



# Knowledge enhances gilt productivity

Gunner Sørensen, SEGES Innovation

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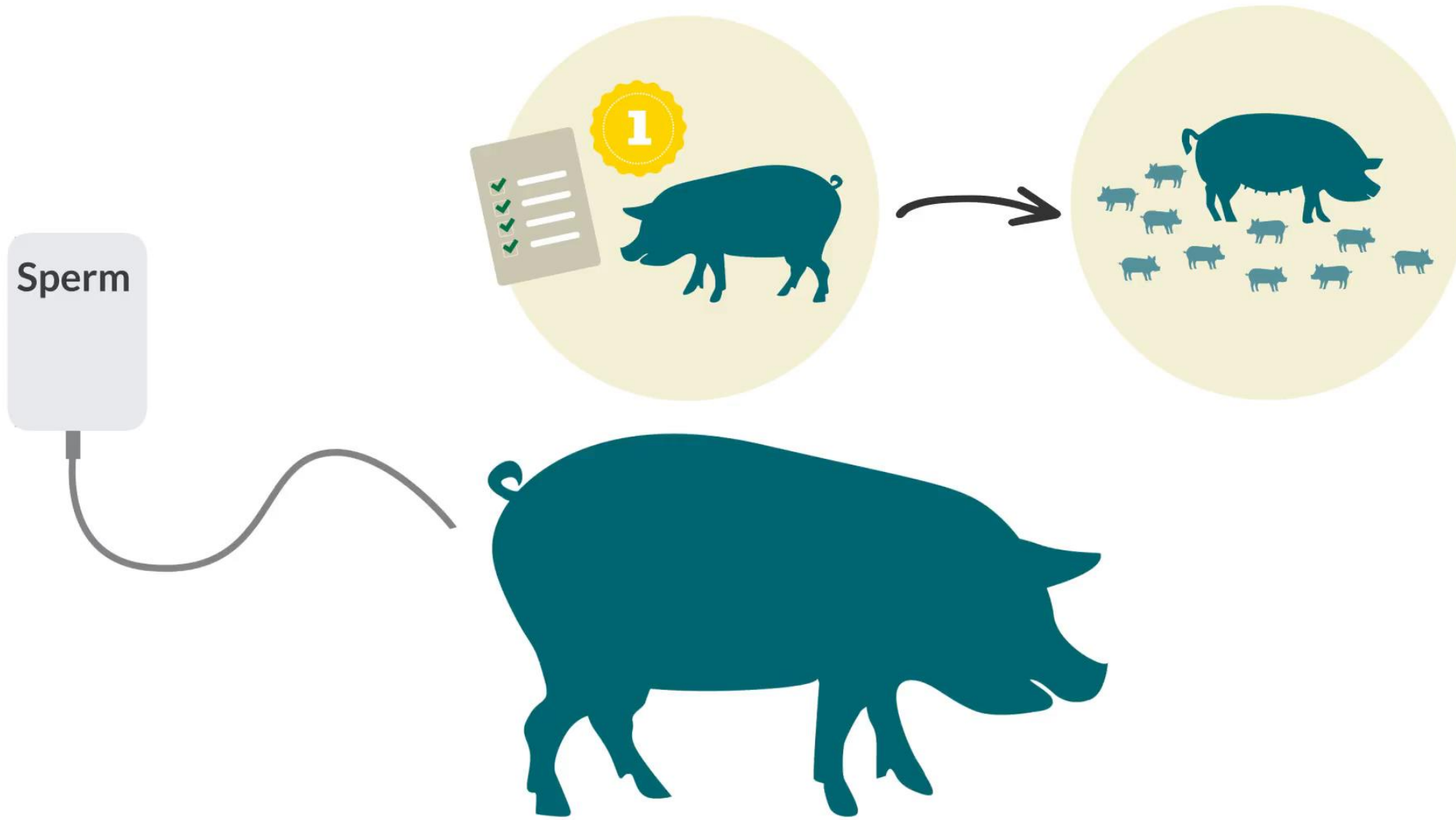
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## The Challenge for Sows

1. Feed utilization, growth and meat percentage are improved by the breeding
2. Gilts are not growers and must be fed differently
3. Fat in the body is important - both for fertility hormones and as a buffer for the sow
4. It can be done - with a focus on the gilts

<https://kurser.seges.dk/ng/public/webshop/#/publicwebshop/product/598>



**Nutrition, feed strategy and management are the three tools that control age, weight and back fat thickness at first service.**

**When these things are okay, you have created a good basis for your gilts to have a long and productive life.**



A close-up photograph of a pig's face, showing its eye, ear with a yellow tag, and snout. A semi-transparent blue rectangle is overlaid on the left side of the image, containing the title text.

