

# How to wean with succes?

Dyrlæge Michael Agerley

Porcus

Gårdejer Hans Jørgen Hansen

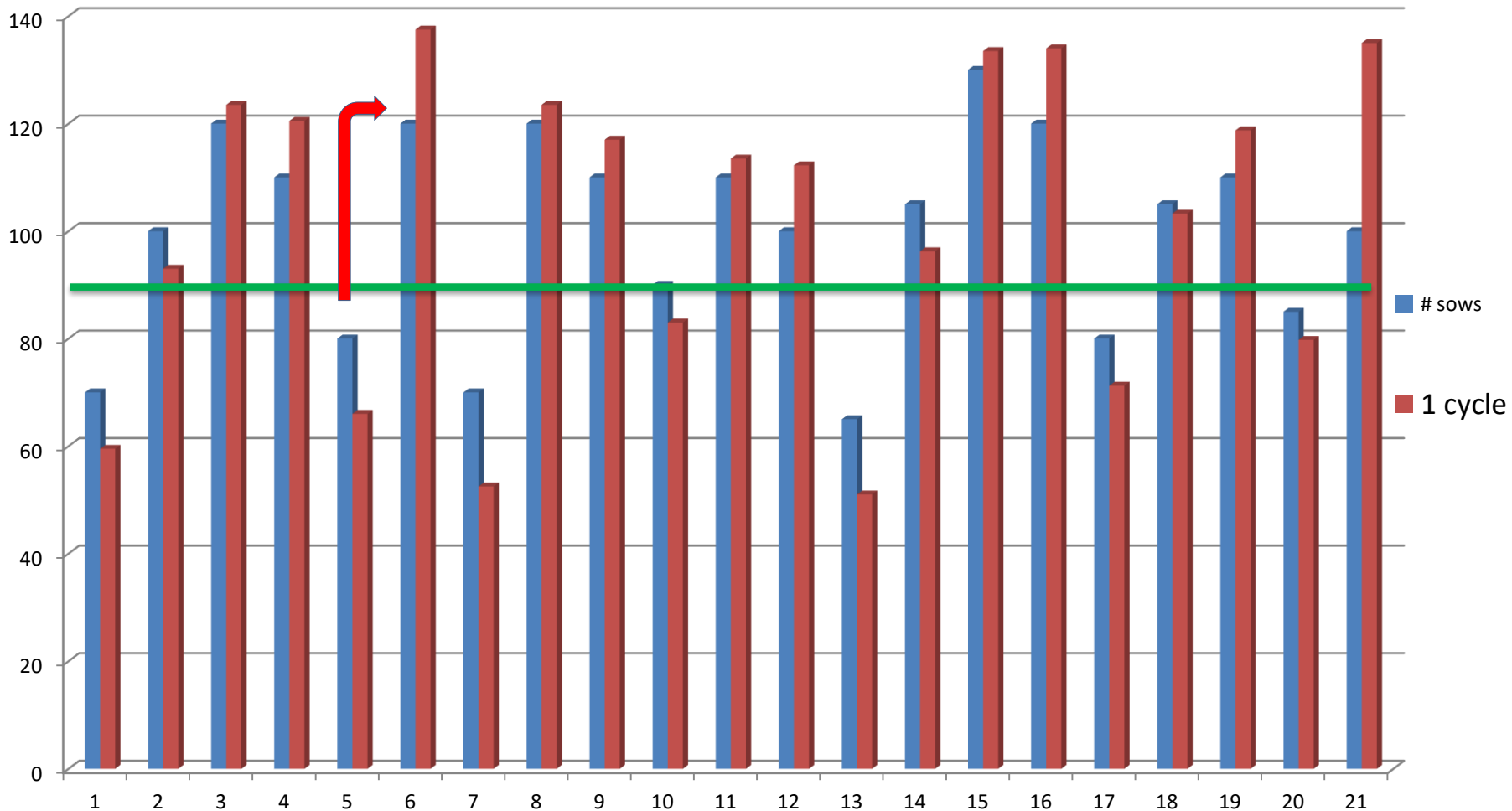
# Weaning with succes

- Minimize variation in number of sows per week
- Make sure your piglets can eat and digest before weaning
- Help the pigs to start eating with vet feed
- Find the right protein level !
- Organic-acid profile in feed (5-10kg/ton)
- Organic acids on water (pH < 4)
- Remember that pigs from foster sows also get diarrea 4 days after weaning

# VARIATION I UGEHOLD

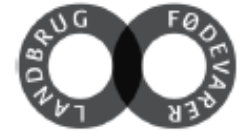
Great variation in the number of sows per week batch gives  
great variation in weaning age in weaner section  
Especially if hvis own weaning is low!!!

The big week batch, which comes after the small week batch “steals” 30% of the sows)

