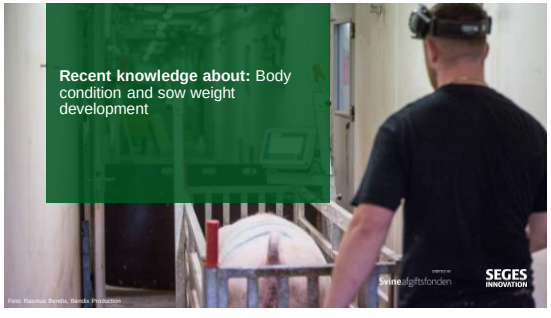
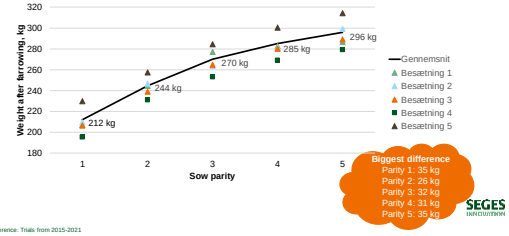
1



2

Weight development from first to fifth parity
Gilt weight at first service and first farrowing is essential

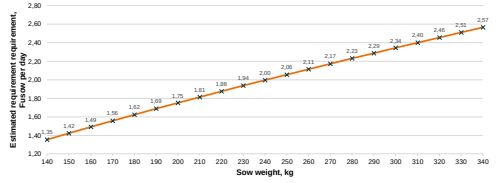


Reference: Trials from 2015-2021

SEGES INNOVATION

3

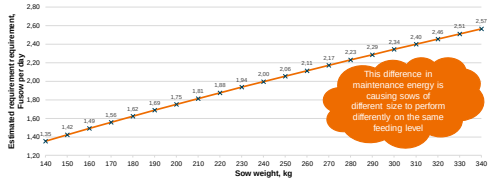
Understand energy requirement for maintenance
The part of the feed needed to live



SEGES INNOVATION

4

Understand energy requirement for maintenance
The part of the feed needed to live



SEGES INNOVATION

5

Backfat gain
No 100% clear indications on the cost of re-establishing 1 mm backfat

- Best assumption based on figures from AUI
  - 20-25 FUsow above maintenance per mm backfat (assumed 22.5 FUsow per mm)
- 3.5 Fusow 0-28 after insemination
  - Sow weight 200 kg: +2,2 mm
  - Sow weight 230 kg: +1,9 mm — *Forskel 0,5 mm*
  - Sow weight 260 kg: +1,7 mm
- 2.3 Fusow from day 28-84 after insemination
  - Sow weight 200 kg: +1,4 mm
  - Sow weight 230 kg: +0,9 mm — *Forskel 0,9 mm*
  - Sow weight 260 kg: +0,5 mm
- Difference day 84
  - Sow weight 200 kg: +3,6 mm
  - Sow weight 230 kg: +2,8 mm — *Forskel 1,4 mm*
  - Sow weight 260 kg: +2,2 mm

Photo: Rasmus Bendix, Bendix Production

SEGES INNOVATION

6

Recommended feeding curves for gestating sows
Current knowledge does not take age/weight into consideration

Days	Fat	Normal	Thin	Gilts
Backfat	>14 mm	12-14 mm	<12 mm	13-15 mm
0	2,5	3,0	4,5	(2,2) 2,4
26	2,5	3,0	4,5	(2,2) 2,4
31	2,3	2,3	2,3 (3,5)	2,5 (2,7)
76	2,3	2,3	3,5	2,5 (2,7)
84	3,5	3,5	3,5	3,3
112	3,5	3,5	3,5	3,3
114	3,5 (4,0)	3,5 (4,0)	3,5 (4,0)	3,3
115	3,5 (4,0)	3,5 (4,0)	3,5 (4,0)	3,5
Farrowing	3,5 (4,0)	3,5 (4,0)	3,5 (4,0)	3,5
Backfat	14-17 mm			

7

Estimated gain during gestation
Different lysine levels and "normal" feeding curve

Weight at insemination	Lysin (g SID per FUsow)	Sow gain, kg
140	3,0	30,6*
140	4,0	50,8*
140	5,0	67,0**
160	3,0	29,7*
160	4,0	50,0*
160	5,0	62,8***
180	3,0	28,9*
180	4,0	48,4**
180	5,0	58,5***

Weight at insemination	Lysin (g SID per FUsow)	Sow gain, kg
200	3,0	28,1*
200	4,0	45,5**
200	5,0	54,1***
220	3,0	27,3*
220	4,0	42,6**
220	5,0	49,8***
240	3,0	26,5*
240	4,0	39,7**
240	5,0	45,3***

