Question to EURCAW-Pigs: Birth monitoring intervals
10 October 2023

Question
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EURCAW-Pigs received the following question from a veterinary inspector in one of the Member States:

"How does the interval of birth monitoring affect the survival rate of piglets. In this example, the questionable interval is every 2 hours between 5am and 3pm and no birth monitoring after 3pm at all. The farmer claims, that it makes no difference in the survival rate if there is a night shift or not."

Several EURCAW-Pigs experts contributed to the response below. The EURCAW-Pigs secretariat did the final editing, and may be contacted for queries: info.pigs@eurcaw.eu.

Answer
In short, the answer is:
Based on the current knowledge, farrowing supervision and associated birth assistance have the potential to reduce mortality. However, partial supervision limited to 10 hours daily only benefit sows that farrow during that period. Assuming an even distribution of farrowing over the 24 hour cycle, less than 50% of the farrowing will be supervised in this way. If the intervention is to be efficient in terms of saving pig lives, supervision should take place when sows farrow. Supervising the sow and litter every 2 hours will not be sufficient to provide interventions in time to save the piglets either in case of prolonged birth intervals or in case of delivery complications. Technologies could be used for risk-based monitoring by alarming a caretaker at nest building and start of farrowing.

Background
Prolonged farrowing and increased afterbirth intervals[1] have been associated with high risk of stillbirth and deaths shortly after birth due to prolonged birth process. Peltoniemi et al. (2020) recommend that birth assistance is performed when birth intervals exceed 1 hour and the sow shows signs of fatigue. To be able to do so, constant supervision of farrowing is necessary. Several studies point towards sows being in particular risk of having birth problems and high risk of still birth in a) large litters, b) for piglets born late in the birth order, c) in older sows and d) in sows with abnormal body condition (either too thin or too fat). In addition, constipation is a risk factor for stillbirth (Peltoniemi et al., 2020; Vanderhaege et al., 2010; 2013). A recent meta-analysis has shown that the use of oxytocin to induce farrowing increases the number of stillborn piglets, but decreases farrowing duration and time interval between piglets (Hill et al., 2022).

Supervision of farrowing followed by intervention after birth and birth assistance have been shown to reduce stillbirths and live born mortality (White et al., 1996; Holyoake et al. 1995). White et al

[1] Prolonged farrowing means that the time between first and last piglet extends to well beyond the average of the herd. The afterbirth interval is the time from the last piglet born to the expulsion of the last placenta.

(1996) performed intervention within 15 min after birth by drying off the birth fluid, clearing the nasal and oral cavities, and offering newborn pigs colostrum via a syringe. Andersen et al. (2009) showed reduced neonatal mortality by continuous farrowing supervision combined with drying pigs at birth and placing them under a heat lamp. Rosvold et al (2017) confirmed this later in a field study on commercial farms.

A study by Le Cozler et al. (2002) showed that still births were less frequent when the staff was present during farrowing compared to when they were not present. They conclude that if more than 75% of the births is taking place with a human present, stillbirth can be substantially decreased. Vanderhaeghe et al. (2010) showed that herds performing occasionally supervision had the highest occurrence of stillbirth as compared to herds without supervision and herds with constant supervision[2].

No studies provide information to support that farrowing mainly take place during daytime. In contrast, unpublished data from own studies in DK indicate that farrowing was less likely to start during daytime than during night time. A camera positioned in the farrowing sections could help target the hours spent on supervision to those sows that have shown signs of nest building and/or to the hours where most sows start their farrowing (likely to be farm specific). There are also technologies available on the market that can identify nesting activity in sows and alarm the caretaker at birth of first piglet. Using such technology could greatly increase the efficiency of the hours spent for supervision.

References:

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[2] The comparison between occasional supervision of farrowing (8.1% stillborn piglets) and no supervision (6.5%) was further discussed by Vanderhaeghe *et al*. They postulate that "It appeared that supervision as performed in the present study may have disturbed and possibly stressed the sow during farrowing. […] In the present study, the farms which performed frequent supervision of farrowing had significantly less stillborn piglets. This can indicate that those farmers or stockpersons, by doing the supervision more conscientious, have a better knowledge of handling sows at parturition."

EURCAW-Pigs was designated by the European Union on 5 March 2018 through Regulation (EU) 2018/329, in accordance with Articles 95 and 96 of Regulation (EU) 2017/625.

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