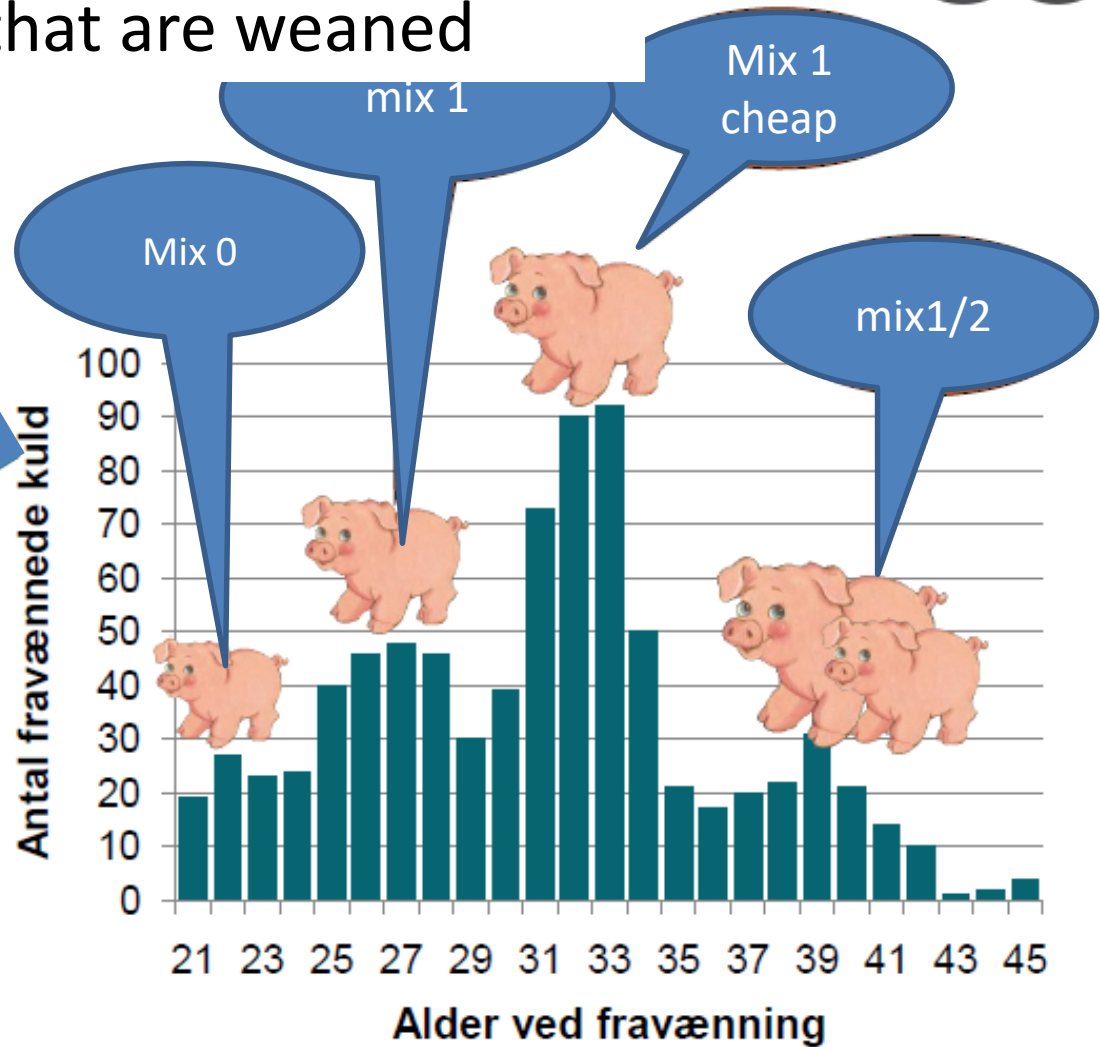


Often there is very big difference on the piglets that are weaned

Videncenter for  
Svineproduktion



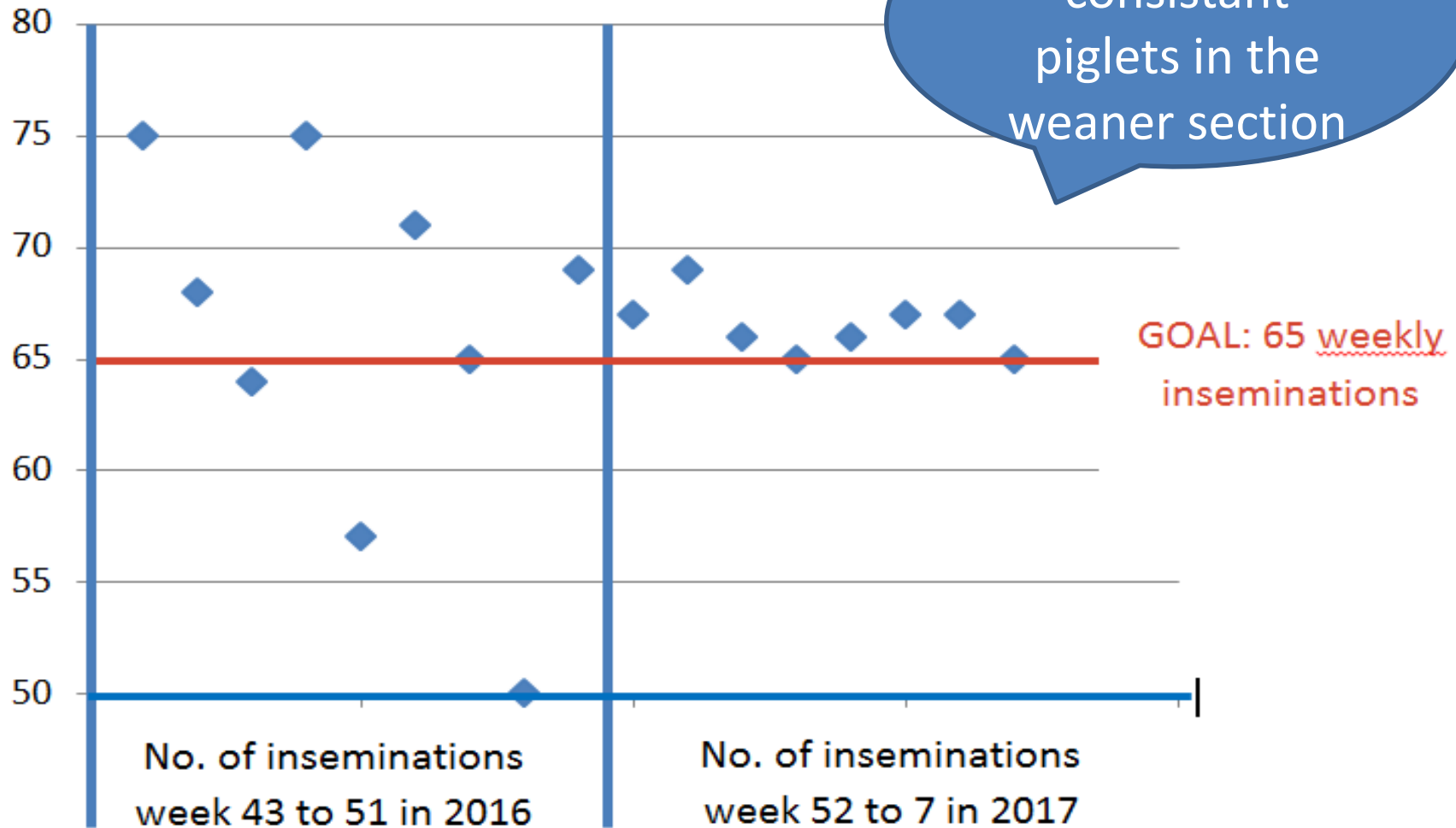
Differentiated  
feeding



Modificeret fra Seges

# Consistant week batches

From 30% variation to 5 % variation



**PIGLETS, WHO CAN EAT AND DIGEST  
PRIOR TO WEANING GET LESS  
DIARRHEA AND GROW FASTER IN THE  
WEANER SECTION**

# Feed uptake in the farrowing section

- Only 60% of the piglets at 8 kg have learned to eat before weaning
  - Anne Marie Van Bussel, Holland 2013
- **Pigs, who have learned to eat and digest in the farrowing stable grow + 50 grams and have less diarrhea.**
- Only 50% of the piglets at 6 kg have learned to eat before weaning
  - Agerley Danmark 2017 (6000 pigs)

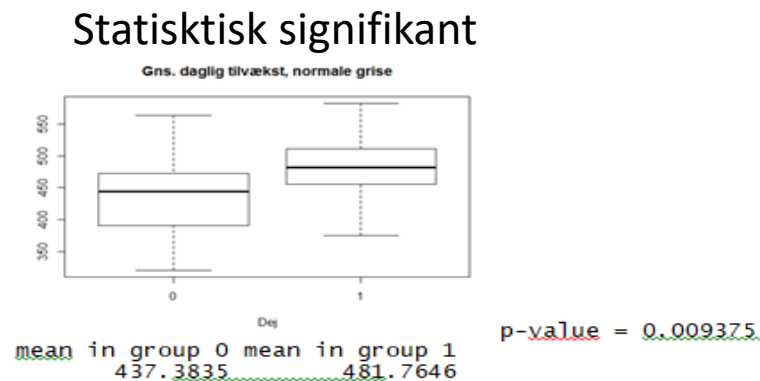
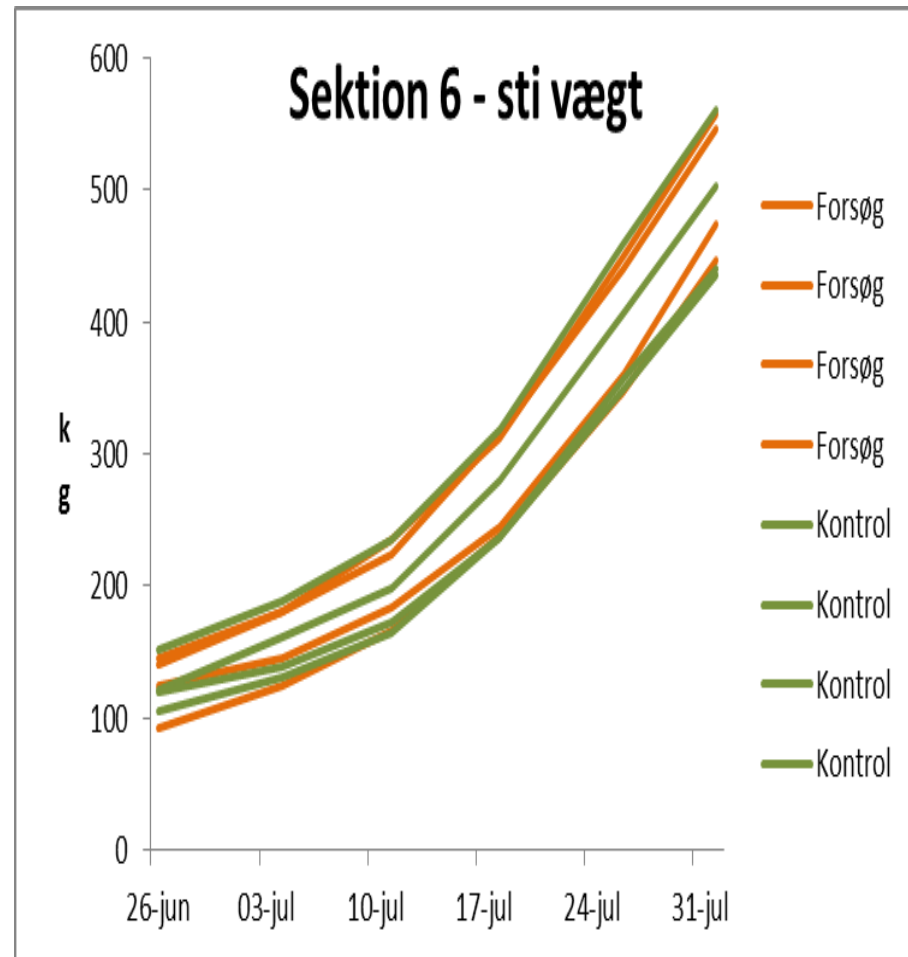




# Effect after weaning

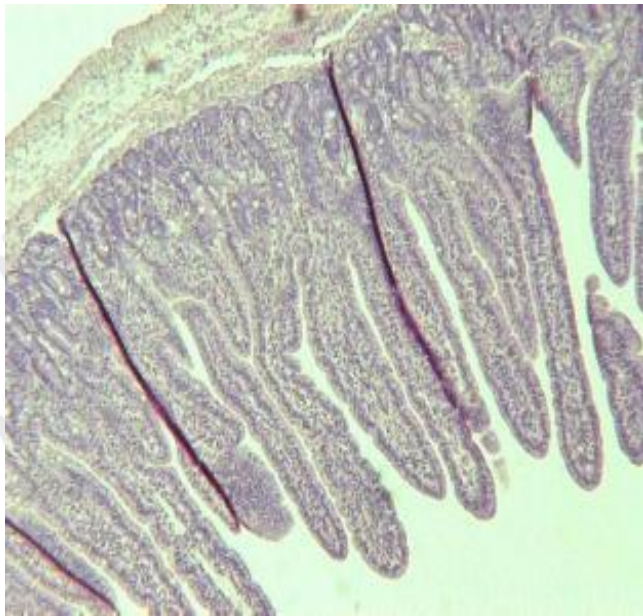
- +44 g/d
- Uptake of >400 grams vegetable feed before weaning.
- + 2kg after 7 uger

**Being able to eat and digest after weaning means more for the growth in the weaner section than the weight at weaning. This explains 50 % of inequality**

