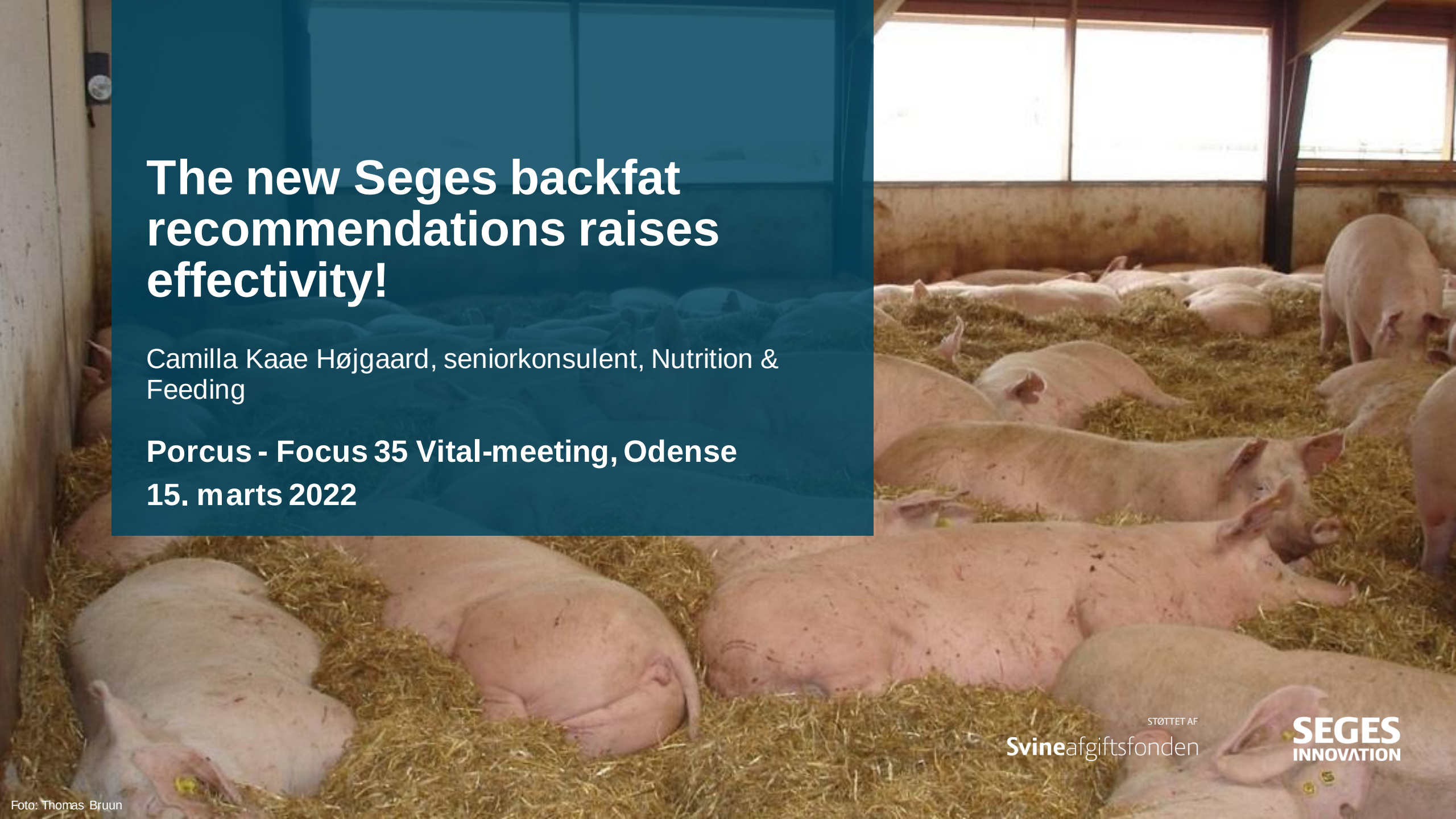
The new Seges backfat recommendations raises effectivity!

Camilla Kaae Højgaard, seniorkonsulent, Nutrition & Feeding

Porcus - Focus 35 Vital-meeting, Odense

15. marts 2022



STØTTET AF
Svineafgiftsfonden

SEGES INNOVATION

Foto: Thomas Bruun

What you will hear about

Focus on sow body condition and body growth to ensure a high productivity and low feed consumption

Part I: Focus on sow body condition

- The background for the new recommendation on backfat thickness
- New criteria for categorizing sows into skinny, normal and fat at weaning
- Feeding curves for gilts
- Feed management in gestation unit

Part II: Focus on development in sow and gilt body growth

- Maintenance requirement
- Importance of uniform gilts at first service
- The effect of feeding level and dietary lysine and protein content on sow body weight development

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Part I: Focus on body condition

Foto: Farmen

Backfat thickness at farrowing
New recommendation

New recommendation:
14-17 mm

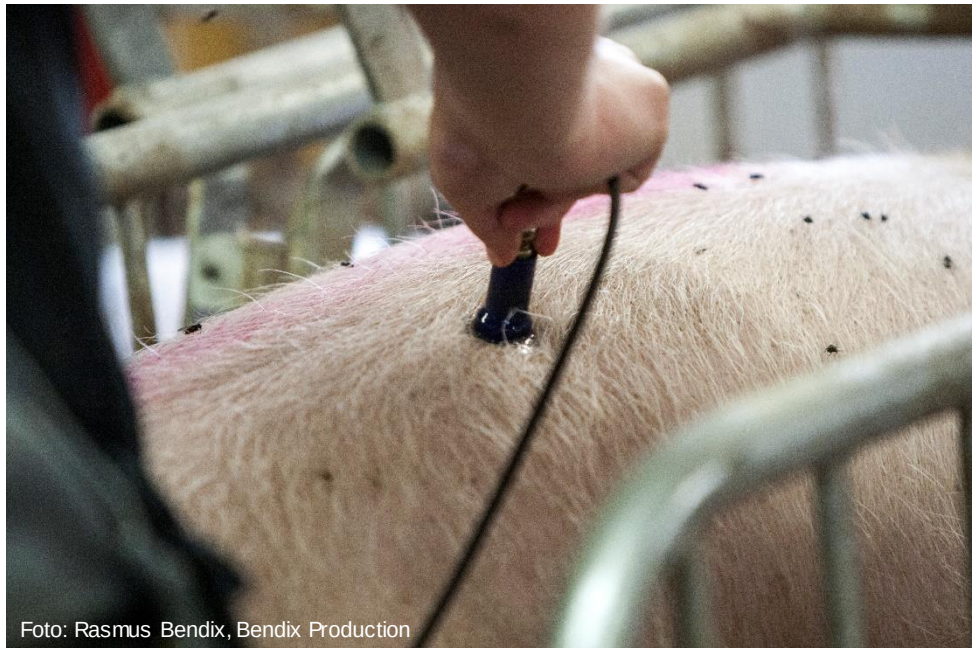
Foto: Rasmus Bendix, Bendix Production

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The background for the new recommendation on backfat thickness

Analysis of sow backfat data

- Data analysis were based on 8 trials conducted from 2015-2021
- This would give information about sow productivity given a specific backfat thickness at farrowing
- Data from 3.900 sows and litters
  - 1.-5. parity sows

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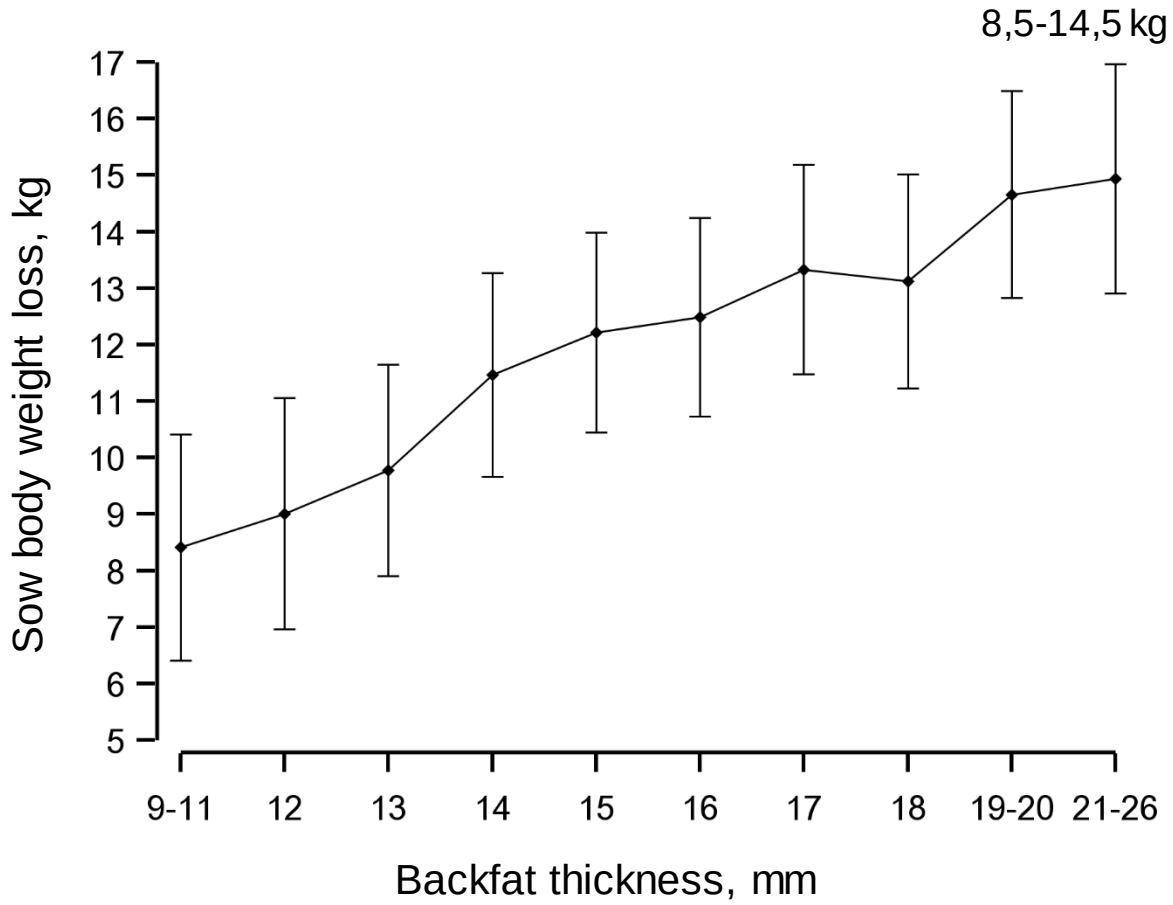
Loss of sow body weight and backfat during lactation