*Lysine is limiting daily gain = backfat will increase
** Energy is limiting daily gain from day 30-84 and lysine in the rest of the gestation = slightly less increase in backfat
*** Energy will be limiting for the gain in the entire period = potential loss of backfat/skinny sows

8

Effect of different feeding levels from day 30-84
And at the same time varying lysine levels

Weight at insemination	Feeding level (FUsow per day)	Lysine (g SID per FUsow)	Sow gain, kg
140	2,0	3,0	28,1*
140	2,3	3,0	30,6*
140	2,5	3,0	32,2*
140	2,0	4,0	47,3**
140	2,3	4,0	50,8*
140	2,5	4,0	53,1*
140	2,0	5,0	59,7**
140	2,3	5,0	67,0**
140	2,5	5,0	71,2**

*Lysine is limiting daily gain = backfat will increase
** Energy is limiting daily gain from day 30-84 and lysine in the rest of the gestation = slightly less increase in backfat
*** Energy will be limiting for the gain in the entire period = potential loss of backfat/skinny sows

9

Effect of different feeding levels from day 30-84
And at the same time varying lysine levels

Weight at insemination	Feeding level (FUsow per day)	Lysine (g SID per FUsow)	Sow gain, kg
140	2,0	3,0	28,1*
140	2,3	3,0	30,6*
140			
14			
14			
14		4,0	53,1*
140	2,0	5,0	59,7**
140	2,3	5,0	67,0**
140	2,5	5,0	71,2**

At a lysine level of 5.0 g SID per FUsow and 140 kg at insemination a low feeding level increases the risk of getting into bad body condition

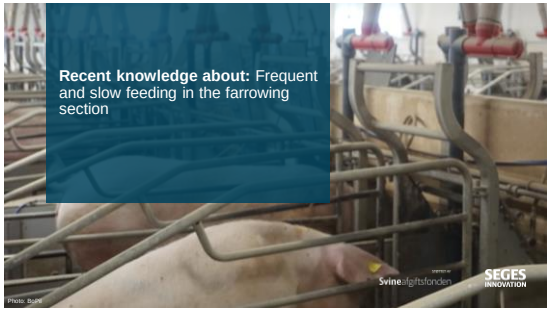
*Lysine is limiting daily gain = backfat will increase
** Energy is limiting daily gain from day 30-84 and lysine in the rest of the gestation = slightly less increase in backfat
*** Energy will be limiting for the gain in the entire period = potential loss of backfat/skinny sows

10

Take home messages
Body condition and sow weight gain development

- Gilt weight at first insemination and gain in first gestation is the tipping point for your sows
- As maintenance is dependent on body weight the weight and age of the sows should be in focus
  - Body condition + weight/age is better than just body condition
- High protein and lysin is not optimal for gestating sows
  - More money from the slaughter house
  - More leg problems
  - Less space in the farrowing pen for large litters

11



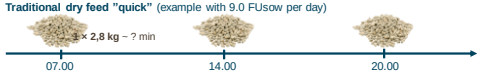
12

Innovative feeding equipment for dry feed in farrowing stables
Automatic, individual and slow feeding

Photos: BoPil, SKIOLD og Agrisys

13

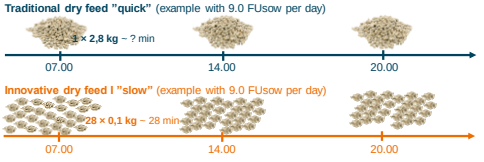
Testing of SKIOLD SmartFeeder



Reference: Bruun et. al (2022): Meddelelse nr. 1249

14

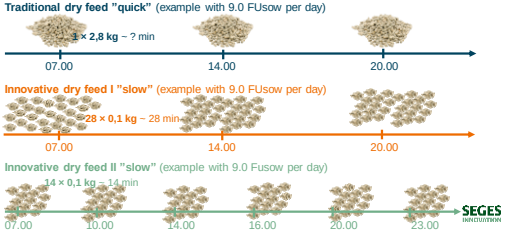
Afprøvning af den innovative fodringsteknik fra SKIOLD



Reference: Bruun et. al (2022): Meddelelse nr. 1249

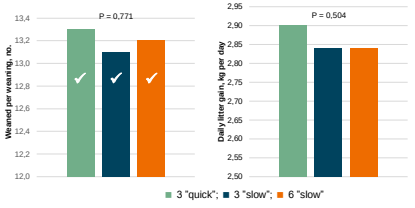
15

Afprøvning af den innovative fodringsteknik fra SKIOLD



16

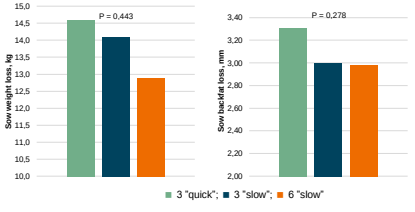
Slow and frequent feedings with SmartFeeder
Loose housed sows