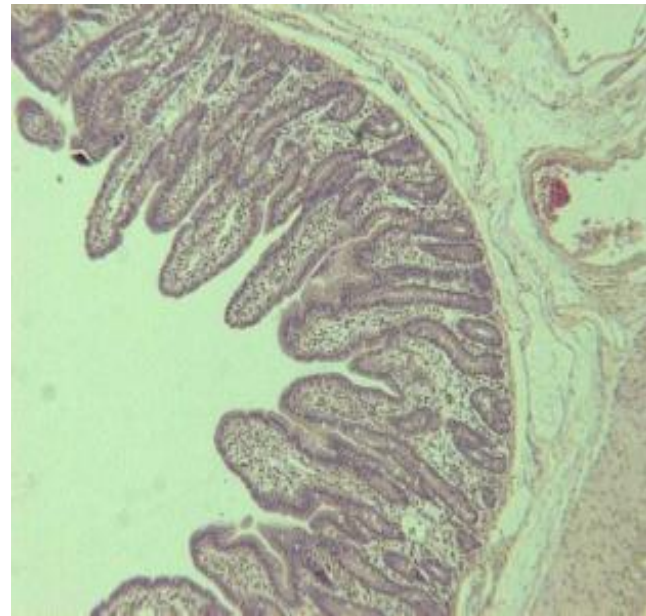


# Why is it important to make pigs eat ?

- A piglet, who learns to eat before weaning will continue eating
- Piglets, who don't eat at weaning will be damaged in the intestinal wall (> 30%)



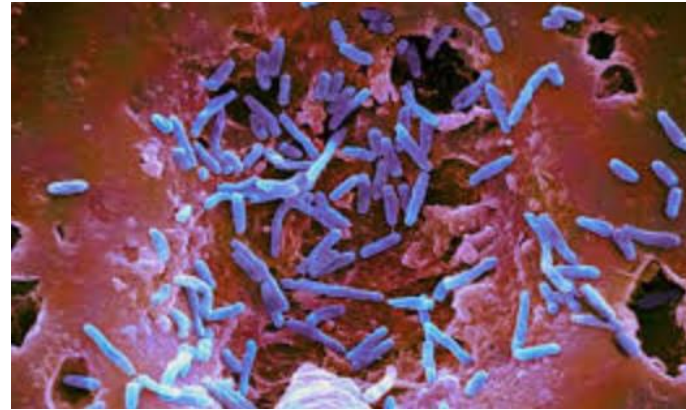
Fravæning



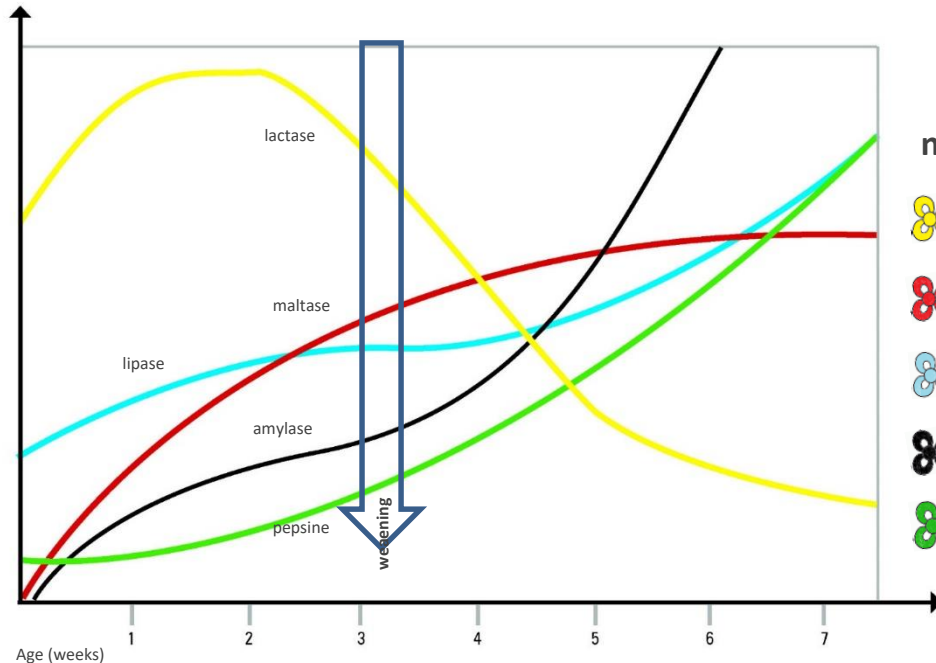
5 dage efter fravæning

Kilde: Anne Marie van Bussel






# The piglets must be able to eat and digest



1. Learn to put feed in the mouth
2. Change of intestinal flora
3. Enzyme training



Which enzyme “breaks” which nutrient:

-  **Lactase: lactose** (milk sugar)
-  **Maltase: maltose** (sugar)
-  **Lipase: fats**
-  **Amylase: starch**
-  **Pepsine: proteins**

# Fodring af pattegrise

- High feed uptake in the farrowing stable before weaning >400 gram foder
- Keep score of amount of feed per week/ number of piglets weaned
- Piglets don't eat old feed!!
- Piglets don't grow from feed in the manure!!



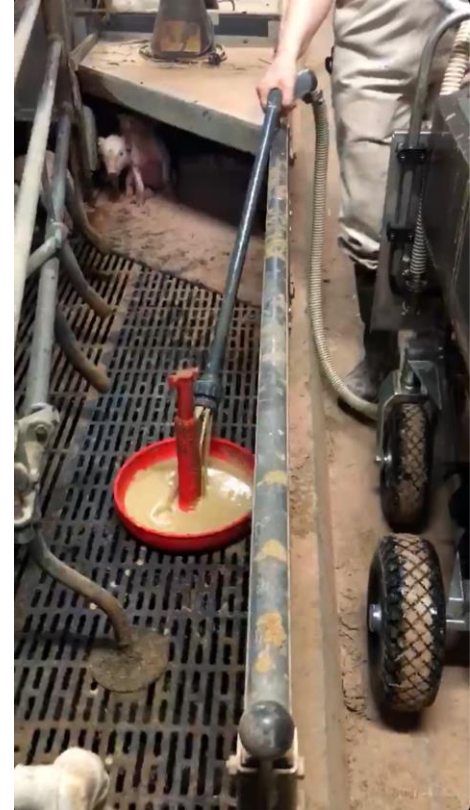
# Fodring af pattegrise

- Use a bowl for feeding. The bowl must be nearly empty at next feeding.
- Throw some feed in front of the sow. The sow will teach the piglets to eat.
- Feed at least 3-4 times daily
- Combination of training feed (day 4-8) and regular piglet feed (day 8 – end) works well



# Fodring af pattegrise

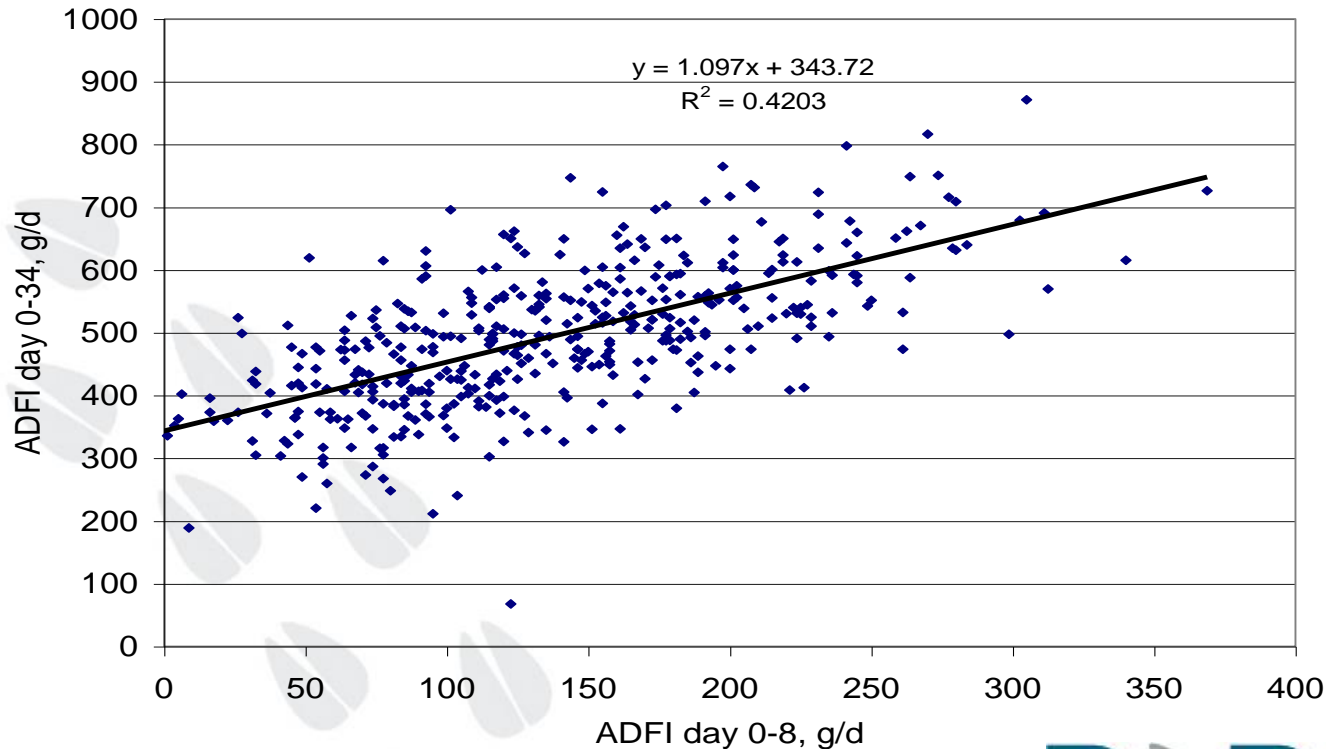
- Wet feed for piglets increases the feed intake and you don't feed as often.
  - Watch out for PH and hygiene (especially when milk in feed)
- Milking system
  - Gives stronger piglets but not so much enzyme training (milk piglets)
  - Turn off the milk in day time after 12-14 days and feed the piglets
  - Turn off the milk at least the last week



