Do weaners have gastric ulcers?

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What is gastric ulcers?

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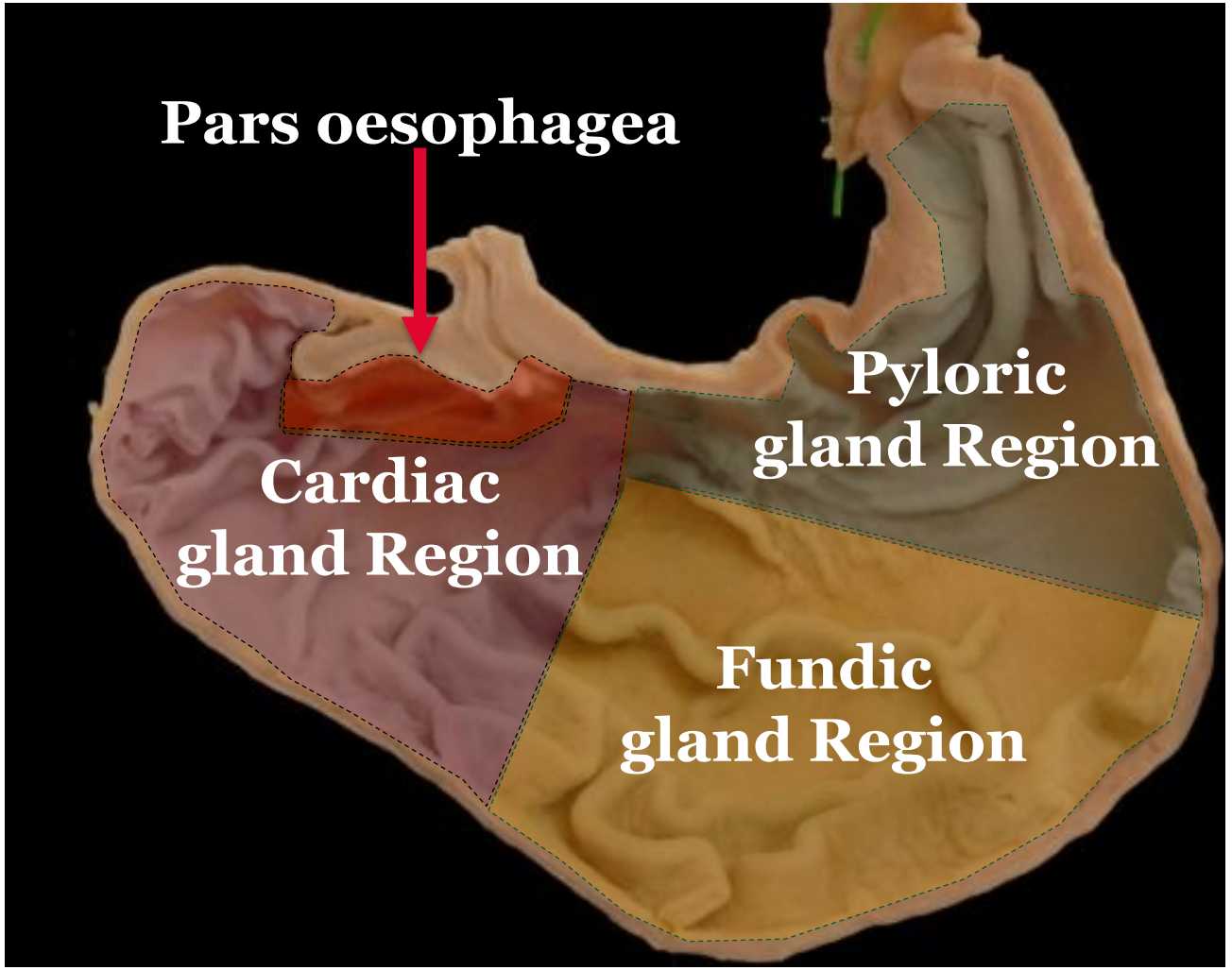
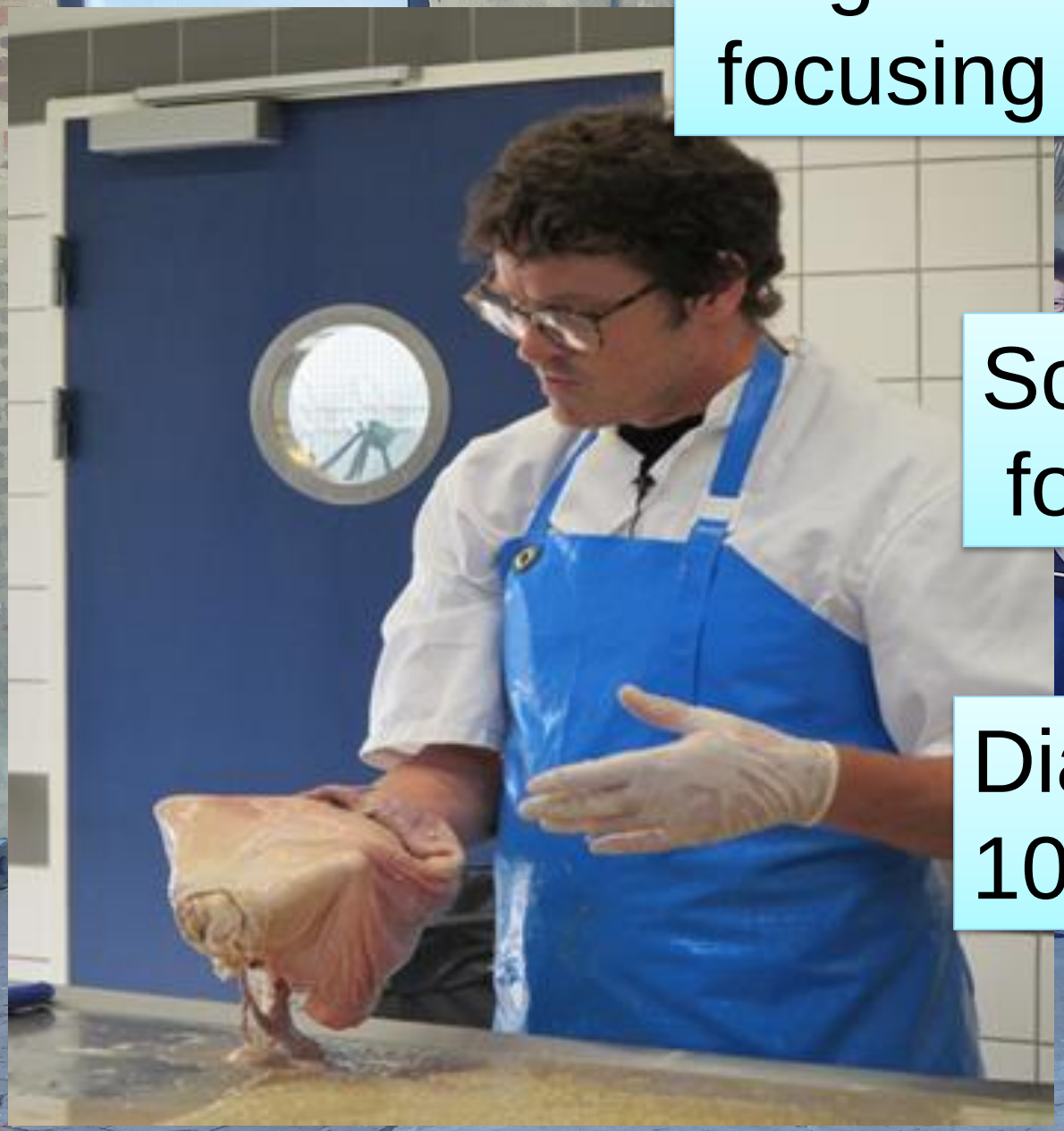
Gastric ulcer

