

CONTROL OF PRE-WEANING MORTALITY ASSOCIATED WITH *Escherichia coli* USING SUISENG® IN TWO PHILIPPINE COMMERCIAL SWINE FARMS

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INTRODUCTION

Escherichia coli is an important cause worldwide of newborn and postweaning diarrhoea in pigs. Diarrhoea due to *E. coli* may result in significant economic losses due to morbidity, mortality and decreased weight gain. The aetiological agents of the disease are the enterotoxigenic strains of *Escherichia coli* (ETEC). These strains produce one or more toxins (LT, STa or STb) and present one or more fimbrial adhesins (F4, F5, F6 or others). The colostrum immunoglobulins block the adhesion function so that the bacterial attachment to the intestinal epithelium and, consequently, intestinal colonization are prevented. Additionally, the antibodies against the toxins neutralize their toxic effect on intestinal cells (Fairbrother, 2006).

SUISENG® is an innovative vaccine against neonatal diarrhoea associated with *E. coli* and *Clostridium perfringens* type C. It is also indicated in the control of sudden deaths in sows associated with *Clostridium novyi*.

SUISENG® recommended vaccination program includes two doses in gilts prior to breeding and an initial program of two doses in sows (6 and 3 weeks before farrowing) and thereafter, one dose 3 weeks before each farrowing.

The objective of this study is to assess the efficacy of SUISENG® in controlling neonatal diarrhoea associated with *E. coli* under field conditions.

MATERIALS AND METHODS

Two Philippine commercial swine farms with sow level ranging from 800 to 2,500 were involved in this study. *E. coli* diagnosis was carried out with PCR (Enterocheck®) using fecal samples from piglets with signs of diarrhoea.

Farm A: 800 sows, one site production system located in south of Manila. The farm had complaint of high cases of diarrhoea with high pre-weaning mortality from November 2011 to March 2012. Vaccination using SUISENG® was implemented in the beginning of March 2012.

Farm B: 2,500 sows, one site production system located in north of Manila had high pre-weaning mortality associated with diarrhoea from January to March 2012. Vaccination using SUISENG® was implemented in the beginning of March 2012.

Monthly pre-weaning mortalities before and after vaccination were obtained from the two farms for comparison. Weaning weight (kgs) for farm B was recorded to assess the possible effect of vaccination.

RESULTS

After the implementation of vaccination in sows a decrease in pre-weaning mortality of 77% and 43% in farms A and B respectively was observed.

Stable pre-weaning mortality could also be observed several months after vaccination. Moreover an improvement in weaning weight (+0.760 kgs) was observed in farm B due to the reduction of diarrhoea.