# FEEDING AND FEED INTAKE

# 1 week of feed intake/gain predicts 40% of daily gain in the weaner section!!

- Goal: 150 g/day the first week after weaning

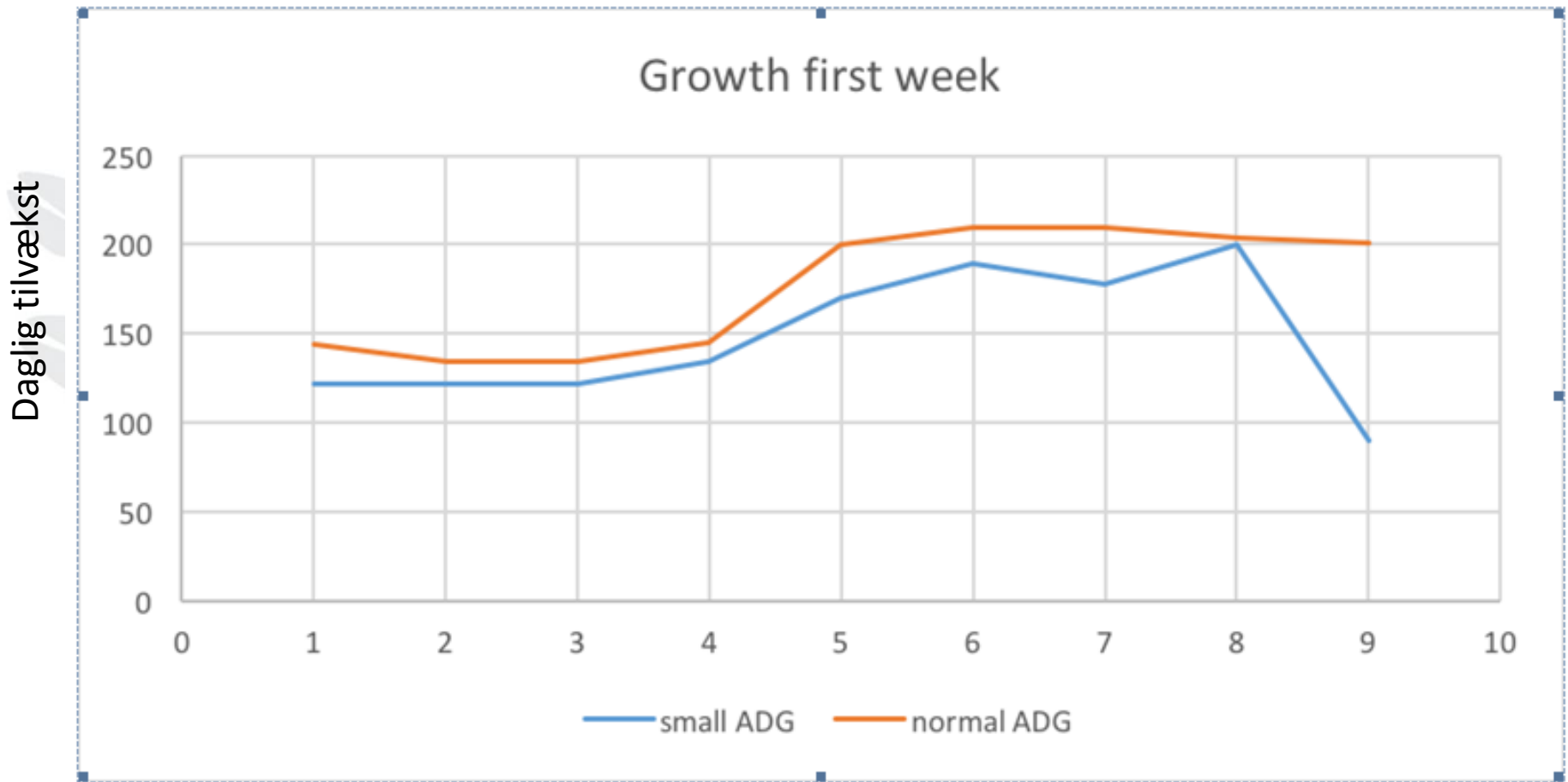


Annemarie van Bussel



# Supervision of 1 week daily gain at simple weight batches day 0-7

Goal: 150 g/d or feed intake of 1,5-2 kg feed



Uger

SVINEFAGDYRLÆGER

# What can we do to make the piglets start eating?

- Soaked feed the first 3 days
  - In troughs or possibly in feeding system.
  - 2-3 times daily



# FORMULATION OF THE FEED



# Balance in the Gut

Nondigested feed will feed the bacteria

Lower PH  
Anibiotics  
Fibers  
Training to eat  
Coli protect



Proteine level  
Infection pressure (concret slaps)  
Proteine quality



The Gut



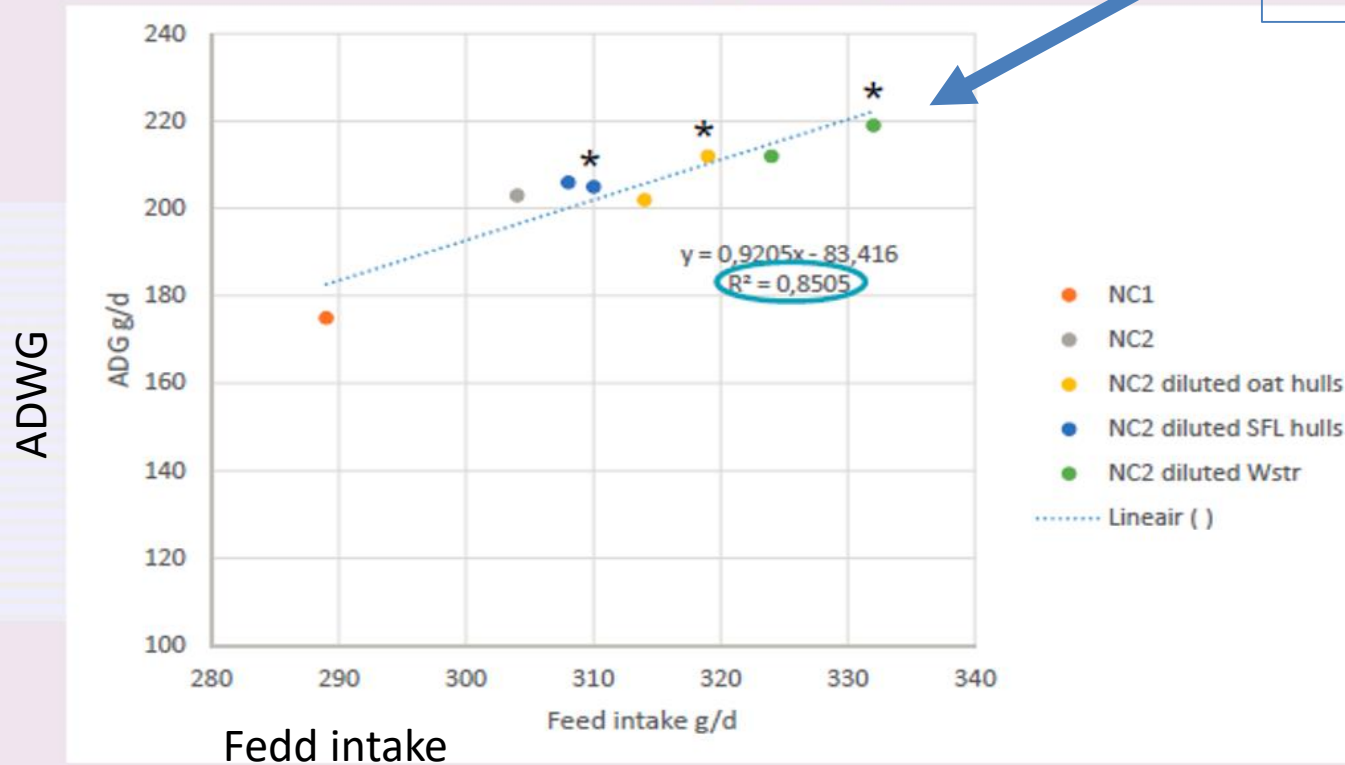
# High fiber content

## Relation ADG and ADFI



## 0-14 d

4% weat hulls.  
High fiber  
formulation



# Reverse fase feeding.

Mix 1



Mix 2



Mix 3

130-138 g.Ford.råp.  
11.0 g.Ford.lys

132 -140 g.Ford.råp.  
11.5 g.Ford.lys

143-151 g.Ford.råp.  
11.5 g.Ford.lys

**Fase fodring**

118-126 g.Ford.råp.  
10.0 g.Ford.lys

125-131 g.Ford.råp.  
10.5 g.Ford.lys

137-145 g.Ford.råp.  
11.0 g.Ford.lys

**Reverse fase feeding**

- Low Calcium
- Calciumformiat
- 5-10 kg organic acids/ tons
- Structure / Fiber
- Mix feed when changing formulation

