



Examination of quantity and quality of claw lesions, their correction and effects on animal health in a German commercial farm

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Background & Objectives

Recent studies show that 80 – 90% of breeding sows develop claw lesions [1,2] which impact animal health and welfare, as well as production performance. The objective of this study was to determine the quantity and quality of claw lesions in a German commercial farm. Reproduction parameters, as well as the amount of antibiotics used on lame sows after one year of claw trimming were compared to the previous year.

Material & Methods

The farrow-wean farm had a total inventory of 3.800 sows and PIC genetic, a weekly batch-farrowing system and on average 22 days of lactation. 547 sows were included. Claw scoring was performed the day of weaning according to the *zinpro lesion score guide* [3], and claws trimmed if necessary [4], using the *zinpro feet first chute*, to restrain the sows. Lameness was scored through the *zinpro feet first locomotion scoring* [5]. On average 10 – 20 sows per batch were scored and trimmed [4] in the period of February 2022 to February 2023 (corresponds to weeks 5-6 in **Fig. 1**). Several reproduction parameters (refer to **Fig. 2**) were collected from the herd production benchmark records. The amount of antibiotics used on lame sows was retrieved based on prescriptions. Data was compared between the year before and after one year of trimming. At the time trimming started, the farm changed ownership and management. As another diagnostic intervention, mineral feed was tested in December 2022 for biotin, copper and zinc after an increase in heel-sole cracks, white line cracks and horizontal sole cracks were observed.

Results

Main claw problems were DC (97 %), T (93 %), HOE (53 %) (**Fig. 1**). Only around 28 % of the sows showed lameness. Most cases of Lameness were observed between weeks 24 and 34 (corresponding to June 2022 - August 2022).

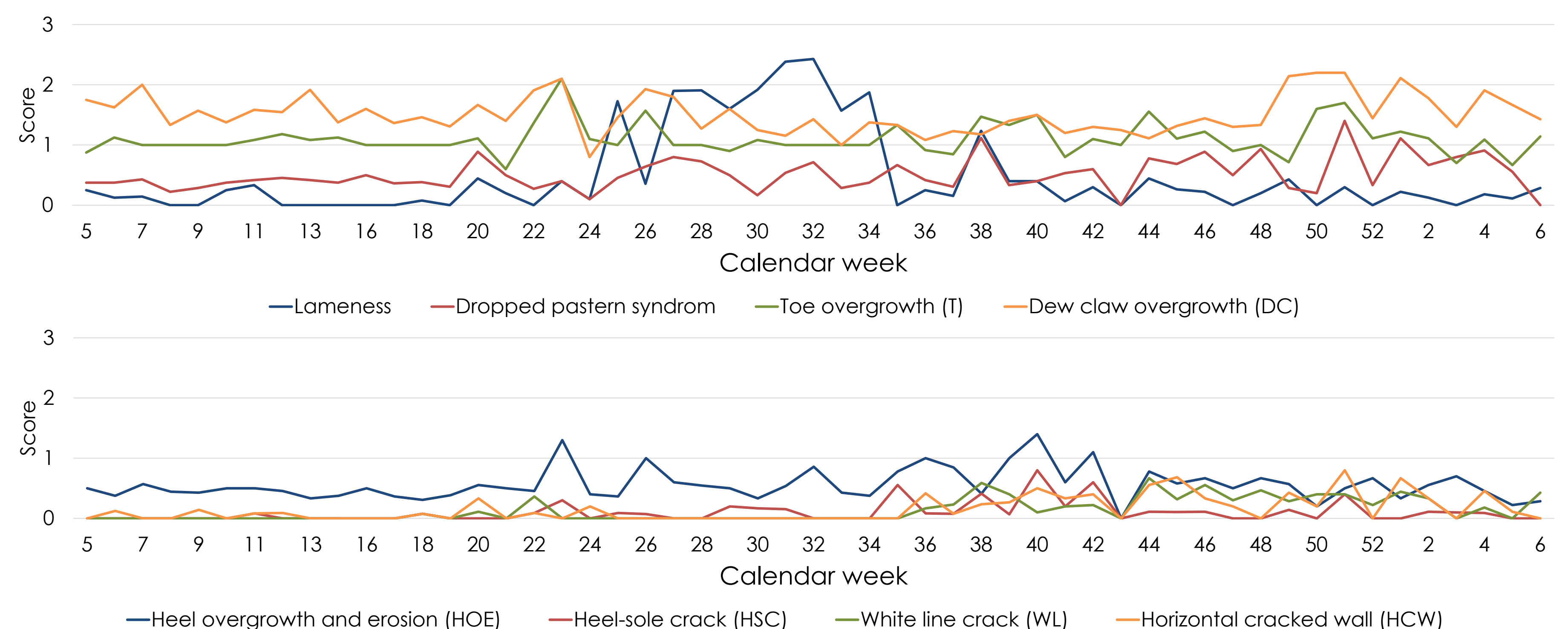


Fig. 1: Results of scoring for lameness and claw lesions between February 2022 and February 2023 (score 0 – 3)

Increased HSC (63 % of total), WL (89 % of total) and HCW (80 % total) were observed between weeks 35 and 2 (corresponding to September 2022 - January 2023) (**Fig. 1**). A lack of copper (11.7 %) and zinc (24.9 %) was detected in the tested sample of mineral feed, while biotin seemed to be sufficiently provided.

