DO VIRAL DISEASES AND HERD MANAGEMENT HAVE AN EFFECT ON STOMACH ULCERS?

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SEGES Svineproduktion

WHY TALK ABOUT STOMACH ULCERS?

WELLFARE

PUBLIC REQIUREMENT

PRODUCTIVITY


Fall 2015

Diseases
- Viral
- Bacterial

Pig feed

Other causes

Herd management

OUTLINE

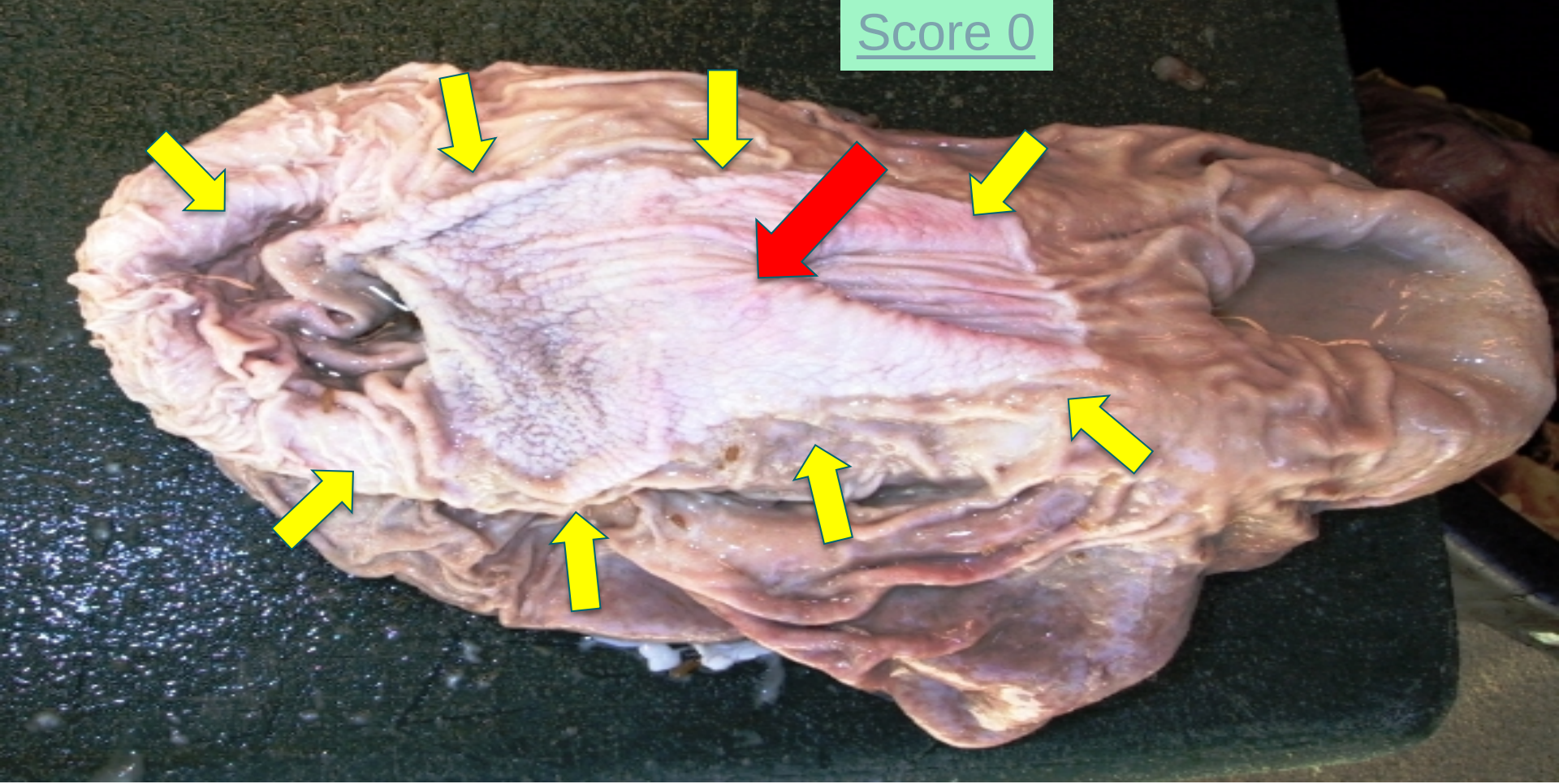
Part 1 - How to define stomach ulcers and their appearance

Part 2 - Diseases

Part 3 - Herd management

PART 1 - DEFINE STOMACH ULCERS

Classification of stomach ulcers	Current lesions score / Ulcers	Fibrosis / Scars
Normal	0	0
Parakeratosis	1	X
Parakeratosis	2	X
Parakeratosis	3	X
Erosion	4	X
Erosion	5	X
Ulcer and/or scare	6	6
Ulcer and/or scare	7	7
Ulcer and/or scare	8	8
Constriction	X	9
Constriction	X	10



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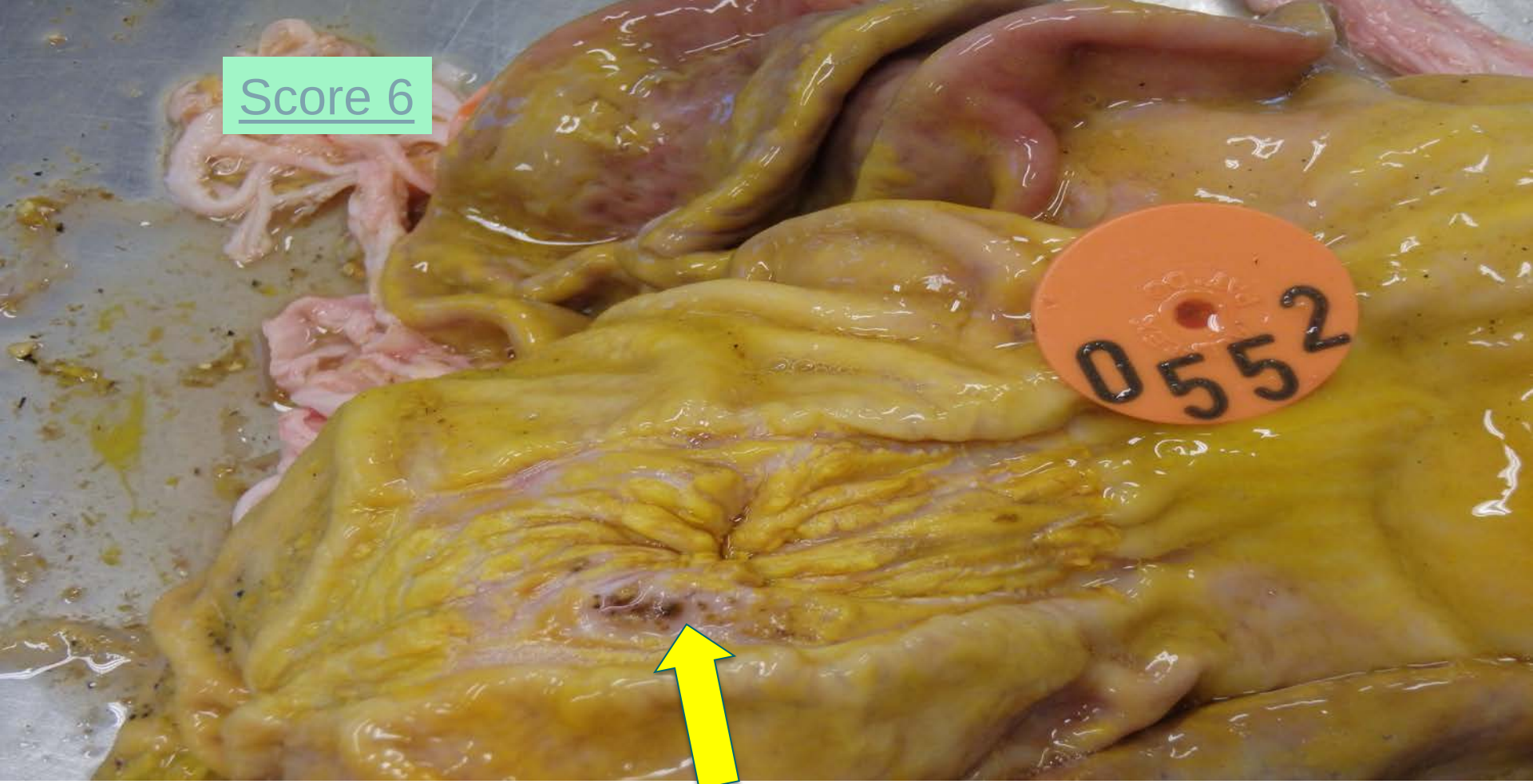