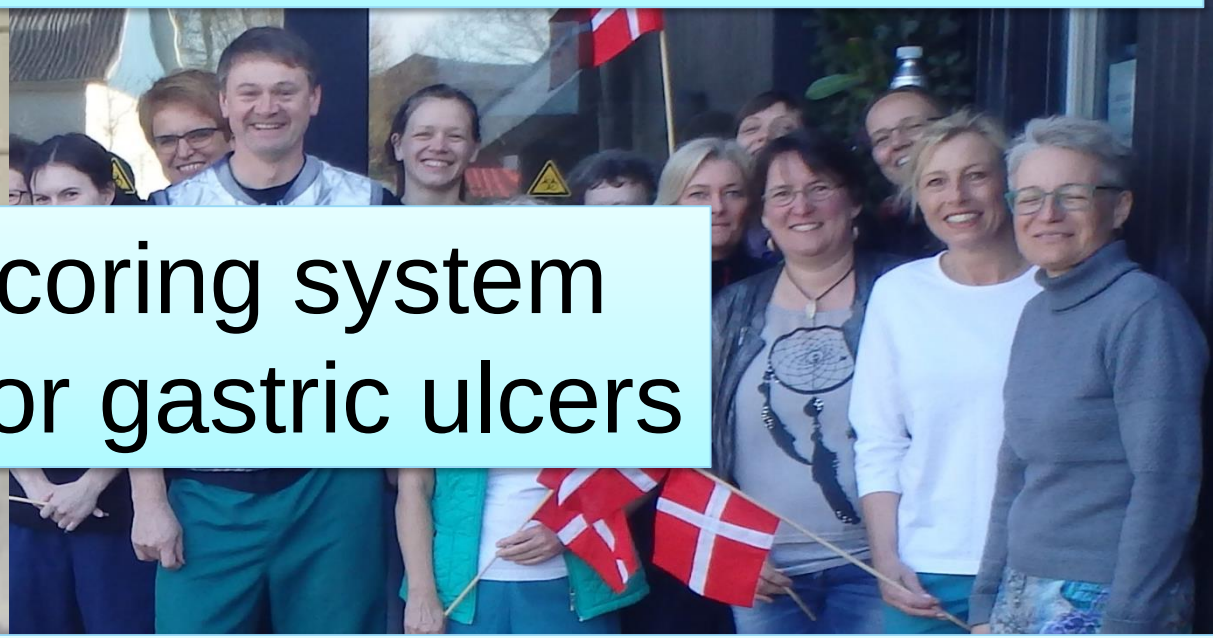
- Lesions in Pars oesophagea
- Clinical signs
  - Paleness
  - Unthrifthiness
  - Black feces
  - Sudden death
  - **Often no clinical signs**



Diagnostics laboratory
focusing on all kinds of pig disease



Scoring system
for gastric ulcers

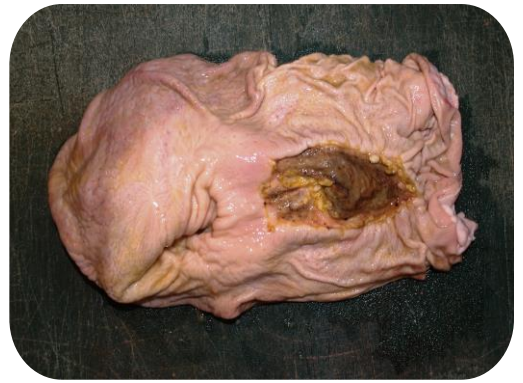


Diagnostics and research
10-20,000 stomachs per year

How do we evaluate gastric ulcers in Denmark?

Keratinization

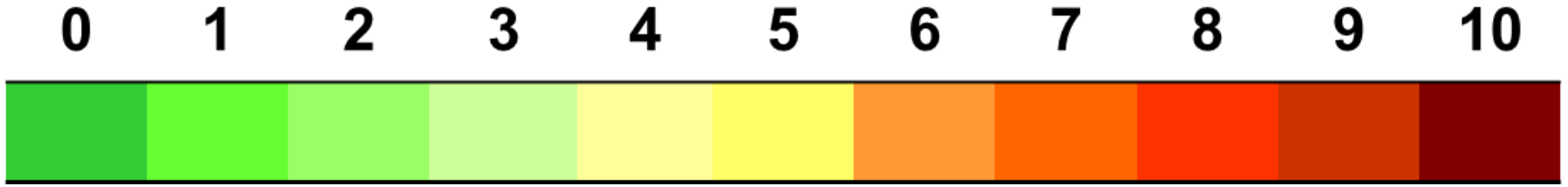
Erosions



Ulcers

Scars / fibrosis

Stenosis



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Scoring system for gastric ulcers

Type of lesions	Gastric health score
Healthy	0
Keratinization/erosions	1-5
Ulcers/scars	6-8
Stenosis (Narrowing of the esophageal opening)	9-10

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Risk factors for gastric ulcer development

1. Particle size of the feed
2. Pelleted feed
3. Ad libitum feeding
4. Starvation
5. Gender
6. Infections

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Feed efficiency & gastric ulcers - a balance

Feed efficiency

Small particle size = Good!

Gastric health

Small particle size = Bad!

