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Association between claw lesions and farrowing performance of sows.

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Introduction

Lameness is a major reason for reduced sow longevity in swine breeding herds. Claw lesions, especially severe white line and side wall lesions are reported to be associated with lameness (Anil et al., 2007). Claw lesions are very common in pigs. Despite a high prevalence, studies focusing on claw lesions and their adverse effects on sow performance are scanty in the US. At present, it is less clear whether claw lesions are linked to sow performance.

Objective

The objective of the present study was to analyze the associations between claw lesions and performance variables such as number of piglets born alive, mummies, stillborn and preweaning piglet mortality and wean to service interval, along with parity.

Materials and methods

This study was conducted at the Southern Research and Outreach Center, University of Minnesota. Claws of 257 sows were examined for lesions while the sows were in the farrowing crates prior to farrowing. Lesions included erosions, cracks, and overgrowths. Areas on the claw were categorized as side wall, heel, overgrown heel, sole, heel-sole junction and white line. The number of lesions in these areas was counted. The associations between claw lesions and performance variables such as number of piglets born alive (≤ 10 or greater), mummies, stillborn and pre-weaning piglet mortality (present or absent), wean to service interval (≤ 5 or greater) and parity (≤ 3 or greater) were analyzed using logistic regression models (Proc logistic, SAS V 9.1).

Results

Results indicated a positive association ($P \leq 0.05$) between piglets born alive and white line and side wall lesions (Odds ratios, OR 1.29 and 1.60 respectively). Heel-sole lesions were negatively associated ($P \leq 0.05$) with mummies (OR 0.62). White line lesions were negatively ($P \leq 0.05$) associated with stillbirth and preweaning piglet mortality (OR 0.74 and 0.79 respectively). Parity

was positively associated ($P \leq 0.05$) with heel and heel-sole lesions (OR 1.26 and 1.40 respectively) and negatively ($P \leq 0.05$) associated with white line lesions (OR 0.72).

Discussion

Claw lesions can result in lameness, a leading cause for premature removal of sows in breeding herds. A positive association between claw lesions and milk yield has been reported in dairy cattle (Hultgren et al., 2004). The present observational study indicated that sows with a higher number of live born piglet are more likely to have more white line and side wall lesions. This may be suggestive of the link between production performance and lesions in the claw and may indicate an underlying metabolic pathway. Heel lesions in this study included overgrown heels and heel cracks. Overgrown heel is the result of the interaction between heel and the floor and is likely to increase with the lifespan of the sow. This may explain the positive relationship between parity and heel lesions. A previous study (Anil et al., 2007) has reported a positive association between white line lesions and lameness in sows. A lame sow in the higher parity is more likely to be removed from the herd and this may explain the negative relationship between parity and white line lesions observed.

Conclusion

The positive association between lesions and production performance may be indicative that high producing sows are more susceptible to lesions especially white line and side wall lesions.

References

- Anil., et al. (2007). Factors associated with claw lesions in gestating sows. *J Swine Health Prod* 15:78-83.
- Hultgren et al., (2004). Associations of sole ulcer at claw trimming with reproductive performance, udder health, milk yield, and culling in Swedish dairy cattle. *Preventive Veterinary Medicine* 62: 233–251.