



The best feeding strategy for gilts

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Photo: DanBred

STØTTET AF
Svineafgiftsfonden

 **SEGES**
Danish Pig Research Centre

Background

Great genetic progress among the best providers of genetics for pig production

- Feed utilization, daily gain and lean meat
- It is very important to turn super genetics into super production animals

Environmental impact

- Nitrogen and phosphorus excretion
- CO2 footprint

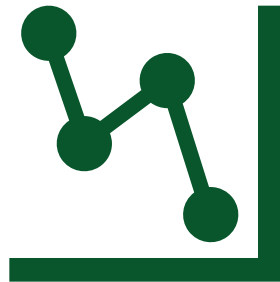
Optimum compound feed and feeding are the keys to success

The challenges in many herds

All call for focus on gilt rearing and gilt management...



Proportion of
young sows
culled



Variation in
number of gilts
per batch



Results in first
parity



Pen capacity for
gilts



Overall herd
performance

Agenda

○ Feeding during the rearing period

○ Management of the gilt

○ Use of Altrenogest

○ Flushing before first service

○ Summary

Gilts should not be fed as slaughter pigs

Less focus on gain and feed conversion ratio

Weight interval	30-110 kg	30-65 kg	65-110 kg	>110 kg
FUsow/kg feed	1.05	1.06	1.05	1.05
SID protein, g/kg	105	125	105	100
SID lysine, g/kg	6.3	8.2	5.3	4.2
Digestible phosphorous, g/kg	2.6	3.2	2.4	2.1
Calcium (150-250% phytase ¹), g/kg	6.9	7.7	6.5	6.3

¹ **150-250 % phytase in the Danish Feed Evaluation system is equal to:**

Natuphos: 750-1,000 FTU/kg); Phyzyme XP: 750-1,000 FTU/kg) Rono HiPhos: 750-1,000 FYT/kg;
 Ronozyme NP: 1,875-2,500 FYT/kg; Optiphos: 1,005-1,340 FTU/kg; Axtra Phy: 450-600 FTU/kg;
 Quantum blue: 600-800 FTU/kg; Natuphos E: 525-700 FTU/kg.

Special focus on bone development and mineralization

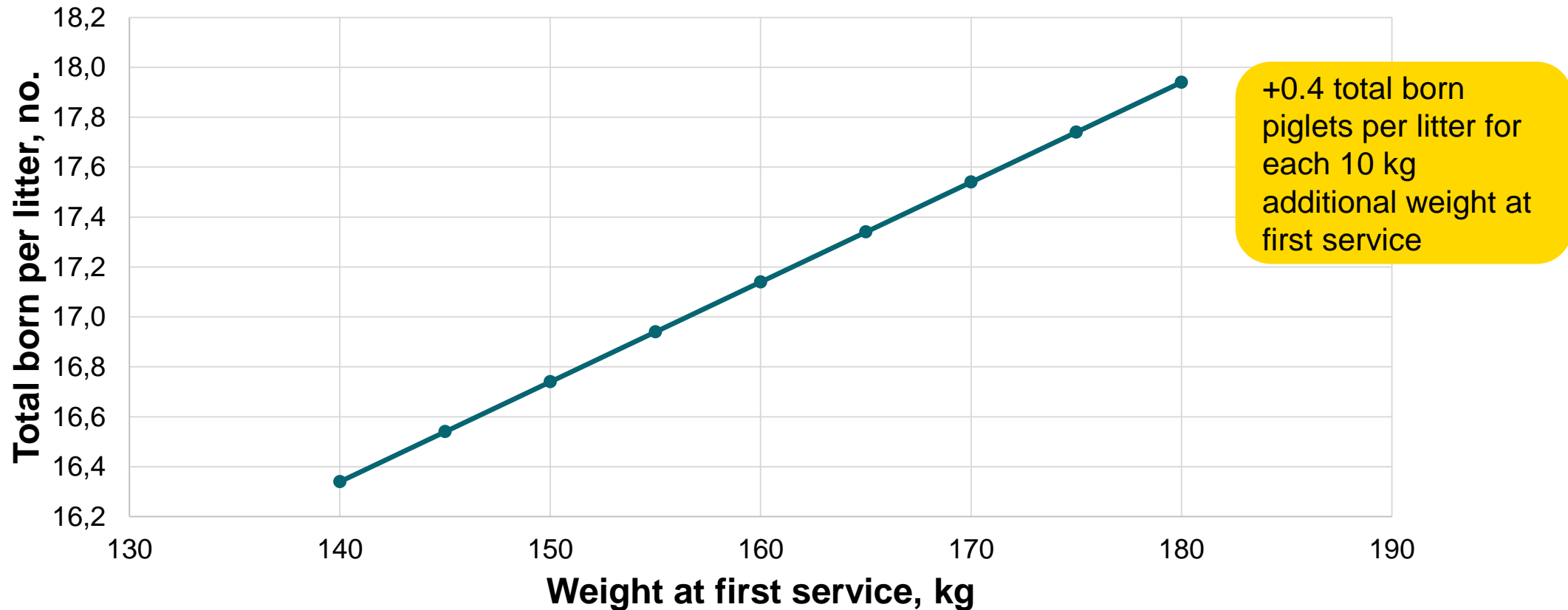
Calcium, phosphorus, vitamin D and vitamin K

