The effects of the McRebel principles in the farrowing section

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STØTTET AF
Svineafgiftsfonden
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Management changes to Reduce Exposure to Bacteria to Eliminate Losses

- **Focus:**
  - Reduce disease transmission between litters
  - Reduce disease transmission from older to younger piglets

- **Recommendations**
- Reduce transfer of piglets within the first 24 hours after birth
- End transfer of piglets between litters after the initial adjustment
- All piglets leave the farrowing section and weaner section at the same time or they are culled
- Piglets are not moved to other sections, neither during lactation or at weaning.
- Pigs are not moved from one weaner section to the next
- Piglets are culled, if they are ill, weak or small, and do not thrive

McCaw, MB. 1995. McREBEL PRRS. Management procedures for PRRS Control in large herd nurseries.
Proc. AD Leman Conf. 161-162.
McCaw MB. 2001;1:15-21 Effect of reducing crossfostering at birth (aasv.org)

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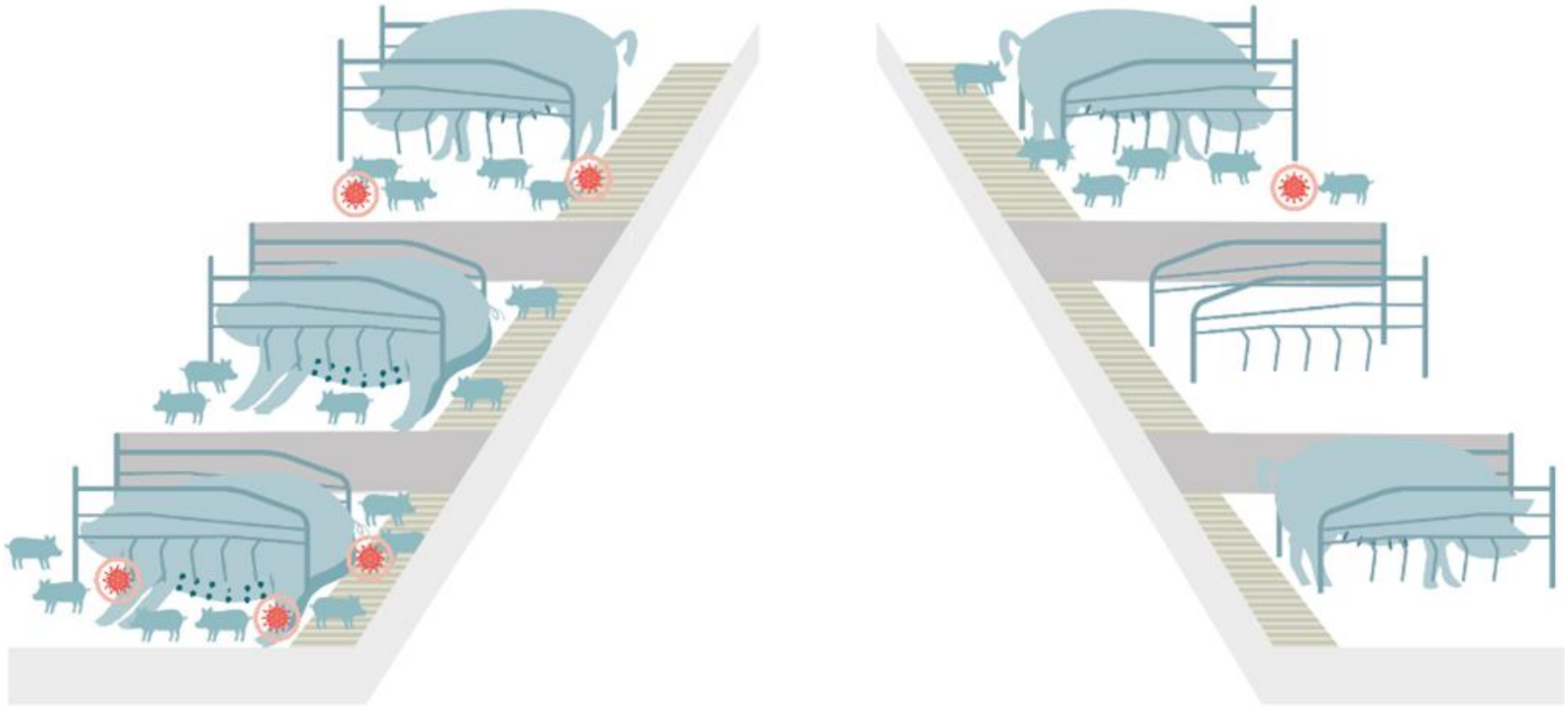
Reduce transfer of PRRS-virus between litters



