Apiam animal health

Glaesserella australis
A field veterinarians' perspective

Dr Sarah Jenkin BVSc MVS

Observational Case study on farrow to finish site

- Identification of APP-like abscesses at the abattoir during routine health checks
- Unusual culture characteristics
- Local labs sent to Conny for further identification
- Initially identified as *Actinobacillus Taxon C*, later reclassified to *Glaesserella australis*
- Asymptomatic on farm
  - Minimal coughing
  - Good growth rates
  - Post weaning mortality within acceptable limits (<3%)
  - Close monitoring of production parameters on farm
  - No specific interventions to control *Glaesserella australis* on farm

- Testing and monitoring conducted to understand possibly emerging pathogen

Investigations to date to understand the pathogen

- Abattoir monitoring of lesions
- Seroprofile of growers to check APXIV levels
- Opportunistic post-mortems at farm visits
- Collection of lungs with lesions
  - Photographs of lungs
  - Two swabs per lesion were taken: 1 for PCR, 1 for culture

- Nasal and tonsil swabbing of piglets pre-weaning on farm
- Nasal and laryngeal swabbing of growers

Abattoir monitoring of lesions

Date	Number of pigs	Pleurisy (%)	Pericarditis (%)	Lung Abscesses (%)
4/12/13	71	0	2	2
12/11/14	100	20	3	9
21/1/15	100	2	6	9
14/10/15	100	24	2	10
4/11/15	100	25	10	20
12/1/16	100	10	8	14
19/1/16	100	38	8	14
12/7/16	100	24	10	26
24/8/16	83	14	2	12
30/8/16	100	10	3	5
20/6/17	100	15	0	16
3/10/17	100	24	6	14
6/2/18	60	30	5	15
5/6/18	100	12	3	10
3/7/18	70	15	4	10
27/11/18	100	15	0	9
30/4/19	100	15	0	20

Apiam animal health

Seroprofile of growers to check APXIV levels

- Tested for APXIV toxins to check for the presence of *Actinobacillus pleuropeumoniae*
- Possible cause of pleurisy and abscesses
- Blood samples collected from this farm at 10, 16 and 20 weeks of age
- All **seronegative**

Apiam animal health

Opportunistic post mortems at farm visits

Pig 1:

- Euthanased pig with rectal prolapse
- Pleurisy and one dorsal abscess, pericarditis observed

Pig 2:

- Sudden death, pleurisy and abscess observed.

Laboratory identified *Actinobacillus Taxon C* (2017) in both cases

Antibiotic sensitivity	Isolate from Pig 1	Isolate from Pig 2
Ampicillin/Amoxicillin	S	S
Ceftiofur	S	S
Florfenicol	S	S
Neomycin	R	S
Tetracyclines	R	R
Tiamulin	S	
Tilmicosin	S	S
Trimethoprim/Sulphamethoxazole	S	
Tulathromycin	S	S
Tylosin	R	

Apiam animal health

Abattoir – Collection of lungs with lesions

- Swab of pleura taken at time of collection
- Whole lungs collected and taken back to laboratory
- Seared and then swabbed – Aimes for culture and dry swab for PCR

