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Neonatal piglet mortality in relation to sow farrowing environment

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Major risk factor for death: prolonged farrowing

High litter size ⇒ long farrowings and high risk of

hypoxia in piglets (Malmkvist et al., 2012)

Piglets suffering from hypoxia: increased risk of dying



Mean length of farrowing in Danish sows are >6h

Average farrowing length is above what has been termed "problem farrowings"



High management necessary

- Birth surveillance during night time
 - To assists sows during difficult farrowing
- Split nursing during colostrum uptake
 - To assure all piglets get colostrum
- Use of nurse sows
 - To assure that all piglets get a teat
 - A nurse sow, is a sow nursing first her own litter and then a foreign litter
 - 15 % in avg. are nurse sows after weaning own piglets (Sørensen et al., 2015)

High management input nessecary

- Nesseacary to assure survival in litters of high prolific sows
- Can procedures be done in all housing systems ?
- Difficult under out door condition:
 - Is this one reason for high mortality in organic herds?







Creep area: AT birth infuccifient use of creep area



Piglet stays at the udder

D1-2 loss of heat less critical Piglet use the creep area



A heated creep area do not protect piglets against cold at birth



Ways foreward ?

CHANGE BREEDING

- Fewer, but heavier piglets:
 - Reduce number of weaned piglet
 - Reduce mortality rate
 - Increase weaning weight
 - Increase growth til slaughter

INTENSIVE CARE

- Of surplus and low birth weight piglets:
 - Increase number of weaned
 - Reduce mortality rate
 - Weaning weight ?
 - Growth in slaughter unit ?
 - Increased labour costs

 Can the farrowing crate
Knowledge on long term productivity of piglets from large litters is needed









- In DK: Increased mortality in pens (2, 4 and 8% difference, in three herds respectively) (Hales et al, 2013)
- In "experienced" countries (S, UK, Schweiz): no difference in large herds investigations (Weber et al., 2007; KillBride et al., 2012; O'Reilly et al., 2006; Bäckström et al., 1994;)
- Why different results:
 - Lack of experience of sow and caretaker
 - Smaller pen size in combination with larger litter in DK
 - Use of foster sows in pens?

Knowledge is needed about these factors.



More potentials of loose housing.....

- Affects hormones involved in lactation and maternal responsiveness ⇒
 - higher growth (Yun et al., 2014; Yun et al., 2015)
 - less risk of crushing (Herskin et al, 1998; Thodberg et al., 2002; Pedersen et al., 2003)
- Enough space for sow ⇒
 - sows perform pre-lying behaviour
 - less risk of crushing
- Enough space at suckling ⇒
 - higher growth (Pedersen et al., 2011; Yun et al., 2014)







Use of radiant heat and straw may not induce heat stress in sows

Radiant heat and straw bedding more efficient than floor heating to prevent hypothermia

A deep straw bed has other benefits for piglets:

- Reduced development of skin abrasions and heel/sole erosion (Westin, 2014)
- Increased growth of piglets (westin, 2014; YUN, 2015)



Ways foreward....

The farrowing pen has many potentials to improve both welfare, health and productivity

The cost of building is higher due to need of more space

BUT

the farrowing crates needs also to be larger

Economic evaluations should include costs as well as long term benefits of improved piglet growth and sow health