Reference: Bruun et. al (2022): Meddelelse nr. 1249

17

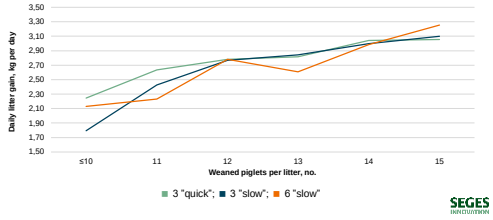
Slow and frequent feedings with SmartFeeder
Loose housed sows



Reference: Bruun et. al (2022): Meddelelse nr. 1249

18

Slow and frequent feedings with SmartFeeder
Loose housed sows



Reference: Bruun et. al (2022): Meddelelse nr. 1249

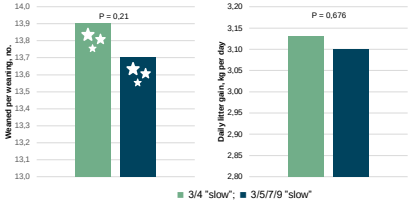
19

Slow and frequent feedings with SmartFeeder
Loose housed sows

Reference: Bruun et. al (2022): Meddelelse nr. 1249

21

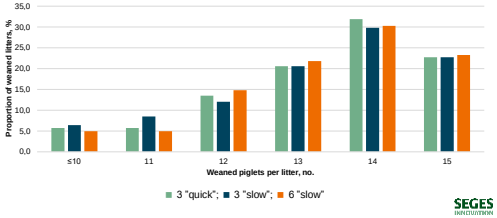
Different number of feedings per day using MamaDos
Results



Reference: Bruun & Bache (2022): Meddelelse nr. 1250

23

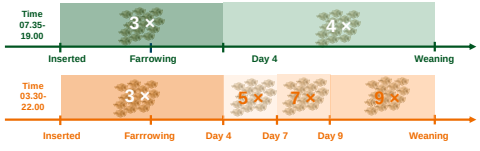
Slow and frequent feedings with SmartFeeder
Loose housed sows



Reference: Bruun et. al (2022): Meddelelse nr. 1249

20

Testing MamaDos from BoPil
Different number of feedings per day – all slow feed



Reference: Bruun & Bache (2022): Meddelelse nr. 1250

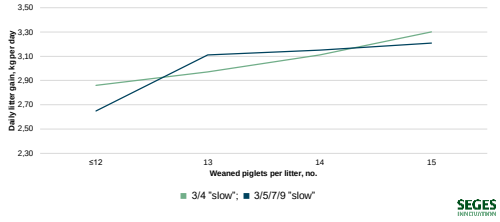
22

Different number of feedings per day using MamaDos
Results

Reference: Bruun & Bache (2022): Meddelelse nr. 1250

24

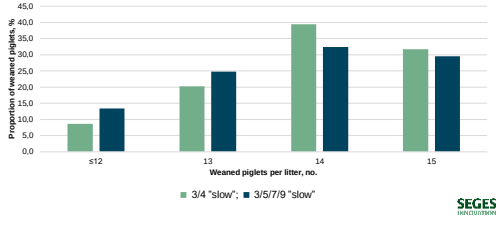
Different number of feedings per day using MamaDos
Results



Reference: Bruun & Bache (2022): Meddelelse nr. 1250

25

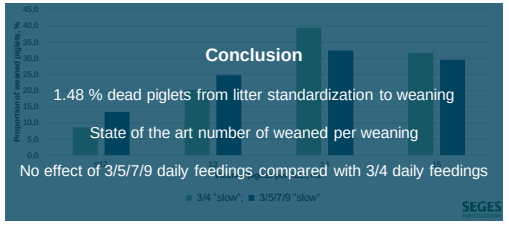
Different number of feedings per day using MamaDos
Results



Reference: Bruun & Bache (2022): Meddelelse nr. 1250

26

Different number of feedings per day using MamaDos
Results



Reference: Bruun & Bache (2022): Meddelelse nr. 1250

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Feeding frequency
How can you make a difference at farm level?

- The easy solution
  - 3 feedings equally distributed around the clock
  - Consider 4 feedings a day
- Carefully consider the following
  - Is the feeding precision ready for 4 feedings a day?
  - What is minimum dosage of dry/wet feed?