- Pleura swab – high contamination and not consistent with lung abscess results

Apiam animal health

Abattoir – Collection of lungs with lesions

Pure culture of *Streptococcus suis*

Abattoir – Collection of lungs with lesions

Pure culture of *Glaesserella australis*

Abattoir – Collection of lungs with lesions

Pure culture of *Pasteurella multocida*

Apiam animal health

Abattoir – Collection of lungs with lesions

Pure culture of *Glaesserella australis*

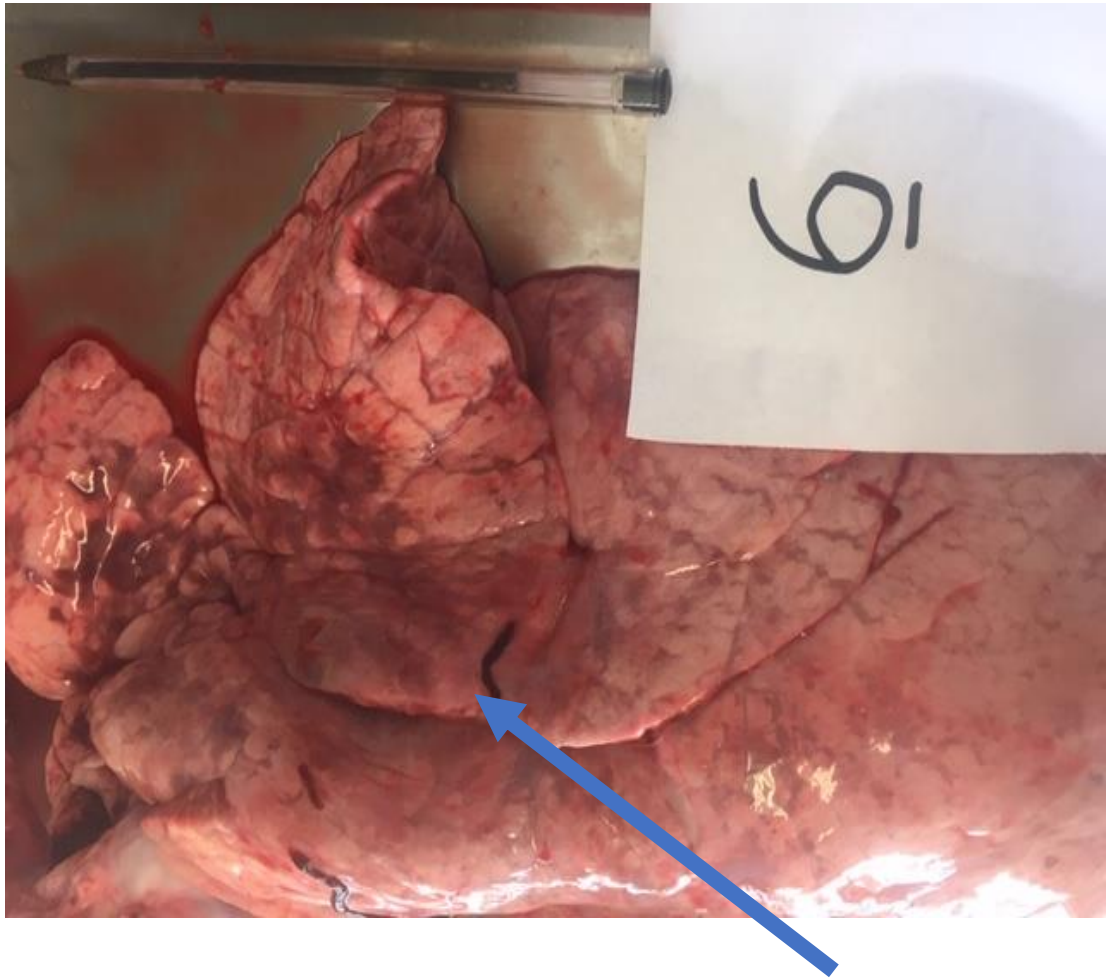
Apiam animal health

Abattoir – Collection of lungs with lesions

Pure culture of *Glaesserella australis*

Apiam animal health

Abattoir – Collection of lungs with lesions



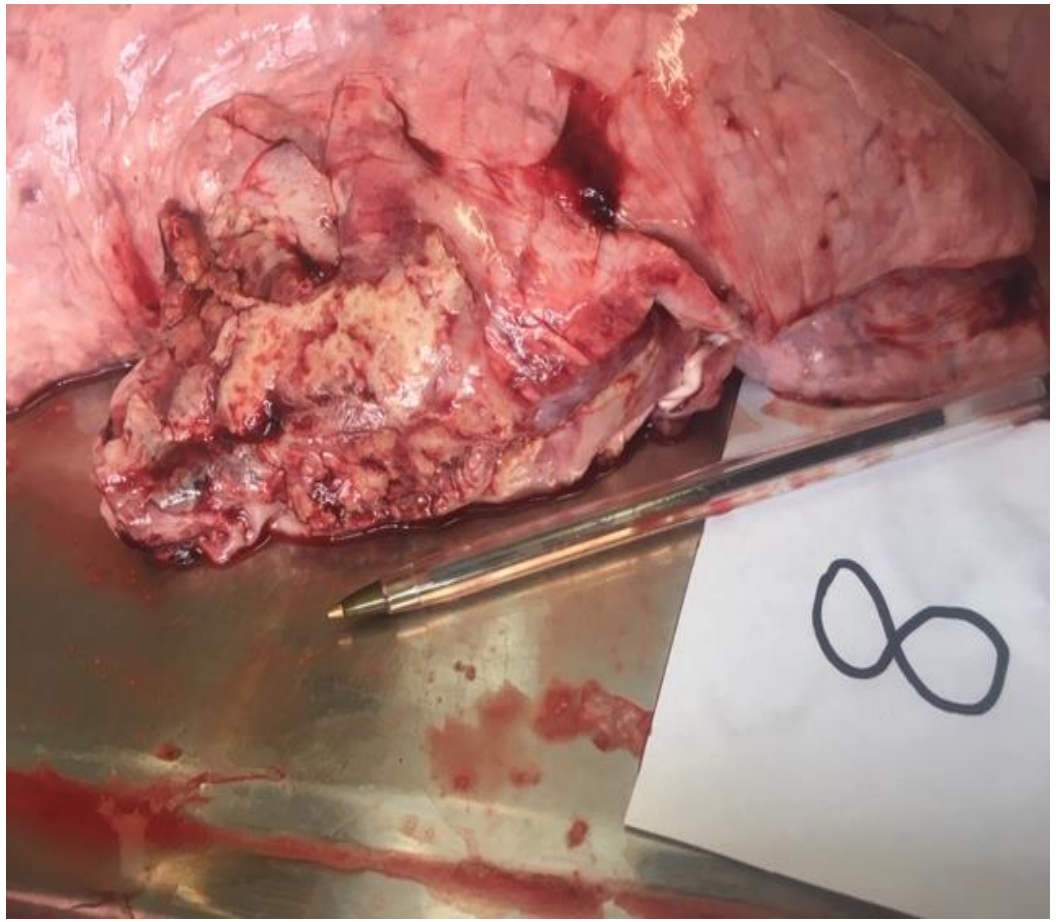
Non satellitic, none haemolytic, 2 types of colonies