- Follow the recommended levels for all nutrients
 - Use phytase
 - Avoid too much calcium and adjust according to phytase inclusion
- Use 800 IU vitamin D/kg during the growth phase
 - High D-vitamin level affects the bone strength
- Add 4 mg vitamin K₃ per kg feed
 - Vitamin K is important to calcium storage in bones

* Source: Lauridsen et al. (2010) Journal of Animal Science 88: 202-213

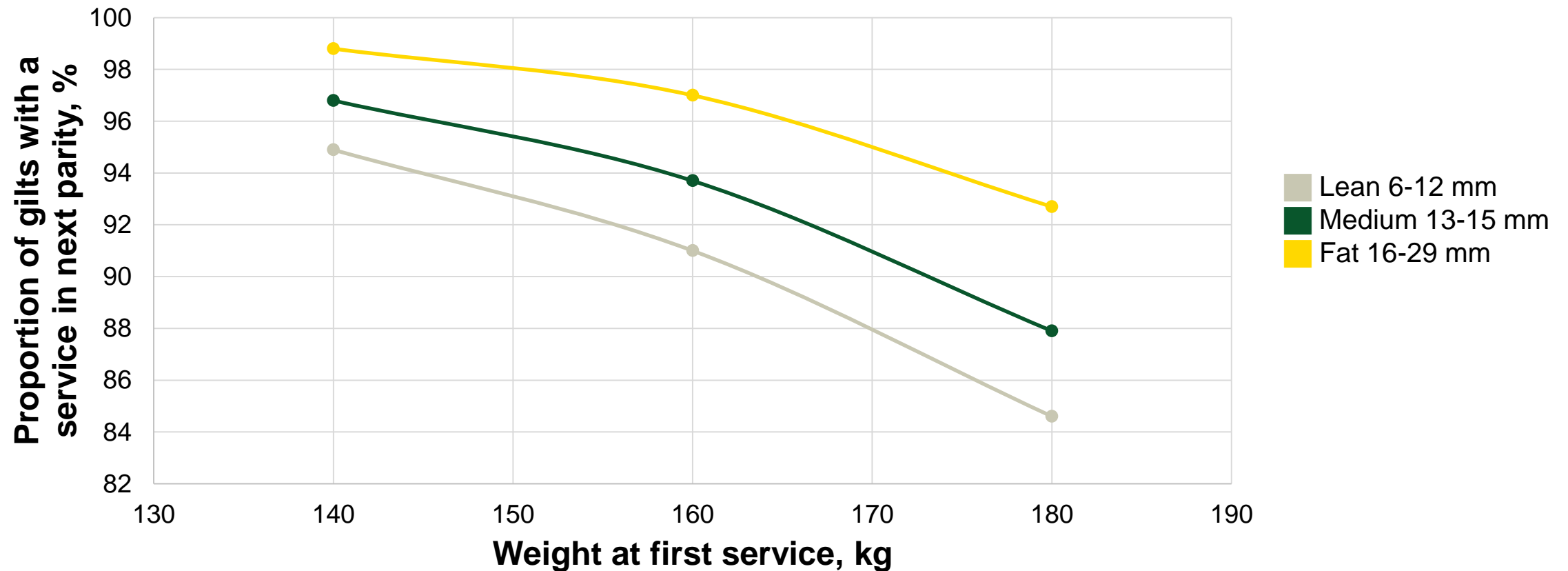
Data from two herds

What is most important when optimizing litter size?



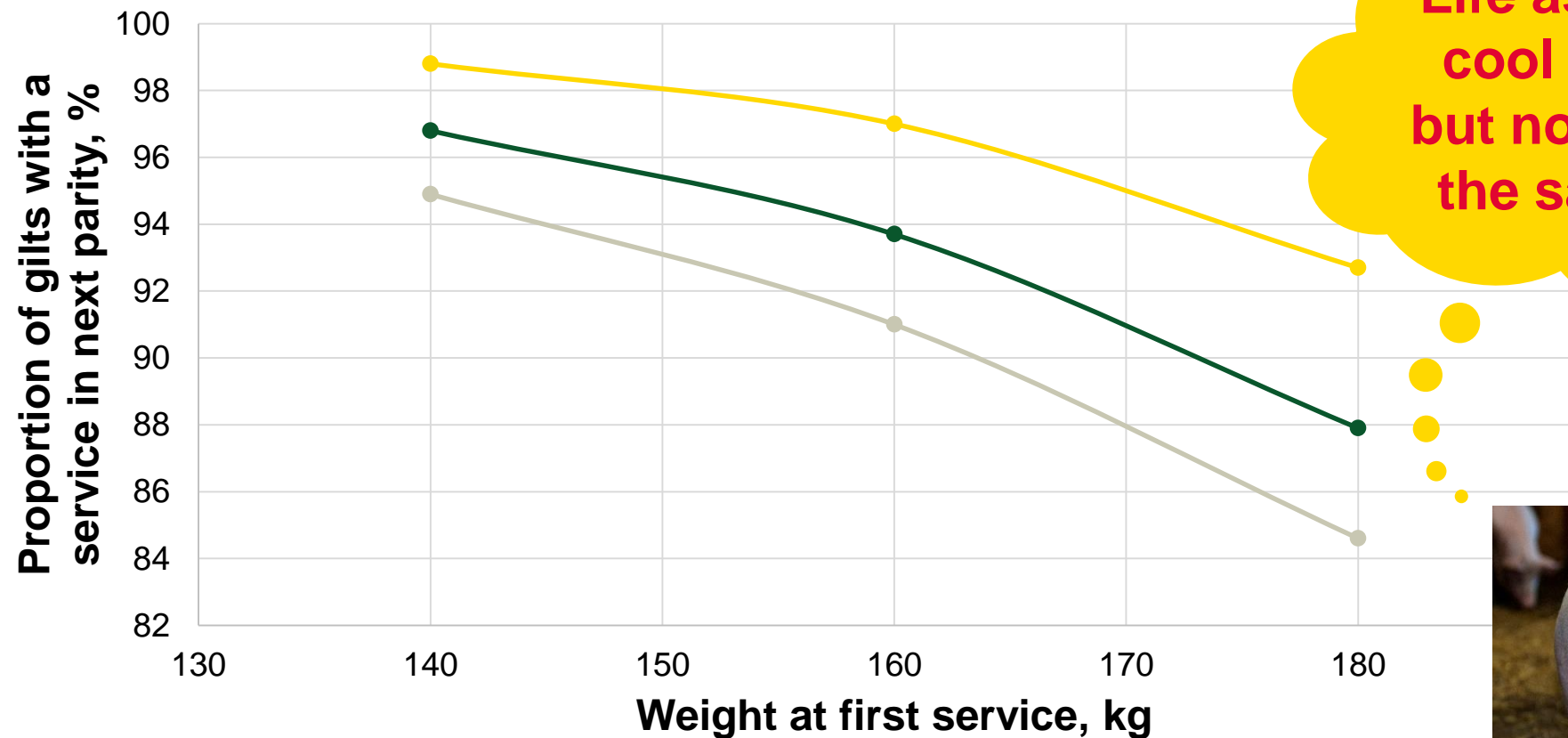
Looking at potential longevity as an effect of weight