Transmission of PRRS between farrowing sections

In many farms, the sections are not dimensioned for the number of farrowings
Several farms optimize production by abandoning segregated production
In Danish ”Running a snake”

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Sectioning the farrowing section

- All animals leave the section
- Wash utensils, equipment, walls and floors
- Disinfect floors, walls, equipment and utensils
- Dry out
- All sows for farrowing enter the clean section
- Leave extra pens for nurse sows (20-30 % empty pens)
- Decide management procedures to avoid introduction of virus

Segregation of a high health farm with the use of nurse sows
increased the weaning weight by 230 g/piglet (p=0,07)
Thorup 2005. Meddelelse 720

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Risk factors for virus introduction into the section

- Infected pregnant sows introduced to the section
- Transmission with moved animals. Nurse sows, piglets
  - *Ratio?*
- One droplet of blood can infect 500 piglets
  - *Ratio 1**
- Transmission by air and dust.
  - *Ratio 125**
- Oral contamination through saliva or feces
  - *Ratio 15.000**
  - By persons via boots, hands or clothing
  - By trolleys, boards, brooms and other equipment

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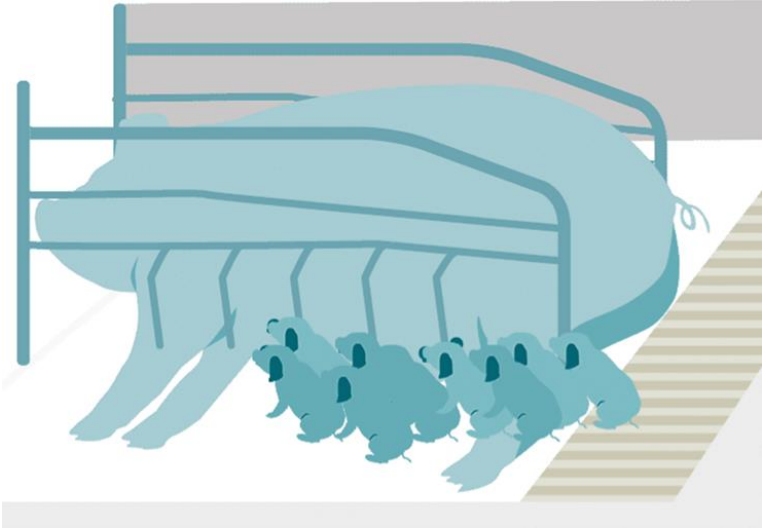
* Hermann et al, 2005. Vet. micro. 110, 7-16.

Challenges after farrowing



- The sow farrows 20 live piglets (12-30)
- The sow can nurse 14-15 piglets
  - 2 piglets go to a small-nurse farrowing in the section
  - 3-4 piglets go to a nurse sow, entering from another section
  - 70 % are nursed and weaned their own mother
- Piglets with the mother may be adjusted by size
  - 50 % or less are nursed and weaned their own mother

No improvement in survival nor weaning weight, when litters were sorted by weight

Thorup og Nielsen, 2018. Kuldudjævning til egne grise eller til ens grise

Meddelelse 1153

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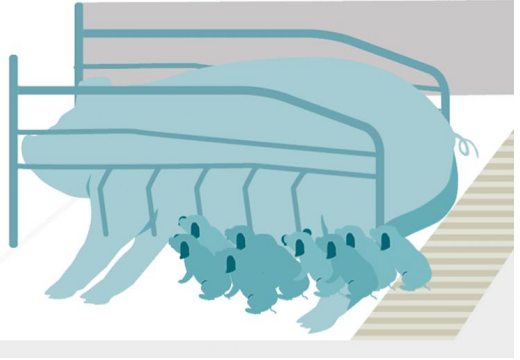
Challenges during lactation



- 1 piglet per litter is collected as a runt piglet (7 %)
  - Transferred to a small litter
  - Swapped with a healthy piglet in a neighboring pen
  - Transferred to a “collecting sow” weaning her own piglets
  - Culled to prevent disease transmission
- One sow per 30-40 sows does not produce milk
  - This sow may be exchanged with another lactating sow (tæskekuld)