In relation to sow backfat thickness at farrowing



Source: Højgaard og Bruun (2021): Notat nr. 2130

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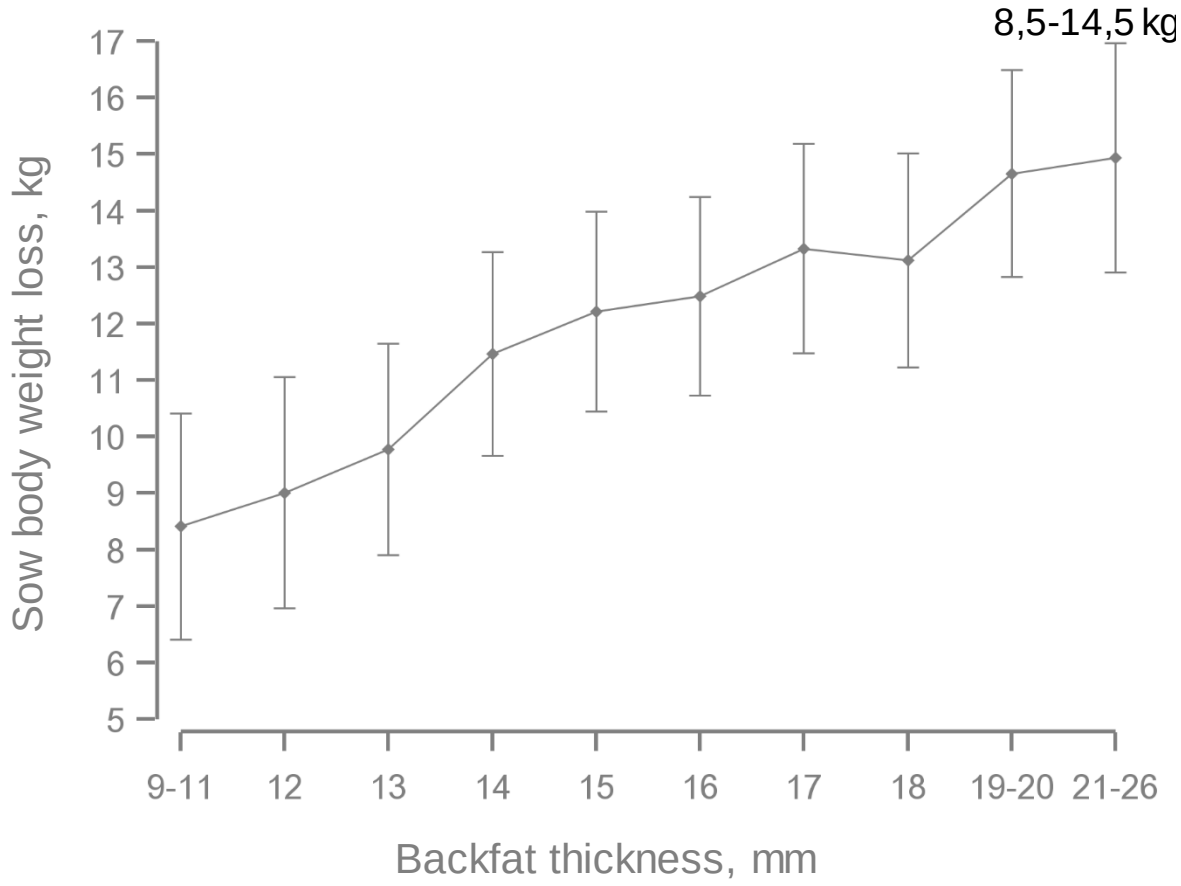

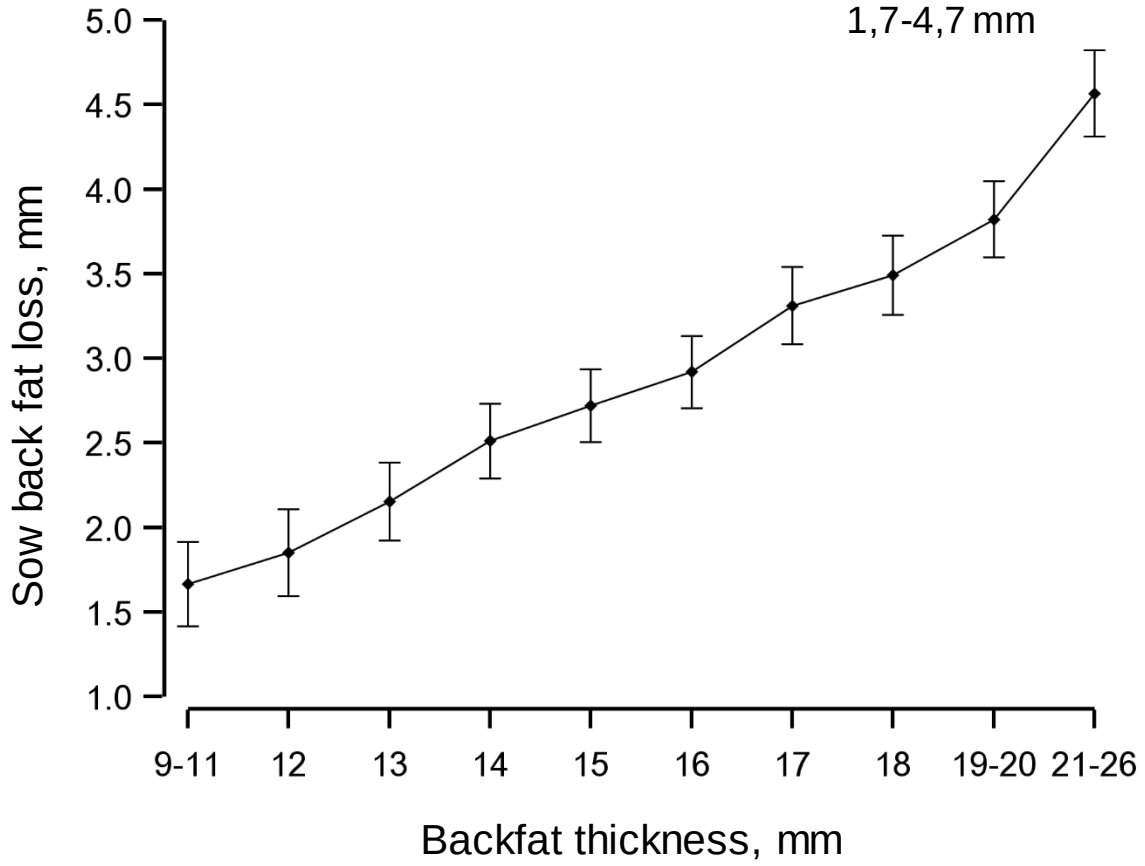

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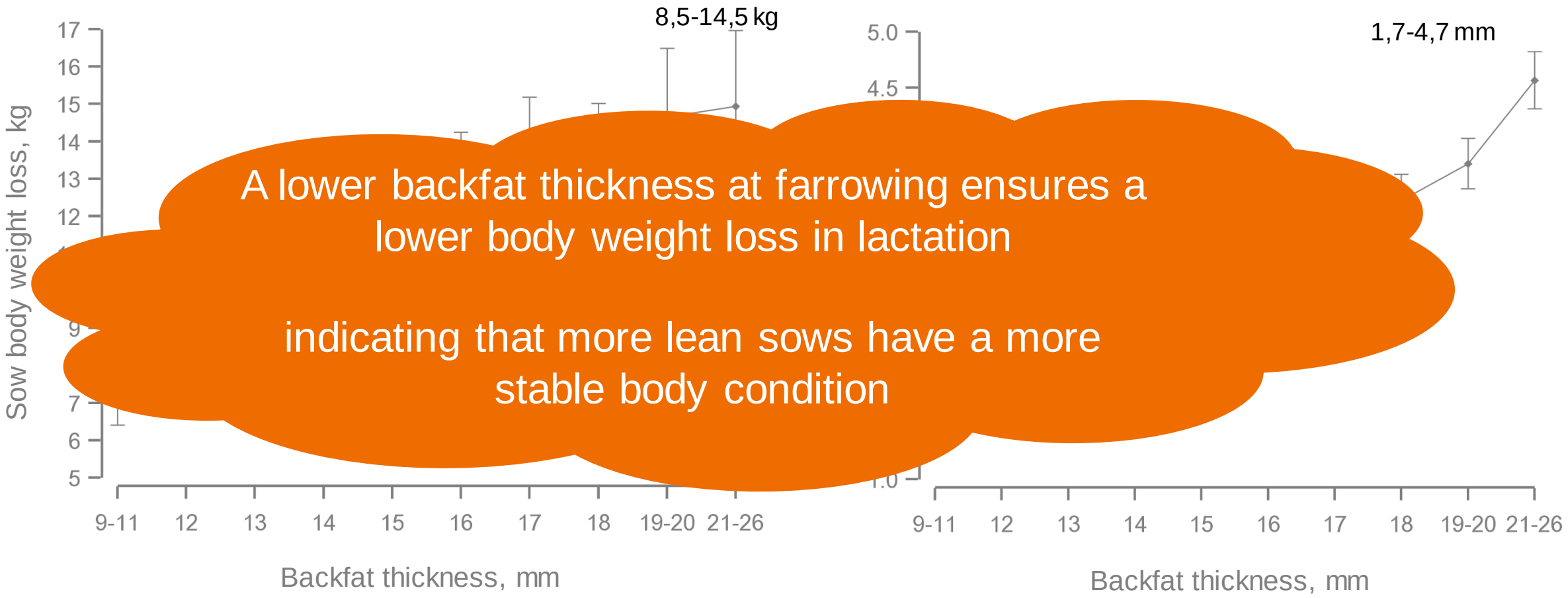

