

Field study to assess the efficacy of SUISENG® on three South Korean farms

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INTRODUCTION

Neonatal diarrhea is an important and devastating disease for the swine producer that is responsible for a substantial economic impact on farms worldwide ¹. In general, most neonatal infections can be prevented by passive colostral and lactogenic immunity obtained by vaccination of the sow. Neonatal diarrhea caused by *E. coli* is commonly prevented by the vaccination of sows which are then booster vaccinated 2-3 weeks before farrowing ². SUISENG® 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*. The aim of this study was to assess the efficacy of SUISENG® in field conditions on three commercial farms located in South Korea.

MATERIALS AND METHODS

The study was carried out on three South Korean farms. The experimental groups consisted of 30 piglets in a vaccinated group and 20 piglets in a control group on each farm (5 piglets/sow). The main concern in the farrowing units was neonatal diarrhea which appeared in piglets after 3 day of life. Crushed piglets, starvation and diarrhea were the main causes of death. The Colibacillosis diagnosis of the diarrhea was carried out by a multiplex PCR. This PCR is able to detect different *E. coli* adhesins associated with virulence (F4, F6, F5) and the β and α toxins produced by different types of *Cl. Perfringens*³. Sampling was performed using fecal samples from piglets showing acute signs of diarrhea. F4, F5 and F6 adhesins were detected in the samples. Vaccination was carried out using SUISENG® and the vaccination program used was one dose 6 weeks before farrowing and revaccination 3 weeks later. In order to assess the field efficacy of SUISENG®, data were collected on weaning weight, daily gain and piglets with diarrhea during lactation.

RESULTS

The different parameters assessed are shown in the tables below (Tables 1 and 2). Diarrhea in piglets was assessed by a fecal consistency score: soft (1), diarrhea (2) and watery diarrhea (3). Weights at weaning and daily gain are the averages for all piglets included in the trial. Statistical differences between the vaccinated and control groups were observed for all the parameters evaluated. (p<0.05, t-test for independent samples).

Table 1. Mean weight at weaning and mean daily gain.

		Weight at weaning	Daily gain
Farm A	SUISENG®	6.24	188.07
	Control	5.91	167.15
Farm B	SUISENG®	7.01	218.97
	Control	6.88	213.37
Farm C	SUISENG®	6.16	211.53
	Control	5.08	168.77

Table 2. Diarrhea index during lactation.

		1 week	2 weeks	Weaning
Farm A	SUISENG®	7 (1)	8 (1)	3 (1)
	Control	5 (1); 2 (2); 1 (3)	2 (1); 7 (2)	6 (1); 1 (2)
Farm B	SUISENG®	7 (1)	8 (1); 1 (2)	1 (1)
	Control	3 (1); 7 (2)	8 (1); 5 (2)	7 (1); 1 (2)
Farm C	SUISENG®	7 (1)	11 (1)	4 (1)
	Control	5 (1); 6 (2)	6 (1); 7 (2)	6 (1); 2 (2)

DISCUSSION

Based on the data presented, the SUISENG® vaccination program implemented on farms affected by chronic Colibacillosis showed better results than those for the control groups on all farms, so vaccination was able to prevent the negative effects of *E. coli* infection in suckling piglets, thus improving the number of piglets with diarrhea, and consequently improving their weight at weaning.

REFERENCES

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