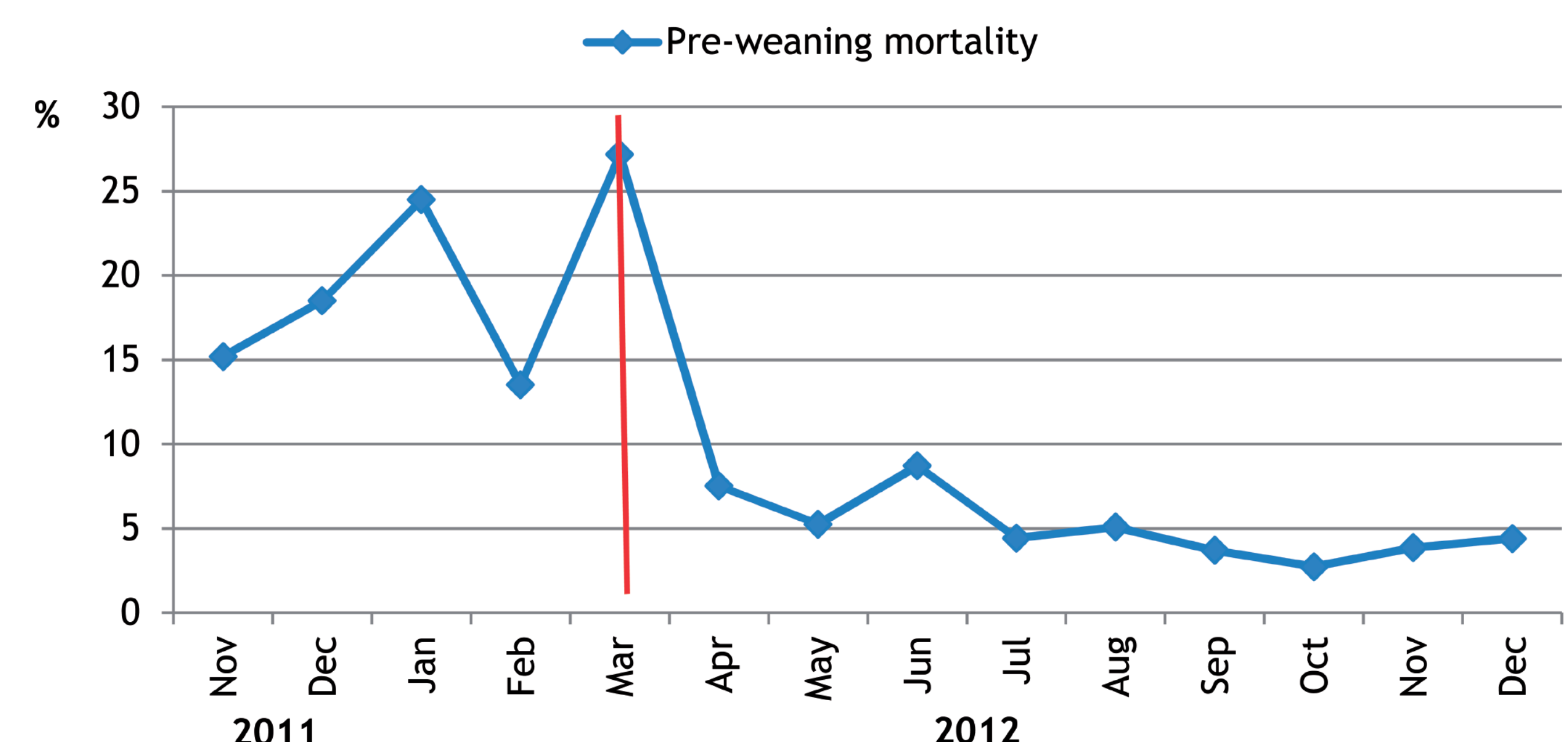


Figure 1. Monthly pre-weaning mortality percentage (%) before and after vaccination (Farm A).

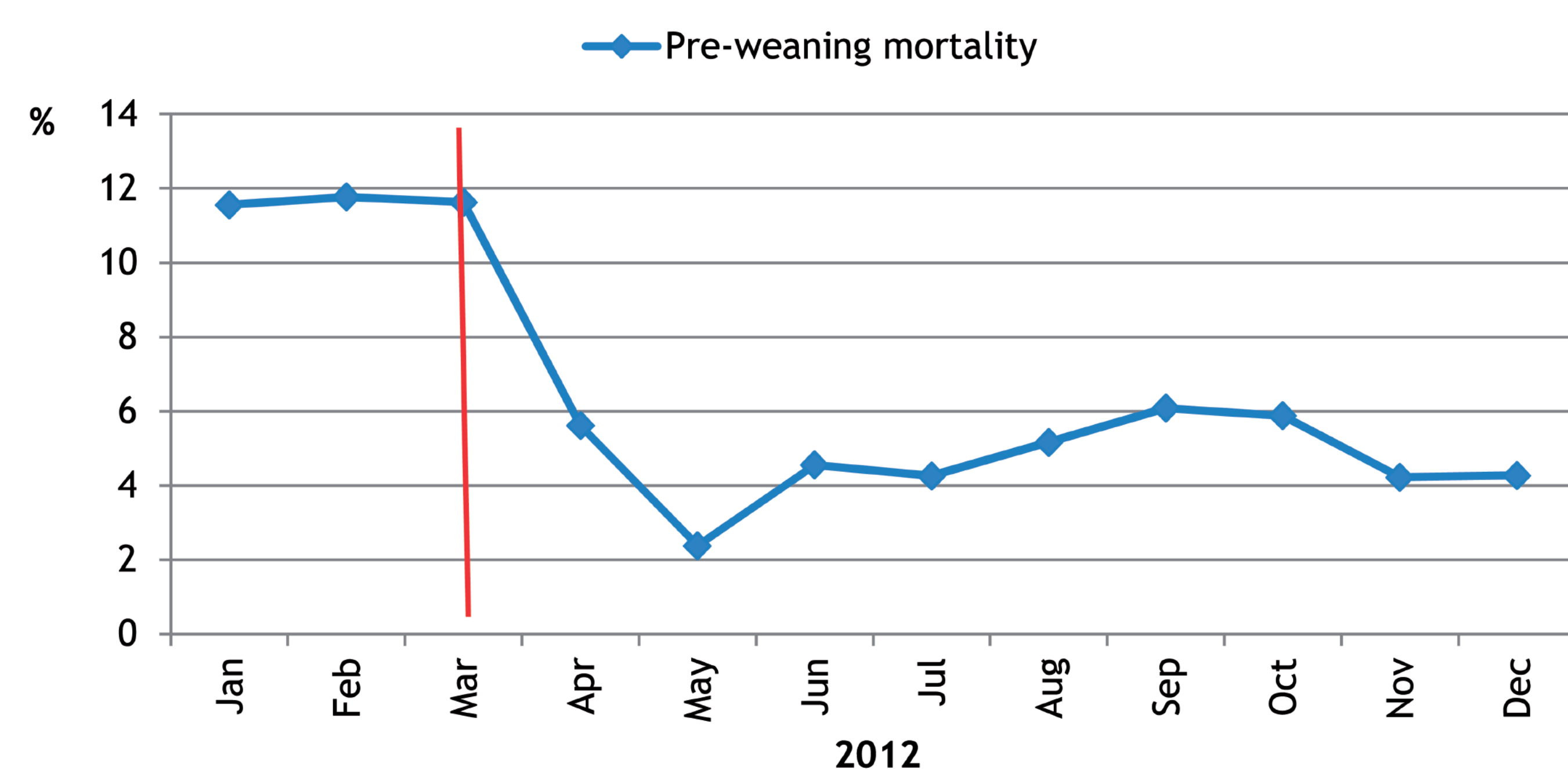


Figure 2. Monthly pre-weaning mortality percentage (%) before and after vaccination (Farm B).