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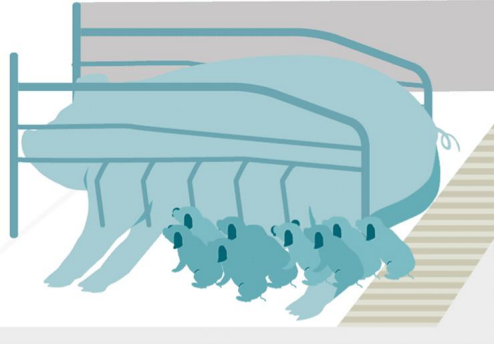
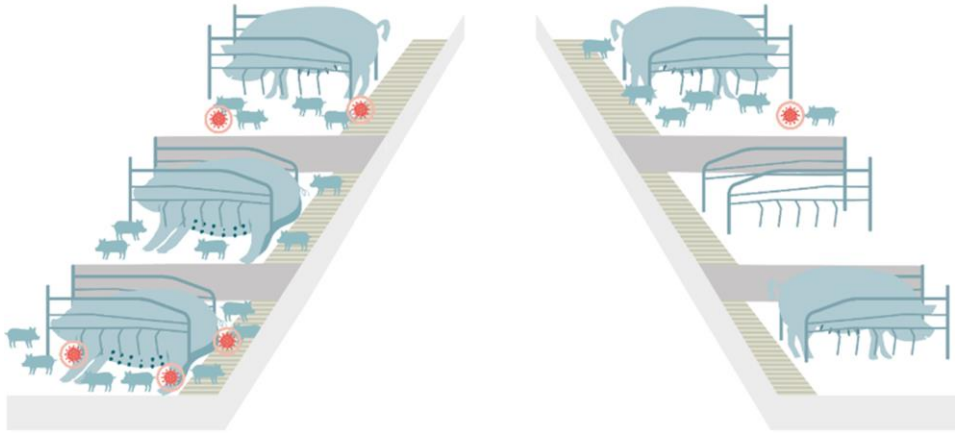
Challenges at the end of lactation



- 20-30 % of the piglets are weaned 3-4 days before time to make nurse sows
  - Transferred to the section ready for this group of weaners
  - Stay in the farrowing pen
  - Moved to a special section (babystald)
  - Moved to the section with piglets weaned last week

- 10 % of the piglets are ”to small” to wean
  - No better survival and growth after an extra week with a sow

Fravænning af efternølere
Steinmetz og Kaiser, 2015
Meddelelse 1019



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Test of recommendations for the farrowing unit

- Control: Sows only nursing their own piglets
- Trial: Nurse sows and sows receiving extra piglets

- Test: Five piglets tested nasally 21 days after birth.
- The pool is tested by PCR for influenza virus

- Will include 3 herds
- 3 repetitions per herd

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Setup of trial

- Cleaning, disinfection, introduction of sows
- At farrowing, litter adjustment is done by reducing litter size
  - Small piglets to small-nurses
  - Large piglets to nurse sows

- Newborn piglets are followed for three weeks
- No further adjustment of litters by size of piglets

- No piglets entered the section from other sections
- Several piglets left the section, and thus left the trial

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Additional recommendations

- **We did**
  - Change needles for every litter

- **We did not**
  - Avoid using a feed cart when handling piglets
  - Restrict the order of sections managed
  - Change gloves/disinfect hands between litters
  - Change boots when entering the section
  - Restrict the use of tools to the specific section

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History of the first 51 litters in the trial

Control

- 34 control sows were nursing their own piglets until day 21
- 2 sows received additional piglets to nurse a full litter

Case

- 3 sows received small piglets
- 5 nurse sows from other section
- 6 sows received one or more piglets after the initial adjustment
- 2 sows were exchanged by another sow

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Preliminary results. The first two repetitions

	Control Sows did not recieve piglets	Trial Nurse sows and sows recieving runtsL	P-values
Litters tested	36	15	
Influenza virus	18 %	30 %	P= 0,5 = non significant
Streptococcus suis			
Hæmophilus parasuis			
Mycoplasma hyopneumonia			
Mycoplasma hyorhinis			
Actinobacillus pneumonia			
Porcint cytomegalovirus			

Three swabs from the udder of 15 incoming nurse-sows were positive for influenza

In the 3rd repetition only one litter did not test positive for SIV

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Conclusion

- Introduction of potentially infected piglets or nurse sows are a risk factor
- Not using nurse sows will affect welfare and productivity
- It is important to focus on all aspects of disease transmission
- Know the specific management procedures in the herd

There is evidence for that…

- Segregation improves productivity
- Sorting of newborn piglets for even size does not improve productivity
- All piglets should be weaned at the same age

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Thank you

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2024: Ny afprøvning af produktivitet hos grise, i forhold til hvornår de smittes med influenza.

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The ”Flow program” show your actual capacity in the facilities,
the number of animals per batch and fluctuations in your production