Body condition makes quite a difference



Looking at potential longevity as an effect of weight

Body condition makes quite a difference



**Life as a sow is
cool being fat
but not heavy at
the same time**



Photo: Rasmus Bendix, Bendix Production

SEGES recommendations for gilt management

- Management must ensure uniform gilts
 - Max feed curve 2.9 – 3.2 kg
 - Sufficient eating place
 - Handling large and small gilts in the pen
- The gilts must be ready before they are moved to the service area
 - Age over 190 days
 - Weight min. 110 kg
 - Backfat – min.12 mm

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 Use of Altrenogest

 Flushing before first service

 Summary

Quality check and size selection at an average weight around 100 kg

To ensure an optimum "gilt flow" in the breeding unit

Fast growing gilts ⇒ move forward

- First service at a younger age to control weight variation
- OK when looking at research results (weight vs. age)

Slow growing gilts ⇒ move to special care

- 3.4 kg feed with 3.6-4.2 g SID lysine/kg
- To ensure a better body condition at the optimum weight at first service



Photo: SEGES

Entering the service unit

A change from rearing conditions to reproductive conditions

- Several significant changes for the gilt
 - New pen/environment
 - Change in feed composition
 - Presence of boars
 - Smell, sound, look
 - More frequent interactions with humans



Photo: Rasmus Bendix, Bendix Production

Agenda

 Feeding during the rearing period

 Introduction to the breeding unit

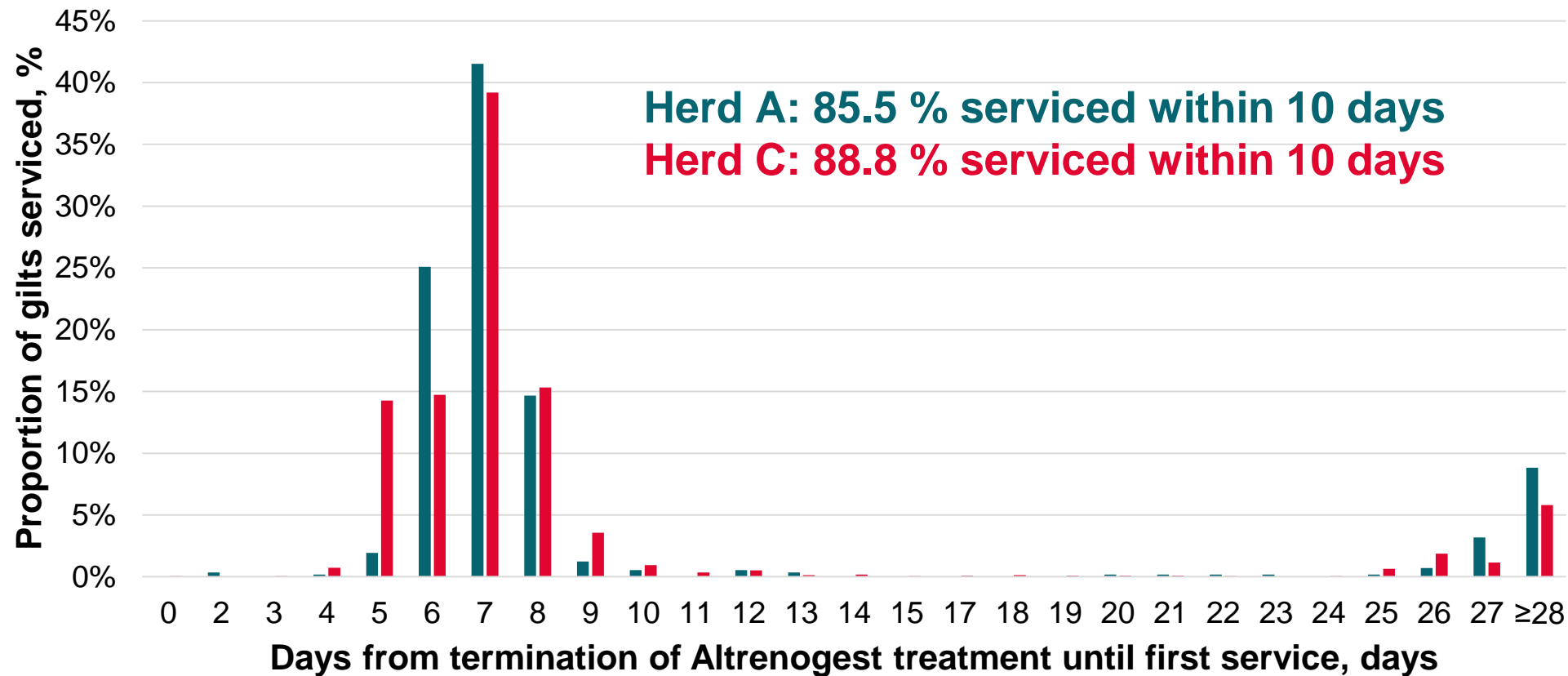
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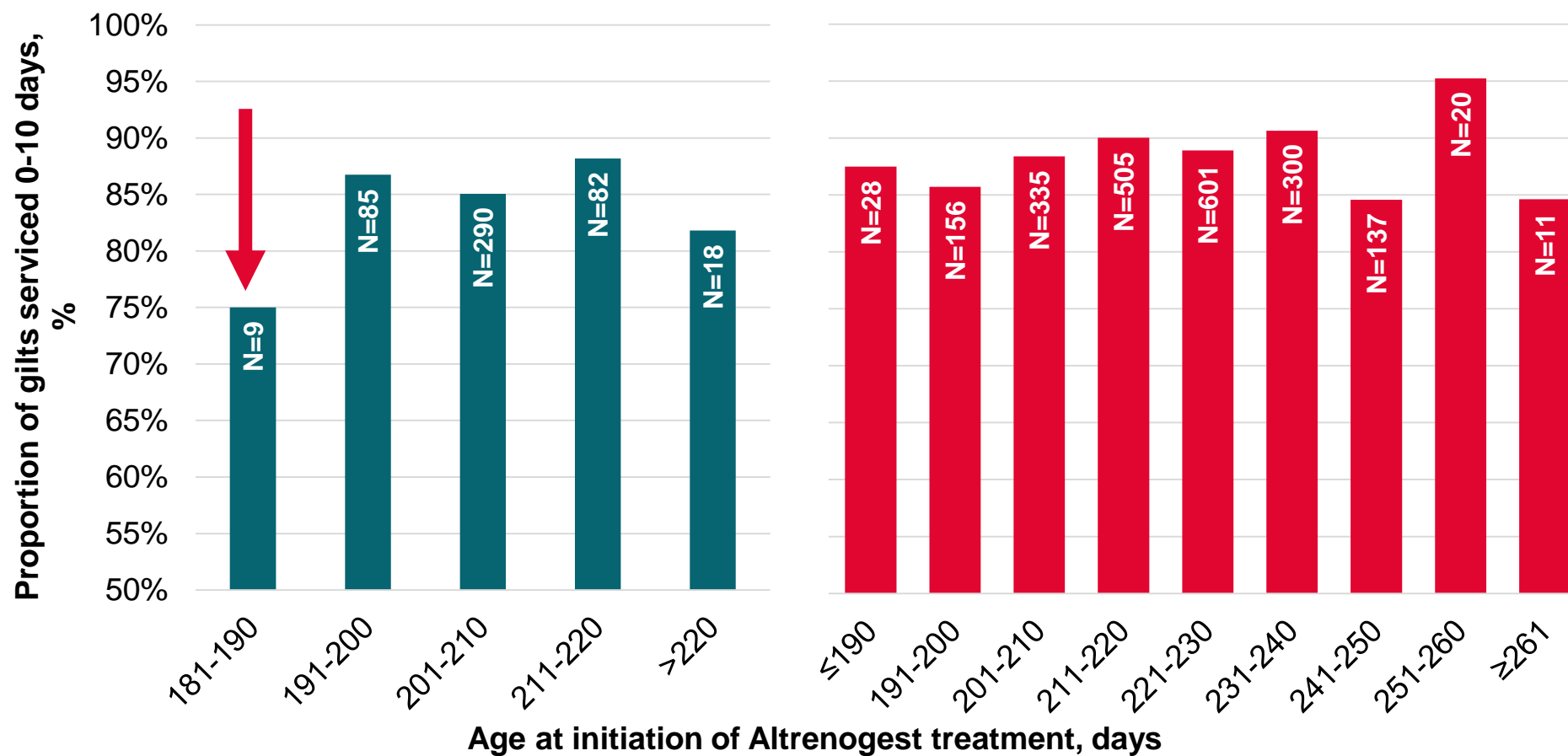
Syncronization of gilts using Altrenogest