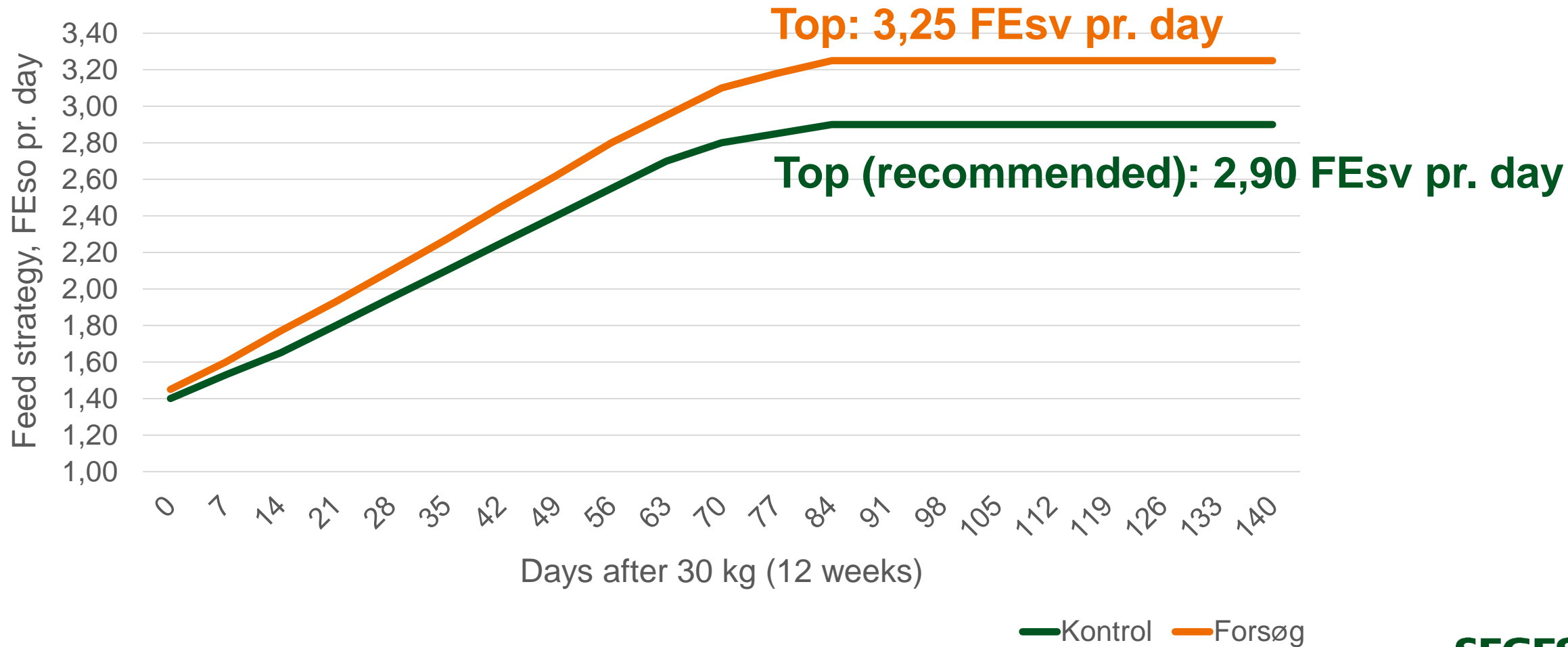
# Feed strategy for gilts

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# Effect of the feed strategy