# ACIDPRODUCTS ON THE WATER SYSTEM

# Mixed organic acids products

- Organic acids in feed and water-> improves proteine digestion

PH 3.8-4.0





# Effect against E-coli depends on the pH!!

## Acid

Formic acid

Butyric acid

Lactic acid

pH 4

+++

+++

+++

pH 6

+

+

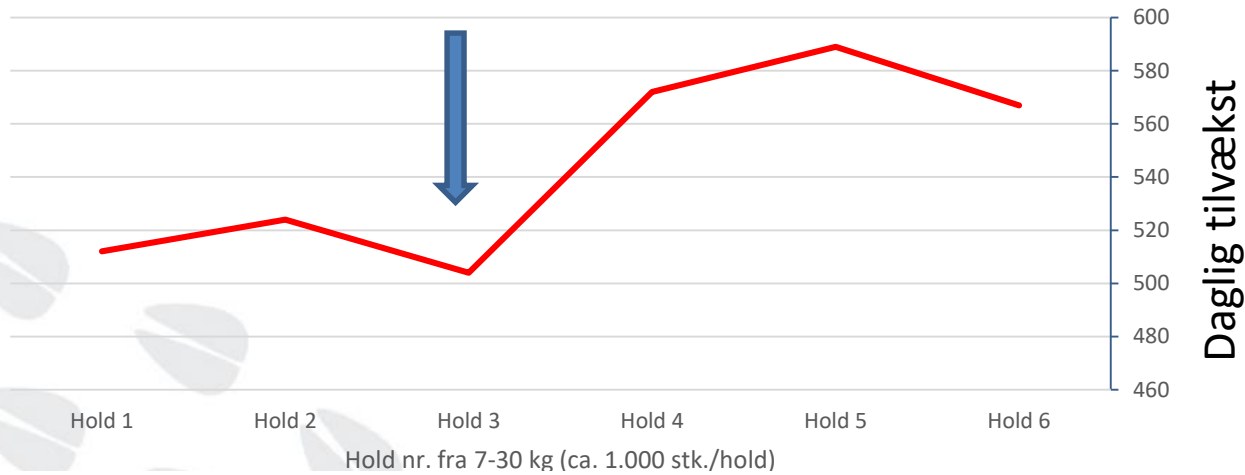
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ID-TNO Leleystad Nr 2066 v.d. Meulen, J.



~~Hvor mange promille skal den stå på ?~~

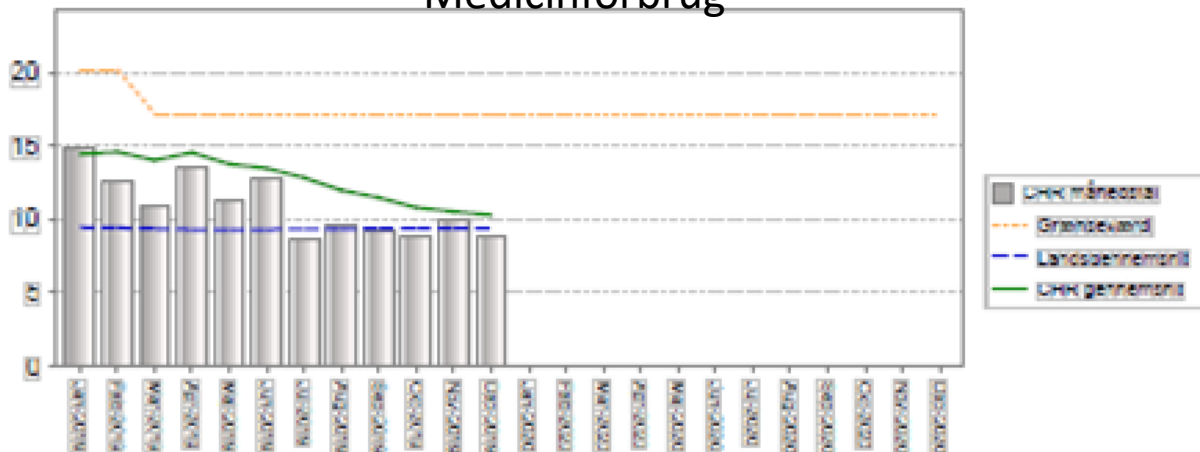
# Upstart of Acidmixes on water



Hold nr. fra 7-30 kg (ca. 1.000 stk./hold)

FVST's græseværdi, løbende 9 måneder

## Medicinforbrug



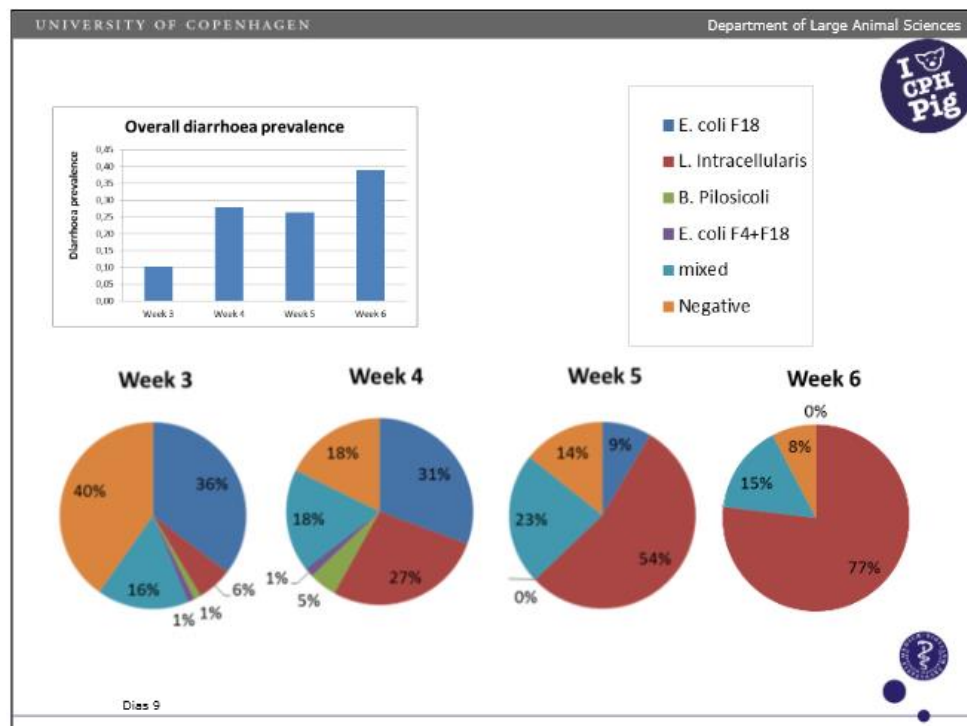
# THREATMENTS WITH ANTIBIOTICS



# The aim is to wean piglets without the use of extra ZNO

## E-coli diarrhea still needs to be treated

- E-coli diarrhea when changing feed mix 1->mix2
- Weaning diarrhea day 4
- Remember foster piglets do not get diarrhea the same day !!!
  - Can be treated separately in through





Piglets

Production of 7.500 30 kg's piglets

Slaughterpigs

produces 2.500 yearly

Slaughterpigs 2

Produces 12.500 yearly

# Zink

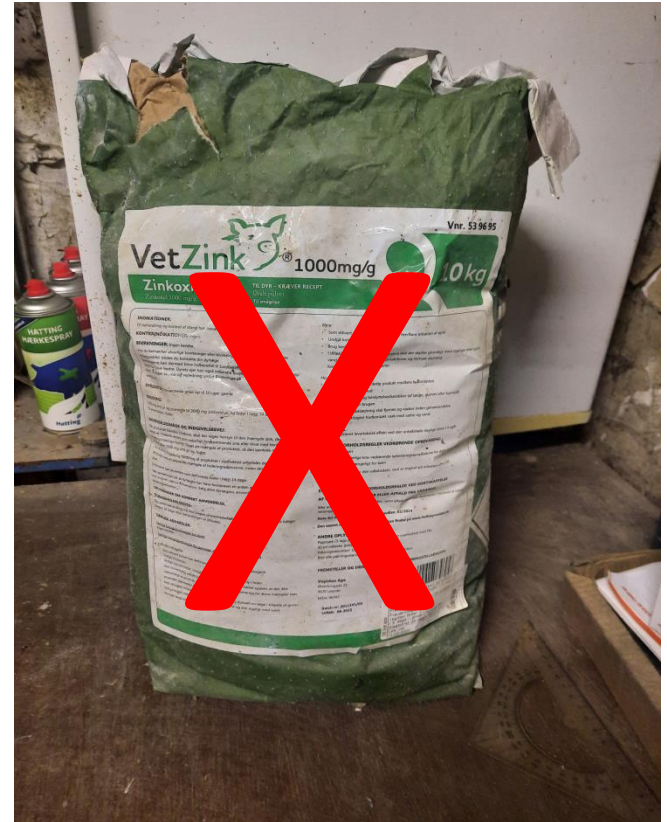
My experiences on weaning without extra ZNO

ZNO ban 26. juni 2022

Get startet !