A lower backfat thickness at farrowing ensures a lower body weight loss in lactation

indicating that more lean sows have a more stable body condition

Source: Højgaard og Bruun (2021): Notat nr. 2130

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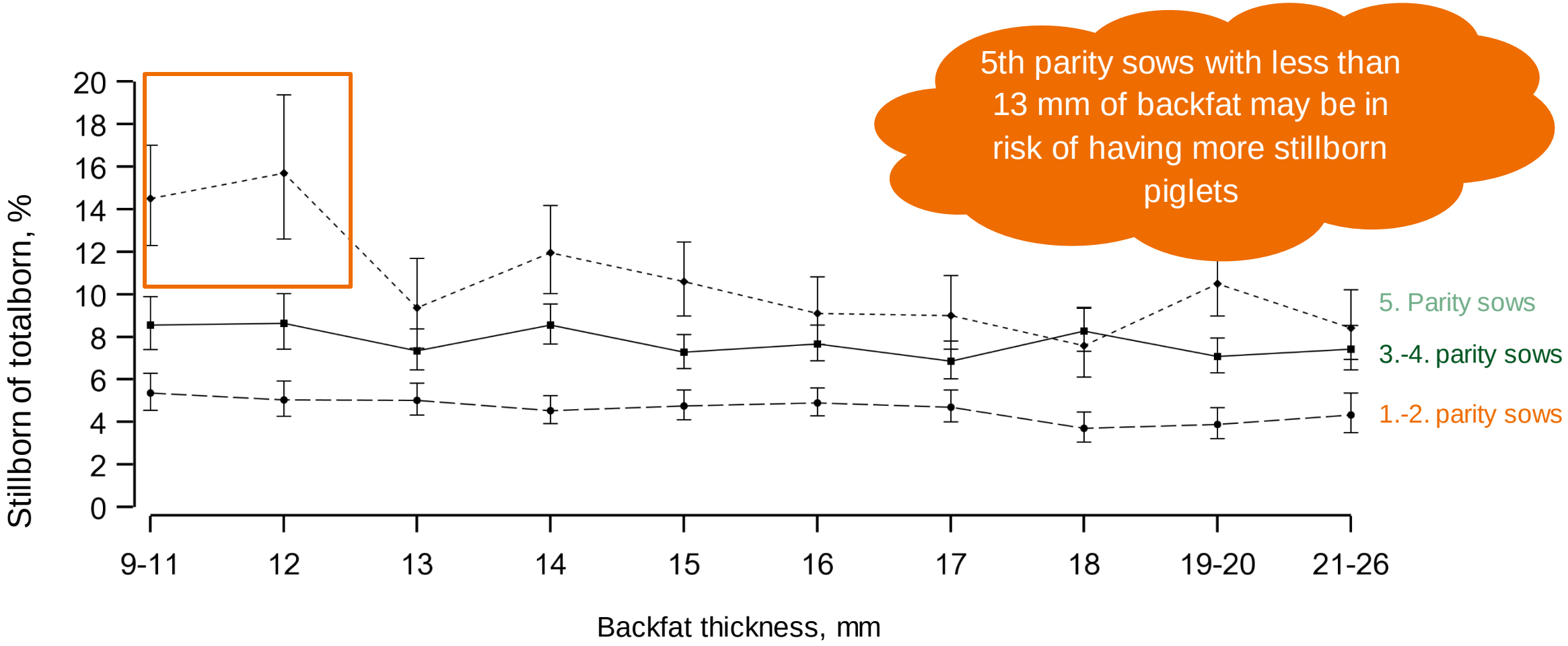
Stillborn piglets

In relation to sow backfat thickness at farrowing

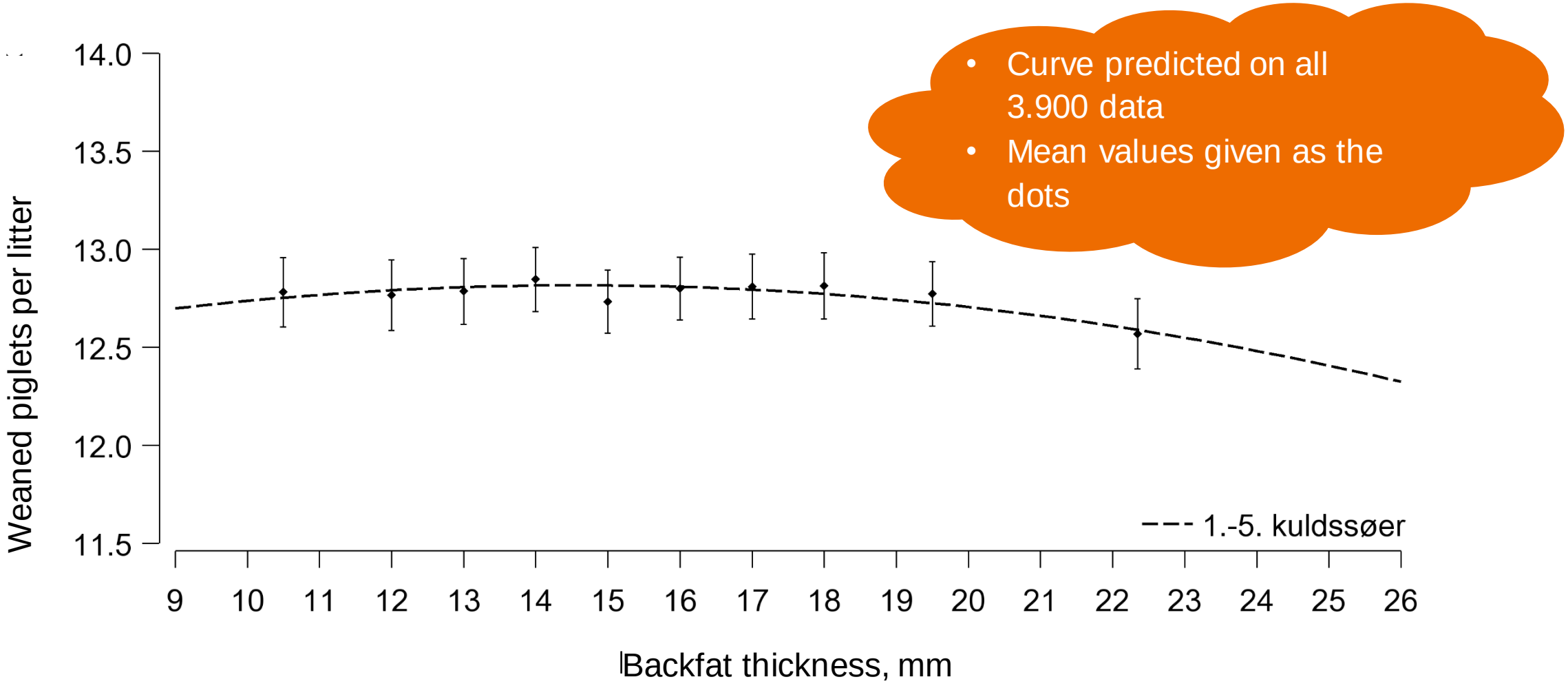


Source: Højgaard og Bruun (2021): Notat nr. 2130

SEGES INNOVATION

Weaned piglets per litter

In relation to sow backfat thickness at farrowing



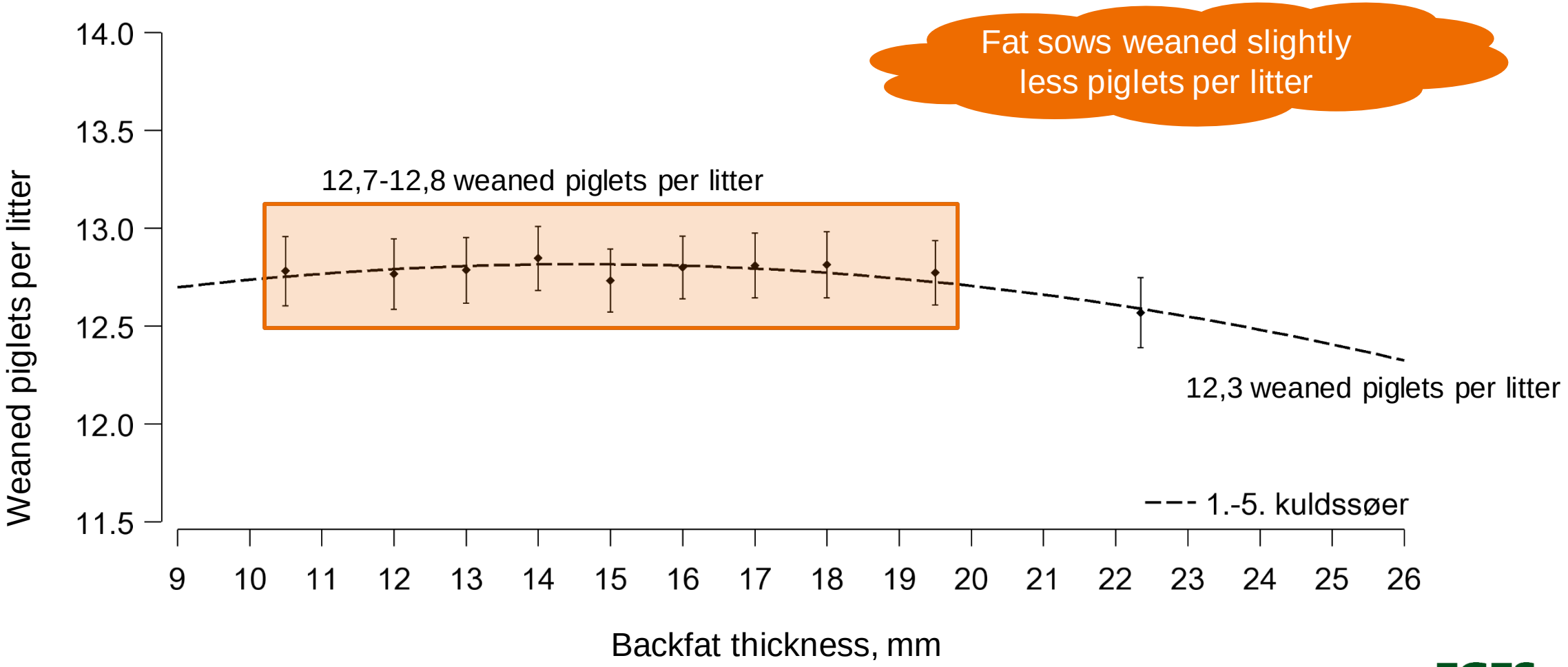
- Curve predicted on all 3.900 data
- Mean values given as the dots

