Extended farrowing surveillance increases the proportion of sows having zero stillborn piglets per litter

Bruun, T. S.[1], Strathe, A. V[2] and Pelck, J. S.[3]

[1]Livestock, SEGES Innovation, Aarhus, Denmark; [2]Department of Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Frederiksberg, Denmark,
[3]Statistics & Data Management, SEGES Innovation, Aarhus, Denmark

Background

The number of stillborn piglets per farrowing on Danish farms averages 1.9 piglet per litter and makes up 40.4% of the total loss of piglets before weaning.

Objective

The aim of this research project was to implement evening and night surveillance of farrowing sows to reduce the proportion of stillborn piglets.

Materials and Methods

- Two strategies for farrowing surveillance were applied on a 1,900 sow farm using DanBred genetics (Figure 1).

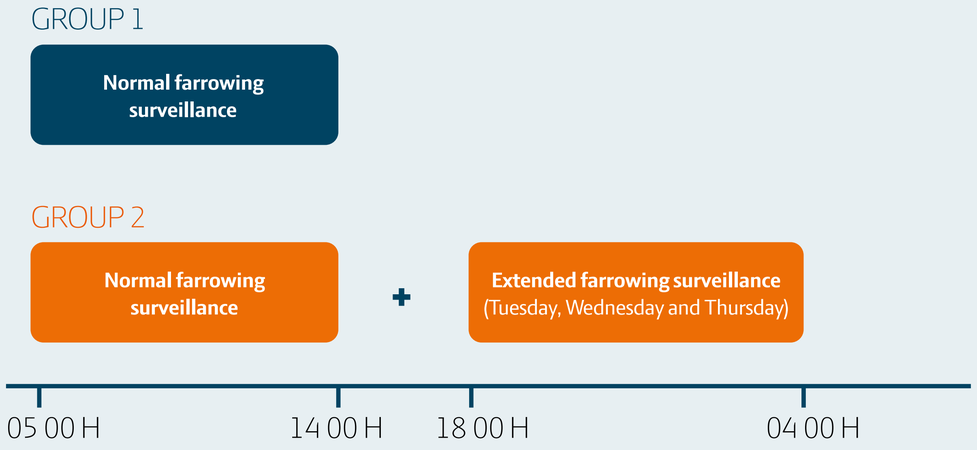

FIGURE 1. Strategies for farrowing surveillance daily from 0500 to 1400 h in normal weeks (group 1) and in weeks with extended farrowing surveillance daily from 0500 to 1400 h and Tuesday to Thursday from 1800 to 0400 h (group 2).

- All sows were fed a commercial lactation diet three times a day (0530, 1130 and 2300 h).
- Farrowing surveillance was performed every 0.5 h and all data was registered in Cloudfarms (Cloudfarms AS, Bratislava, Slovakia).
- If no piglet was born during the last 0.5 h birth assistance was performed and litter size was re-registered.
- To avoid bias from the days without evening and night surveillance only farrowings that were initiated from Tuesday at 0500 h and finished before Friday at 1400 h were included.
- A total of 583 and 678 farrowings were included in group 1 and group 2, respectively.
- Data was analyzedn in R using a GLMM model including parity (1, 2, 3, 4, 5, ≥6), surveillance group and a linear function of total born piglets per litter and farrowing week as random effect. For stillborn piglets per litter and proportion of sows with 0 or 1 stillborn piglet per litter a negative binomial distribution and binomial distribution was used, respectively.

Results

The average litter size was 22.0 [21.7;22.3] and 22.3 [22.0; 22.6] total born piglets per litter in groups 1 and 2, respectively (P=0.156).