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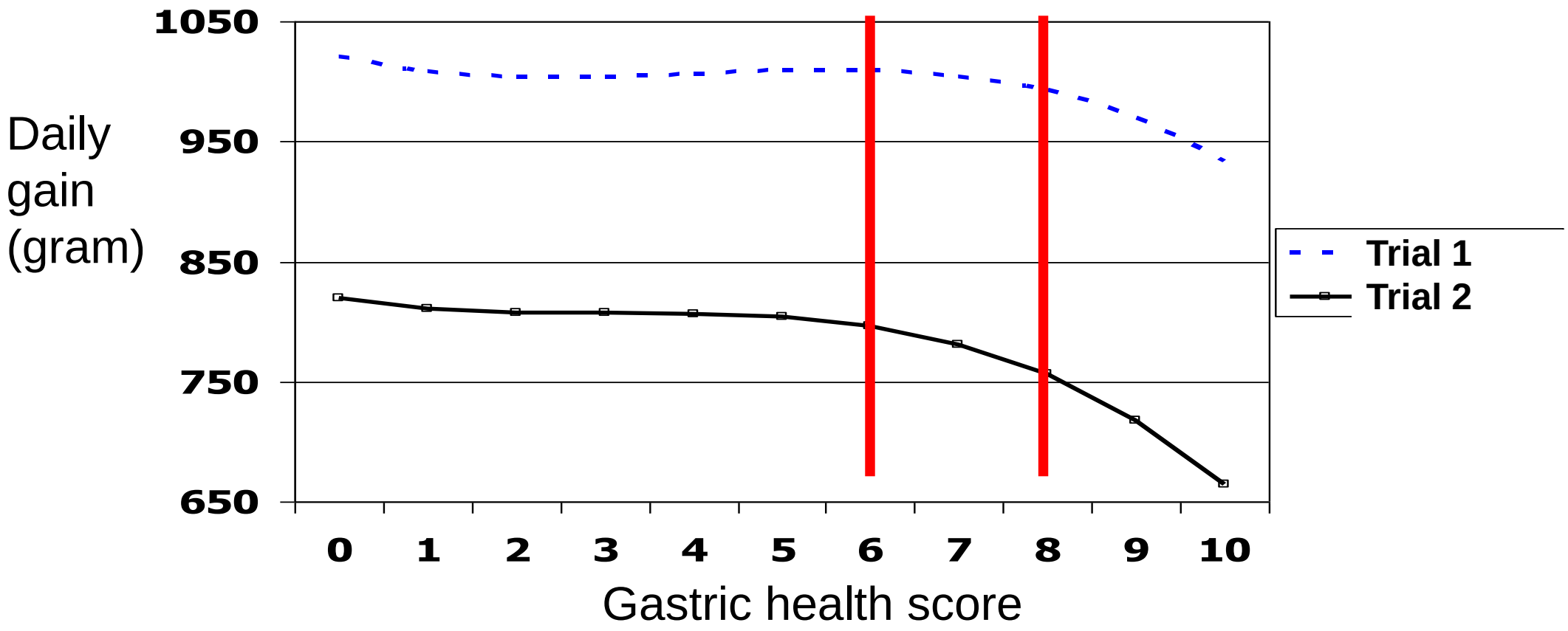
Gastric ulcer and productivity in finishers