Source: Højgaard og Bruun (2021): Notat nr. 2130

SEGES INNOVATION

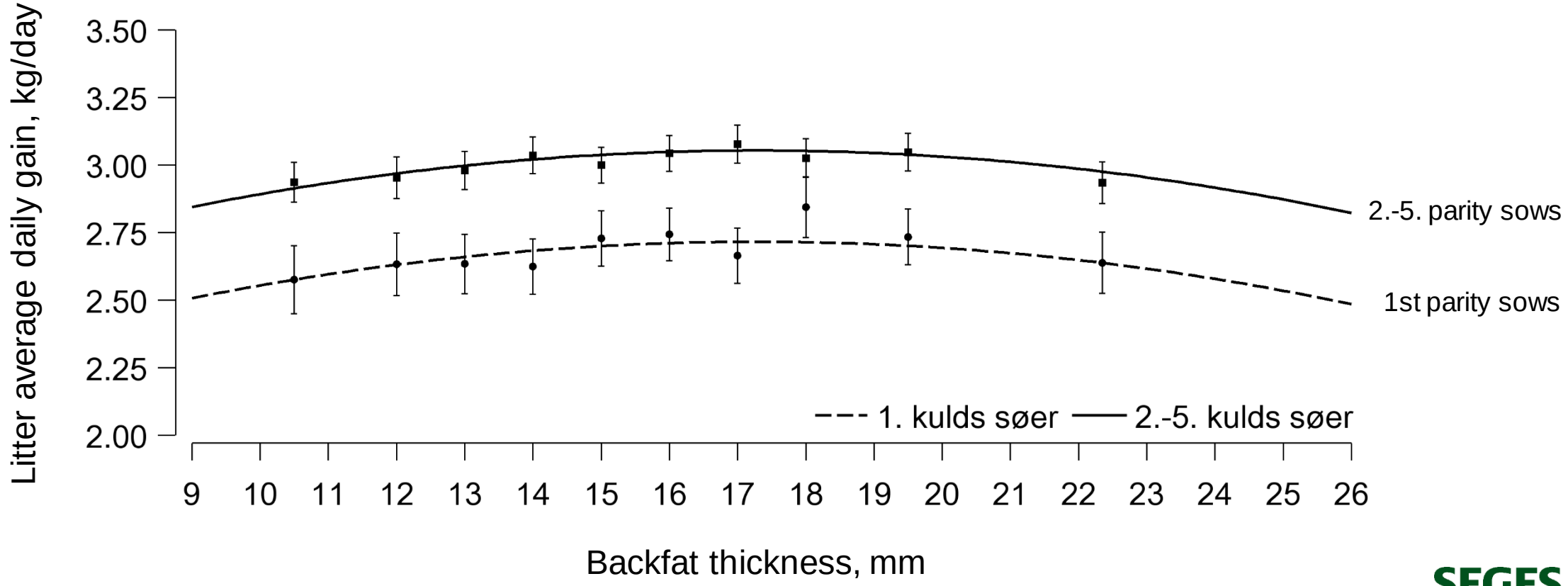
Weaned piglets per litter

In relation to sow backfat thickness at farrowing



Source: Højgaard og Bruun (2021): Notat nr. 2130

Litter average daily gain
In relation to sow backfat thickness at farrowing



Source: Højgaard og Bruun (2021): Notat nr. 2130

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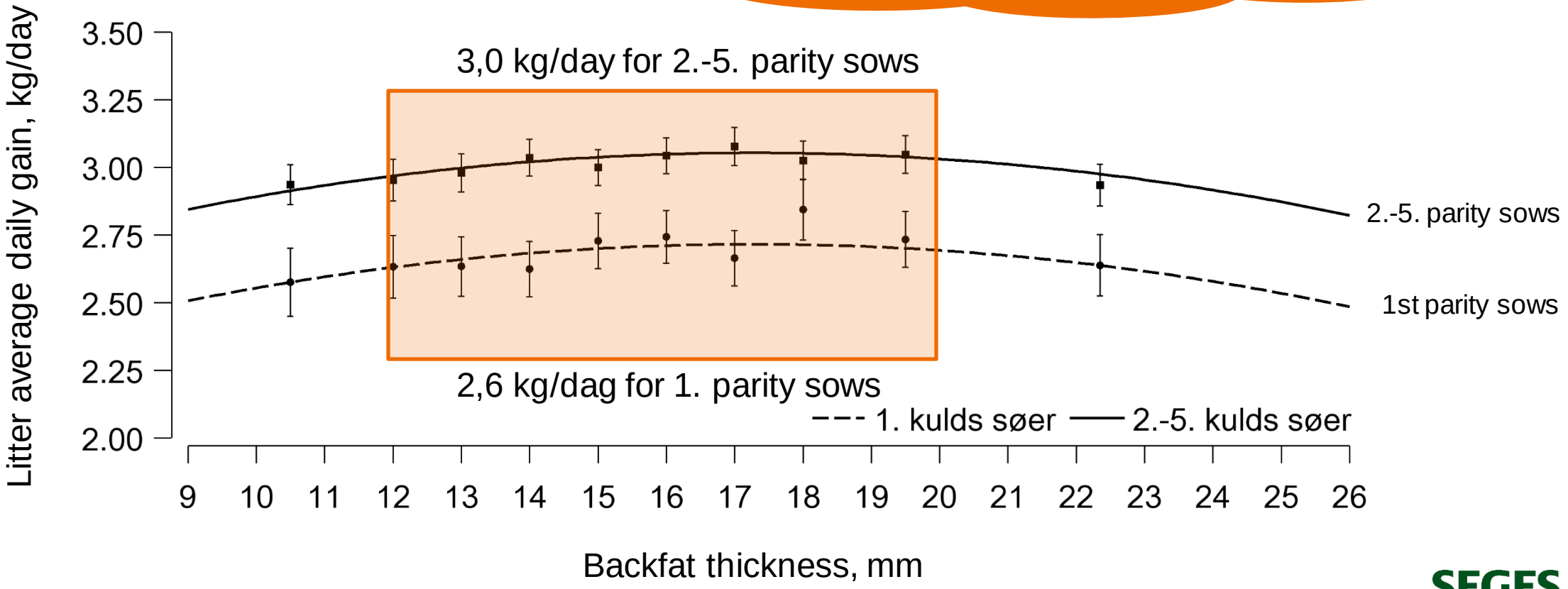
Litter average daily gain
In relation to sow backfat thickness at farrowing

- Skinny and fat sows had a lower litter average daily gain



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SEGES INNOVATION

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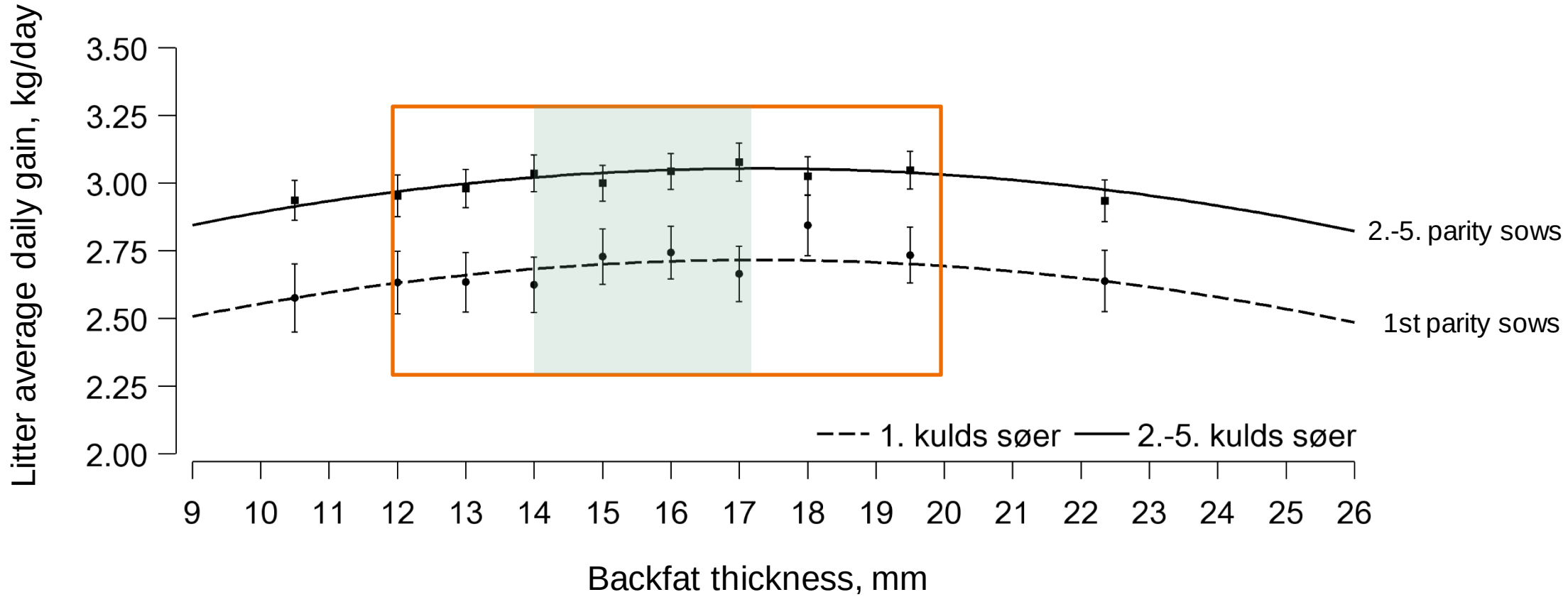

