

# Effect of removal of in-feed antibiotics on skin lesion scores of pigs during the 1<sup>st</sup> and 2<sup>nd</sup> weaning stages



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## 1. Introduction

The inclusion of antibiotics (ABs) in pig diets has resulted in an overreliance on medication to treat and prevent illness in pigs under intensive production conditions. This practice is no longer sustainable because of the risk of AB resistance. Little is known about the effect on pig welfare of removing ABs from the diet. However, 'in-feed' AB are not likely to influence the performance of aggression or abnormal behaviours such as ear, tail and flank biting. The aim of this study was to evaluate the effect of removing AB from the diet and replacing with parenteral AB treatments on skin lesion scores of weaner pigs. The hypothesis was that there would be no difference in skin lesion scores between treatments.

## 2. Material & Methods

The study was carried out in a farrow-to-finish farm (300 sows) with a programme of AB treatment (sulfadiazine-trimethoprim, 14.4mg/kg BW/d; for 5 d/wk)

Over 6 weeks, 420 pigs were weaned at  $28 \pm 2$  days of age, weighed, tagged and sorted into 2 groups of 35 pigs in the 1<sup>st</sup> stage weaner accommodation according to weight ( $10.6 \pm 0.7$ kg)



AB ('in-feed' AB, n=6)

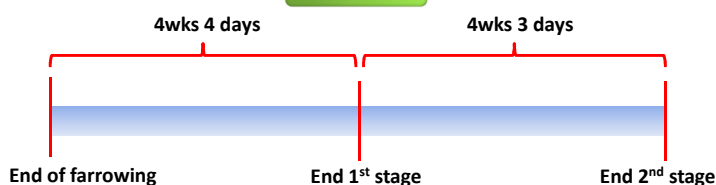


NO (no 'in-feed' AB, n=6)

At the end of the 1<sup>st</sup> stage each group was split into two pens of c. 15 pigs each in the 2<sup>nd</sup> stage (AB, n=12; NO, n=12)

- ✓ 10 focal pigs chosen per group
- ✓ Pigs in both groups were parenterally treated with Amoxicillin (15 mg/kg BW during 3 d) if and when required
- ✓ Data were recorded on a weekly basis for 9 weeks

### TIME LINE



Lesions to the body (BL, 0-6 at 11 locations), tail (TL, 0-5), ear (EL, 0-3) and flank (FL, 0-3) were scored on the focal animals according to severity



Figure 1 Examples of skin lesions in pigs (body, tail, ear and flank, respectively)

## 4. Main findings

- ✓ A reduction in the severity score of body lesions in pigs with no in-feed AB may have been linked to reduced competition for access to feed associated with reduced growth rates in these animals (data not shown)
- ✓ Ear and flank lesion scores suggest that the development of ear and flank biting behaviour might be related to space restrictions at the end of the 1<sup>st</sup> weaner stage ; these behaviours persisted in 2<sup>nd</sup> stage weaner pigs
- ✓ Tail lesion scores in early weaned pigs appear to reflect injury associated with tail docking rather than tail biting behaviour

## 5. Conclusion

Removing AB from the diet of weaner pigs had no effect on the skin lesions reflective of behavioural abnormalities (i.e. tail, ear and flank biting). However, lower body lesion scores may suggest that there was an effect on aggressive behaviour

## 3. Results

The BL score tended to be higher in AB than in NO pigs during both the 1<sup>st</sup> (P=0.09) and 2<sup>nd</sup> (P=0.07) weaner stages (Figure 2). BL scores were higher in the 2<sup>nd</sup> compared to the 1<sup>st</sup> stage (P<0.05, Figure 2).

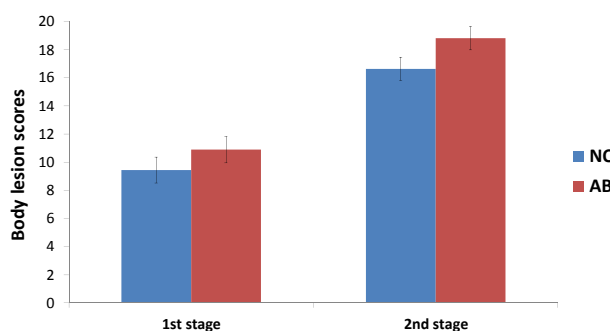


Figure 2 Body lesion scores of pigs in two treatments (NO=no 'in-feed' antibiotics; AB='in-feed' antibiotics) during the 1<sup>st</sup> and 2<sup>nd</sup> weaner stages

Treatment had no significant effect on the EL, FL and TL scores (P>0.05). There were significant changes in all of the lesion scores across time (P<0.05, Figure 3).

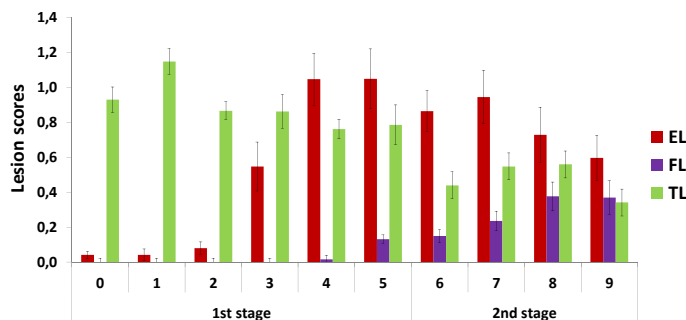


Figure 3 Ear, flank and tail lesion scores of weaner pigs during a 9 week period post weaning (0 = day of weaning, 1 = day after weaning, 2 = 2<sup>nd</sup> week in the 1<sup>st</sup> stage weaner accommodation etc.)