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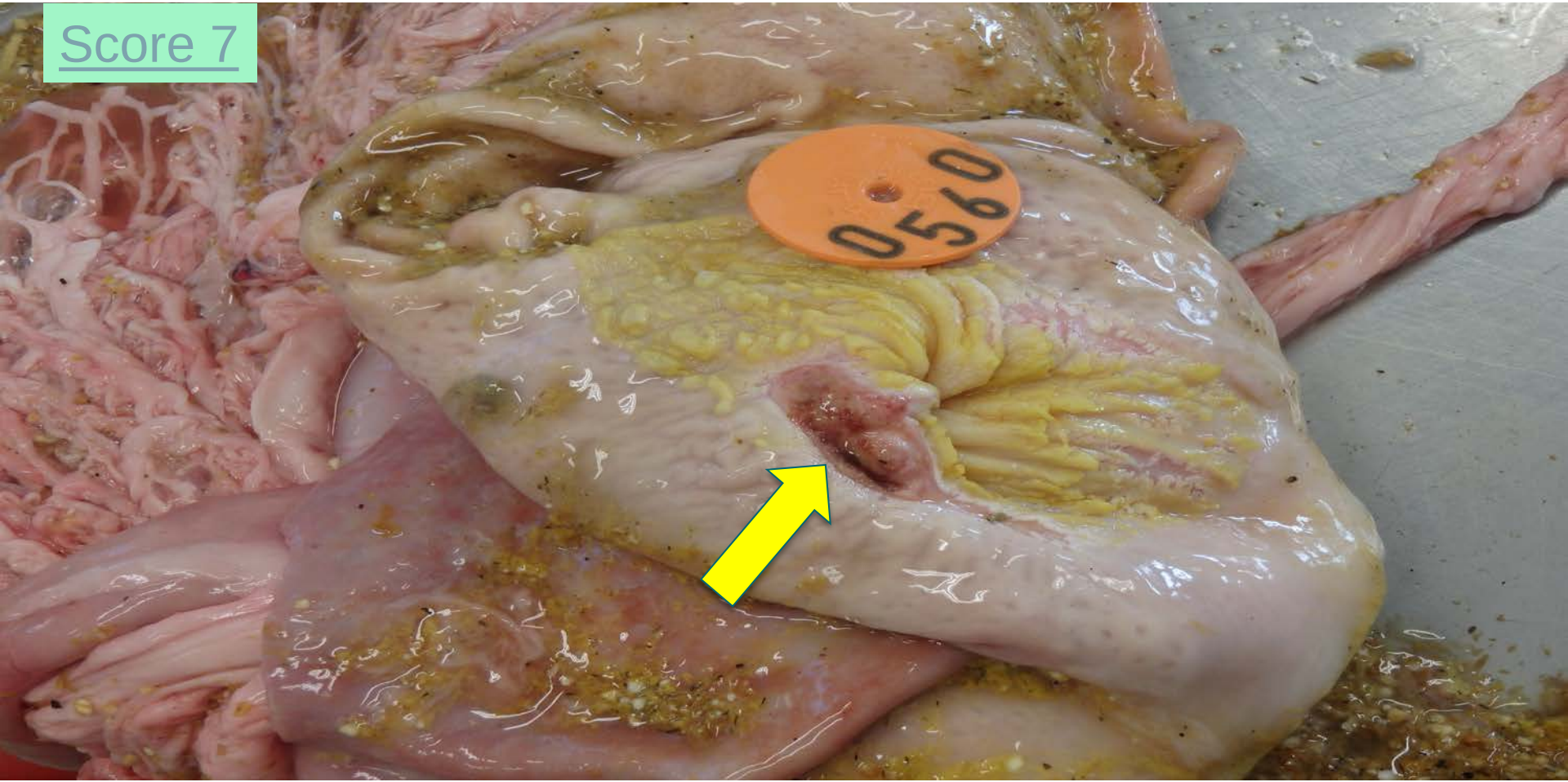
Score 7



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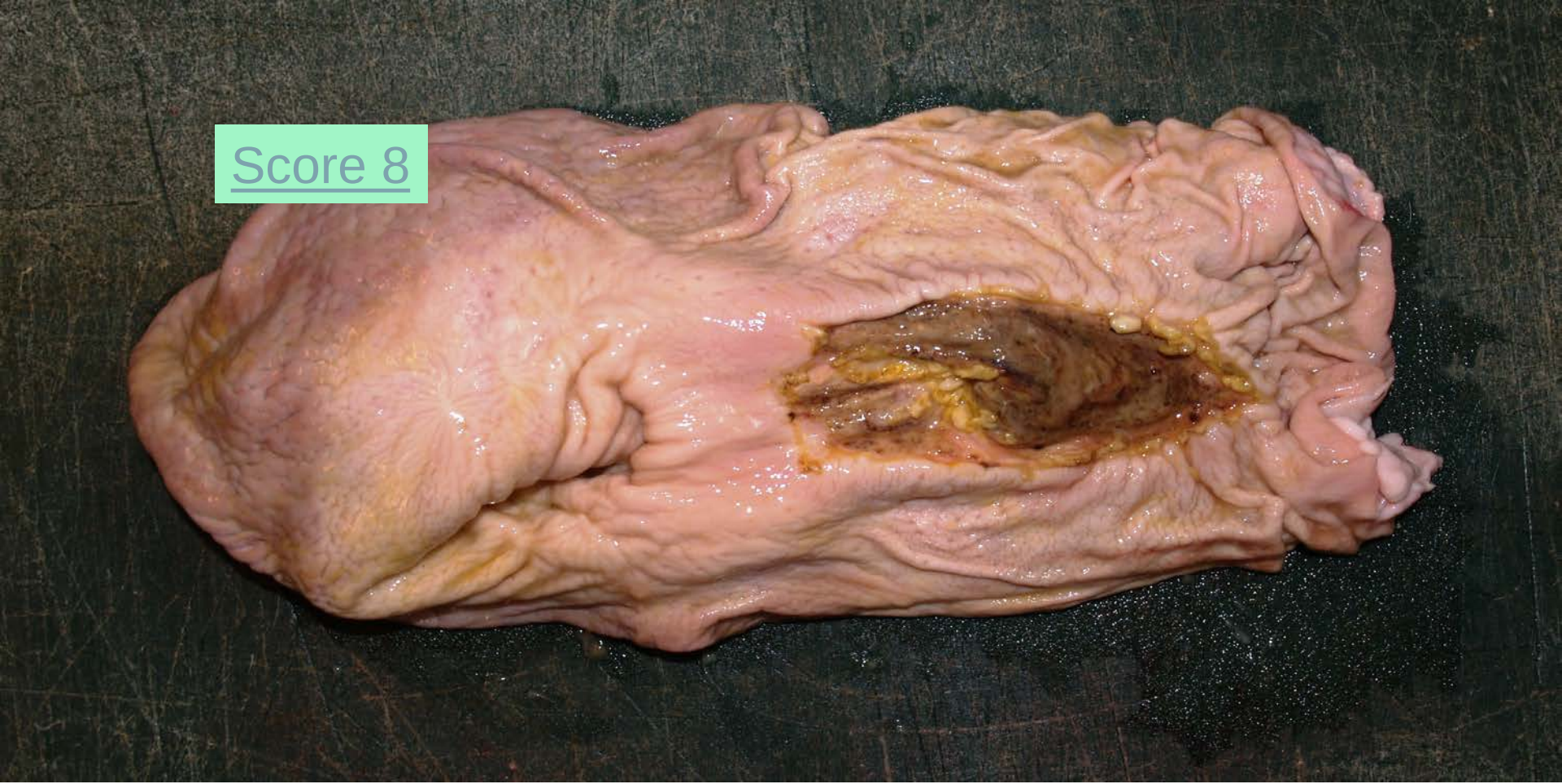