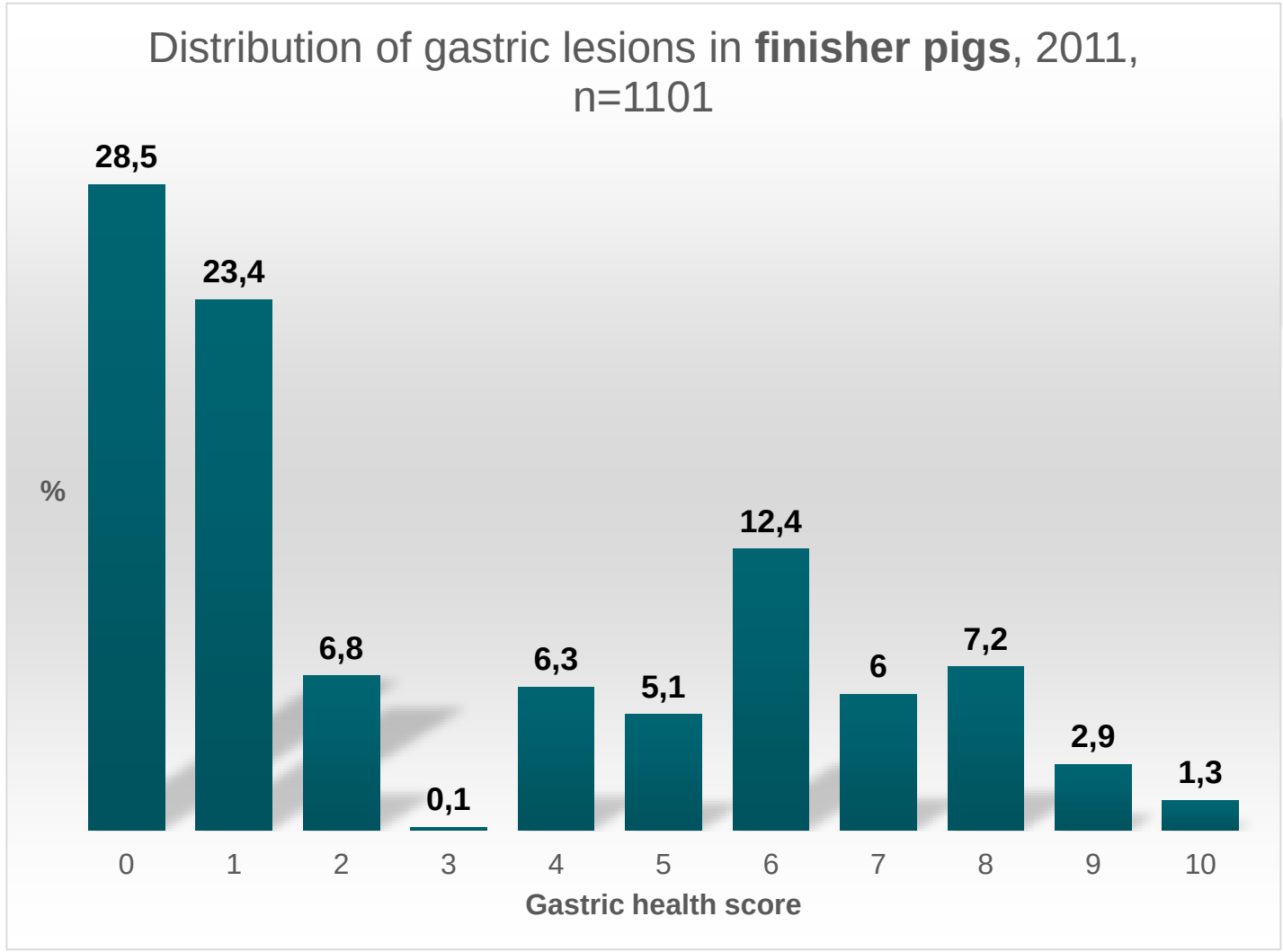


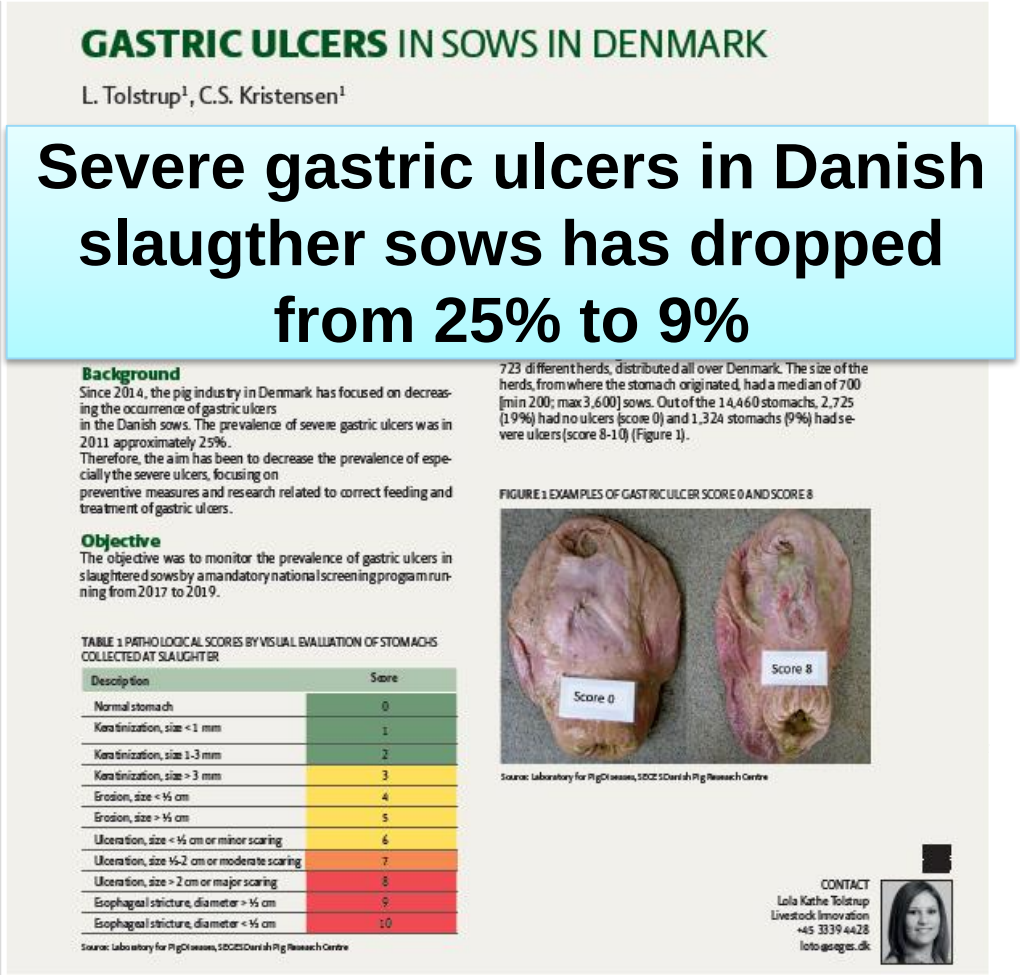
Trial reports no.: 385 & 767

How widespread is it?

Prevalence of gastric ulcers - Danish studies

Mainly abbattoir studies with no background description of herd factors





GASTRIC ULCERS IN SOWS IN DENMARK

L. Tolstrup[1], C.S. Kristensen[1]

Severe gastric ulcers in Danish slaugther sows has dropped from 25% to 9%

Background

Since 2014, the pig industry in Denmark has focused on decreasing the occurrence of gastric ulcers in the Danish sows. The prevalence of severe gastric ulcers was in 2011 approximately 25%.
Therefore, the aim has been to decrease the prevalence of especially the severe ulcers, focusing on preventive measures and research related to correct feeding and treatment of gastric ulcers.

Objective

The objective was to monitor the prevalence of gastric ulcers in slaughtered sows by a mandatory national screening program running from 2017 to 2019.

723 different herds, distributed all over Denmark. The size of the herds, from where the stomach originated, had a median of 700 [min 200; max 3,600] sows. Out of the 14,460 stomachs, 2,725 (19%) had no ulcers (score 0) and 1,324 stomachs (9%) had severe ulcers (score 8-10) (Figure 1).

TABLE 1 PATHOLOGICAL SCORES BY VISUAL EVALUATION OF STOMACHS COLLECTED AT SLAUGHTER

Description	Score
Normal stomach	0
Keratinization, size < 1 mm	1
Keratinization, size 1-3 mm	2
Keratinization, size > 3 mm	3
Erosion, size < ½ cm	4
Erosion, size > ½ cm	5
Ulceration, size < ½ cm or minor scaring	6
Ulceration, size ½-2 cm or moderate scaring	7
Ulceration, size > 2 cm or major scaring	8
Esophageal stricture, diameter > ½ cm	9
Esophageal stricture, diameter < ½ cm	10

