

EFFECT OF *ESCHERICHIA COLI* VACCINATION IN GILTS ON PIGLET PERFORMANCES IN A FARM IN PERAK, MALAYSIA

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Abstract

This study aimed to determine the effect of *Escherichia coli* (Neocolipor vaccine – Merial) vaccination on neonatal diarrhoea score, growth parameters (average weight per piglet and average daily gain) and neonatal mortality rate in newborn piglets. A field trial was conducted in 35 litters of piglets from gilts selected from a farm in Perak, Malaysia. They were randomly allocated into treatment (16 litters from *E. coli* vaccinated gilts) and control (19 litters) groups. Body weights of the piglets were determined at days 1, 7, 14 and 21 of age and the episodes of diarrhoea and piglet mortality were monitored daily in each pen. The treatment group had significantly lower neonatal mortality rate, day-one neonatal diarrhoea percentage and diarrhoea in the overall period of 1- 21 days ($p < 0.05$) when compared to the control group. However, there were no significant ($p > 0.05$) difference in the overall diarrhoea percentages and weekly growth parameters between groups. Some of the limitations of the study include environmental stress, routine and random treatment of piglets with diarrhoea with antimicrobial and biasness towards the control groups, which thereafter may have affected the significance of the diarrhoea score and growth parameters. It is presumed that piglets in the control group experienced severe diarrhoea during the first week of life, leading to the significantly ($p < 0.05$) higher mortality rates. It is also deduced that piglets of the treatment group with diarrhoea that survived the first week have lower growth rates. However, in terms of neonatal mortality, the result is reproducible as it is in agreement with other field trials, which indicate that *E. coli* vaccination in dams could be an alternative way of moderating mortality due to *E. coli*. In conclusion, this pilot study showed that *E. coli* vaccination in gilts significantly reduces first week piglet mortality and diarrhoeal percentages at day-one under farm conditions.

Keywords: *Escherichia coli*, diarrhoea score, mortality rate, growth parameters, body weight, average daily gain