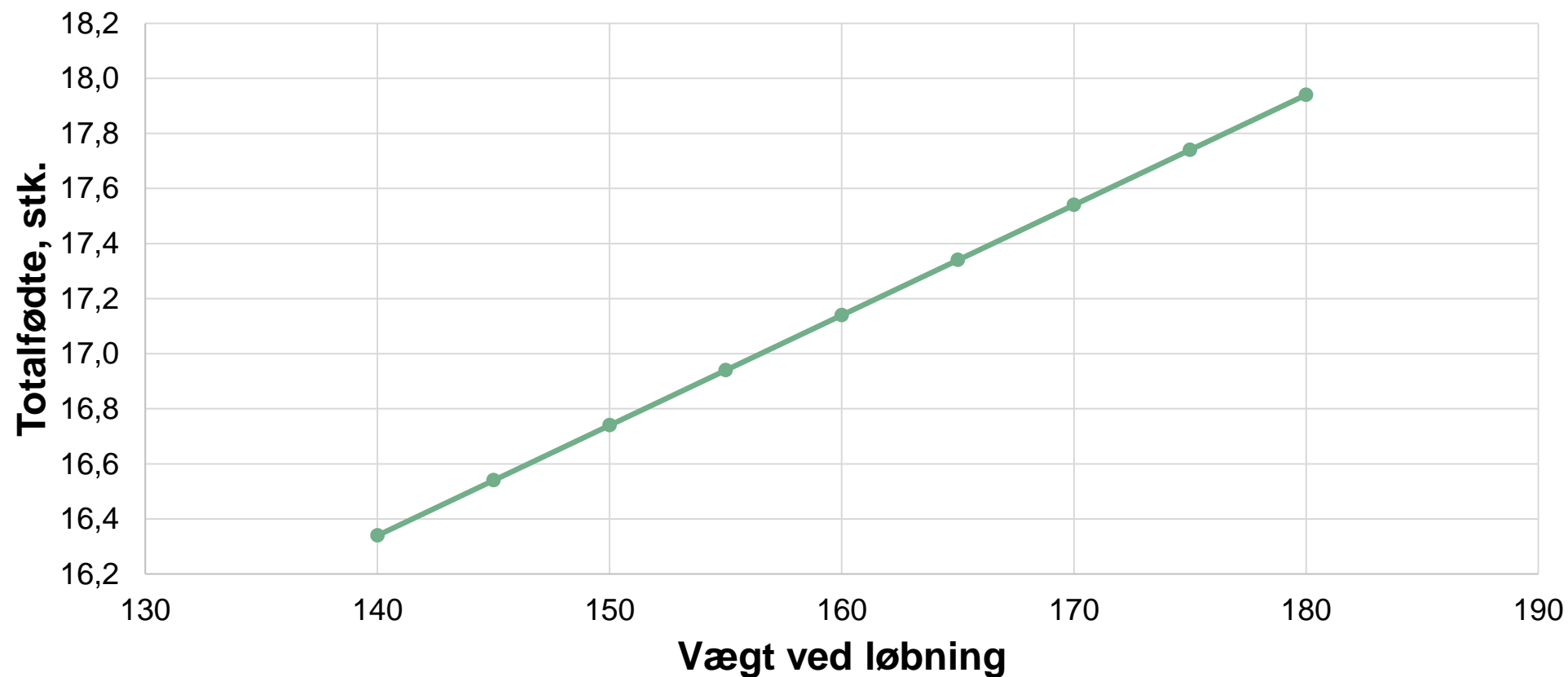
- two sow herds



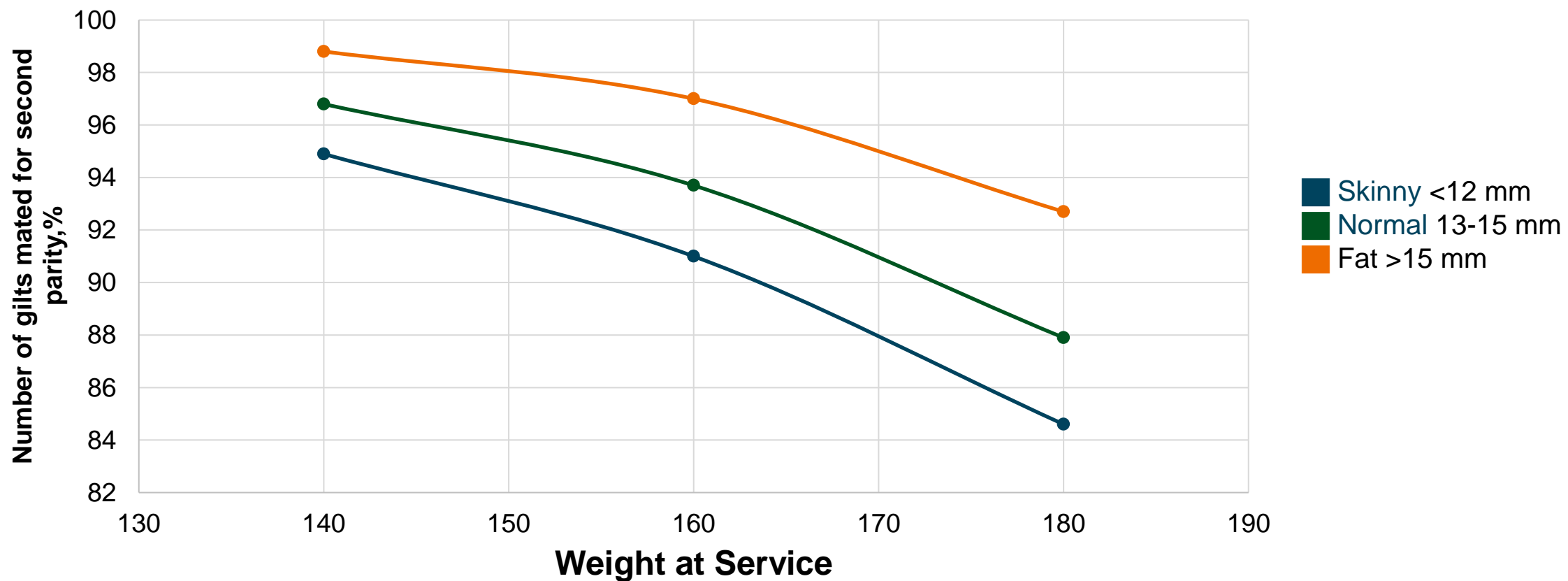


# Weight at service and litter size

+0,4 Total Born piglet pr. 10 kg of extra Weight at service

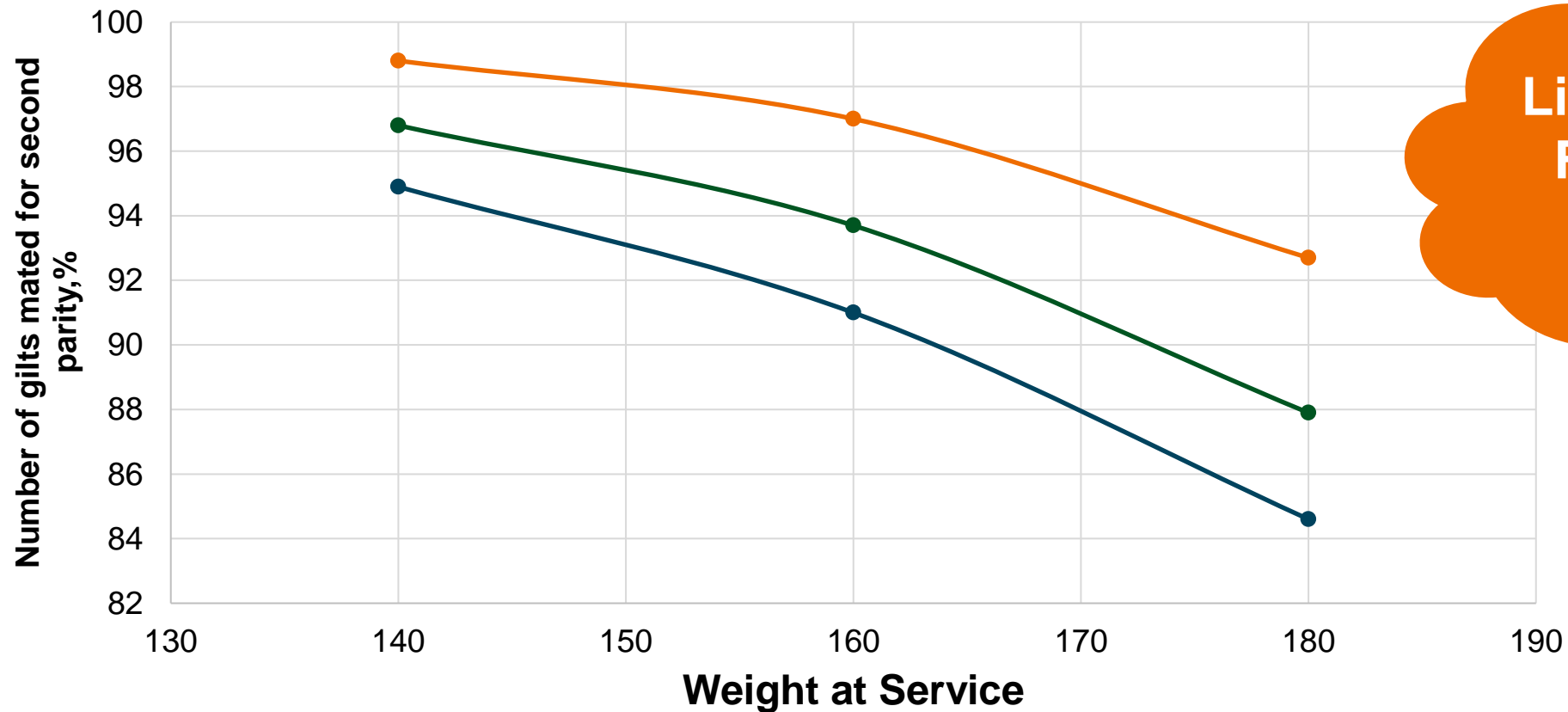


# Correlation between weight when service and longevity at deferent backfat levels





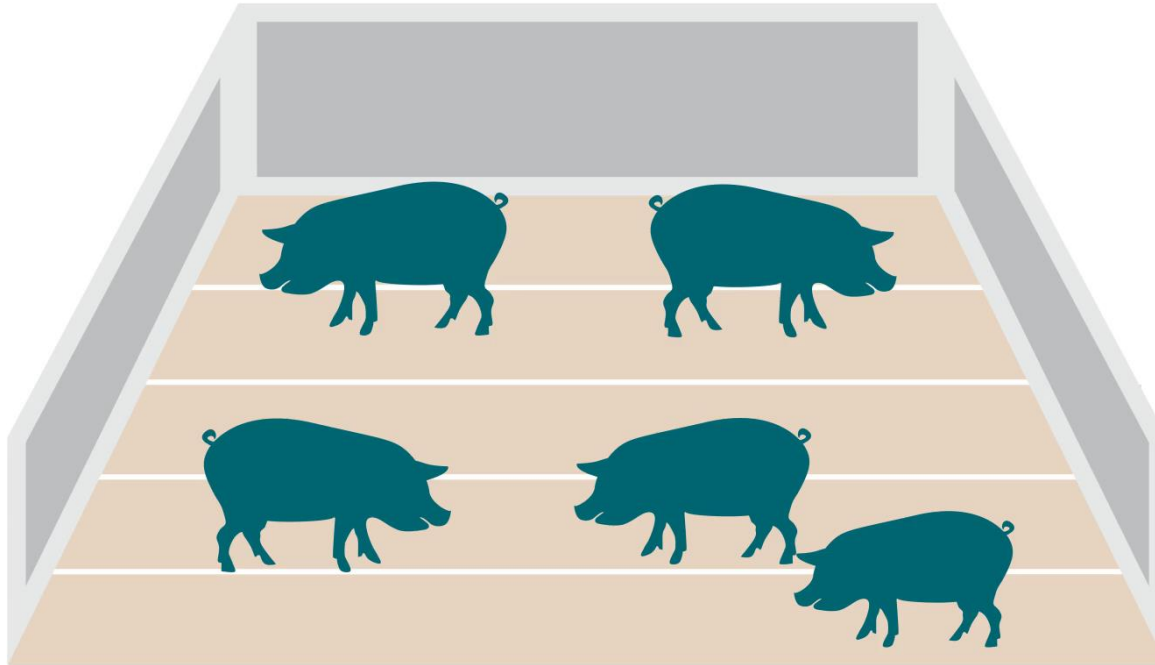
# Correlation between weight when service and longevity at deferent backfat levels



Live as a sow is  
**FAT** if i'm not  
too heavy



# Gilt management



# Management – feed strategy and housing

- Fed restrictively on the floor or long trough - room for everyone at the eat at the same time
- Focus on the content of minerals, protein/amino acids and energy
- Bright pens and good space conditions (m<sup>2</sup> per animal)

8-15 gilts per pen

Small pens available for sorting by size, heat etc.



# Good management with uniform gilts

## Range in age of 7-14 Days for gilts in the same pen

- Focus on variation in weight (max. 10 kg between largest and smallest gilt in the pen)