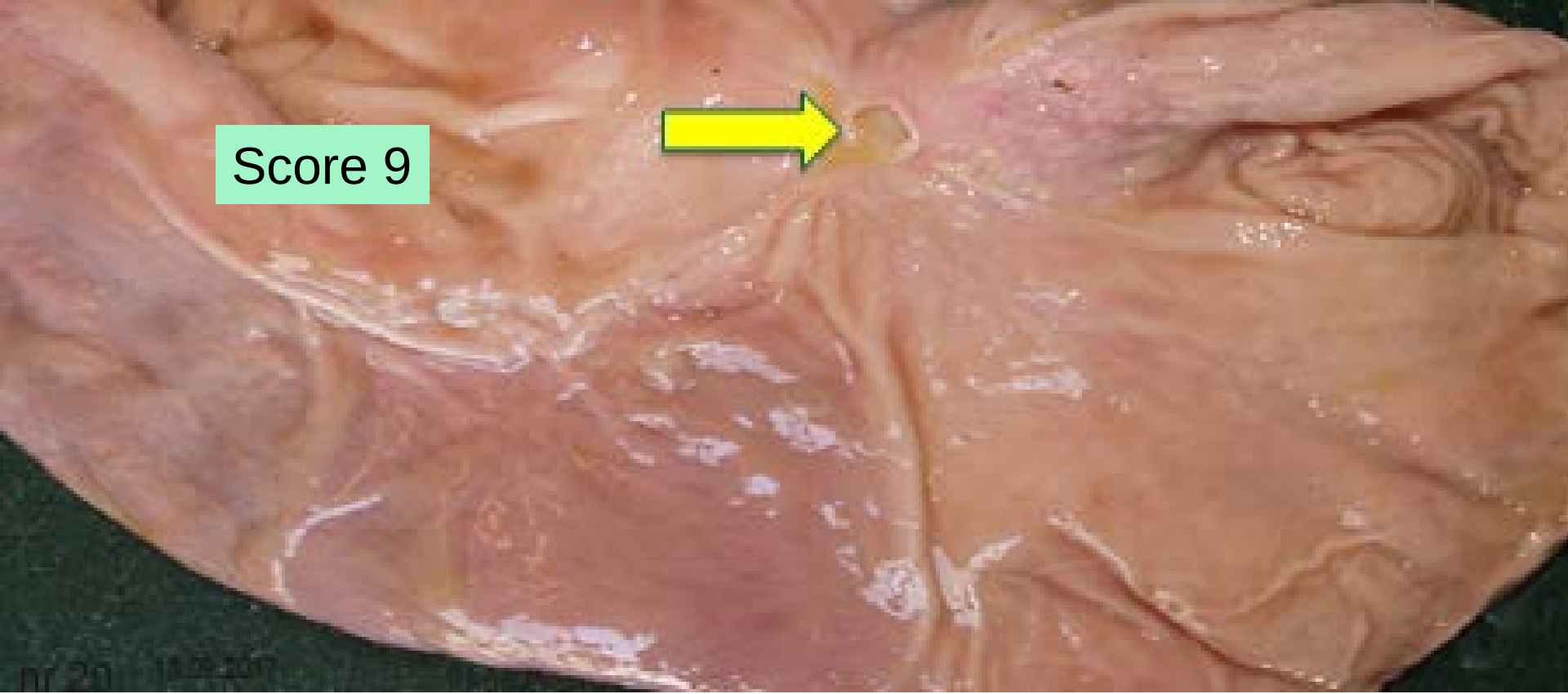

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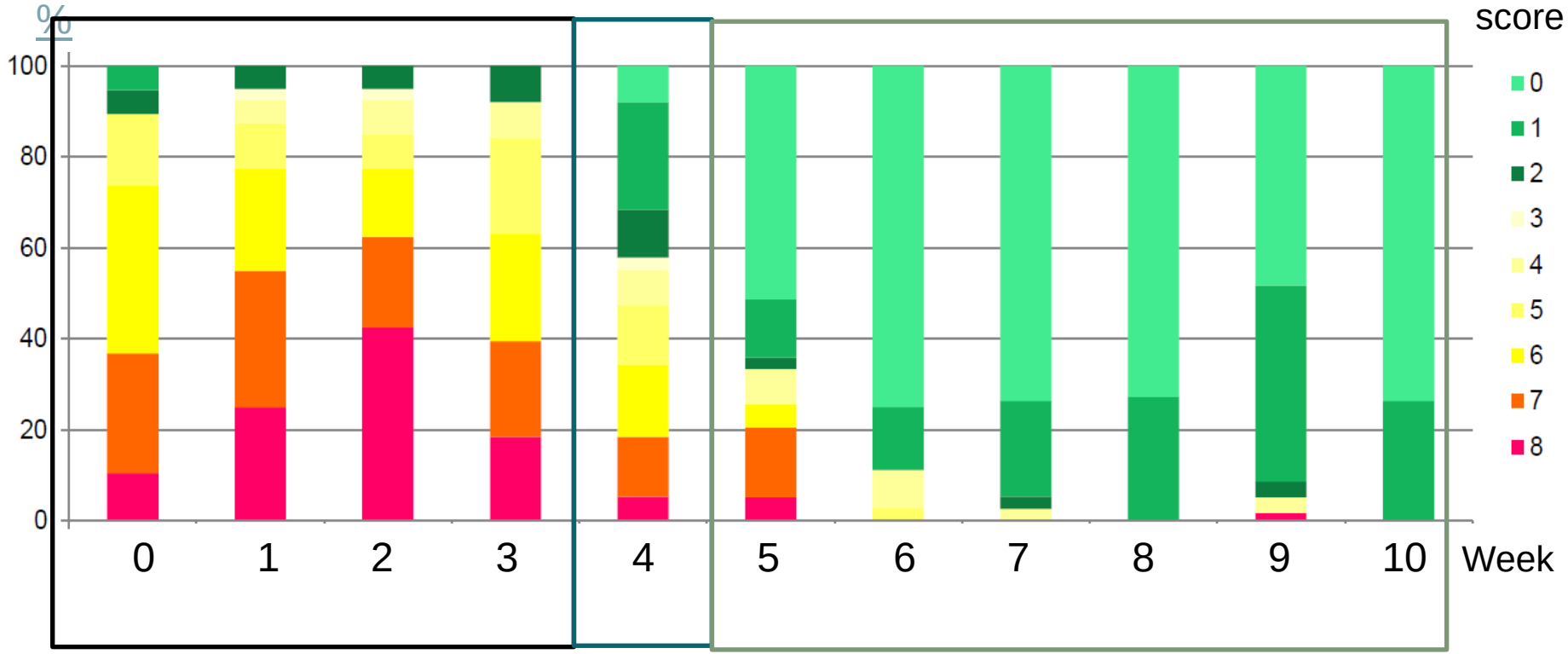
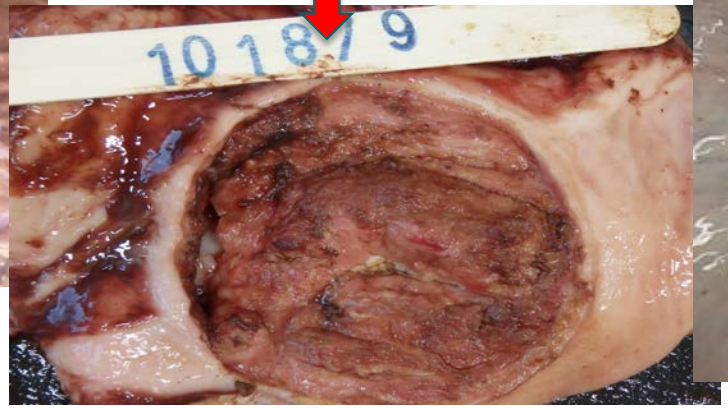
Score10

APPEARANCE OF STOMACH ULCERS

ULCER SCORE OVER TIME





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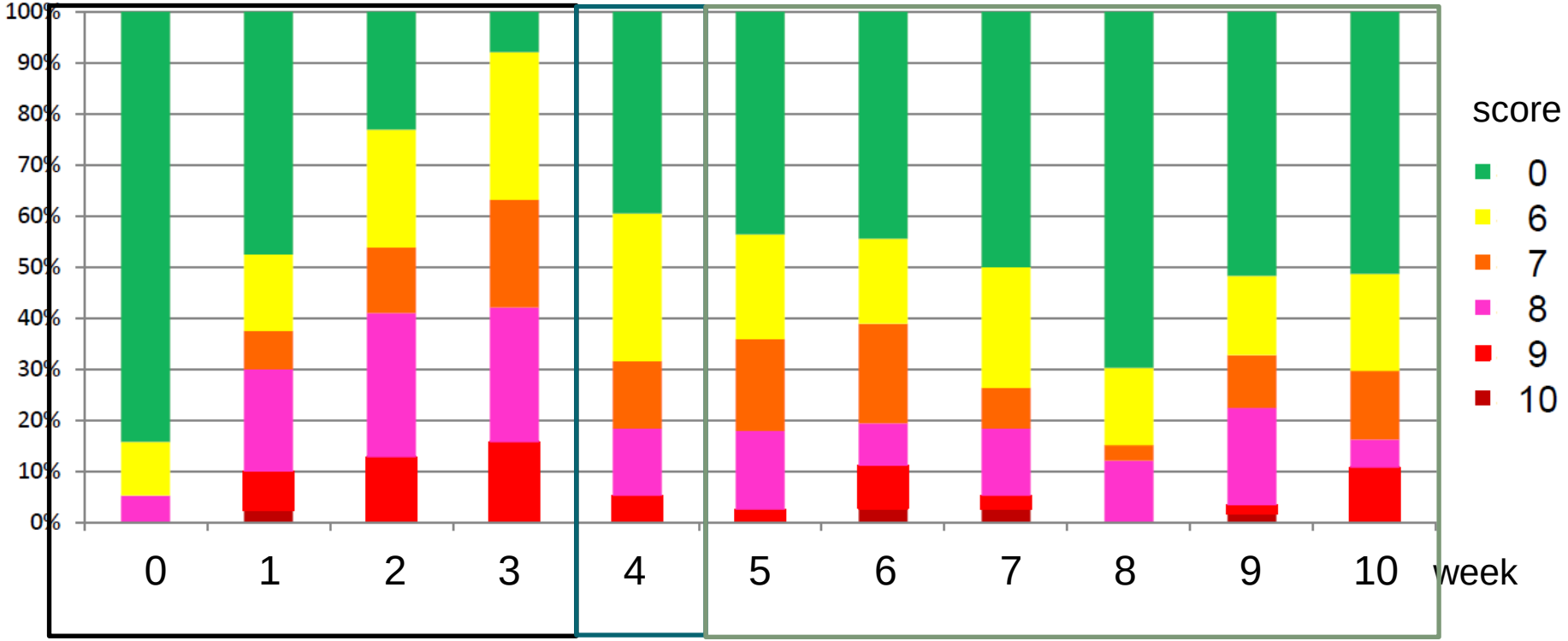
SCARS OVER TIME