My experiences

Summer hollidays



# Happy and engaged employees



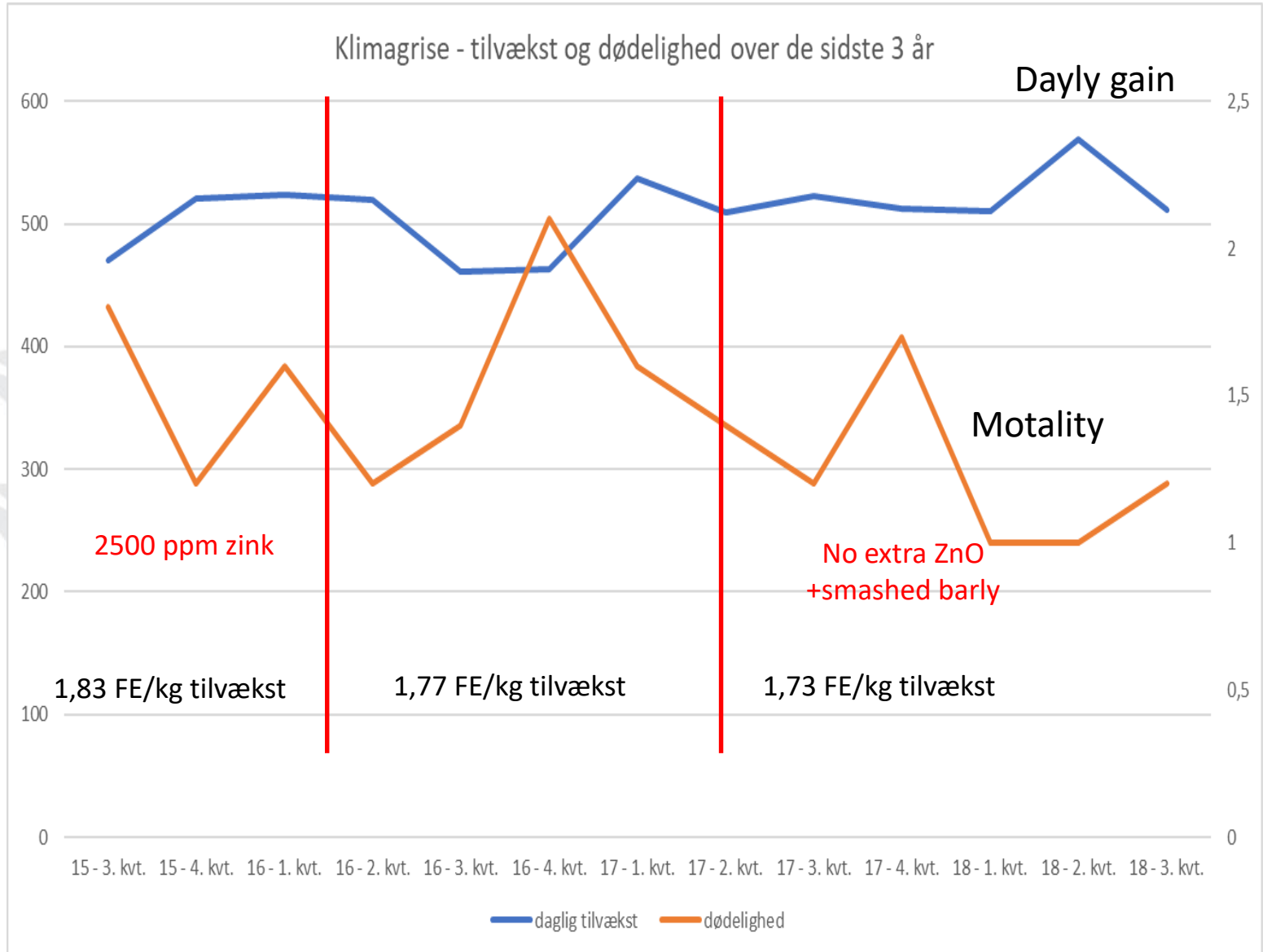
Meeting on zink substitute

Miracel powder

Vet had another suggestion

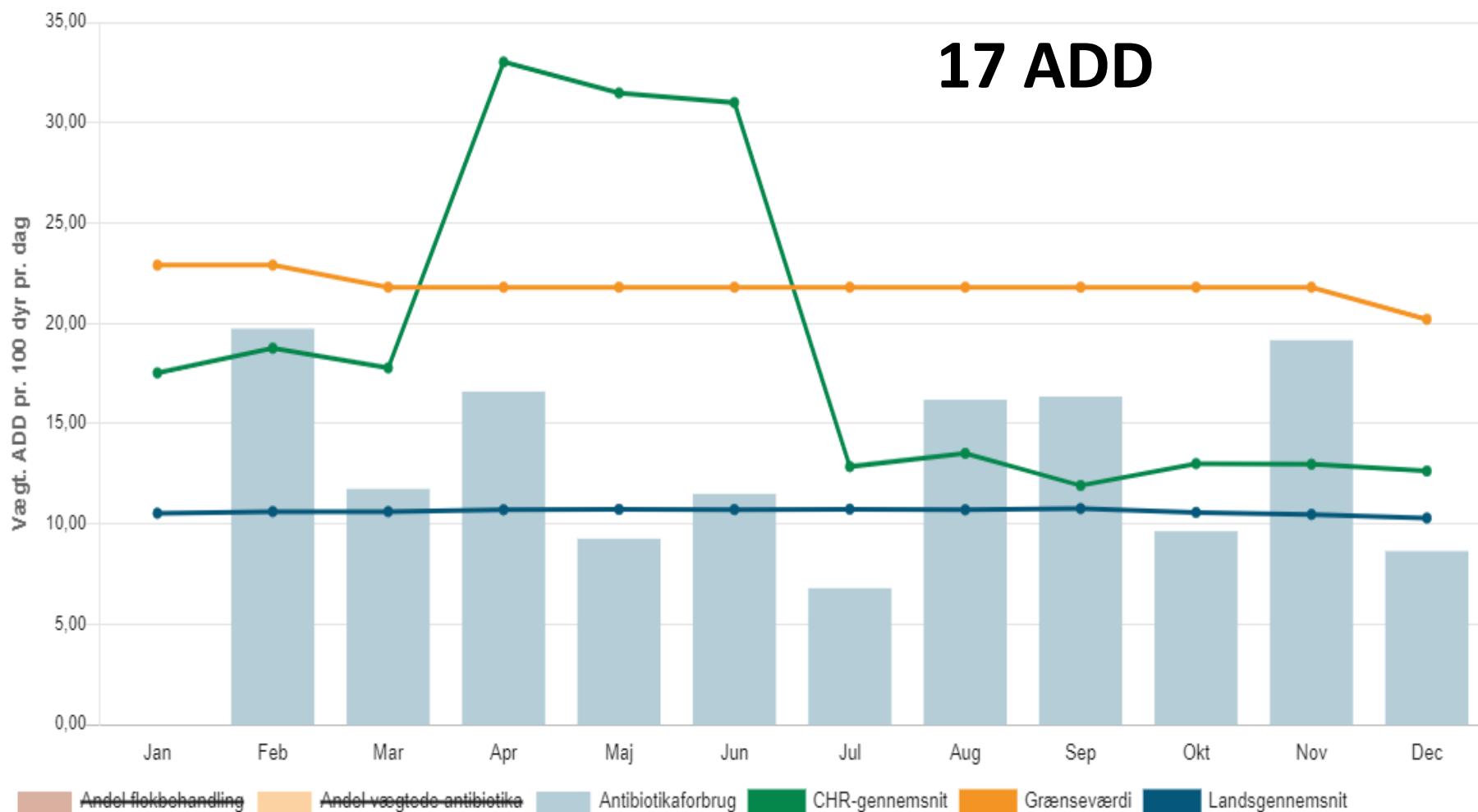
We also tried lower levels of ZNO

# Without extra ZinkOxide





# Antibiotic consumption from 2017 to december 2017



# Smashed barley

Let others try and make the mistakes !

Let's try to dilute your feed

Try with smashed barley

And it almost works 100% from starts

Increased organic acid levels



# Smashed barley



# Formulations

## Basis Frav T 1505 11+22+3+9

Tilskudsfoeder til smågrise frem til 4 uger efter fravæning.

Varenr.: 408561-74210A

### Analytiske bestanddele

25,20 % Råprotein  
4,50 % Råfedt  
2,00 % Træstof  
9,20 % Råaske  
2,46 % Lysin  
0,71 % Methionin.  
1,46 % Calcium  
0,91 % Fosfor  
0,43 % Natrium

### Sammensætning

Hvede R2 150 Varmbeh. (30,244%); Sojaproteinkoncentrat, fermenteret GS (16,056%); Hvede (15,000%); Kartoffelprotein (13,000%); Vallepulver (10,000%); Fedtsyrestillater fra fysisk raffinering (2,847%); Monocalciumfosfat (2,753%); Kridt (1,328%); Formic Acid \* (1,200%); Natriumklorid (1,064%); Sukkerroemelasse (1,000%); Forblending DA Fravæn. med gær (E1626)stabiliseret med antioxidant \* (0,936%); Produkter af gærceller (0,197%); Aromaforblending (0,066%);

### Tilsetningsstoffer (pr. kg)

Ernæringsmæssige: 29250 i.e Vitamin A 3a672a 3510 i.e Vitamin D3 3a671: 418 i.e E-vitamin 3a700 (all-rac- $\alpha$ -alfatokoferol-acetat): 468 mg Fe, jern-fumarat 3b105: 281 mg Cu, kobberchelat glycin 3b413: 117 mg Mn, manganoxid 3b502: 234 mg Zn, zinkchelat glycin 3b607: 0,59 mg I, calciumjodat 3b202: 0,70 mg Se, natriumselenit 3bE8:  
Zootekniske: 2350 FYT Ronzyme HiPhos GT (3.1.3.26) 4a18: 11700 U Endo-1,4-beta-xy lanase (3.2.1.8)(4a11): 1,26 mia CFU Bacillus subtilis (DSM 5750) in ratio 1:1 (4b1700): 1,26 mia CFU Bacillus licheniformis (DSM 5749): 12000 mg Benzoesyre (vevovital) 4d210:  
Teknologiske: 8640 mg Myresyre Aktiv:

GS) Fremtilet af genetisk modificeret sojabønner.