14-17 mm at farrowing

Source: Højgaard og Bruun (2021): Notat nr. 2130

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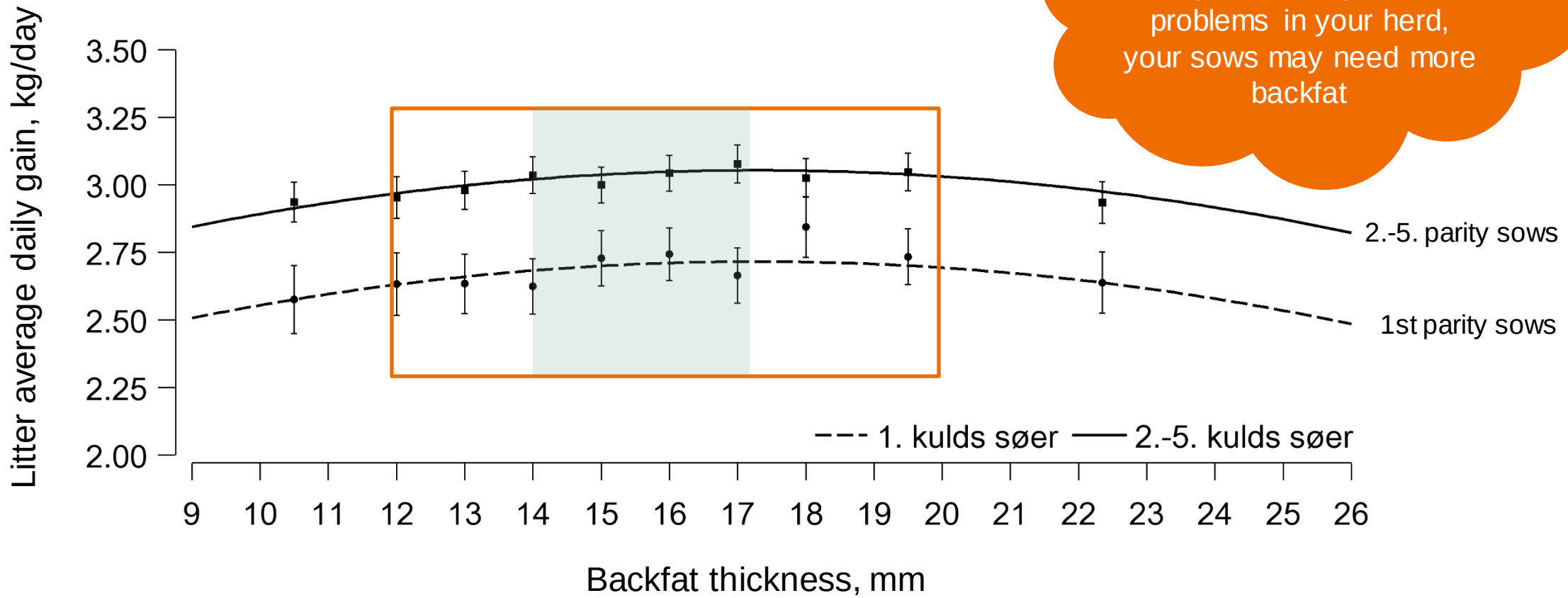
Litter average daily gain
In relation to sow backfat thickness at farrowing

Remember to still be aware of shoulder lesions

If you have specific problems in your herd, your sows may need more backfat



14-17 mm at farrowing

Source: Højgaard og Bruun (2021): Notat nr. 2130

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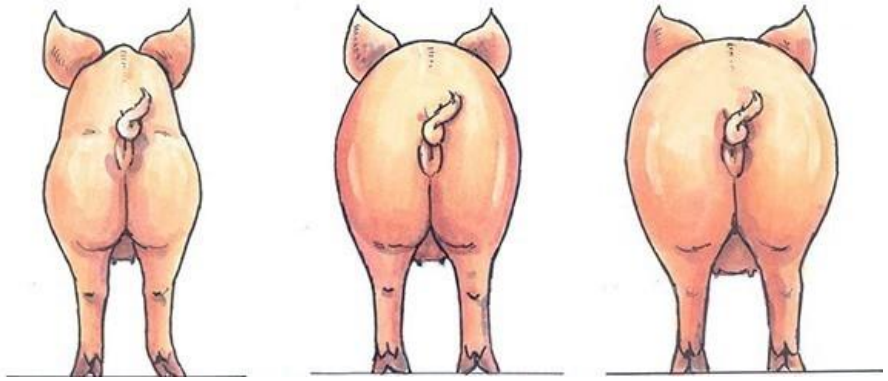
New categorization of sow body condition at weaning

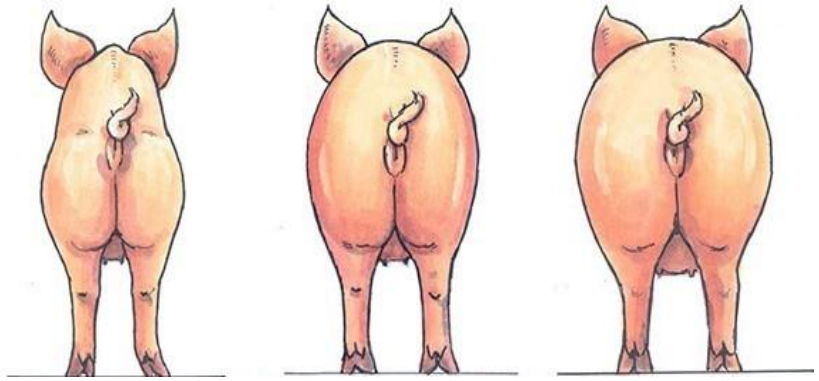
Adapted to reach the optimal 14-17 mm of backfat at farrowing

Previous categorization at weaning



Mager ≤ 12 mm | **Middel** 13-16 mm | **Fed** ≥ 17 mm

New categorization at weaning



Mager ≤ 11 mm | **Middel** 12-14 mm | **Fed** ≥ 15 mm

Source: Højgaard og Bruun (2021): Notat nr. 2130

SEGES INNOVATION

Recommended feeding curves for gestating sows

Only the backfat thicknesses have changed - not the recommended feeding curves

Backfat thickness at weaning	Skinny ≤ 11 mm	Normal 12-14 mm	Fat ≥ 15 mm
FUsow per day, day 0-30	4,5	3,0	2,5
FUsow per dag, day 30-84	2,3 *	2,3	2,3
FUsow per day, day 84-faring	3,5	3,5	3,5

* If a sow is still skinny at day 30 (<13 mm), then the sow should have a feed allowance of 3.5 FUsow per day until 14 mm of backfat is reached. For these sows, it is recommended to have an extra backfat scanning at day 60.

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Regained backfat thickness, in total	**~4-5 mm**	**~2-3 mm**	**~0-1 mm**

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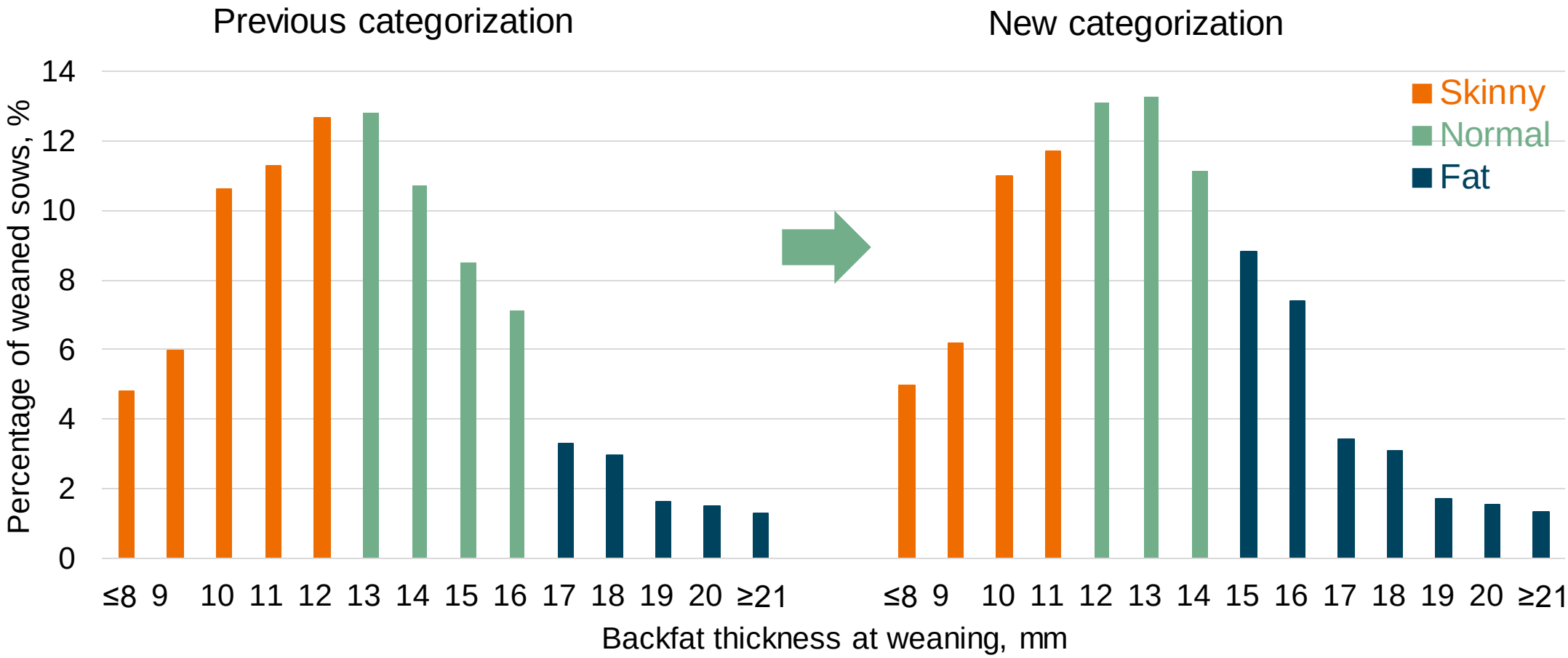
Effect of categorization of body condition at weaning on number of sows in the different categories