PART 2 - INFLUENCE OF DISEASES IN THE HERD

Disease focus

3 trials from SEGES pig research center

Summary

VIRAL DISEASES (AND BACTERIAL)

- Porcine circovirus (PCV2)
- Porcine reproductive respiratory syndrome(PRRS)

- Mycoplasma Hyopneumoniae
- Actinobacillus Pleuropneumoniae (AP2, AP6)
- Lawsonia

DIFFERENCES BETWEEN WEANING/SLAUGHTER PIGS AND SOWS

- Environment and housing
- Stress factors
- Feeding

Diseases?

immune system, but otherwise no

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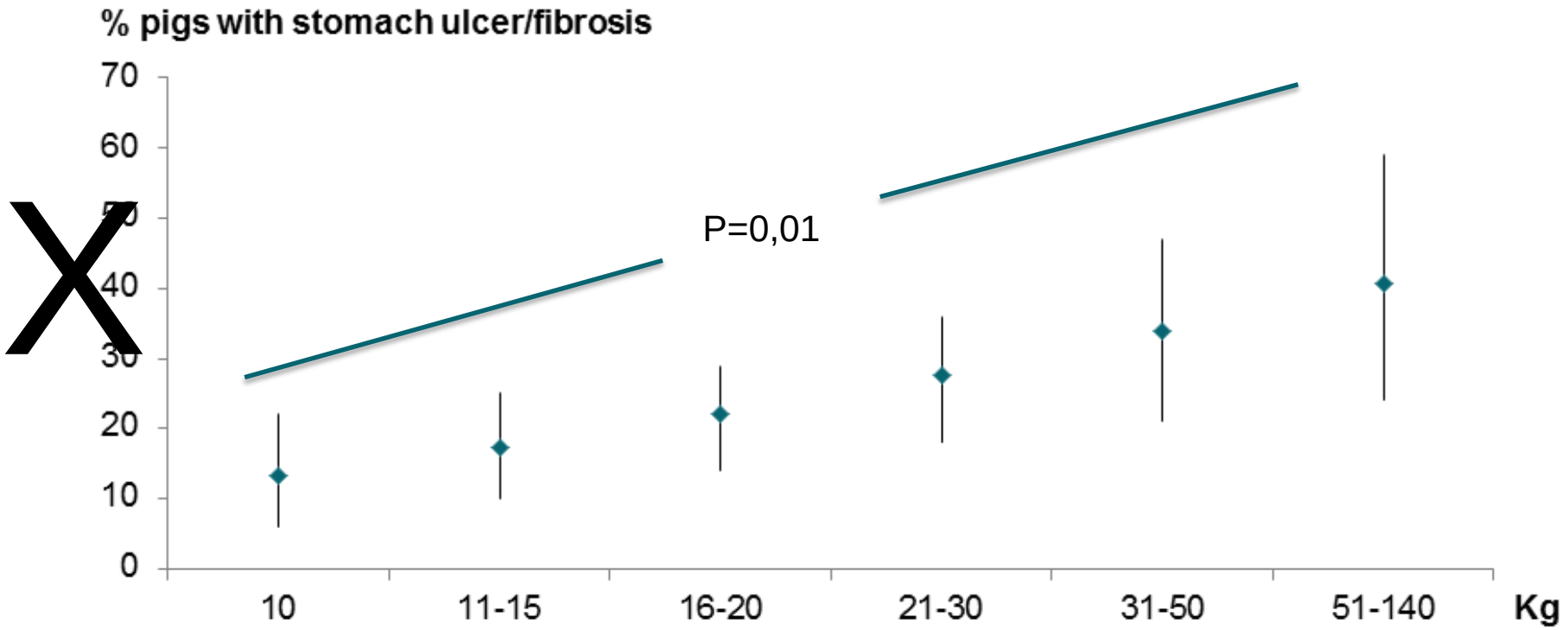
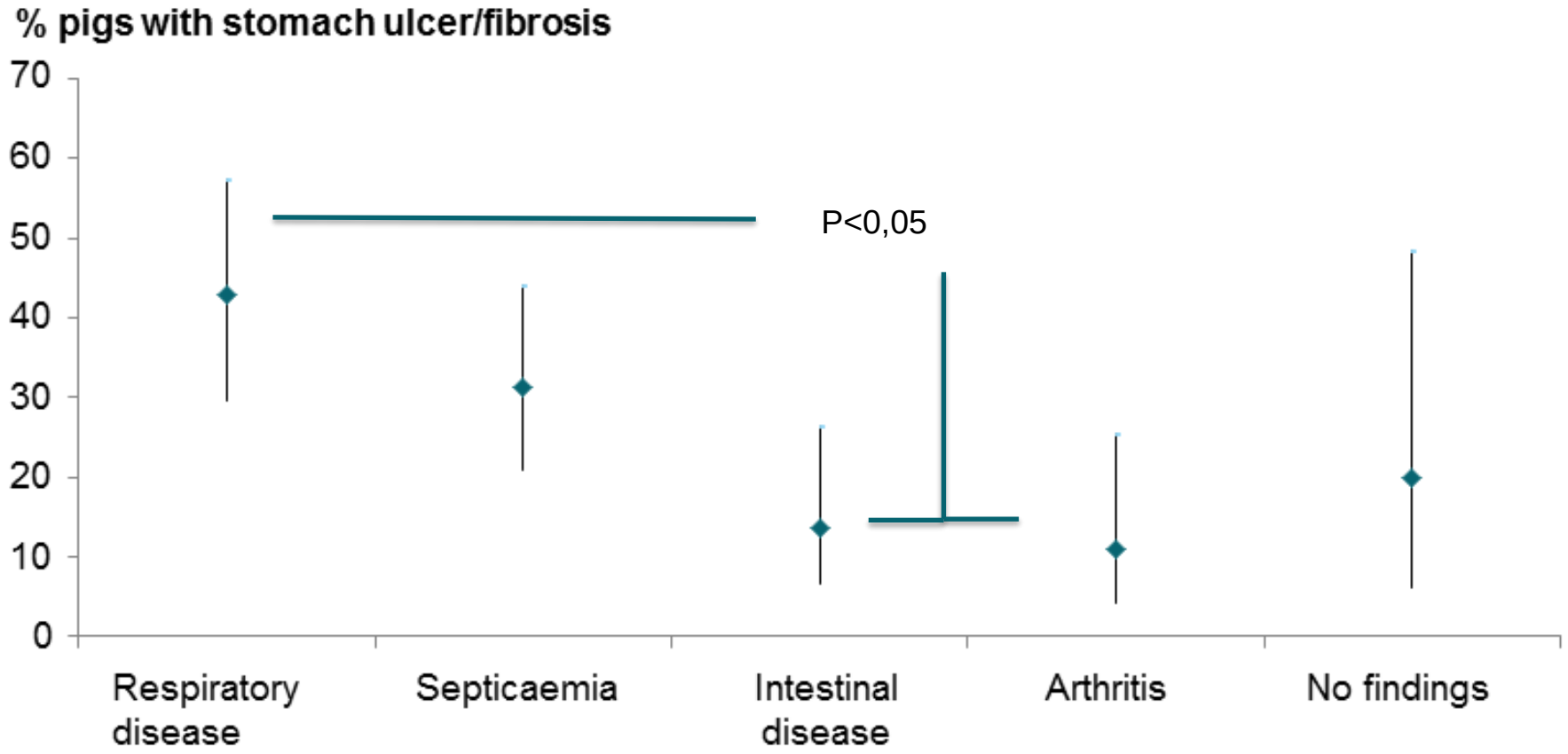
TRIAL 1 - 2016