Kan indeholde spor af fiskemel. Må ikke gives til drøvtyggere!

*forbrædt med ca 10% valset byg.*

### Beregnet indhold pr. FEsv

St. ford. råprotein	192	133
St. ford. lysin	19,9	11,0
St. ford. methionin	5,9	3,6
St. ford. treonin.	11,5	6,9
St. ford. tryptofan	3,4	2,2
St. ford. valin	11,0	7,2
Calcium g	12,3	6,2
Ford. fosfor g 200 %	5,0	3,2
I-Faktor %	96,5	95,0
FEsv Enzym	120	115
FEsv pr. 100 kg	118	113

**Produktblad**  
Dette produktblad er udleveret på kundens anmodning, det er kun gyldig på dagen, 28-01-2021, hvor det er udleveret.

Denne blanding må kun anvendes med indtil 531 gram pr. kg af det daglige foder.

### Råvareprofil:

Hvede varmebehandlet:	30 - 35 %
Kartoffelprotein:	10 - 15 %
Vallepulver:	10 - 12 %
Vilosoy / HP 200:	16 - 23 %
Hvede:	10 - 20 %

### NPK

Kvælstof (N)	40,5 g
Fosfor	9,1 g
Kalium	9,3 g

Ovnevænte proteinprodukter kan erstattes med sojaproteinkoncentrater.

### Brugeranvisning:

	Pct.	Pct.	Mængde	1
20 Hvede 2020 DLA Hj.	21	12,11	12,11	
17 Byg 2019, Hj. bl. 10,3 P 13,3 V	23	41,00	41,00	
13 Kobbeldgård		46,89	46,89	
13 Basis Frav T 1505 11+22+3+9	15	100,00	100,00	

## Mix 1

130 g.Ford.råprotein

10% valset byg

10,5 kg/tons organisk syre

## Mix 2

133 g.Ford.råprotein

Incl. 10% valset byg

5 kg/tons organisk syre

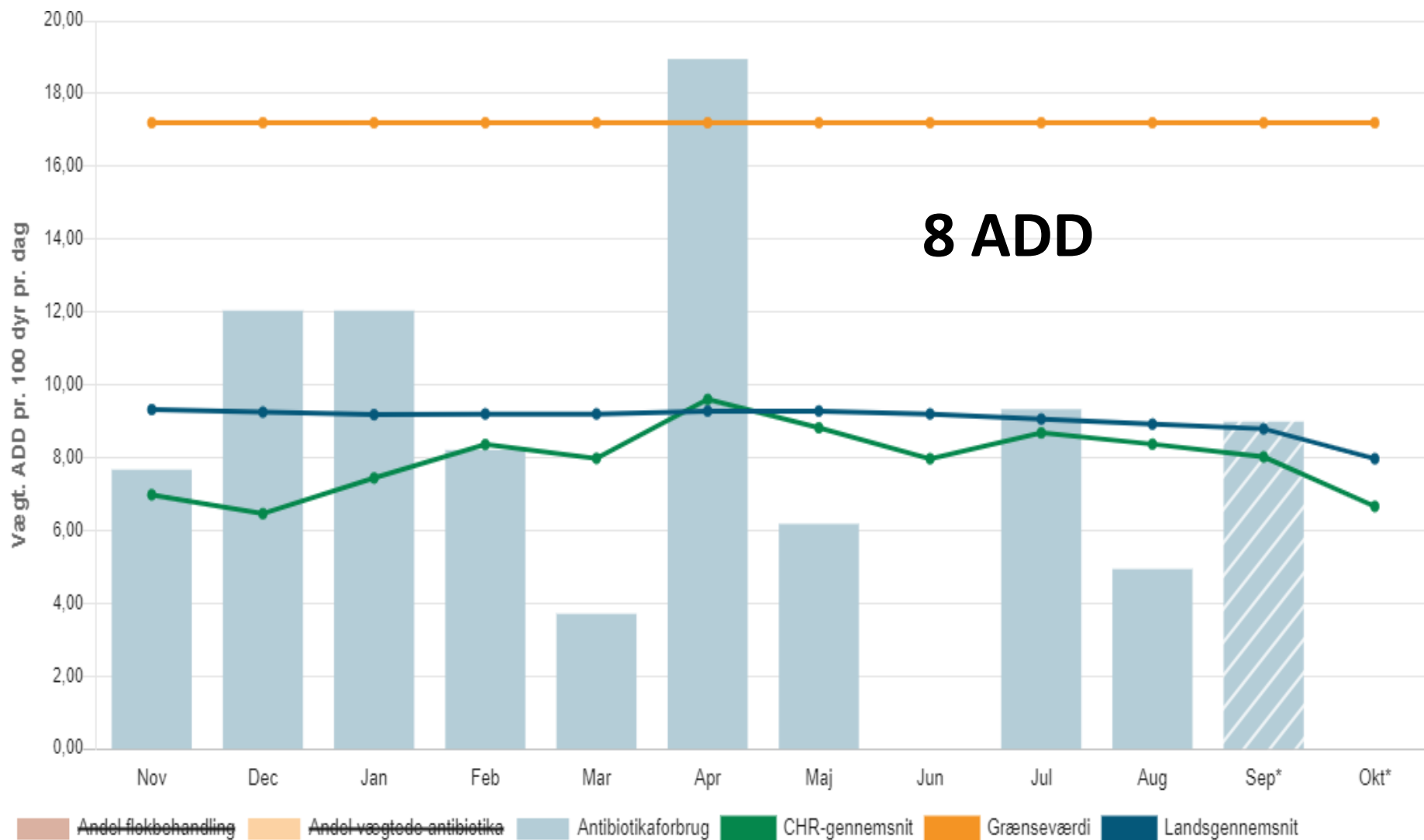
## Mix 3

140 g.Ford.råprotein

Incl. 10% valset byg

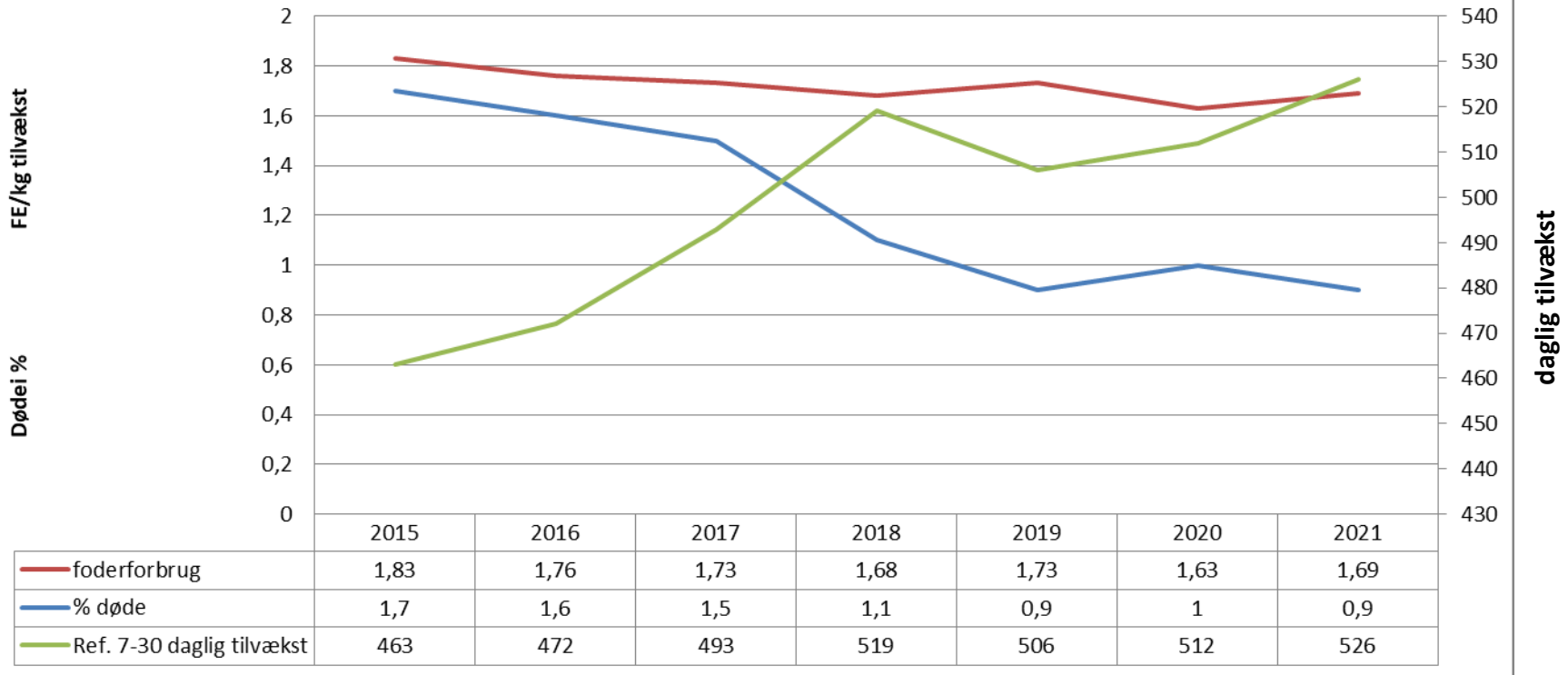
4 kg/tons organisk syre

# Antibiotic consumption from 2020 to oktober 2021



# How did it go ?.

## Udvikling i smågrise stald



- FCR dropped from -0,14fe/kg.tv to 1,68 Fe/kg.tv
- Mortality dropped with 0,5% to ca. 1%
- Dayly gain increased from 490 g/d to 540 g/d