Indirect effect on feed used during gestation based on 3900 sows



Estimated amount of feed being saved ~50-100 FUsow per sows per year

Source: Højgaard og Bruun (2021): Notat nr. 2130

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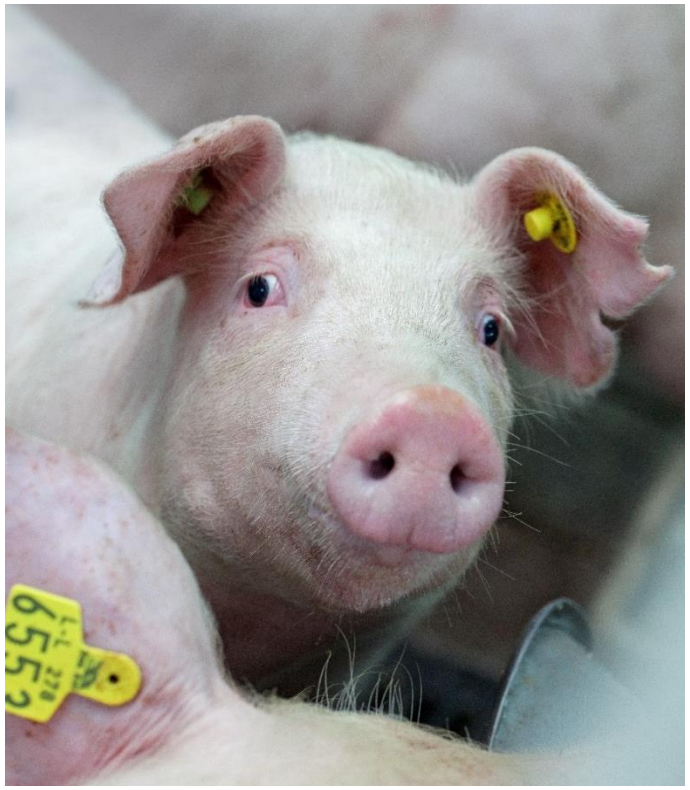
Recommended feeding curves for gilts

Backfat thickness and body weight may not increase drastically

Gilts should be mated in second heat, 220-240 days old, 140-160 kg and 13-15 mm of backfat



- Feeding curve day 0-30
  - 2,2-2,4 FUsow per day dependent on size
- Feeding curve day 30-84 – dependent on body condition at day 30 (given in parenthesis)
  - Manimal/no gain wanted (16-17 mm): 2,0-2,1 FUsow per day
  - Moderate gain in weight and backfat (14-15 mm): 2,3 FUsow per day
  - Small and skinny at mating –> extra gain wanted (10-13 mm): 2,5-2,7 FUsow per day
- Feeding curve day 84 to farrowing
  - 3,5 FUsow per day

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Implementing optimal feed management requires insight

Different stables and feeding systems require individual solutions

Mating/control unit – one box per sow

Boxing of sows the first 28 days are legal in stables build before 2015

Dry feeding: Individual feeding cuves and adjustment of backfat

Liquid feeding: One feeding curve per feed valve. Uniform sows per valve

Floor feeding/liquid feeding in a long trough

No. of pens per batch are important for sorting of sows (young and old; skinny, normal, fat)

The fat and/or dominant sows are challenging ⇨ Have a strategy fx move them out of the pen

One box per sow/Opti-pens – lock each box while feeding

Boxing of sows the first 28 days are legal in stables build before 2015

Dry feeding: Extra feed (1,5 kg) to skinny sows – mark the skinny sows with a colour

Liquid feeding: Extra feed (1,5 kg) to skinny sows – mark the skinny sows with a colour

ESF

Optional number of feeding curves

You can change curve for the individual sow

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Foto: Farmen/Thomas Bruun

Implementing optimal feed management requires insight

Different stables and feeding systems require individual solutions

Conclusion

SEGES recommends 14-17 mm of backfat at farrowing for both gilts and sows

- Maximum productivity and lower feed consumption → high effectivity
- Less sows with great losses of body weight and back fat → more sows with average body condition at all times
- You save 20-25 FUsow every time a sow does NOT need to regain 1 mm of backfat

SEGES INNOVATION

Foto: Farmen/Thomas Bruun

Part II: Focusing on development in sow body weight

Foto: Rasmus Bendix, Bendix Production

Why does two sows not react the same way on the same amount of feed?

Maintenance requirement ≈ when a car is turned on but not driving
Some amount of diesel is required – the amount depends on the size of the car

Performance (body growth, back fat gain, fetal growth, milk production)
It all comes from feed given above maintenance

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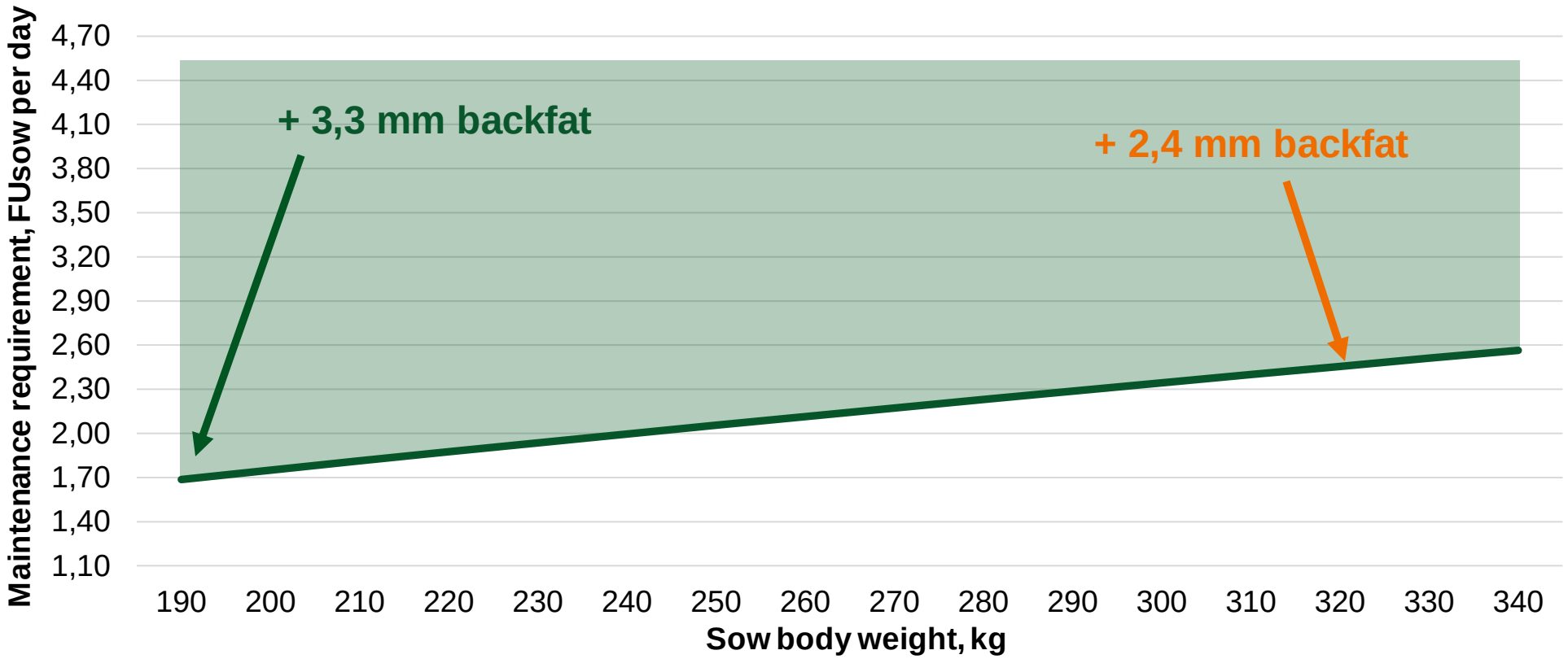
Illustration: Modified after Colourbox

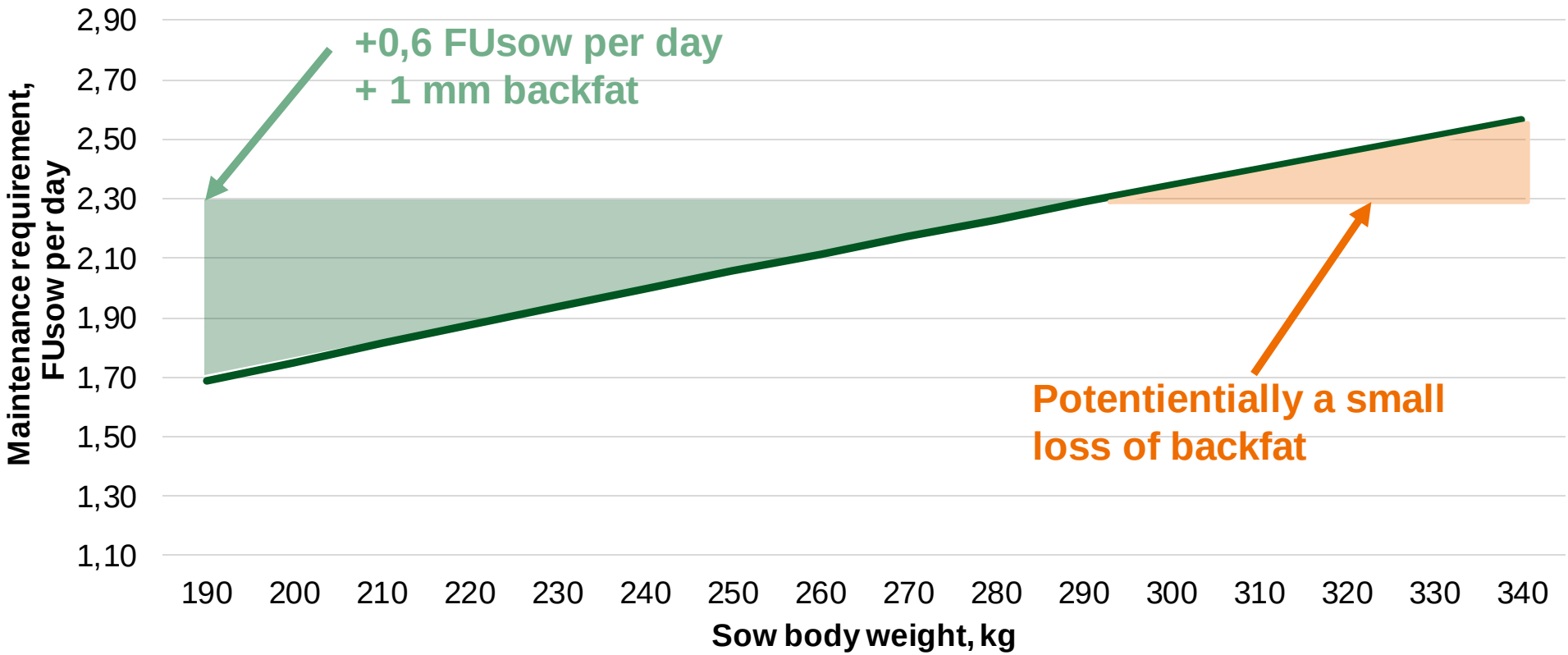
Impact of 4,5 FUsow per day on backfat gain (day 0-30)
Is highly affected by sow body weight and thereby age