300 selected sick pigs

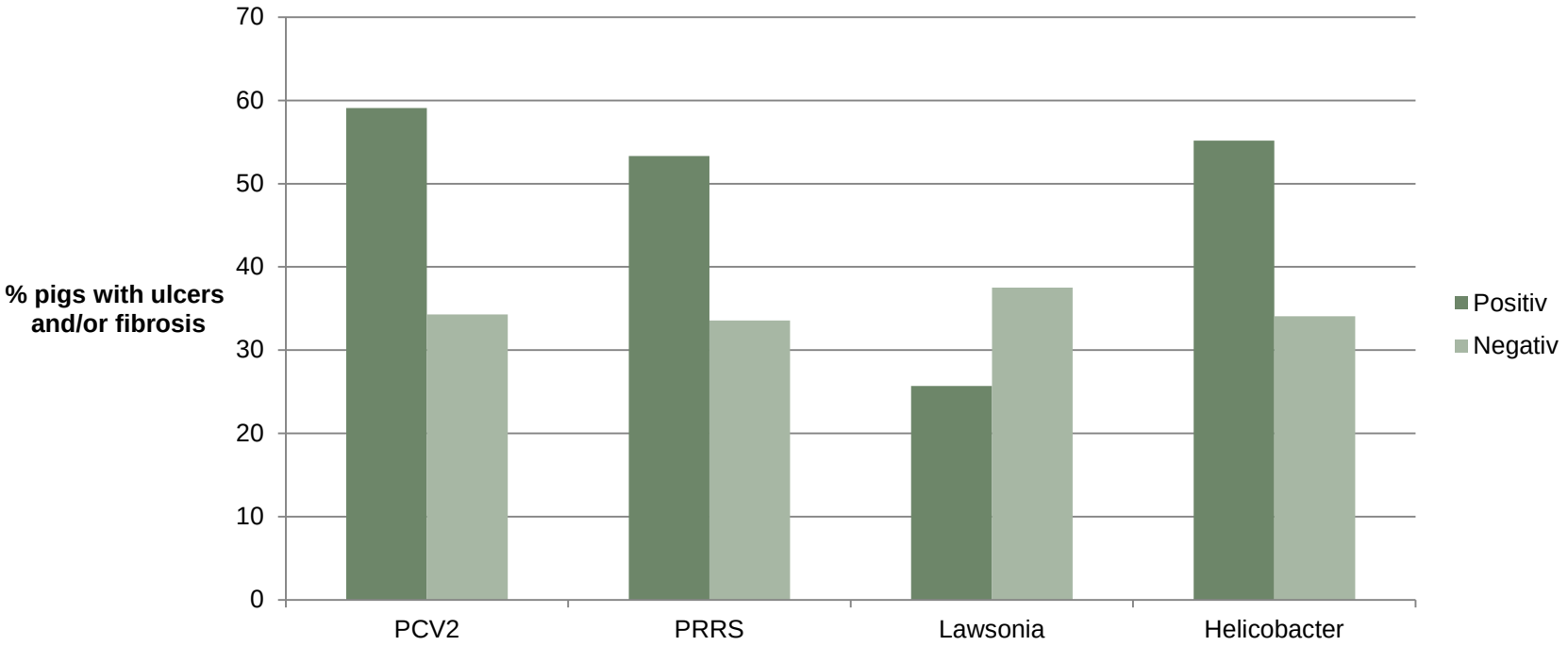
Autopsy

Weaning → slaughter


% pigs with stomach ulcer/fibrosis
70
60
40
30
20
10
0
P=0,01
10
11-15
16-20
21-30
31-50
51-140
Kg


% pigs with stomach ulcer/fibrosis
70
60
50
40
30
20
10
0
P<0,05
Respiratory disease
Septicaemia
Intestinal disease
Arthritis
No findings

MORE SPECIFIC



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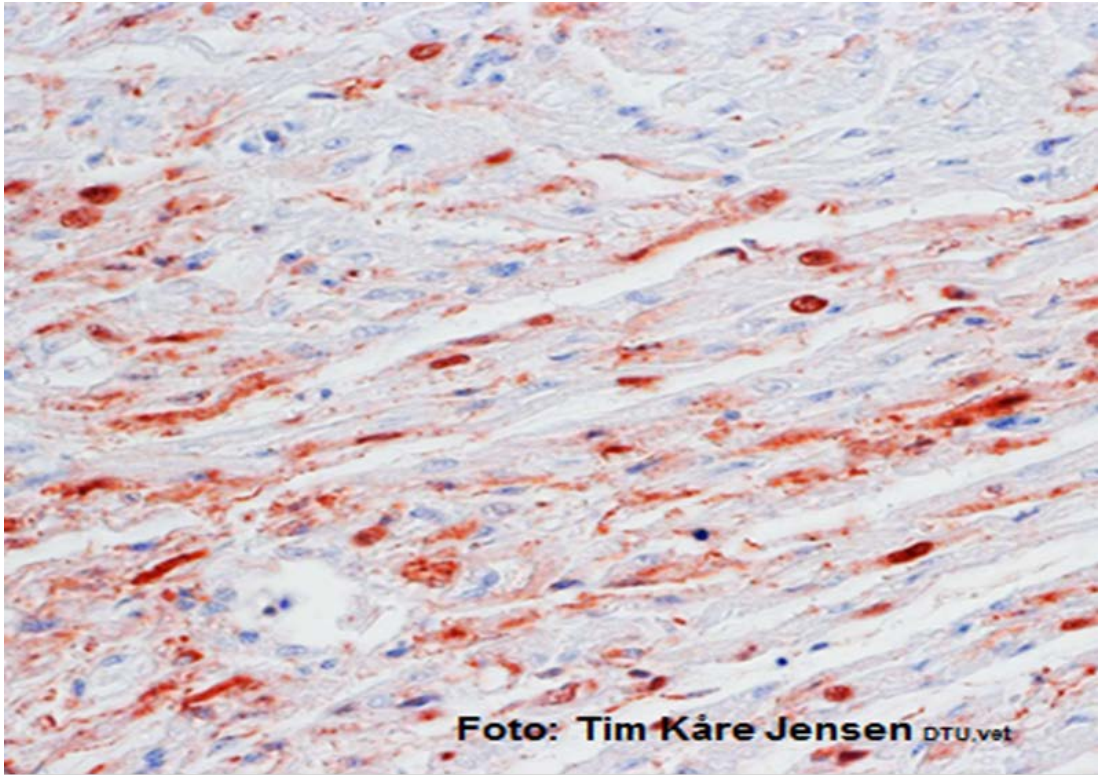
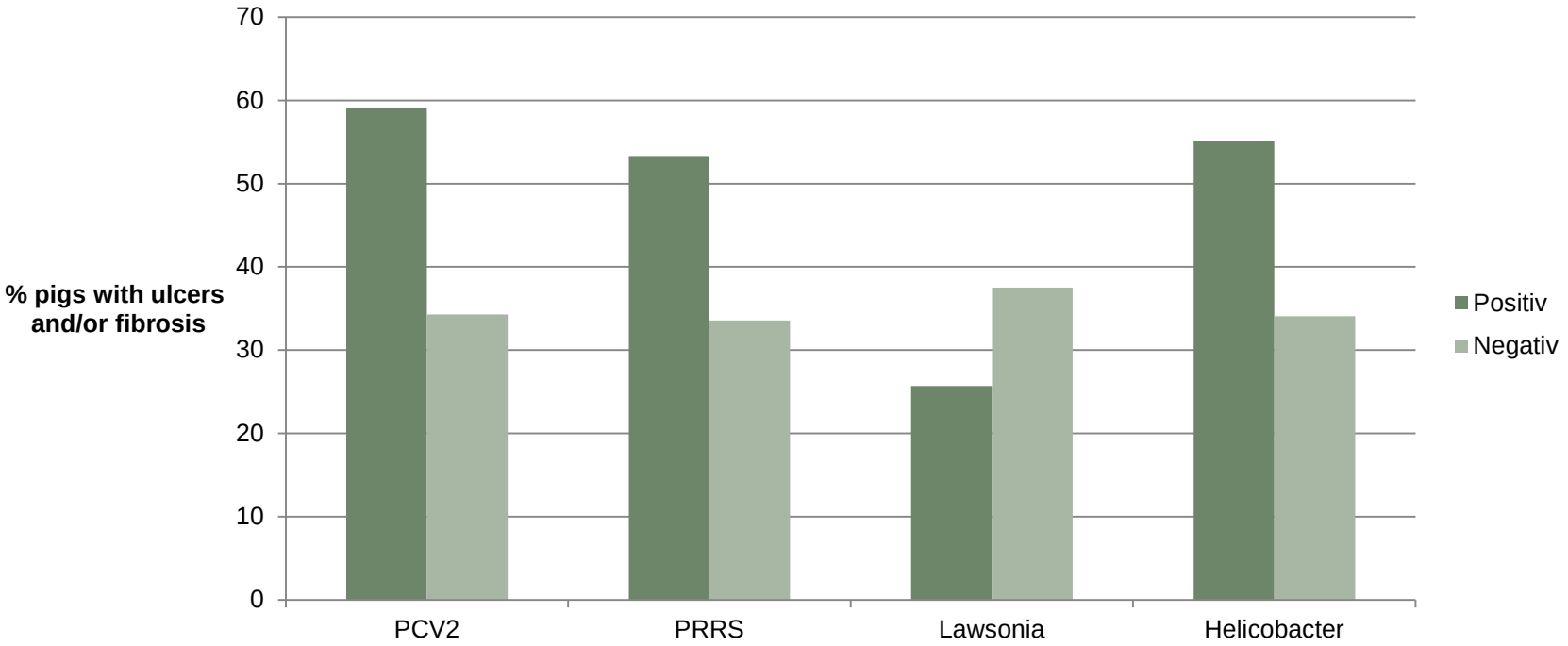