# Dalsgård

- Spf +myc+PRRSdk
  - Sows vacc for PRRS
  - piglets vacc for PCV-2 og myc
- 30 kg's from own weaner stable.
  - Law. and ½ coliprotect vacc
- 30 kg's bought in
  - Law vacc i weaner

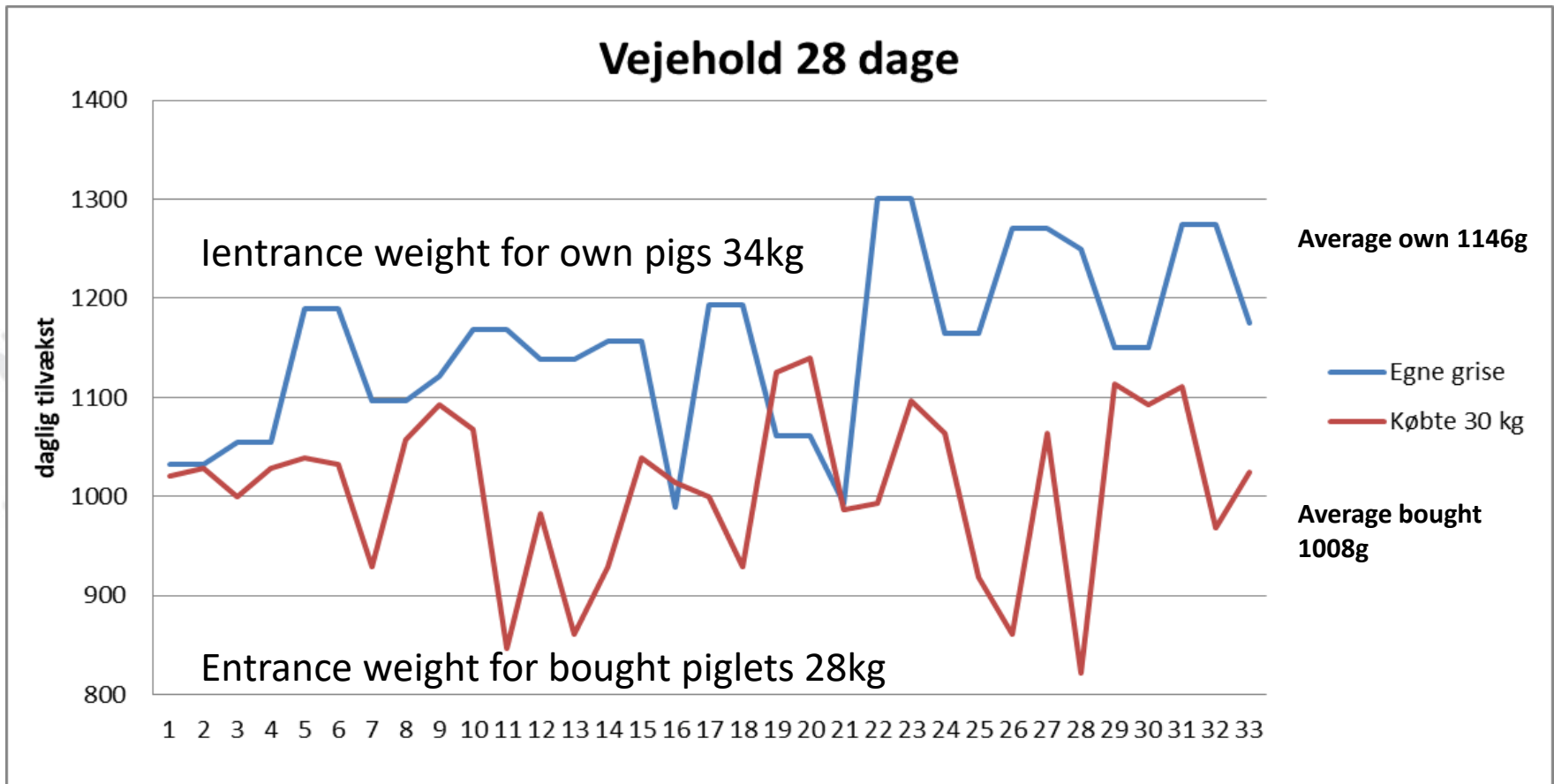


# Own weaners look better



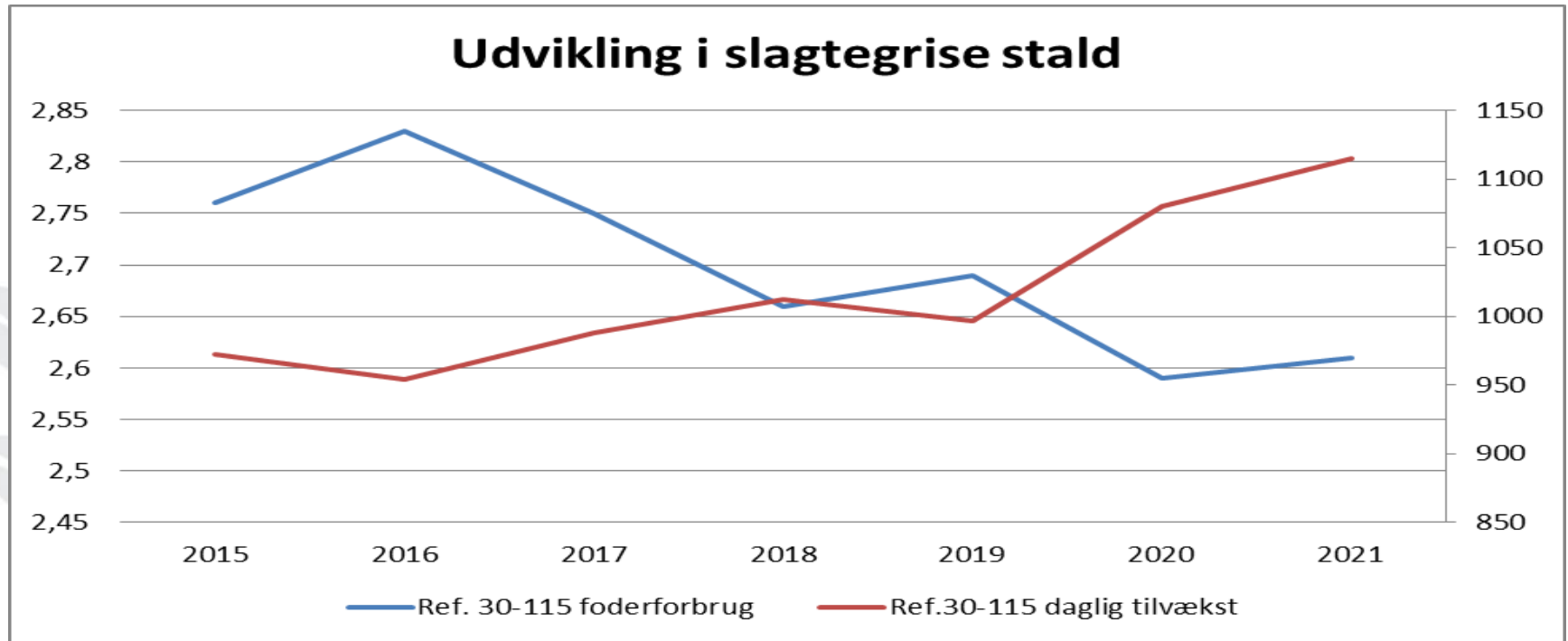


# Own oigs grow faster



- + 140 g per day
- Difference in entry weight explains 50-70 g per day

# Efficiency in Slaughter stable



- 1100 g/d
- 2.6 Fe/kg.growth
- 2% dead

# Weaning with succes

- Minimize variation in number of sows per week
- Make sure your piglets can eat and digest before weaning
- Help the pigs to start eating with vet feed
- Find the right protein level !
- Organic-acid profile in feed (5-10kg/ton)
- Organic acids on water (pH < 4)
- Remember that pigs from foster sows also get diarrea 4 days after weaning

# Never give up!!



**PORCUS**  
SVINEFAGDYRLÆGER