Source: Laboratory for PigDiseases, SEGES Danish Pig Research Centre

FIGURE 1 EXAMPLES OF GASTRIC ULCER SCORE 0 AND SCORE 8

Source: Laboratory for PigDiseases, SEGES Danish Pig Research Centre

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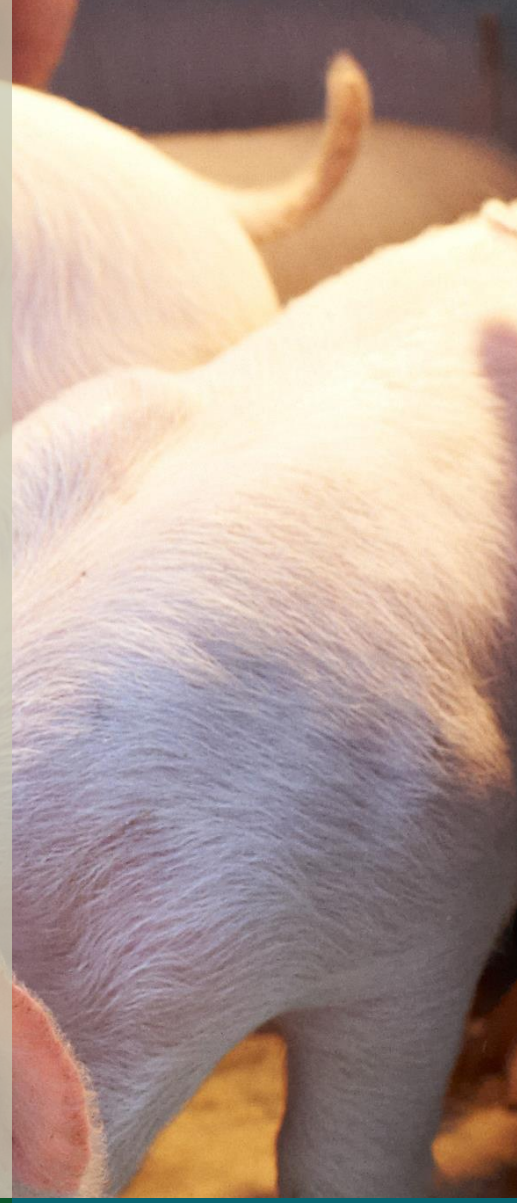
Pilot study - Gastric ulcers in weaners



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Vet reports from 2015 have highlighted the presence of gastric ulceration in weaners in DK

Do weaners in Denmark have gastric ulcers?

PILOT STUDY

- 10 weaner herds in Denmark
- Visited a random day
- 20 Weaners / herd
- Approx. 7 weeks post weaning
- Commercial pelleted feed – high risk of gastric ulcers
- Systematic random selection
- Healthy pigs a time of sampling

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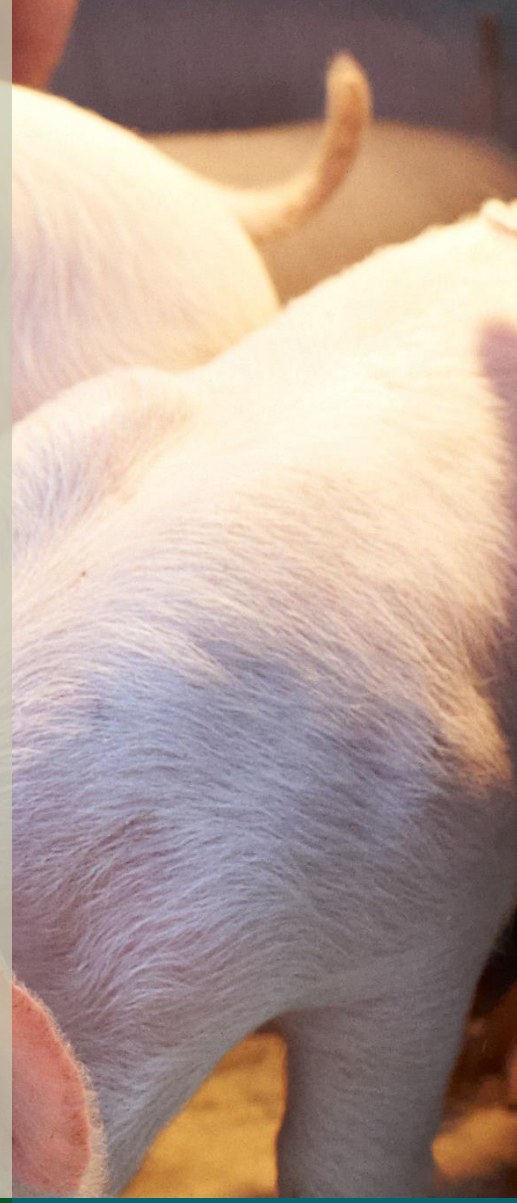
Results



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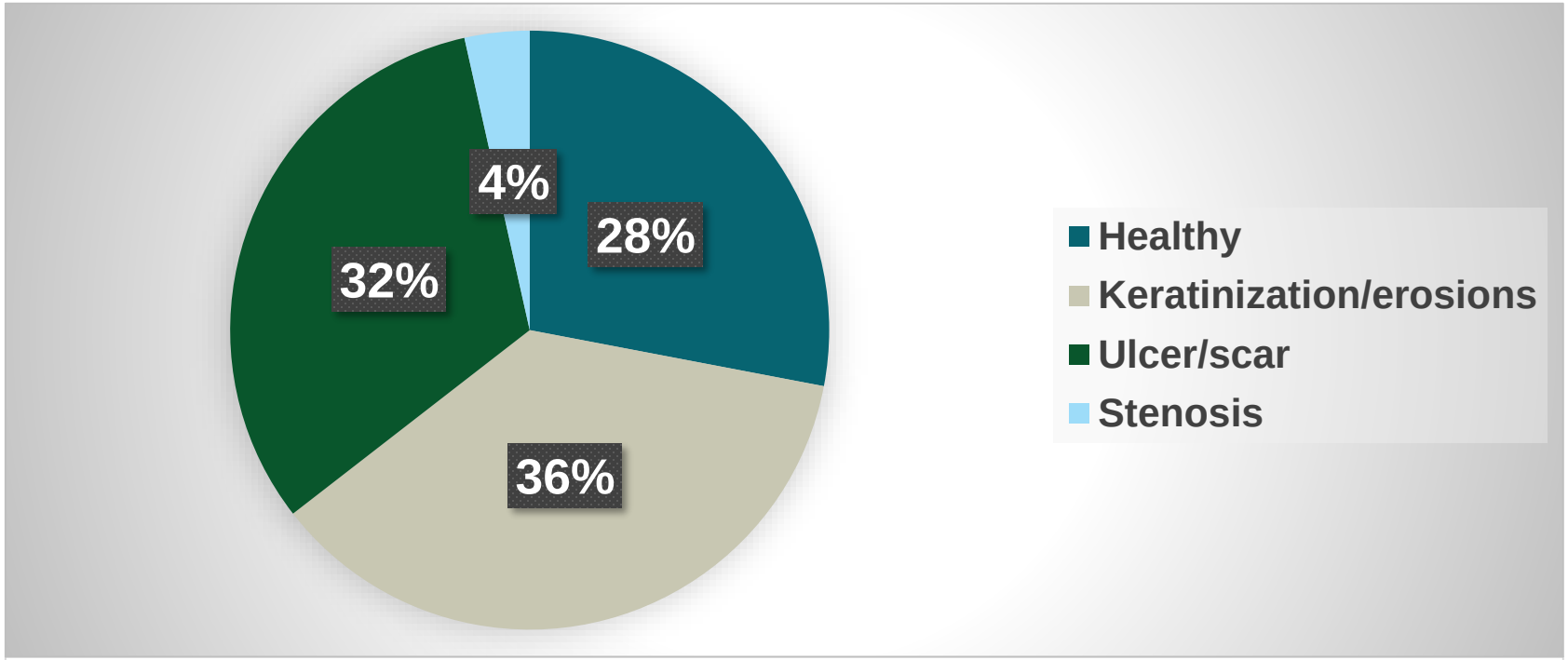