Apiam animal health

Abattoir – Collection of lungs with lesions

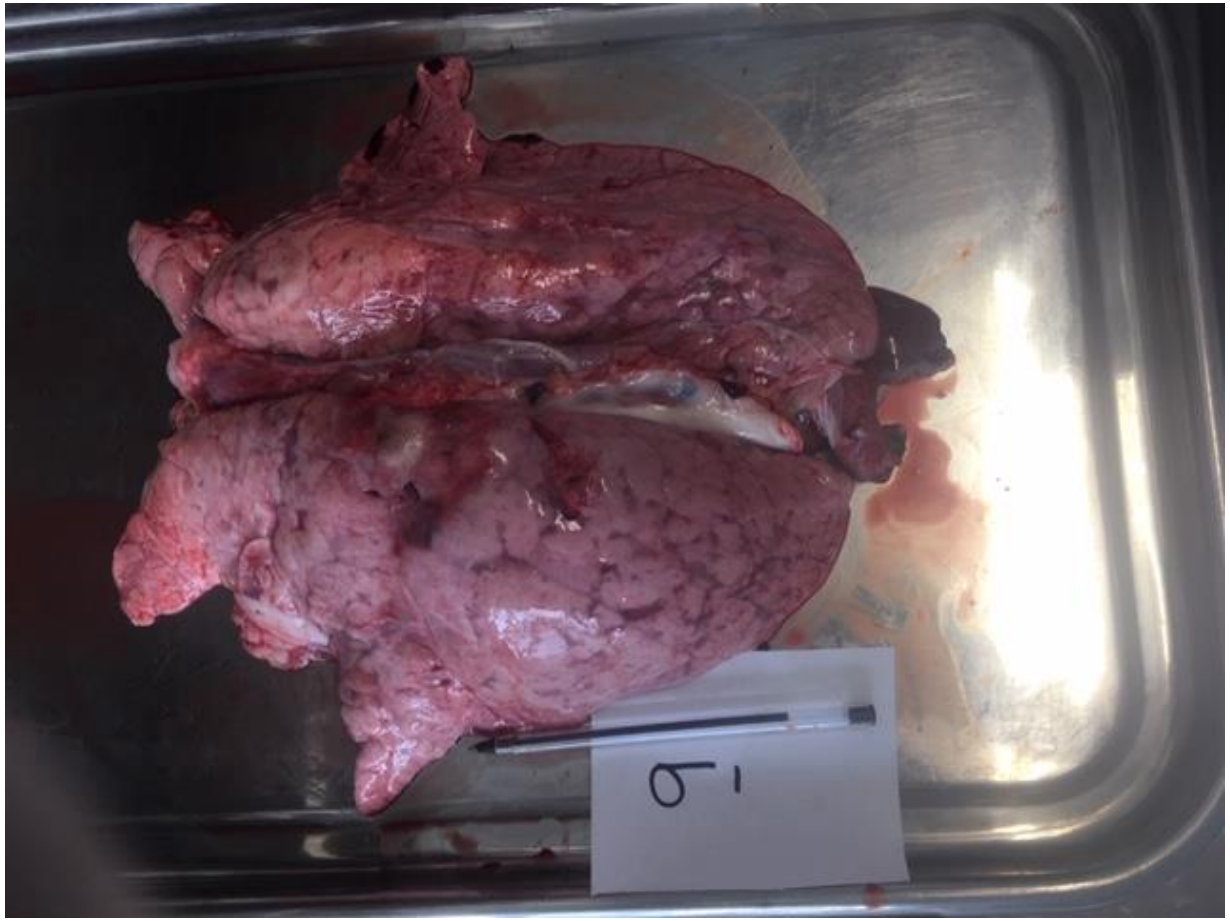
One colony, not identified

Abattoir – Collection of lungs with lesions



One main colony type - *Pasteurella multocida*

Abattoir – Collection of lungs with lesions



Three types of colonies - *Glaesserella australis*

Abattoir – Collection of lungs with lesions

Three types of colonies – not identified

Abattoir monitoring of lesions

Pure culture of *Glaesserella australis*

Apiam animal health

Abattoir – Collection of lungs with lesions

Couple of big colonies - contamination

Apiam animal health

Abattoir – Collection of lungs with lesions

No growth

Abattoir – Collection of lungs with lesions

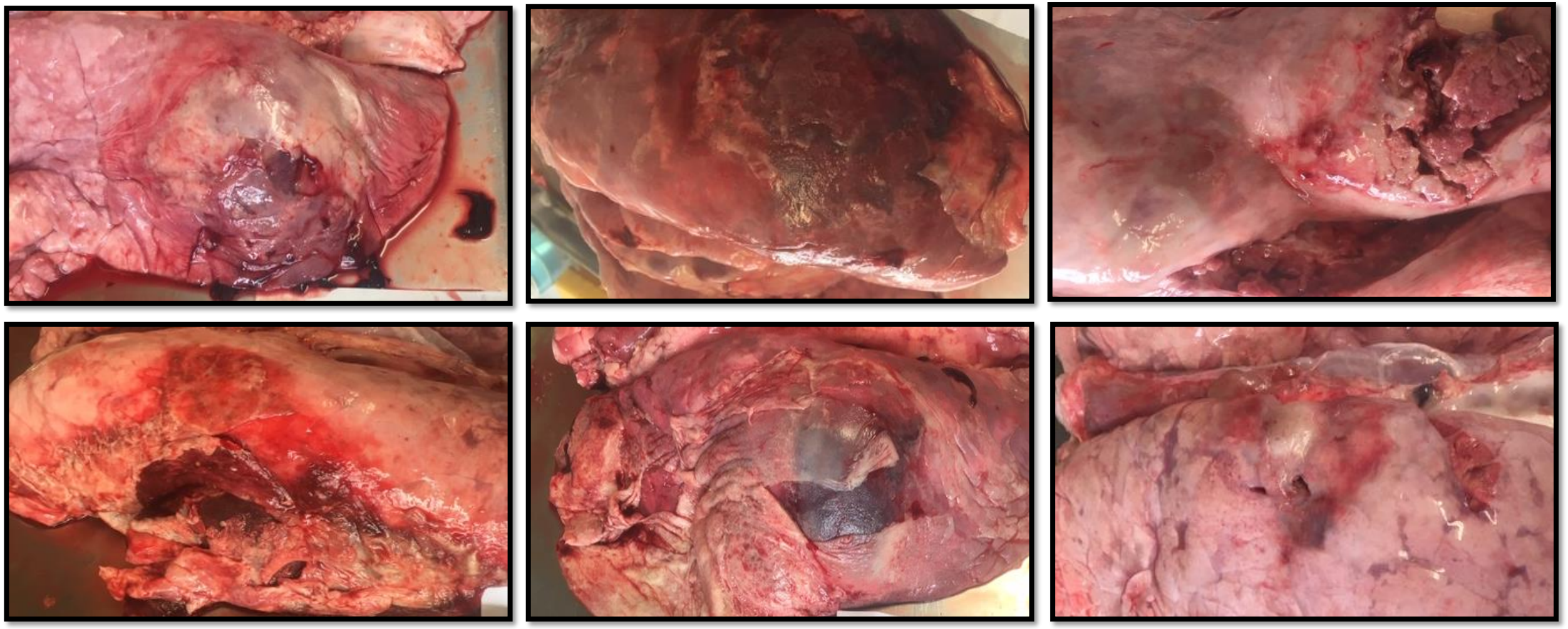
Mixed culture

Abattoir – Collection of lungs with lesions

Pure cultures of *Glaesserella australis*

Apiam animal health

Summary: 6/15 identified as *Glaesserella australis*



Nasal and tonsil swabbing of piglets pre-weaning on farm

- 28 piglets sampled that were due to be weaned that week
- Piglets selected from Parity 3 + sows only
- 2 piglets selected at random per litter
- 2 nasal and 1 tonsil swab collected from each piglet

www.cresa.cat

Results:

4 litters – nil growth