MORE SPECIFIC



	Ulcer		Ulcer and/or scar	
test	OR	P-value	OR	P-value
PCV2	4.04	<0.01	2.76	<0.05
PRRS	2.83	<0.01	2.26	<0.05
Lawsonia	0.84	0.67*	0.58	0.58*
Helicobacter	2.32	<0.05	2.38	<0.05

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TRIAL 2 - 2013

1.518 Slaughter pigs

Lungs, stomachs and lymphnodes

Lung diseases

FOCUS ON PCV2

Stomach score	Score 0-1 (%)	Score 2-5 (%)	Score 6-7 (%)	Score 8-10 (%)
PCV2 (ICH)	80 (19.0)	18 (14.3)	50 (16.9)	34 (17.2)
Total	420 (100.0)	126 (100.0)	296 (100.0)	198 (100.0)

PCV2 stomach (p=0.17)

Stomach score 8-10	Odds Ratio	p-value
Mycoplasma-like change >0 % of the lung	1.10	0.639
AP-like change > 0% of the lung	0.93	0.841
Pleuritis >0 % of the lung surface	1.64	0.027
PCV2 in lung, stomach or lymfatic tisue	0.79	0.630
Pelleted vs. meal feed	6.70	< 0.0001

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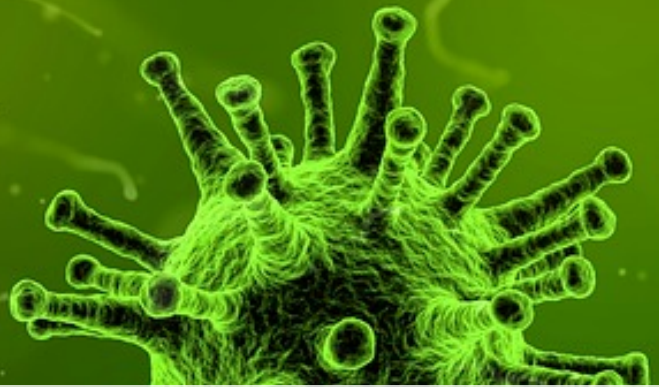
TRIAL 3-2015

Risk faktor analysis

37 herds

Focus on AP - infections


AP6
Pelleted feed
AP2
Slatted floor



DISEASES AND STOMACH ULCERS


Fall 2015

Ulcer and/or fibrosis	n	Thin (%)	Normal (%)
Ulcer score 1-6	212	29	71
Ulcer score 7-8	38	20	80
Scar tissue score1-6	209	29	71
Scar tissue score 7-8	42	18	82
Constriction Scar tissue score 9-10	50	50	50
All	302	31	69

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PART 3: HERD MANAGEMENT FACTORS

BIOSECURITY

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VACCINATION

OTHER MANAGEMENT FACTORS

FUTURE STUDY ON STOMACH ULCERS - SOWS

Screening - all danish sow herds

>200 sows

Risk factor analysis

RISK FACTOR – 200 DANISH SOW HERDS

- Feeding patterns
- Farrowing unit
- Disease status
- Distressed (gilts)
- Sow mortality
- Straw
- NSAIDs
- Vaccines