One way to decrease variation

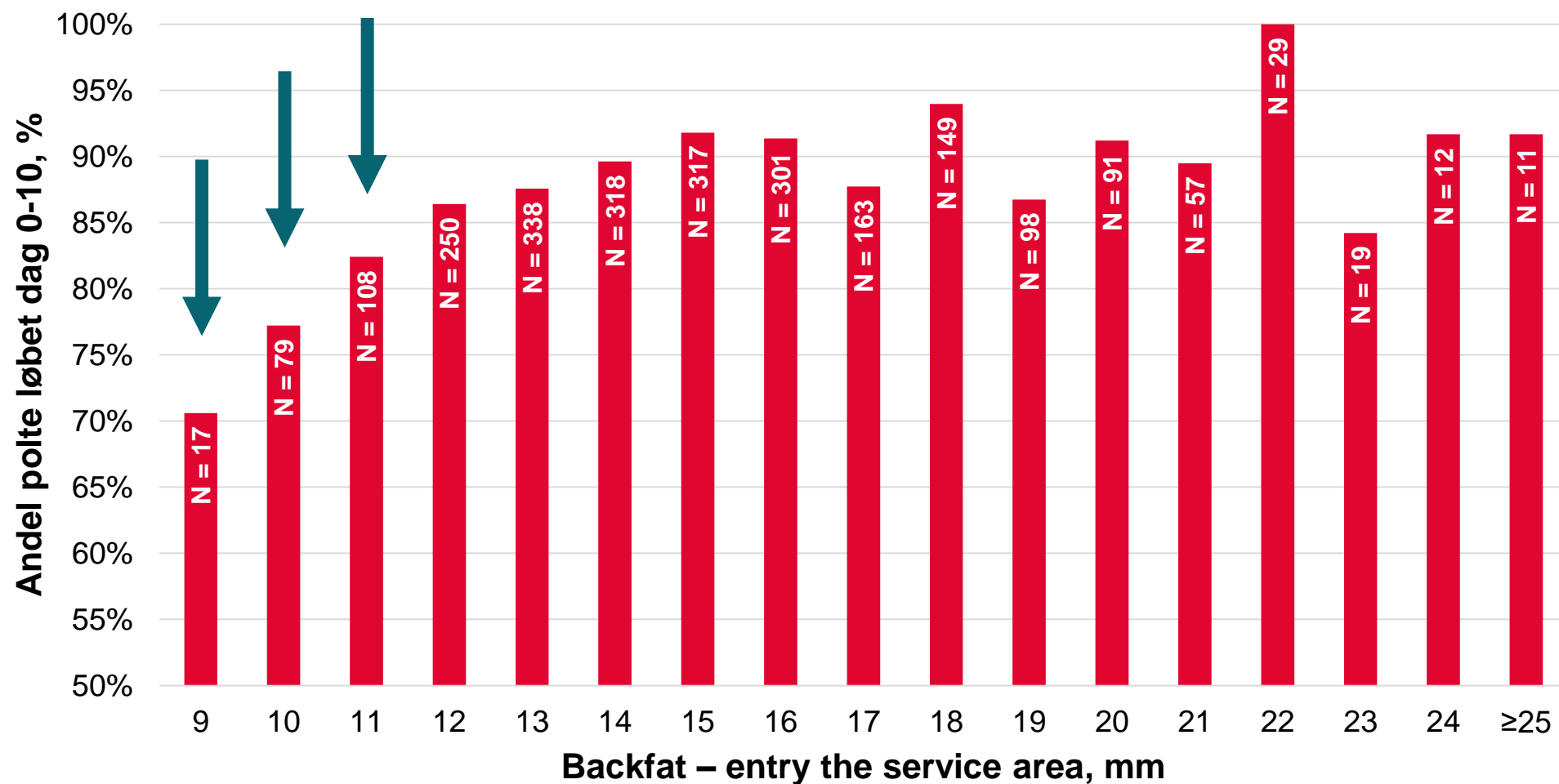


Effect of age on Altrenogest efficiency

Herds A and C



Backfat - respons on altrenogest



Kilde: Bruun *et al.* (2020): Notat nr. 2025

Effect of weight on Altrenogest efficiency

Herds A and C



Syncronizing the gilt's second heat

Caution at the different steps

- **Step 1 (conditions at entry to the breeding unit)**
 - Age >190 days
 - Backfat >11-12 mm
 - Weight > 110 kg
- **Step 2 (important tasks in the breeding unit)**
 - Intensive boar contact to induce 1st heat
 - Boar on the pathways twice a day
 - Identify the 1st heat in each individual gilt
- **Step 3 (optional for further alignment)**
 - Syncronization using Altrenogest
 - Treatment should be administered at the exact same time every day

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SEGES recommendations for gilt management

- Management must ensure that the gilts are inseminated at
 - 230-240 days old
 - 14-15 mm backfat
 - 140-160 kg

Flushing makes sense, but how?

- The general Danish recommendation
 - Flushing for 5-7 days before first service using around 3.5 kg feed/day
(+0.4 total born piglet per litter)
- Flushing should be terminated when first service is completed
 - Large effect on the slim gilts – less than 12 mm
- First service should take place during second heat
(+1.0 total born piglet per litter)

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Summary

- Use the recommended nutrient content and feeding curves
- Management is vital
 - Move fast growing gilts forward
 - Special care for slow growing gilts
- Optimum conditions at entry to the breeding unit
 - Age >190 days
 - Backfat >11-12 mm
 - Weight > 110 kg
- Aim at first service in second heat
 - Age 230-240 days
 - Backfat 14-15 mm
 - Weight 140-160 kg
- Flushing for 5-7 days or +21 days depending on body condition



A close-up photograph of a pig's face, focusing on its eyes and large pink snout. The pig has a yellow ear tag on its right ear. The text "Thank You for listening" is overlaid in red.

Thank You for listening