though this is the first study in Brazil demonstrating such levels of lactation parameters improvement after SUISENG® vaccination (4).

REFERENCES

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