## Look at the big and small gilts in the pen at 100 kg

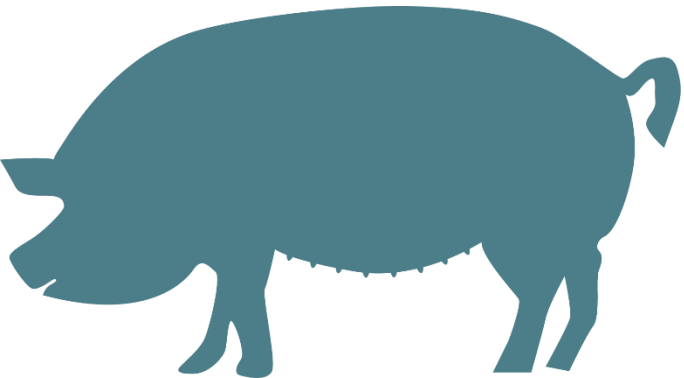
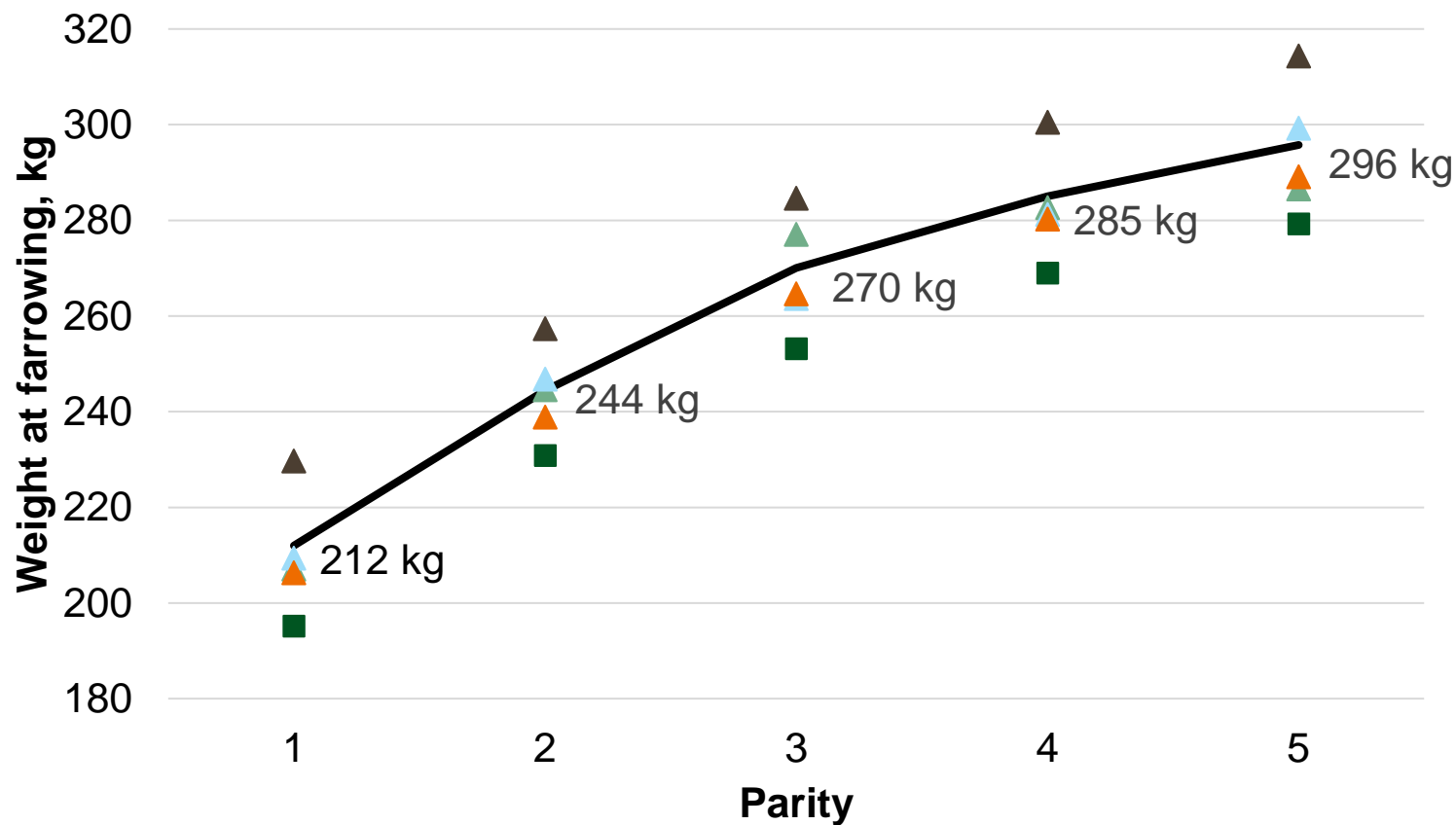
- Small gilts are taken out and fed ad lib with low lysine (pregnancy diet)
- Large gilts are moved forward to the previous gilts— special focus if you have the sows in group-fed systems
- "Bad" animals are slaughtered