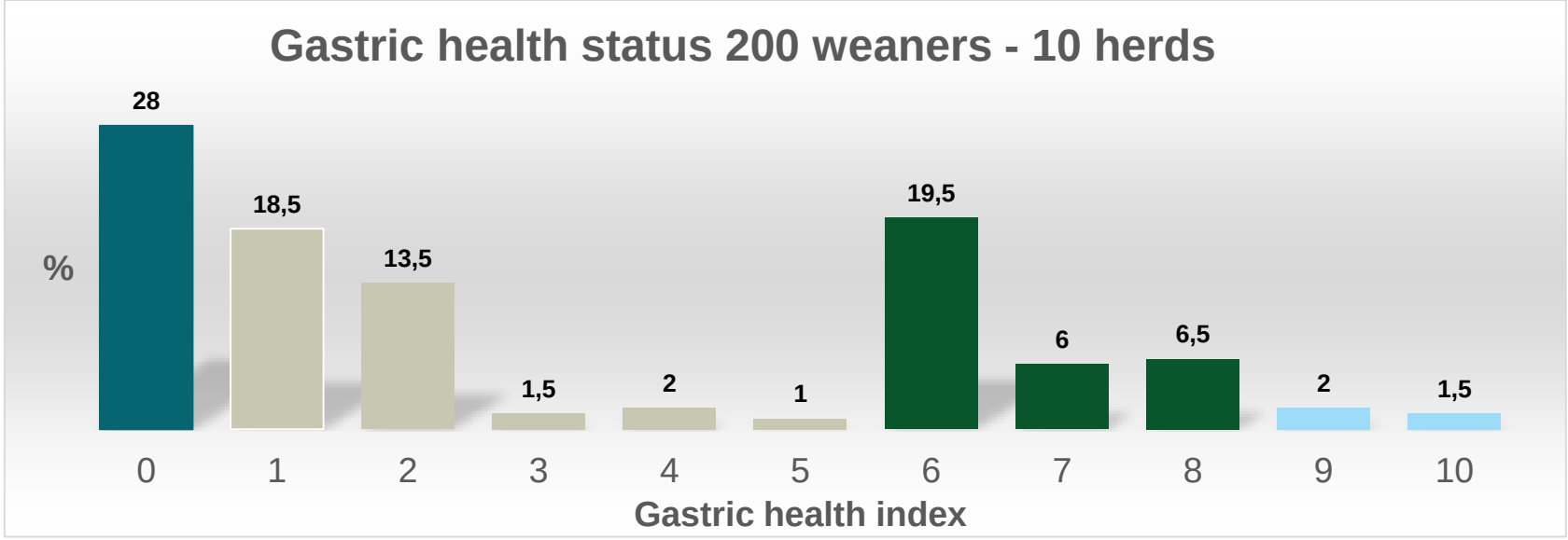

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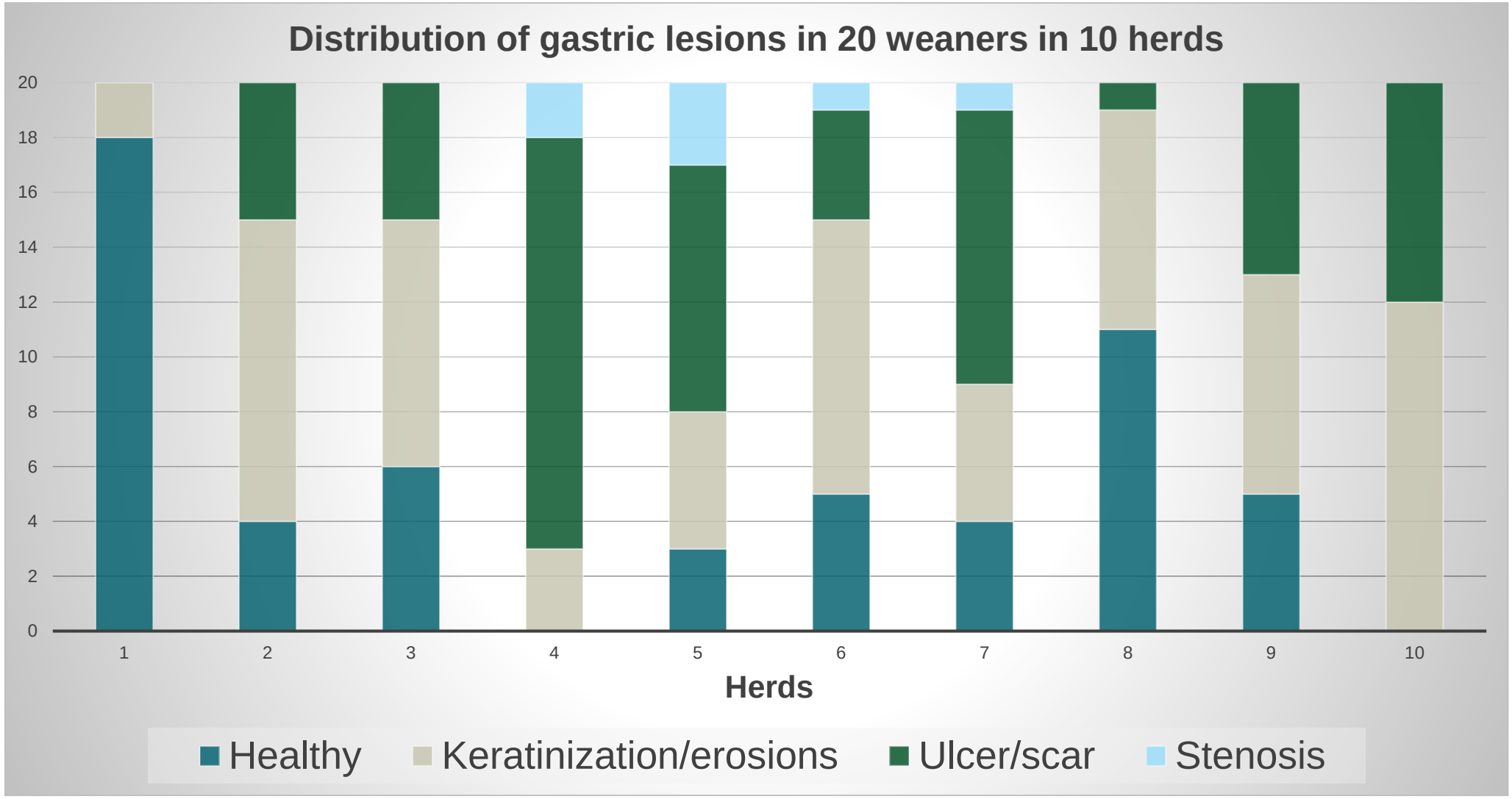
Large herd variation