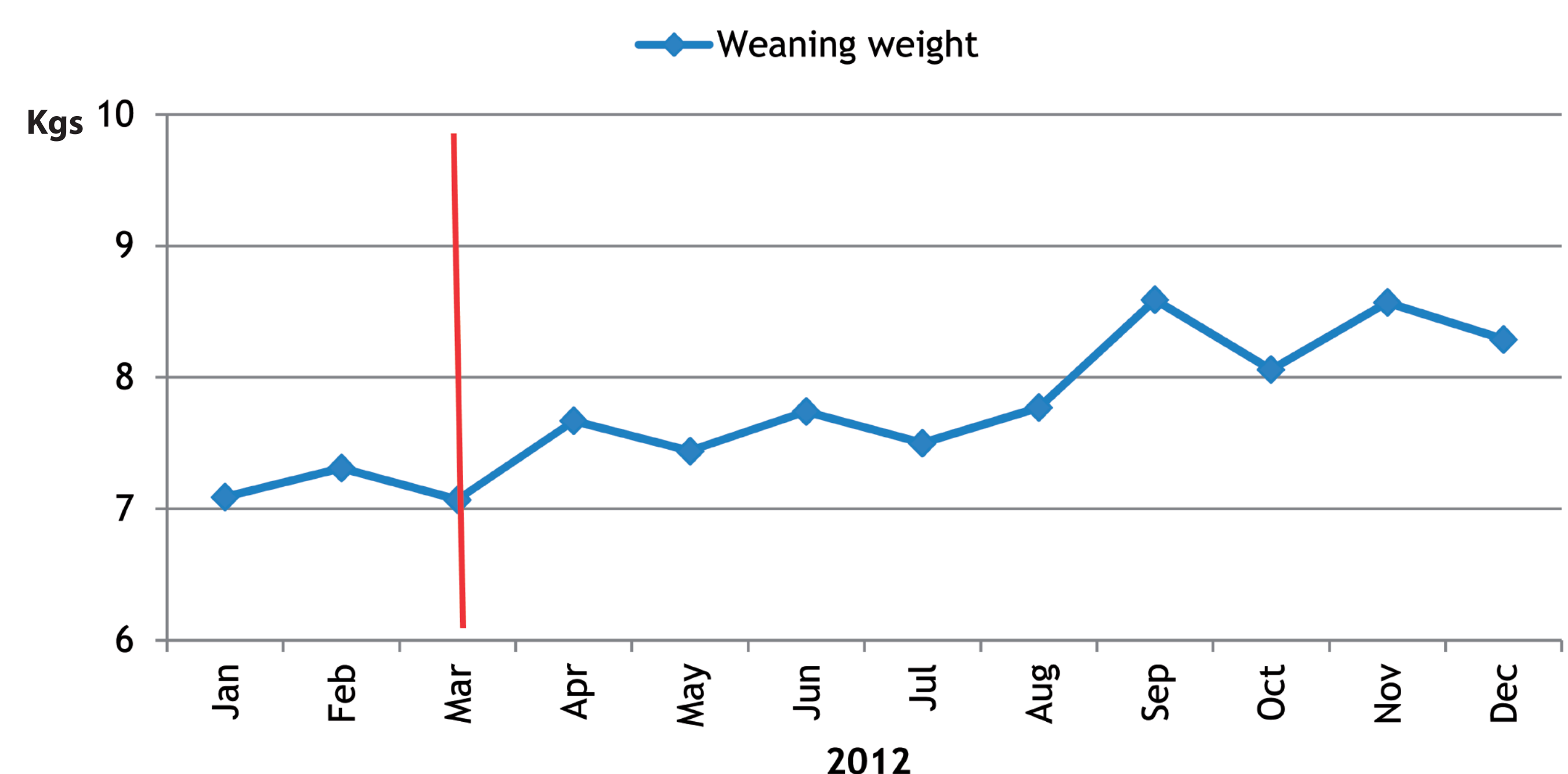


Figure 3. Monthly weaning weight (Kgs) before and after vaccination (Farm B).

DISCUSSION AND CONCLUSION

Based on the data presented, vaccination program with SUISENG® in sows prevented the negative effects of *E. coli* infection in suckling piglets thus improving pre-weaning mortality and consequently improving the weaning weight.

BIBLIOGRAPHY

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