Bonus-info: It costs approx. 20-25 Fusow above maintenance requirement to gain 1 mm of backfat (results from Peter Theil's research group at AU

SEGES INNOVATION

Impact of 2,3 FUsow per day on backfat gain (day 30-84)
Is highly affected by sow body weight and thereby age



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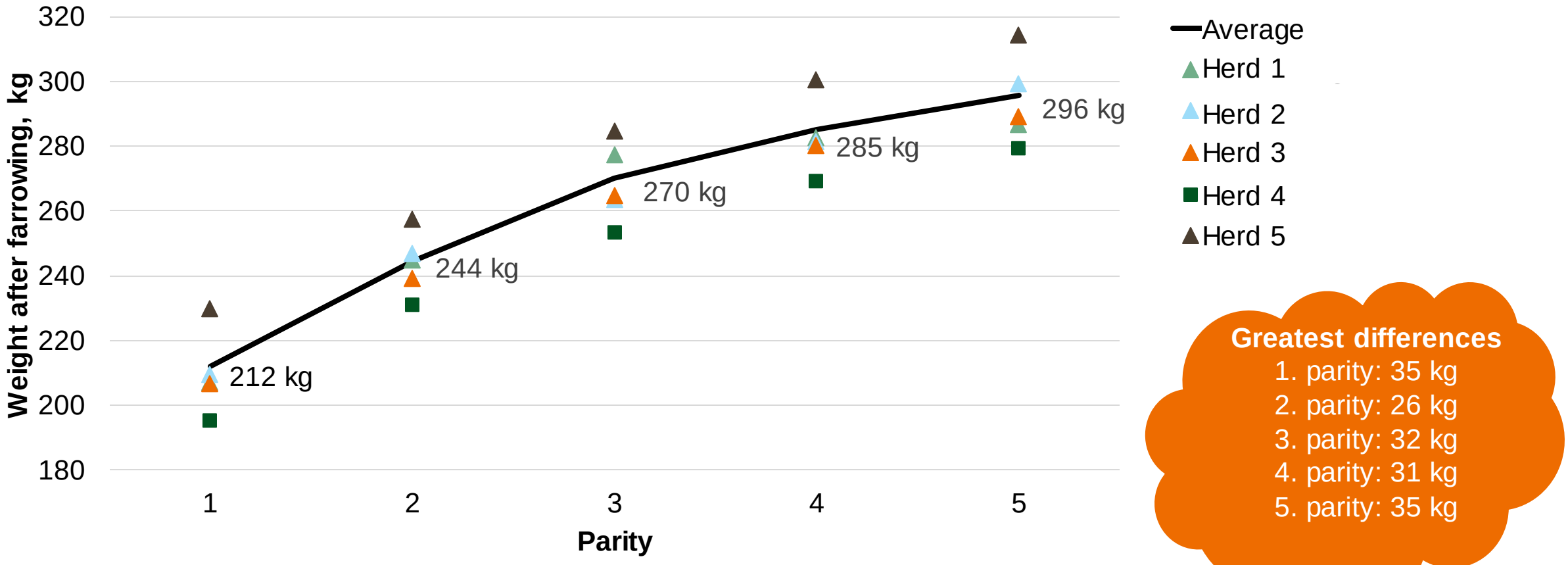
SEGES INNOVATION

Development in sow body weight from 1st to 5th farrowing

Gilt body weight at mating and at farrowing is important



Greatest differences

1. parity: 35 kg
2. parity: 26 kg
3. parity: 32 kg
4. parity: 31 kg
5. parity: 35 kg

Source: Different trials conducted from 2015-2021

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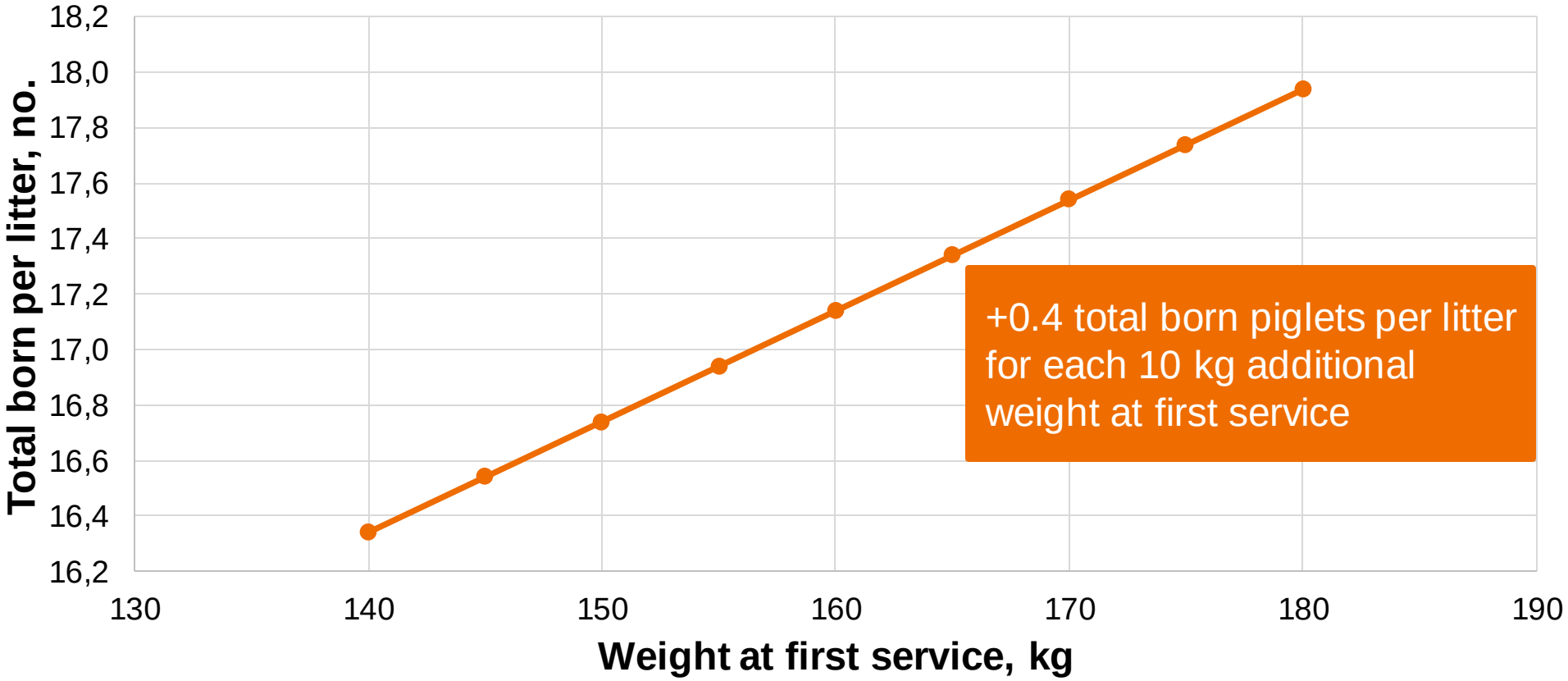
Weight at first service is important for the weight development in your herd