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TAKE HOME MESSAGE

Prevent diseases

- Because of the diseases

Bonus

- Some influence on stomach ulcer

THE END

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LINE HUMMELMOSE DINESS

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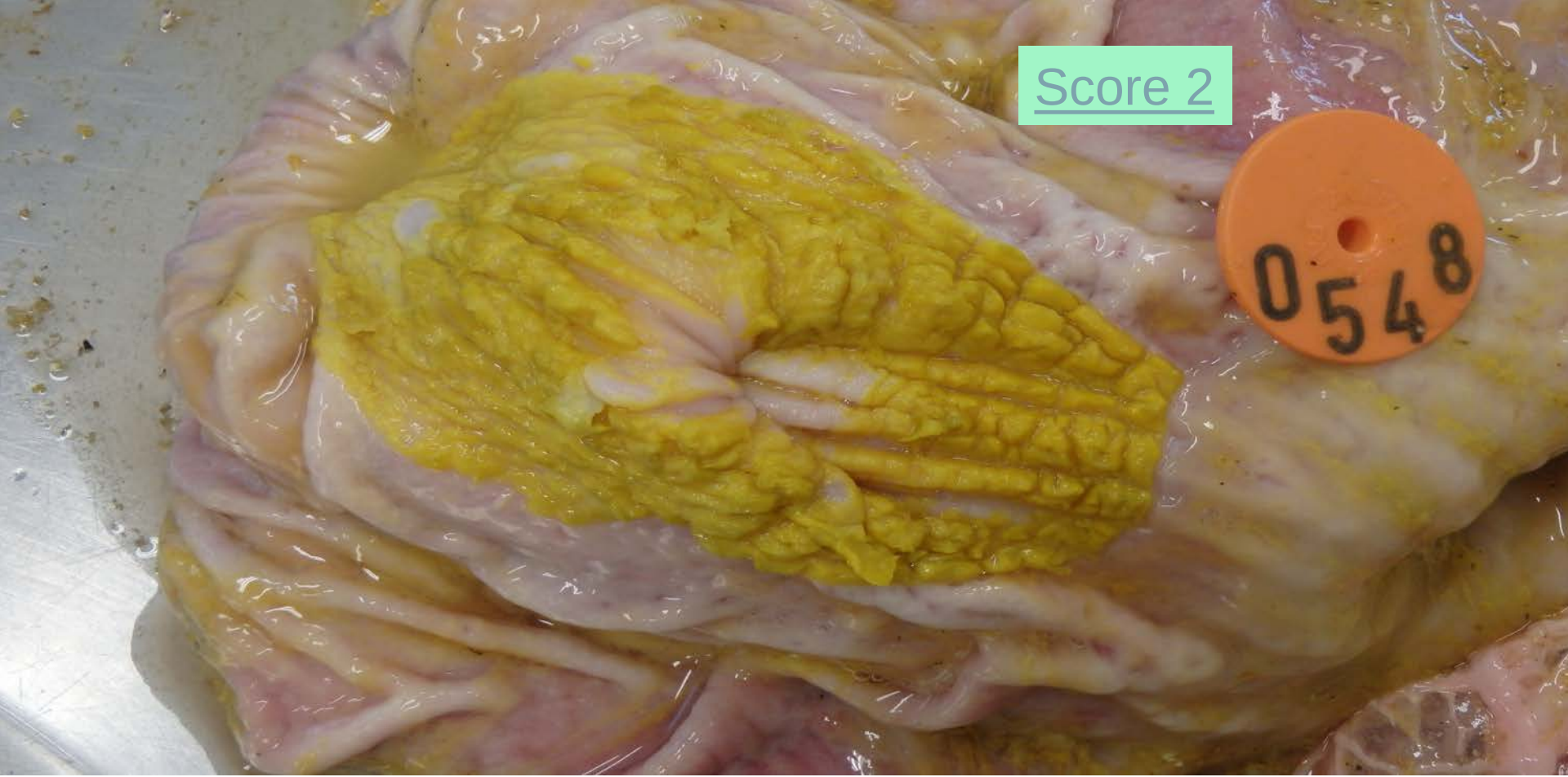
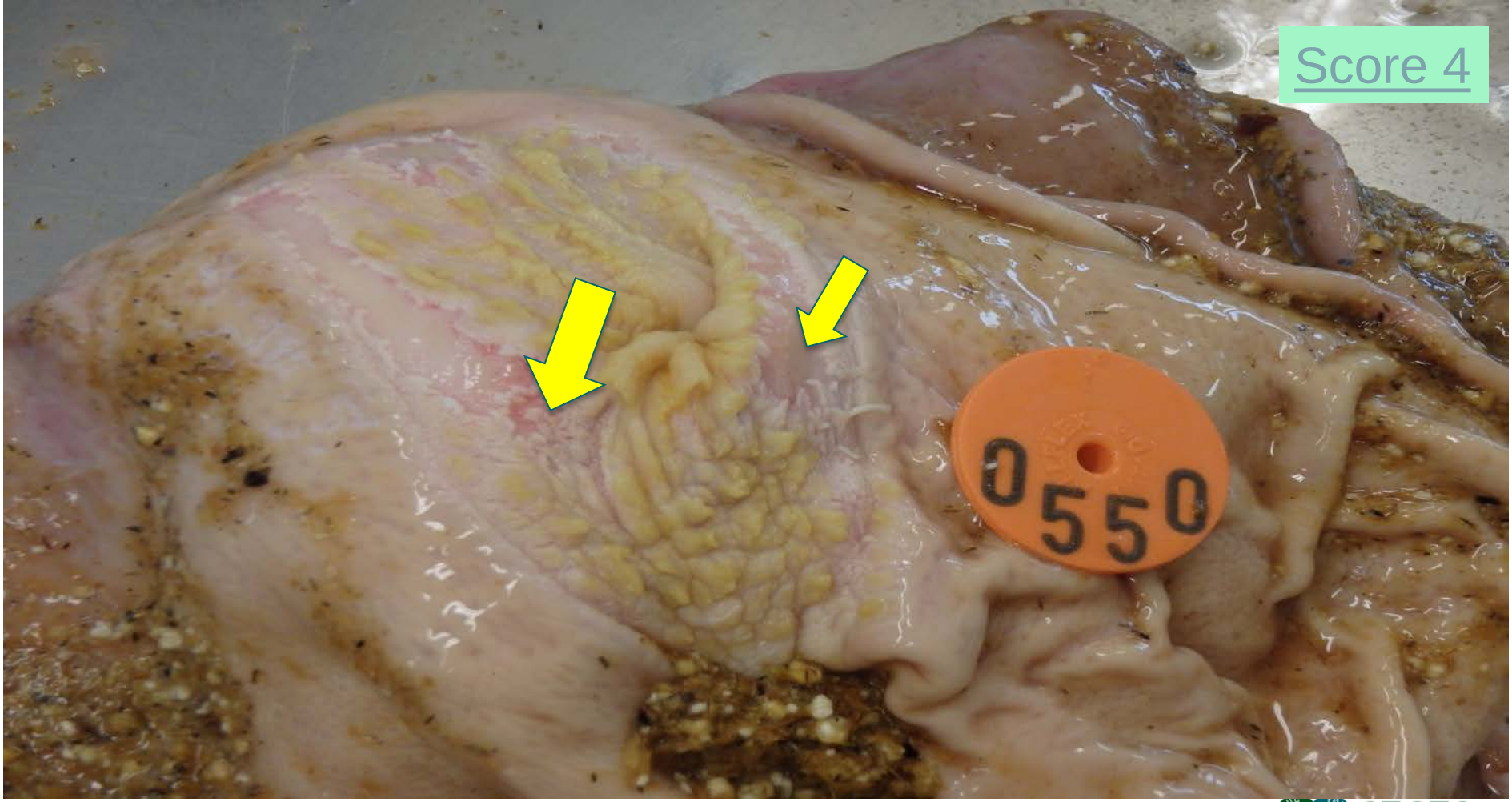
Description	Current lesions score
Normal stomach with a white and shiny pars oesophagea without visible lesions.	0
Finely granulated parakeratosis in pars oesophagea, less than 1 mm thick.	1
Coarse parakeratosis in pars oesophagea, 1-3 mm thick.	2
Coarse, laciniated or papillomatous parakeratosis in pars oesophagea, more than 3 mm thick.	3
Erosion* with a diameter less than 0.5 cm in pars oesophagea.	4
Erosion* with a diameter on 0.5 cm or more in pars oesophagea.	5
Superficial ulceration** with a diameter of less than 0.5 cm in pars oesophagea.	6
Deep ulcers** with a diameter of less than 0.5 cm or more superficial ulceration with a diameter on 0.5-2.0 cm in pars oesophagea.	7
Deep ulcers** with a diameter of at least 0.5 cm or more superficial ulceration with a diameter of more than 2 cm in pars oesophagea.	8

Description	Scar tissue formation
Pars oesophagea elastic without palpable healed ulcers. Oesophageal opening elastic and scar tissue does not constrict the opening	0
Palpable scar tissue in pars oesophagea consisting of one or more peripheral fibrous strands	6
Palpable scar tissue in pars oesophagea with fibrous strands producing an almost complete circular structure that may be slightly flexible	7
Palpable scar tissue in pars oesophagea with fibrous strands producing an circular, rigid structure	8
Scar tissue constricting the oesophageal opening, leaving it inflexible with a diameter between 6 and 15 mm.	9
Scar tissue constricting the oesophageal opening, leaving it inflexible with a diameter of maximum 5.9 mm.	10