9 litters had *G.parasuis* serovar 8 or NT identified from nasal swabs and/or tonsil swabs

1 litter had *G parasuis* serovar 8 and *G.parasuis* serovar NT from 1 piglet tonsil, *A porcitonsillarum/minor A.porcitonsillarum* identified from other piglet tonsil

Apiam animal health

Nasal and laryngeal swabbing of growers

- Continuous flow, mixed sex, grower shed
- Pigs in adjacent pens have nose to nose contact
- Open drains between pens
- Sampled 25 x 14 week old pigs from 6 pens
- 2 nasal (VTM media, Amies media) and one laryngeal (Amies) swab taken

Results

No *Glaesserella australis* identified

Laryngeal swabs: *Streptococcus hyointestinale, Streptococcus suis, Glaesserella parasuis serovar NT, Actinobacillus porcitonsillarum*

Nasal swabs: *Glaesserella parasuis serovar NT, Glaesserella parasuis serovar 8, Streptococcus suis*

Source: Pig333

Apiam animal health

Further investigations

- Test pigs older than 14 weeks of age
  - Male and female flows to evaluate shed/environmental effect
- Review abattoir prevalence
  - Split sexes at the abattoir
- Routine surveillance in other farms

Apiam animal health

Acknowledgements

- Dr Conny Turni
- Patrick Daniel – DPI, Bendigo
- Apiam Animal Health
- Patient pig farmers