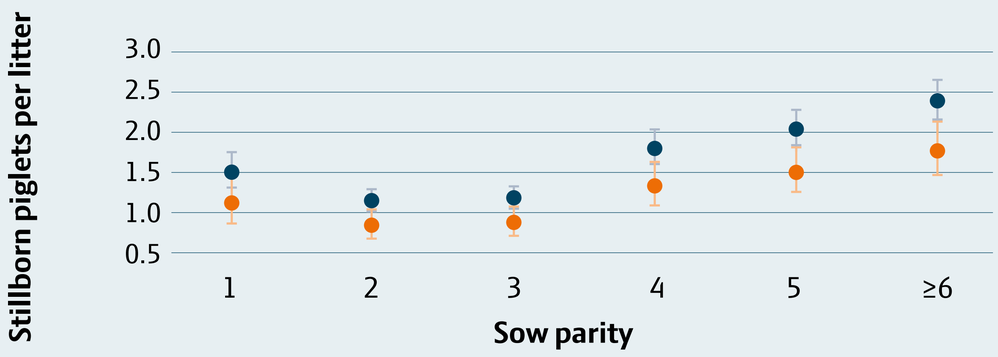

FIGURE 2. Effect of extended farrowing surveillance on number of stillborn piglets dependent on sow parity. Overall extended farrowing surveillance (●) decreased the number of stillborn piglets per litter by 25.4% (P<0.001) compared with normal farrowing surveillance (●).

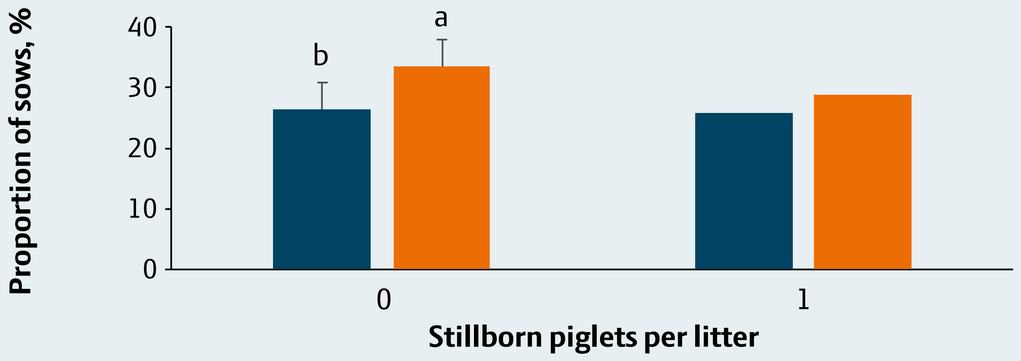

FIGURE 3. Proportion of sows with 0 and 1 stillborn piglets per litter for sows in weeks with normal farrowing surveillance (■) and extended farrowing surveillance (■) during evenings and nights for three nights per week.

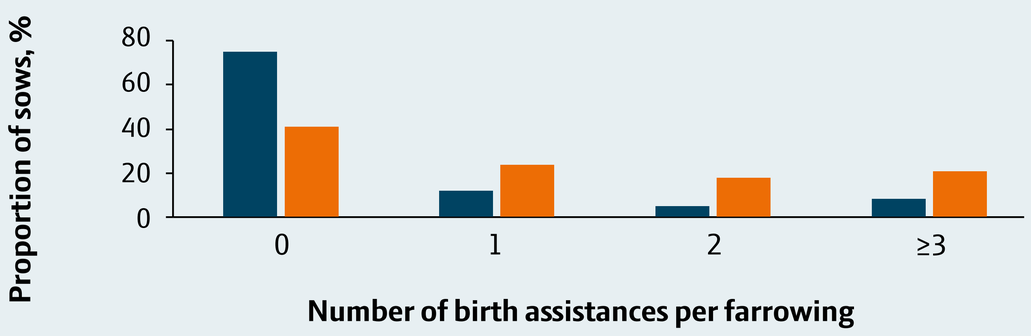

FIGURE 4. Descriptive analysis of proportion of sows assisted 0 to ≥ 3 times per farrowing for sows in group 1 (normal farrowing surveillance; ■) and group 2 (extended farrowing surveillance; ■).

Conclusion

The proportion of litters with zero stillborn piglets in hyper-prolific sows and average proportion of stillborn piglets can be reduced when implementing extended periods with farrowing surveillance and thereby providing more farrowing assistance.

CONTACT: Thomas Sønderby Bruun | Livestock | SEGES Innovation | +45 2498 3877 | thsb@seges.dk

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