Score 1


Score 2
0548


Score 3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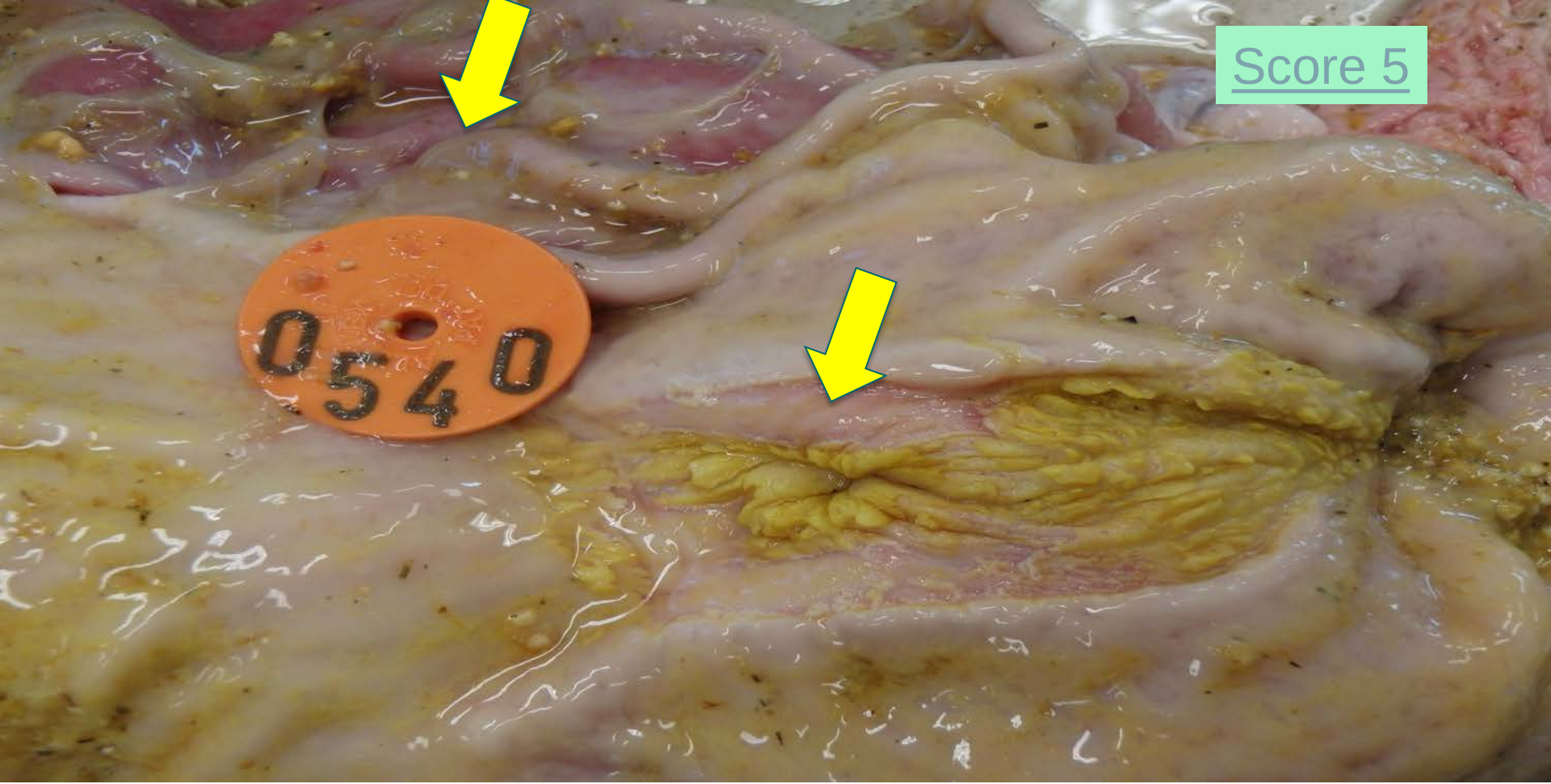
Score 5
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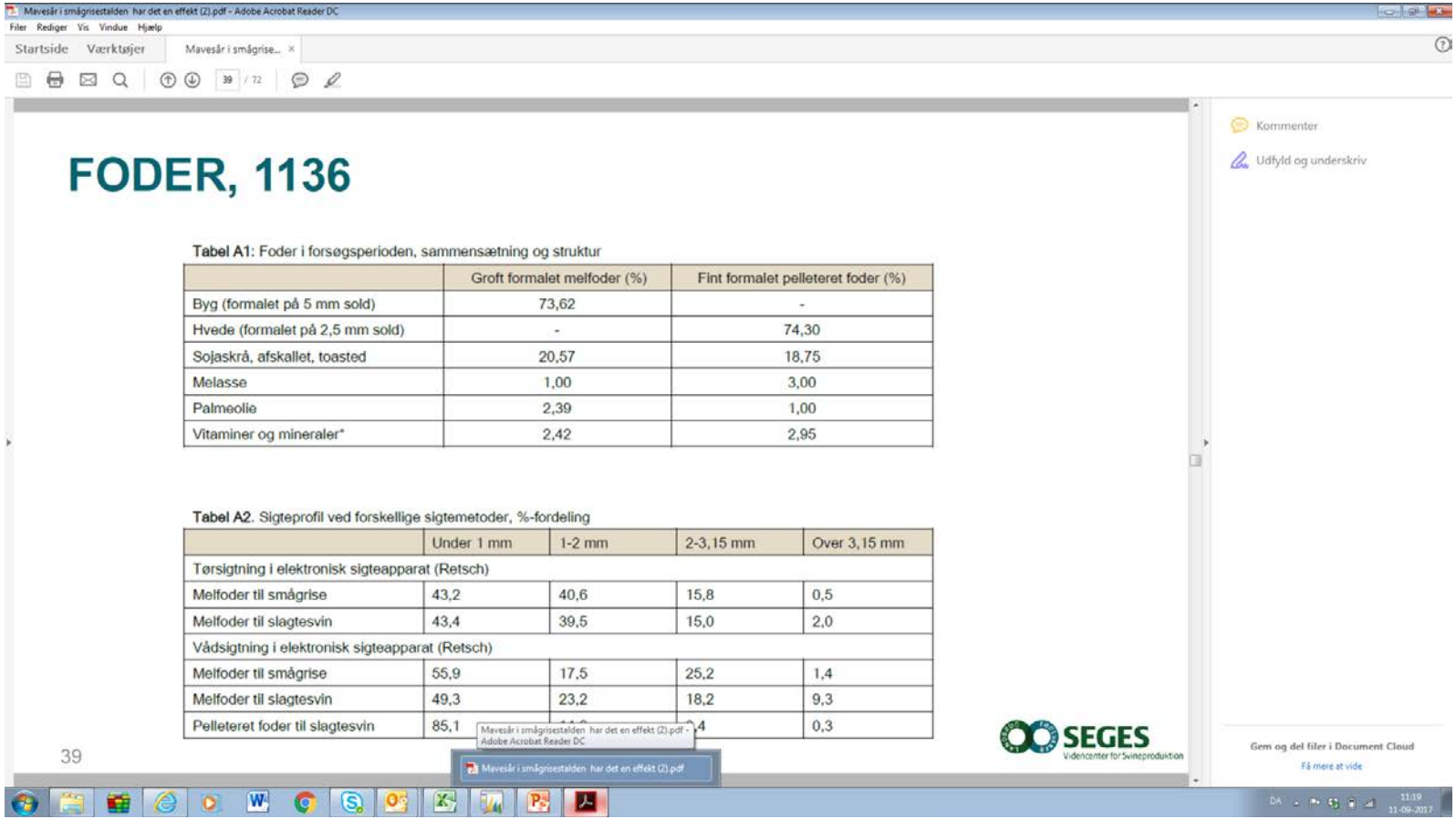

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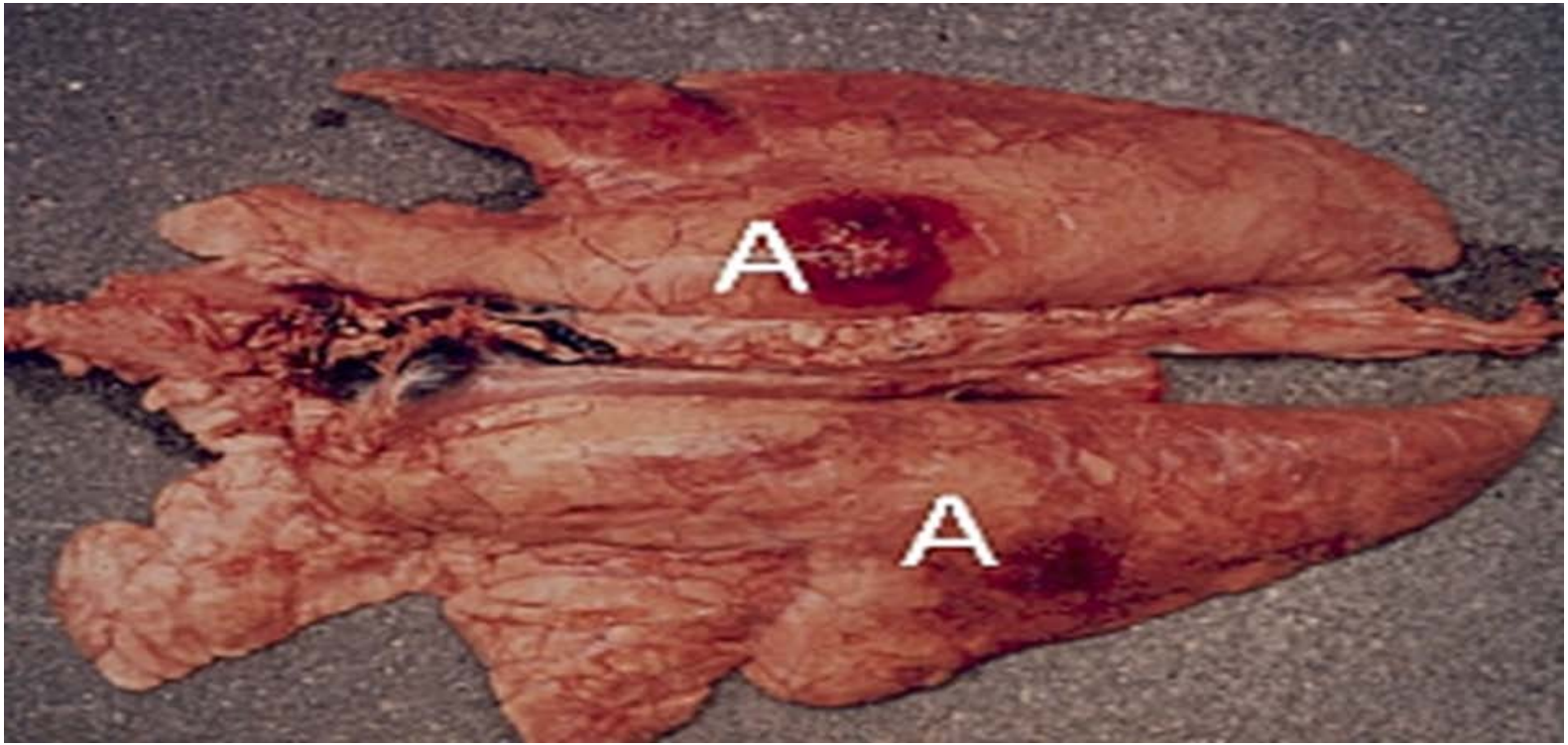
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