Strategic farrowing surveillance decreases the number of stillborn piglets in hyper-prolific sows

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Background

Stillborn piglets contribute to the total piglet mortality, and developing management strategies to decrease the proportion of stillborn piglets will improve the economic output at farm level.

Objective

The aim of this experiment was to test the effect of evening and night surveillance of farrowings on a commercial farm.

Materials and Methods

- One herd with 1,900 DanBred hybrid sows was included in the experiment
- All sows were fed identical meals of a commercial lactation diet three times a day (05 30, 11 30 and 23 00).
- Farrowing surveillance was performed every 0.5 h
- Number of liveborn and stillborn piglets were registered in Cloudfarms (Cloudfarms AS, Bratislava, Slovakia) that enabled time-specific registrations during the farrowing
- If no piglet was born during the last 0.5 h birth assistance was performed and an immediate new registration was done in Cloudfarms
- Two strategies for farrowing surveillance were tested (Figure 1).

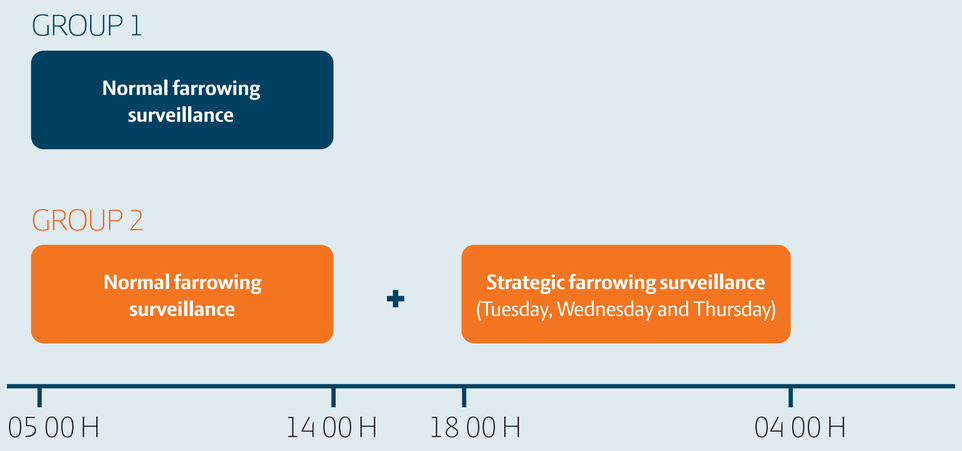

FIGURE 1. Strategies for farrowing surveillance daily from 05 00 to 14 00 h in normal weeks (group 1) and in weeks with strategic farrowing surveillance daily from 05 00 to 14 00 h and Tuesday to Thursday from 18 00 to 04 00 h (group 2).

- Only farrowings that were initiated from Tuesday at 05 00 and finished before Friday at 14 00 were included to avoid bias from the days without evening and night surveillance.
- In total 583 and 678 farrowings were included in group 1 and 2, respectively
- Data was analyzed in R using a negative binomial mixed model with logistic link function. The linear predictor includes parity (1,2,...,5,≥6), surveillance group, linear function of total-born piglets per litter and a random effect correcting for within week dependence.

Results

Overall the strategic farrowing surveillance significantly reduced the number of stillborn piglets by 25.4% [14.7;34.7](P<0.001). The reduction was found irrespective of sow parity (Figure 2).