- Variation in the weight of your gilts gives you a variation in the sow weight





# Focus on muscle growth





# Flushing: How to do it?

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# Heat at the gilt

## Step 1: Move the gilts to the service area

⇒ Positive stress

## Step 2: Intensive contact with a boar

⇒ Positive stress

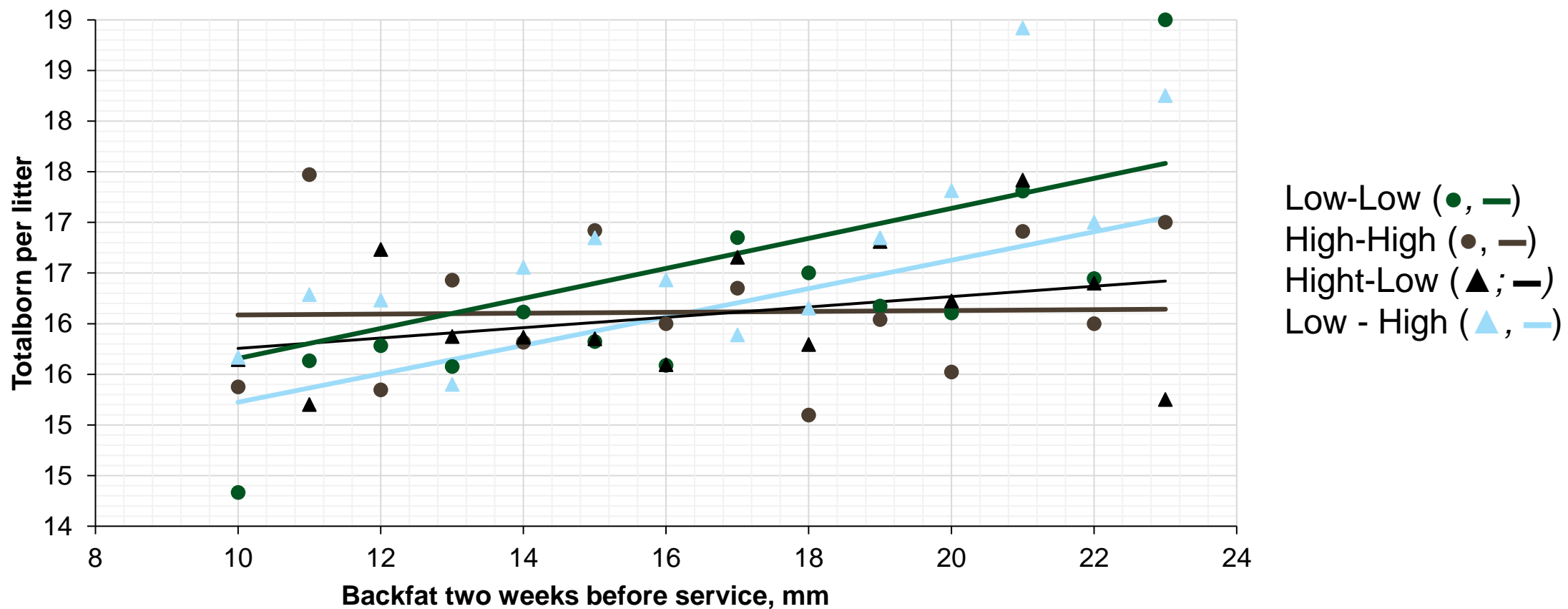
⇒ Find the first heat

⇒ Know the time for the second heat +/-

⇒ Flushing is planned

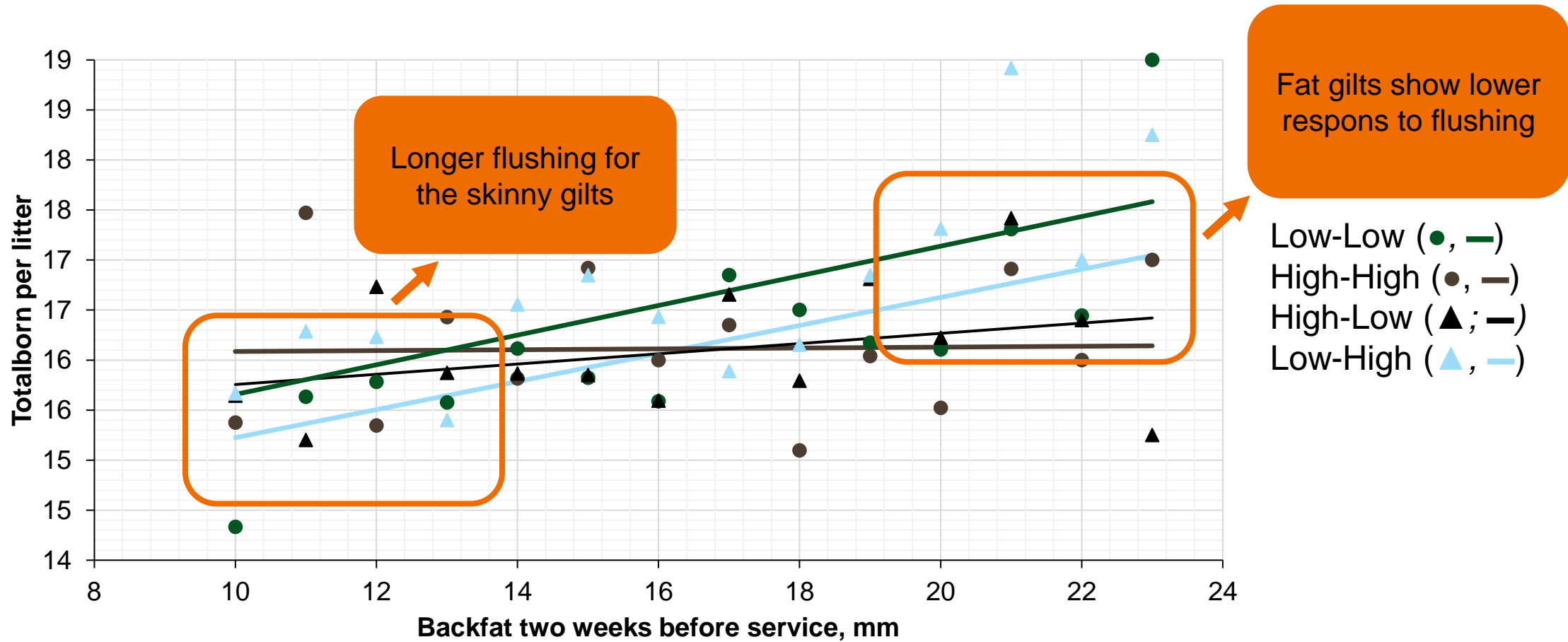
⇒ Flushing is an increased amount of feed before service

# Flushing – effect is based on the backfat level





# Flushing – practical recommendation



# Nutrition – Diets for the gilts

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# Nutrition – minerals, protein and energy



- Gilts must not be fed for optimal growth
  - Less protein/lysine per FEsv increases feed consumption per kg gain (+ fat gain)
  - Calcium and phosphorus are optimized per FEsv in the feed (++)safety margin)
  - 300% phytase dose is used (cheapest feed)

# Nutrition – minerals, protein and energy



Foto: DanBred ©

**Important:** Regardless of whether there is 3.5 or 6.0 g dieg. lysine per FESv there is at least a 14% safety margin for Ca and P in the recommendations (safety margin increases with decreasing lysine)

- 300% phytase dose is used (cheapest feed)



## D<sub>3</sub>-vitamine for gilt – new data

- D<sub>3</sub>-vitamine plays a role in the turnover of calcium and fosfor
- The following levels produced **NO** differences in bone strength or bone mineral content at different levels of calcium in the feed
  - 800 i.e. vitamine D<sub>3</sub> pr. FEso ✓
  - 1869 i.e. vitamine D<sub>3</sub> pr. FEso ✓
  - 1869 i.e. 25-hydroxyvitamine D<sub>3</sub> pr. FEso ✓
- D<sub>3</sub>-vitamine status in plasma is effected by the source and level

## Calcium for gilts – new data

- **Avoid high levels of calcium in the feed**
  - Reduces phosphorus utilization and produces a dangerously low phosphorus content in urine
  - Lameness ↗⇒
  - Can also have a negative impact on the absorption of microminerals <sup>2+</sup>

## Calcium for gilts – new data

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  - Reduces phosphorus utilization and produces a dangerously low phosphorus content in urine
  - Lameness ↗⇒
  - Can also have a negative impact on the absorption of microminerals <sup>2+</sup>
- Reason why some people see an effect from giving extra monocalcium phosphate to the gilts

# What happens by undersupplying protein?

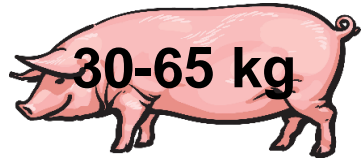
- Growth decreases and fat content increases
- Gilts can exhibit undesirable behavior
- Let's hear what Per Tybirk has to say about it?