None of the recorded reproduction parameters improved (rather than a decrease of i.e. farrowing rate), nor was there a reduction of antibiotics used on lame sows in the one year period of trimming (rather than an increase; **Fig. 2**).

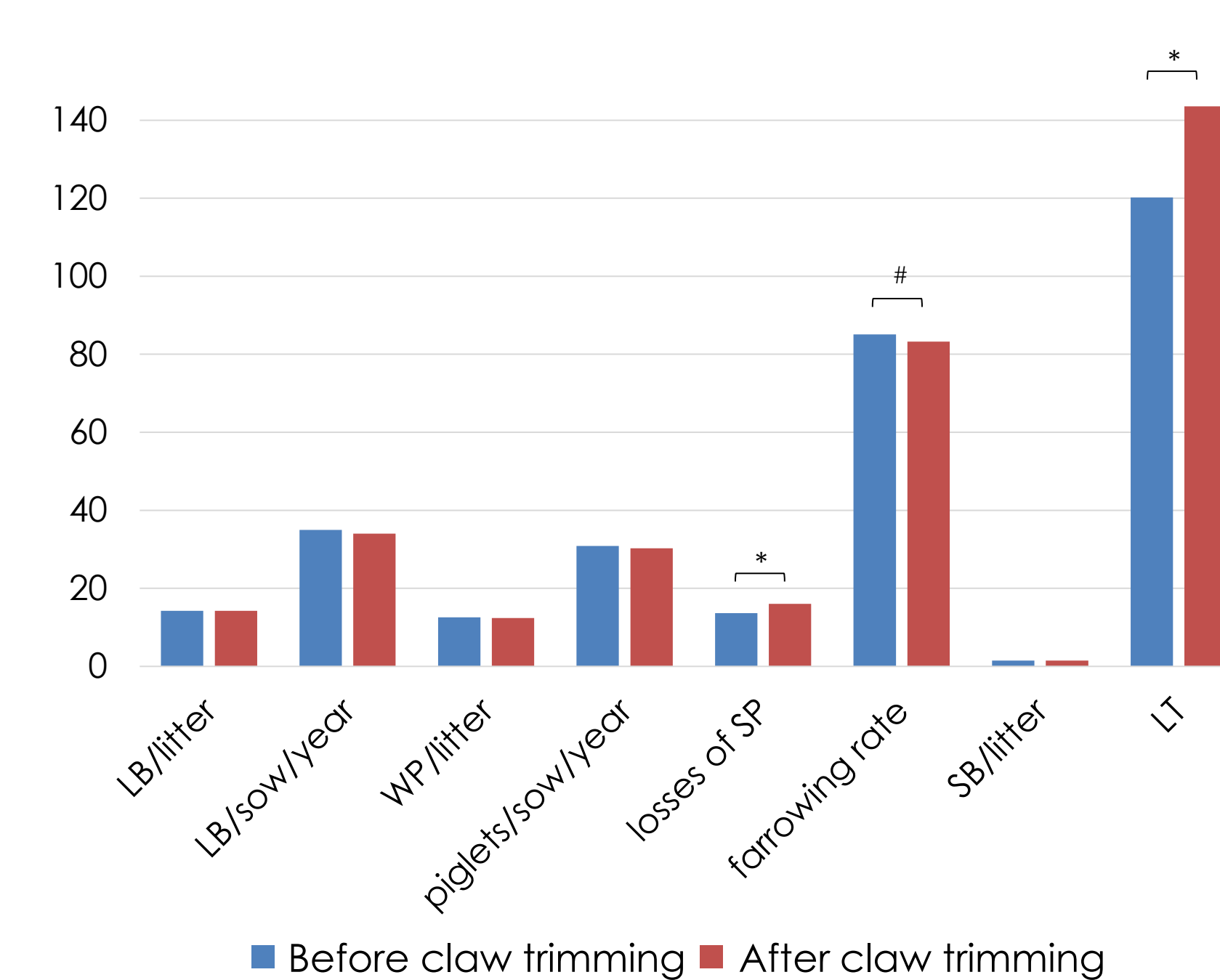


Fig. 3: Reproduction parameters and use of antibiotics on lame sows the year before and after trimming (scaling on Y-axis represents numbers). * Values differ significantly ($p \leq 0.05$; t test). # Values differ tendentially ($1.00 > p > 0.05$; Mann-Whitney-U test). LB, live born piglets; WP, weaned piglets; SB, stillborn piglets; losses of SP, preweaning mortality; LT, lame sows with antibiotic treatment

Discussion and Conclusion

Data demonstrates that claw lesions are common on the farm investigated. Overgrowth was the most commonly observed problem that could be easily corrected by trimming. One reason for overgrowth is insufficient abrasion due to inappropriate flooring [2]. Since this can't be easily changed on a given farm, claw trimming is of advantage. Different cracks, that can't be corrected only by trimming, seem to be associated with lameness in other studies [6]. As for cracks, the peak between weeks 35 - 2 may be, at least in part, explained by insufficient zinc and copper in the diet.

The study couldn't demonstrate a positive effect of trimming within one year on reproduction performance or use of antibiotics on lame sows. As an excuse, at the time trimming started, ownership and management changed which may have biased a positive outcome. It is recommended to continue trimming and re-evaluate trimming effects on reproduction and the use of antibiotics after another or more years.

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