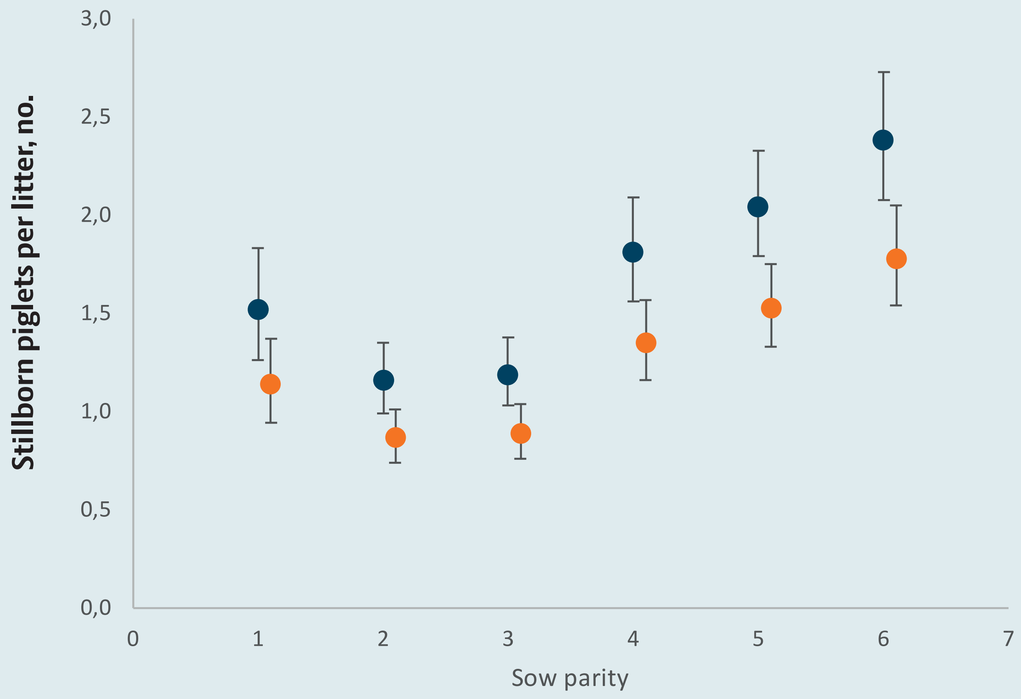

Figure 2. Effect of strategic farrowing surveillance (●) versus normal surveillance (●) on number of stillborn piglets per litter dependent on sow parity. Values shown are model estimates and T-bars denote the 95% CL.

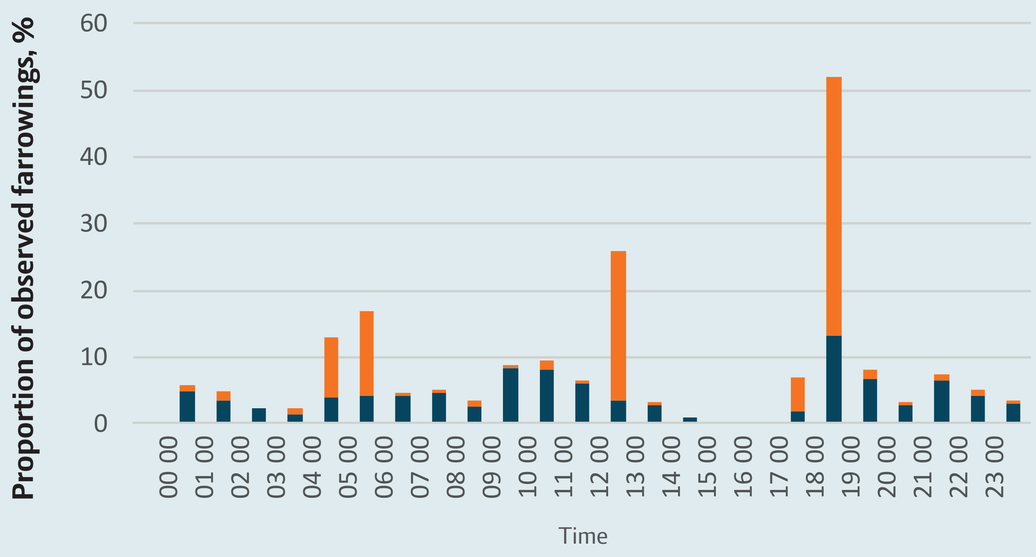

Figure 3. Overview of the distribution of estimated time of farrowing start (n = 678 sows) based on sows having 1 to 4 piglets (■) or 5 piglets or more (■) at the first registration after farrowing start.

Conclusion

Implementing extended periods with farrowing surveillance is an effective management strategy to decrease the number of stillborn piglets in hyper-prolific sows.

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