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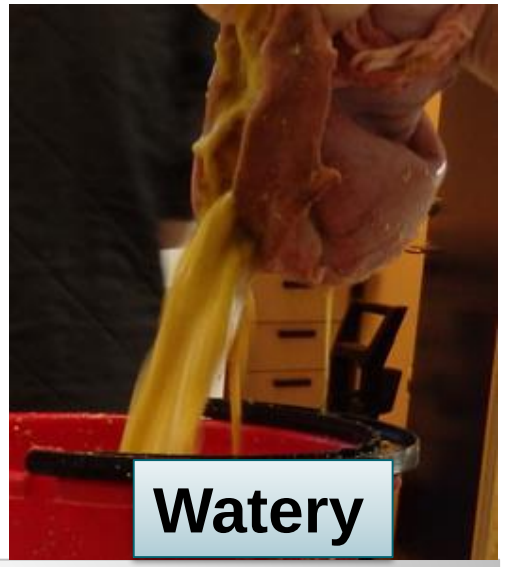
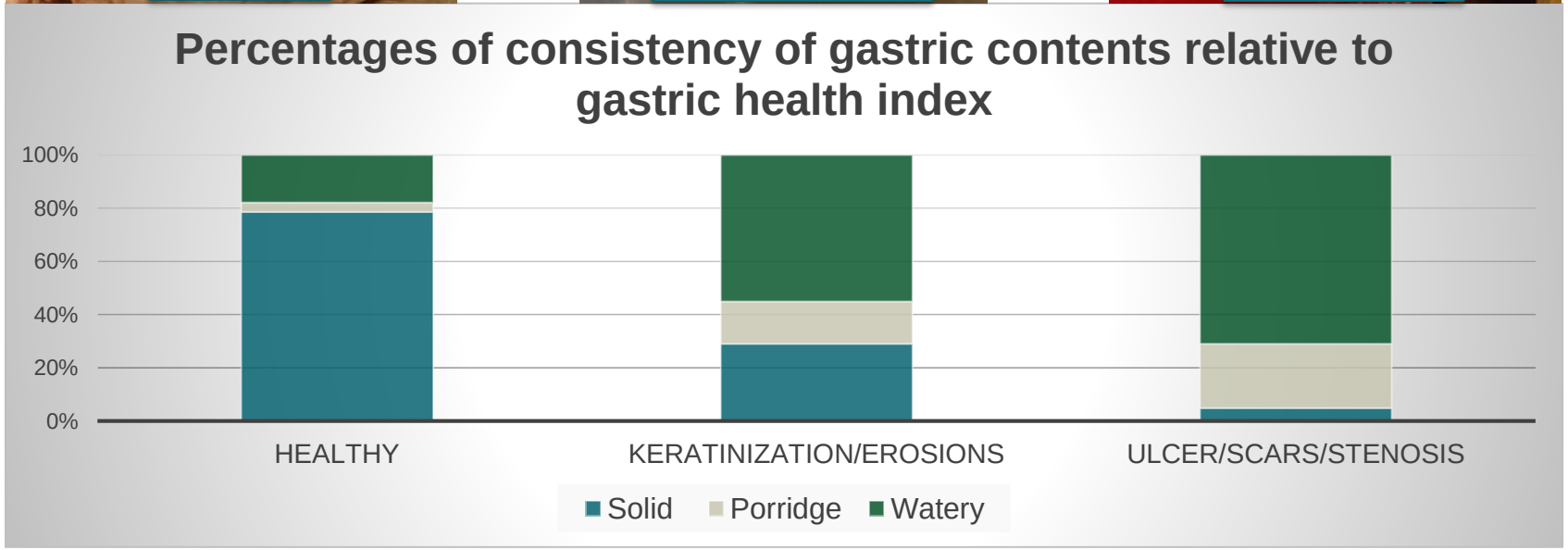
Gastric content consistency





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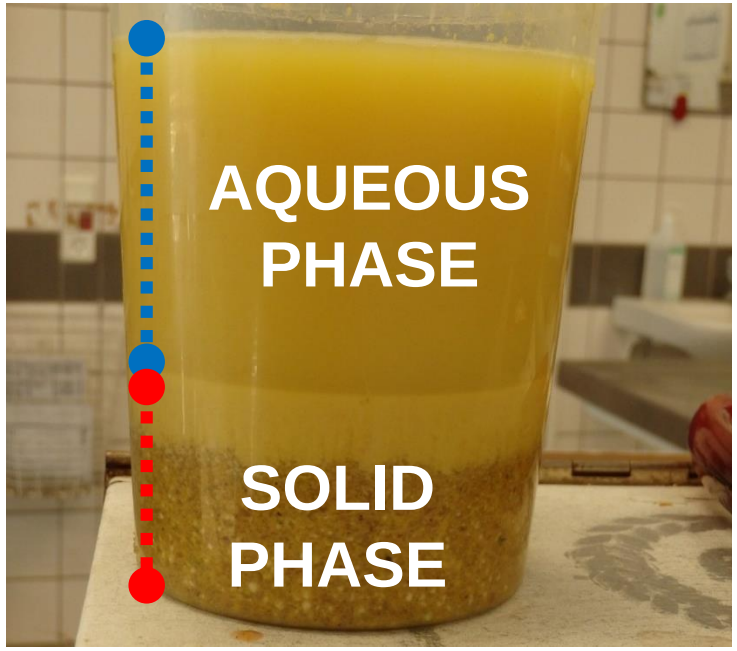
Gastric content solid phase %

Gastric health	Average value (%)	SEM (%)
Healthy	93.9	1.5
Keratinization/erosions	78.2	4.2
Ulcer/scars/stenosis	61.7	3.6