Don’t let a high littersize determine the weight at first service

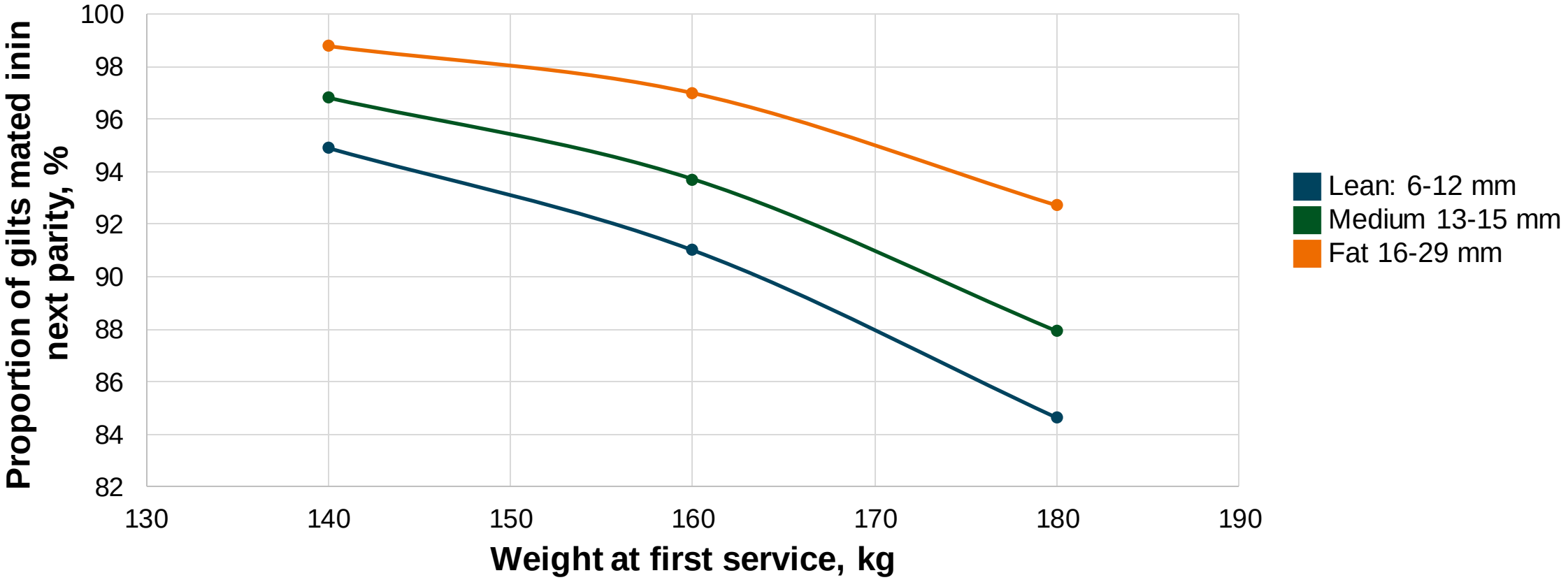


Source: Bruun *et al.* (2020): SEGES Publication no. 1206

SEGES INNOVATION

Looking at potential longevity as an effect of weight at first service

Body condition makes quite a difference for sow longevity



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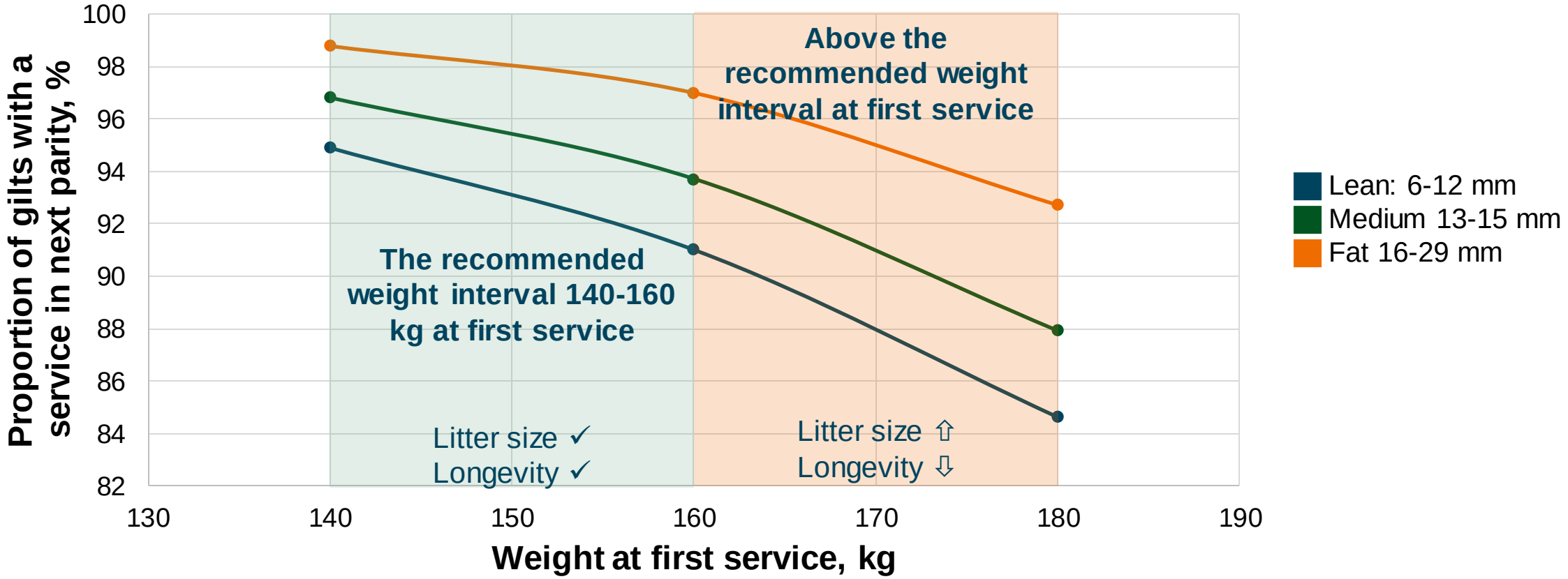

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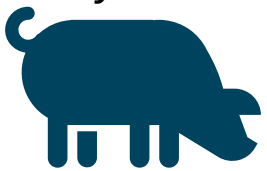
SEGES INNOVATION

Development in sow body weight in first gestation

What is the consequence when reducing the feeding curve day 30-84 SID lysine is at 4,0 g per FUsow

In mid gestation we recommend to vary the feeding curve from 2,0-2,7 FUsow per day according to size and body condition of the gilt



Gilt mated at 172 kg

2,5 FUsow per day → **Body growth: 40 kg**

2,3 FUsow per day → **Body growth: 38 kg (-2 kg)**

2,0 FUsow per day → **Body growth: 34 kg (-6 kg)**

SEGES INNOVATION

Illustration: Colourbox

Development in sow body weight in first gestation

What is the consequence when reducing the feeding curve day 30-84 SID lysine is at 4,0 g per FUsow

Conclusions

Keep focusing on gilt body weight and backfat at first service

2. estrus, 140-160 kg and 13-15 mm

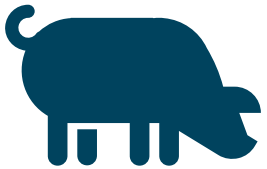
The feeding curve in mid gestation can a tool to reduce the growth of the gilts

SEGES INNOVATION

Illustration: Colourbox

Development in sow body weight during gestation

Consequences of dietary lysine and protein



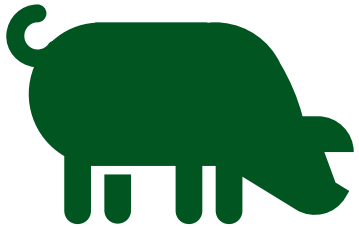
Gilt mated at 150 kg

2,3 FUsow per day

(30-84)

4,0 g SID lysine per FUsow

Body growth: 38 kg



3. Parity sow mated at 234 kg

2,3 FUsow per day

(30-84)

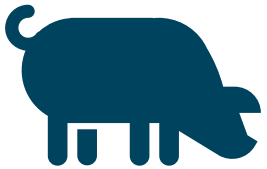
4,0 g SID lysine per FUsow

Body growth 27 kg

SEGES INNOVATION

Illustration: Colourbox

Development in sow body weight during gestation
Consequences of dietary lysine and protein



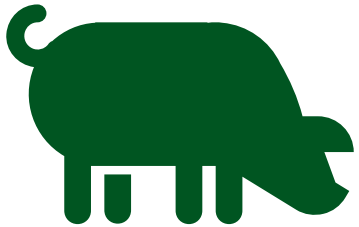
Gilt mated at 150 kg
2,3 FUsow per day
(30-84)

4,0 g SID lysine per FUsow

Body growth: 38 kg

5,0 g SID lysine per FUsow

Body growth: 50 kg (+12 kg)



3. Parity sow mated at 234 kg
2,3 FUsow per day
(30-84)

4,0 g SID lysine per FUsow

Body growth 27 kg

5,0 g SID lysine per FUsow

Body growth: 33 kg (+6 kg)

SEGES INNOVATION

Illustration: Colourbox

Development in sow body weight during gestation

Consequences of dietary lysine and protein

Conclusion

Follow the reccomended 4,0 g SID lysine and 90 g SID protein

Feeding high concentration of lysine and protein will result in heavier and more muscular sows

Illustration: Colourbox

Extra feed the last 4 weeks before farrowing increases sow body weight

More than 3,5 FUsow per day does not increase piglet birth weight

+1 FUsow per day the last 4-4,5 weeks before farrowing increase sow body weight by 7-8 kg in each parity

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You are the one to manage sow body condition and body growth

- The stable, feeding system and the sow will give some variation

Feeding curve during gestation

Dietary concentration of lysine and protein during gestation

SEGES INNOVATION

Illustrations: Colourbox
Fotos: Farmen

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- The stable, feeding system and the sow will give some variation

Feeding curve during gestation

Dietary concentration of lysine and protein during gestation

SEGES INNOVATION

Illustrations: Colourbox
Fotos: Farmen

Take home messages

Focus on sow body condition and body growth to ensure a high productivity and low feed consumption

- 14-17 mm of backfat at farrowing for both sows and gilts
  - Keep fosucing on shoulder lesions
- New categorization of body condition at weaning
  - Skinny: ≤11 mm, Normal: 12-14 mm, Fat: ≥ 15 mm
- Uniform gilts at first service
  - Second heat - Age 220-240 days
  - Backfat 13-15 mm
  - Weight 140-160 kg

Optimize your feed management in gestation unit

- Sort out sows and gilts according to body condition
- Use orrect feeding curves
- Backfat scan sows and gilts at mating, day 30 and at farrowing

Avoid excess lysine and protein during gestation

- Save 6-12 kg of muscle groth in each gestation
- Sows will easier regain lost backfat

SEGES INNOVATION

Take home messages

Focus on sow body condition and body
productivity and low fee

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  - Backf
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Save 6-12 kg of muscle groth in each gestation
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New projects coming…

- AU: Protein- og aminoacid requirements in late gestation
- SEGES Innovation: Protein- og amino acid requirement in early and mid gestation
- SEGES Innovation: Energy requirement in mid gestation

SEGES INNOVATION

Questions?

SEGES INNOVATION

Foto: Rasmus Bendix, Bendix Production