Photo: Thomas Sønderby Bruun

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Take home messages
Frequent and slow feeding in the farrowing section

- Two trials showed no effects of
  - 3 quick vs. slow feedings per day
  - 3 vs. 6 slow feedings per day
  - 3/4 vs. 3/9 slow feedings per day
- In both herds
  - High number of weaned per weaning
- Other herds having the equipment says
  - Weaned per weaning is increased by 1 piglet

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Recent knowledge about: Feeding before farrowing

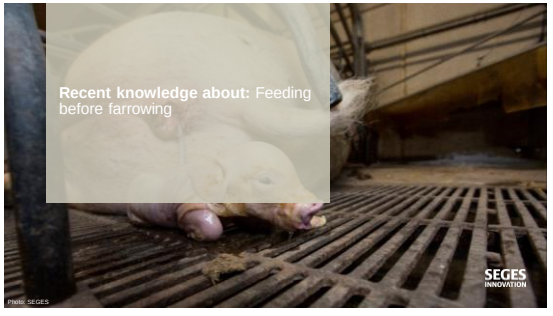
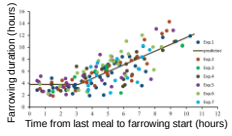


Photo: SEGES

30

Feeding frequency
Analysis of several trials at AU indicates a potential

- The duration of farrowing increases linearly from 3 hours after the sow is fed
  - Glucose uptake decreases after feeding (0-6 hours)
  - Fiber must fulfill the need for energy between two feedings (4-24 hours)



SEGES INNOVATION

Source: Feyera et al. (2015): *Journal of Animal Science* 96:2320-2331

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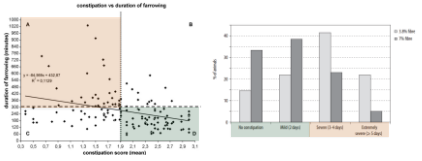
Fibre
Reduktion af forstoppelse samt langsom frigivelse af energi



SEGES INNOVATION

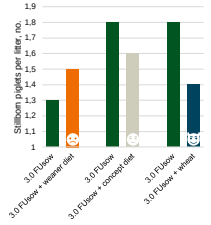
References: Oliviero et al. (2010): *Animal Reproduction Science*.119:85-91 samt Oliviero et al. (2009): *Research in Veterinary Science*.86:314-319

33

Feeding level
A higher feeding level and less protein before farrowing helps the sow

perhaps

- Sows inserted in farrowing unit
  - 3.5 FUsow per day
  - 2 days before farrowing reduced to 3.0 FUsow per day
- Extra feed for at least 2 days before expected farrowing
  - 1 FUsow per day as weaner diet
  - 1 FUsow per day as concept diet
  - 1 FUsow per day as wheat

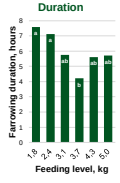


SEGES INNOVATION

Source: Sørensen & Krogsdahl (2017): Erfaring nr. 1715

35

Feeding level
A higher feeding level before farrowing helps the sow



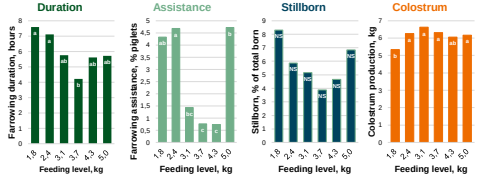
Low and high feeding levels may have same effects as constipation

SEGES INNOVATION

Source: Feyera et al. (2021): *Journal of Animal Science*. 99:skab040

32

Feeding level
A higher feeding level before farrowing helps the sow

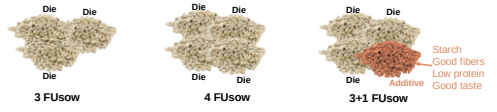


SEGES INNOVATION

Source: Feyera et al. (2021): *Journal of Animal Science*. 99:skab040

34

Feeding level
A higher feeding level and less protein gives less stillborn



- 2 herds
- 3 daily feedings (05:30/11:30/23:00)
- Only 3rd to 7th parity sows included

SEGES INNOVATION

Illustration: Colourbox

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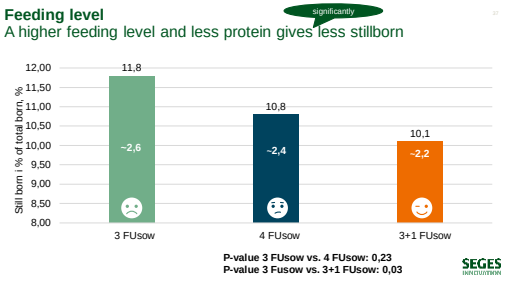
Feeding level
A higher feeding level and less protein gives less stillborn



P-value 3 FUsow vs. 4 FUsow: 0,23
P-value 3 Fusow vs. 3+1 FUsow: 0,03

SEGES INNOVATION

Reference: Højgaard et al. (2022): Meddelelse nr. 1259

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Take home messages
Feeding before farrowing

- Try not to reduce feeding level before farrowing
  - 4,0 FUsow per day for 3rd to 7th parity sows supports the farrowing
  - Dilution of the diet can further help the farrowings but takes time
  - Start by "keep it simple"
- 3-4 daily feedings
  - Around the clock

SEGES INNOVATION

Photo: Rasmus Bendix, Bendix Production

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