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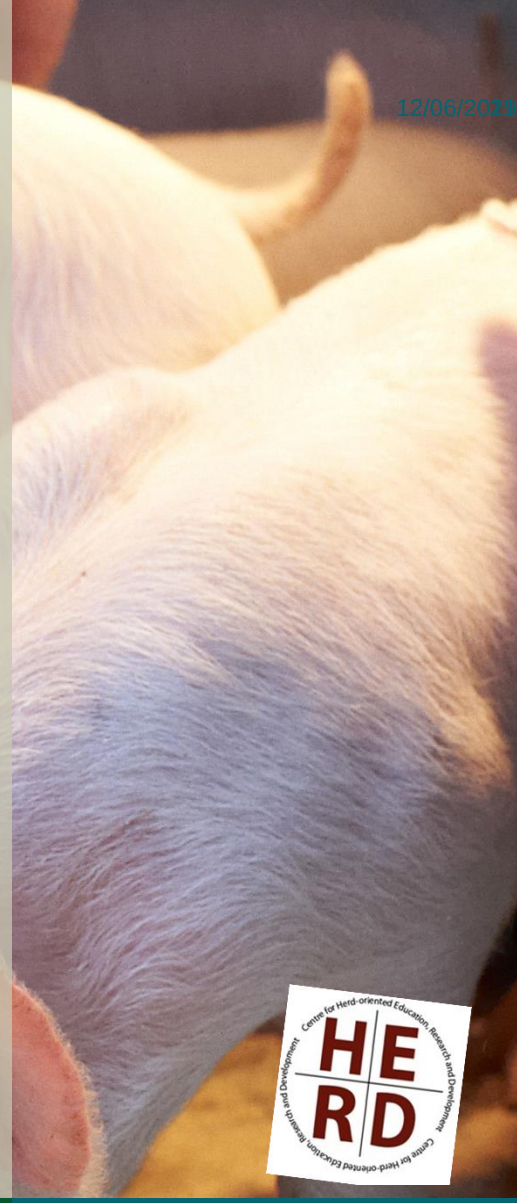
TAKE HOME

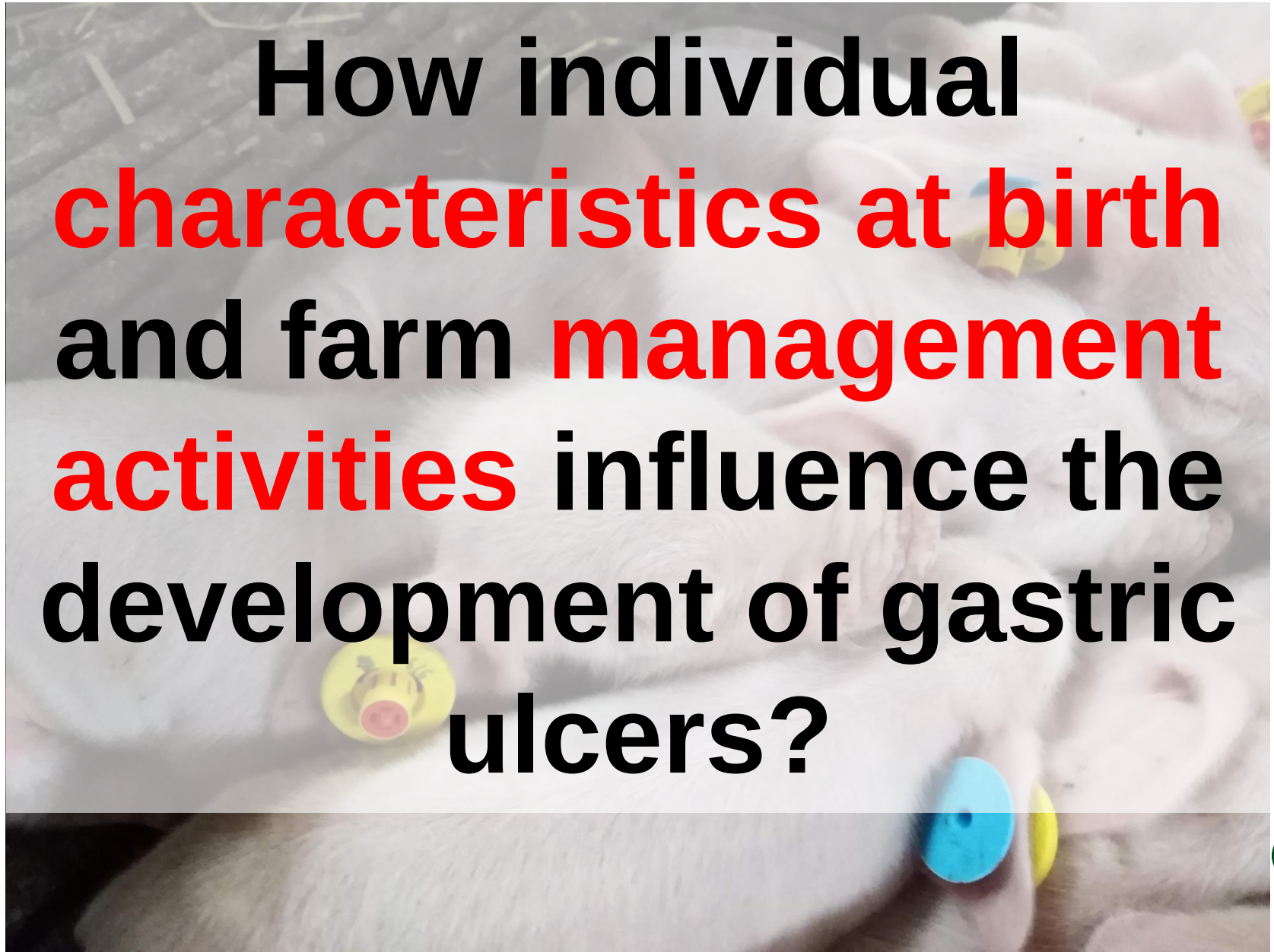
- Gastric ulcers are present in some high risk Danish weaner herds
- 33% weaners had gastric ulcers (Gastric health score >5)
- Mainly small ulcer/scars (Score 6)
- Approx. same level as found in abattoir studies of finishers
- Relation between gastric content/solid phase % - Gastric ulcer

NOT A NATIONAL PREVALENCE

Further studies



COHORT STUDY



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ZERO ZINC SUMMIT 2019

17-18 June
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Our industry is facing a dilemma.

How can we produce 7-30 kg pigs without using therapeutic, high-level zinc oxide at weaning – and without increasing the use of antibiotics to keep the pigs free from diarrhoea?

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