# Recommendations for gilts

## Nutrients per FEsv/FEso



30-65 kg

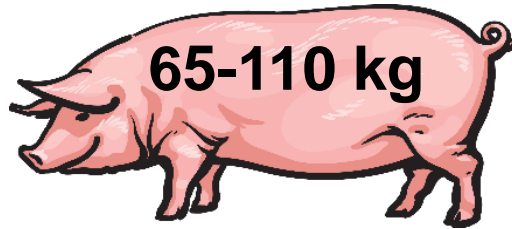
**Dieg. lysine: 7,7 g**

Dieg. protein: 118 g

Dieg. fosfor: 3,0 g

Calcium: 7,0-8,0 g\*

D<sub>3</sub>-vitamin: 800 I.U.



65-110 kg

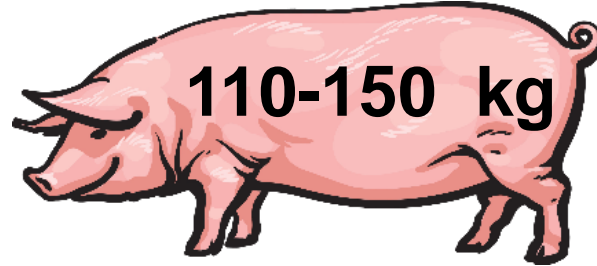
**Dieg. lysine: 5,0 g**

Dieg. protein: 95 g

Dieg. fosfor: 2,3 g

Calcium: 6,4-7,4 g\*

D<sub>3</sub>-vitamin: 800 I.U.



110-150 kg

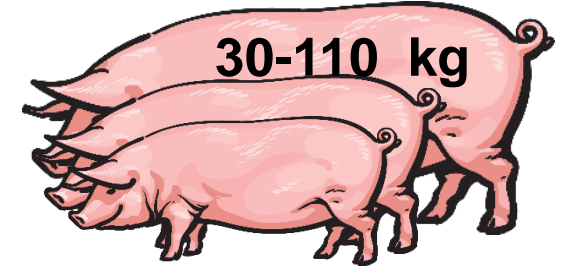
**Dieg. lysine: 4,0 g**

Dieg. protein: 90 g

Dieg. fosfor: 2,0 g

Calcium: 6,0-7,0 g\*

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30-110 kg

**Dieg. lysine: 6,0 g**

Dieg. protein: 100 g

Dieg. fosfor: 2,5 g

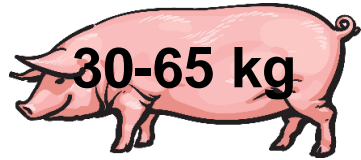
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\* Calcium level according to added level of phytase 0-400 %

# Recommendations for gilts

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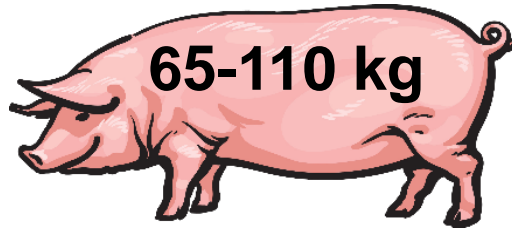
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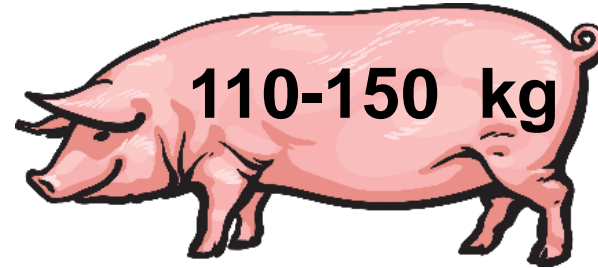
**Dieg. lysine: 5,0 g**

Dieg. protein: 95 g

Dieg. fosfor: 2,3 g

Calcium: 6,4-7,4 g\*

D<sub>3</sub>-vitamin: 800 I.U.



110-150 kg

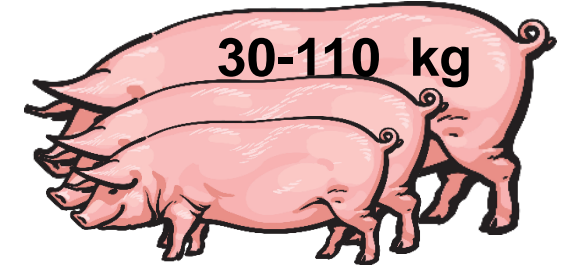
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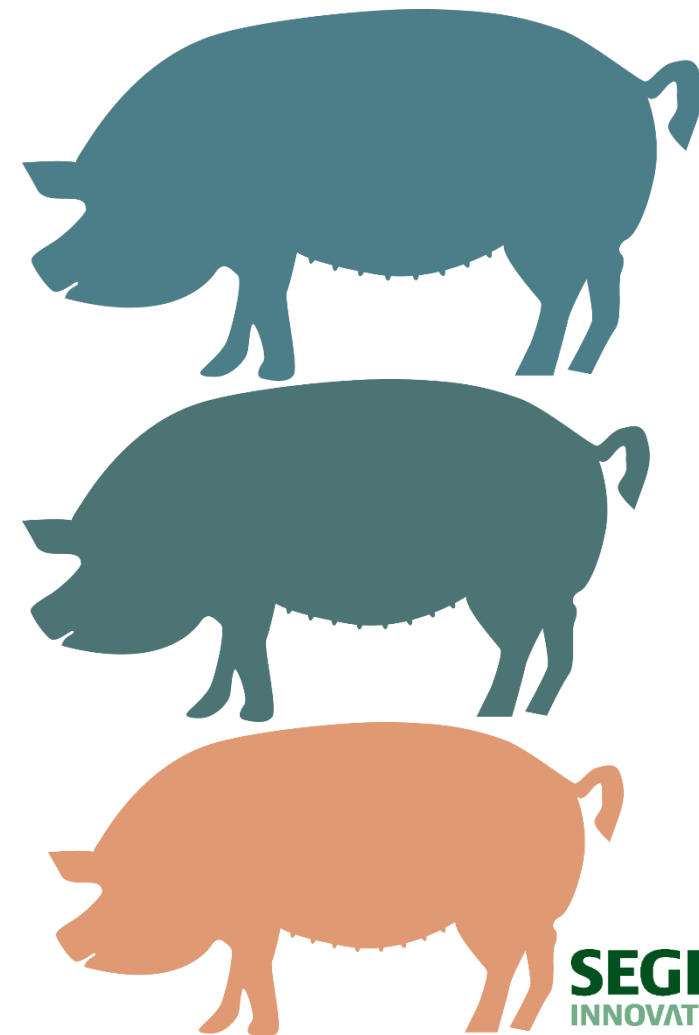
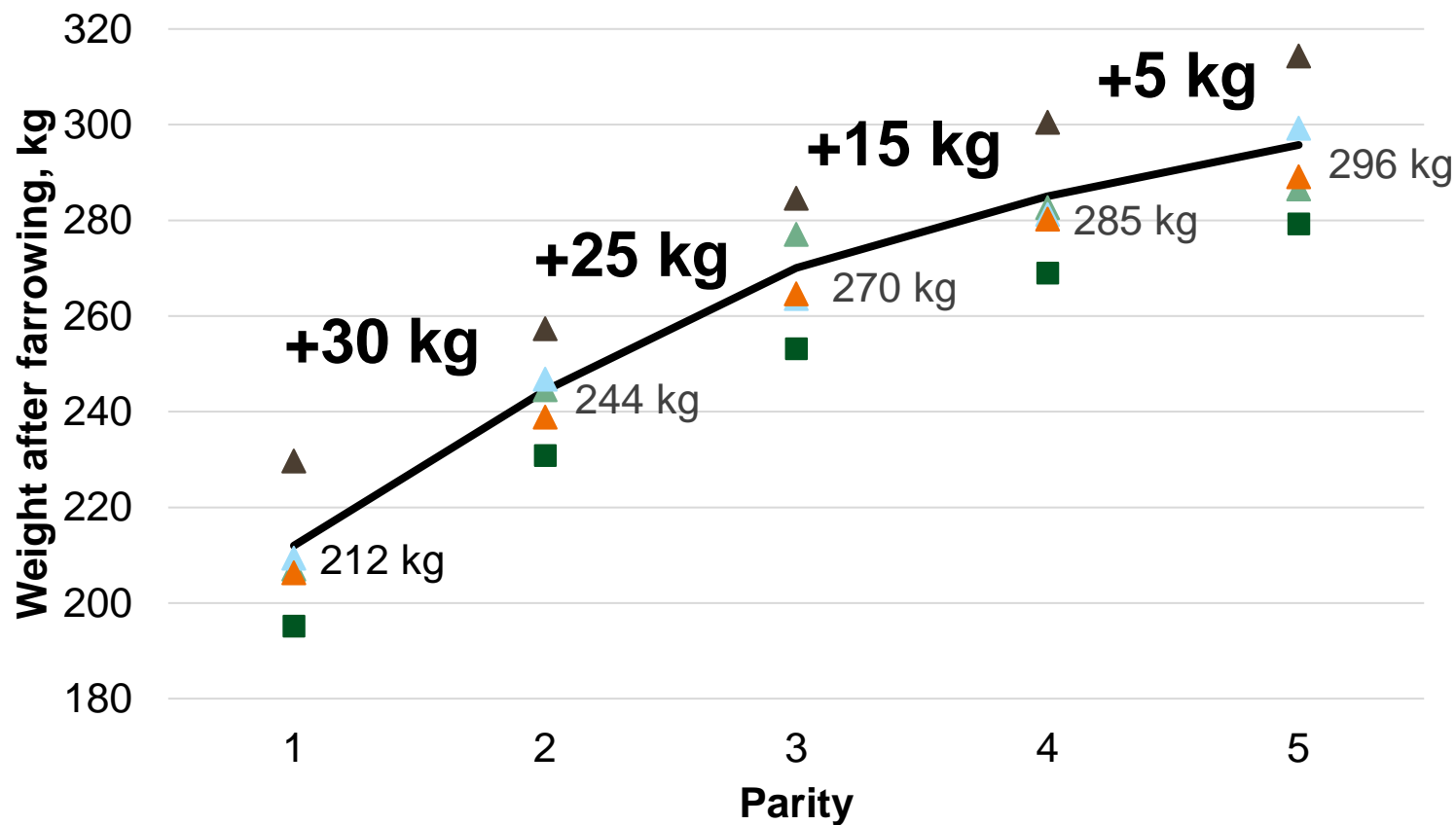


30-110 kg

Take care

\* Calcium level according to added level of phytase 0-400 %

# Oversupplying in the gestation period with protein/amino acids is also problematic





# Average littergain and backfat of the sow at farrowing



# Practice



Here at Volsgaard Avl & Opformering, we focus on breeding in Landraces and Duroc, distributed across two properties.

## The solution to the challenge

1. Feed utilization, growth and meat percentage are improved by the breeding
  - *Changes in breeding goals will give an effect*

## The solution to the challenge

### 1. Gilts are not Growers and must be fed differently

- *Protein supply after approx. 65 kg and the feed strategy are your management tool*
- *You must not oversupply with calcium - can cause lameness and sore legs*
- *Review your gilts at approx. 100 kg and handle the small and big ones*
- *Space for the gilts and have small pens available*
- *Heavy gilts effect the longevity of your sows*

## The solution to the challenge

1. Fat in the body is important - both for fertility hormones and as a buffer for the sow
  - *Uniform gilts - age and weight*
  - *13-15 mm back fat at service for 31-34 weeks old gilts*
  - *Protein supply after approx. 65 kg and the feed strategy is your management tool*



# The solution to the challenge

1. It can be done - with a focus on the gilts
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# Questions

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