



Australian Government

Department of Agriculture

HEALTH 4 WEALTH Pork Pilot Trials

Enhancing Supply Chain Profitability through Reporting Peri-Mortem Inspection Data to Livestock Producers 2019 MINTRAC MI&QA Conference Jessica Jolley and David Hamilton









Project Partners

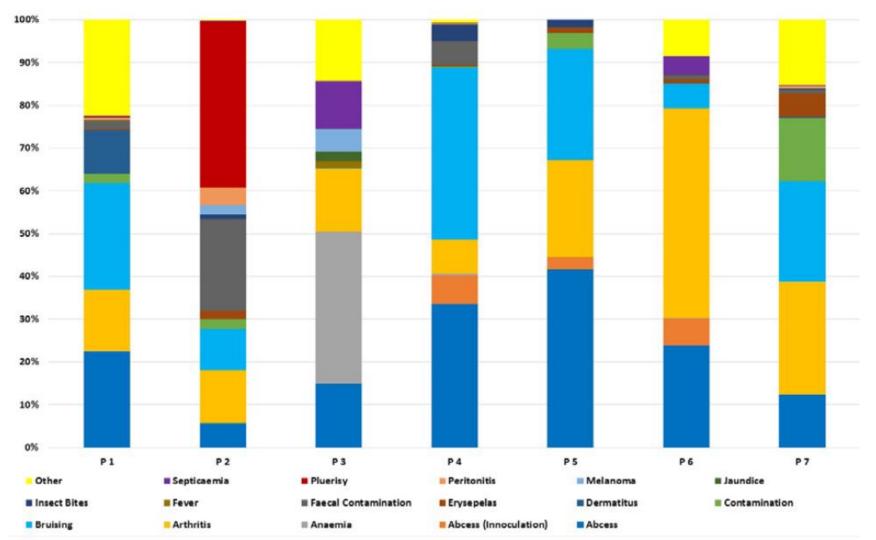
Previous projects



- 2012 workshop with key stakeholders including processors, producers, regulators and specialist pig veterinarians
- 2013/14 scoping study of processors and veterinary authorities
- 2016/17 Cost:benefit study to demonstrate value
- 2018 stakeholder workshop (n=30) to determine specific data to collect
- 2018/19 pilot trials of data collection / feedback

Variation between export abattoirs





Hudson & Hamilton APL Project No: 2015/2209

List of Defects



		Ca	use or Defect Present on Caro	ass x Processor		
P 1	P 2	P 3	P 4	P 5	P 6	P 7
Abscess	Abscess	Abscess	Abscess	Abscess	Abscess	Abscess
Adhesion	Abscess Multiple	Anaemia	Anaemia	Arthritis	Anaemia	Abscess Multiple
Anaemia	Arthritis	Arthritis	Arthritis	Bruising	Arthritis	Anaemia
Arthritis	Bile Contamination	Bruising	Broken Bone	Erysipelas	Bruised	Arthritis
Bile Contamination	Bruising	Fever	Bruising	Gross Contamination	Cancer	Broken Pelvis
Bruising	Erysipelas	Jaundice	Contamination	Inoculation Damage	Ecchymosis	Broken Ribs
Cancer	Faecal Contamination	Melanoma	Emaciation	Insect Bites	Emaciation	Bruising
Contamination	Fever	Septicaemia	Erysipelas		Erysipelas	Cancer
Cooked	Fight Marks	Other	Inoculation Abscess		Folliculitis	Contamination
DCARC	Insect Bites		Insect bites		Fever	Dermatitis
Dermatitis	Major Pleurisy		Peritonitis		Faeces	Erysipelas
Ecchymosis	Mange		Phimosis		Gangrene	Faecal Contamination
Emaciation	Melanoma		Pleurisy		Granuloma	Gangrene
Entertrytis	Minor Pleurisy		Pyaemia		Jaundice	Jaundice Icterus
Erysipelas	Peritonitis		Septicaemia		Melanoma	Mosquito Bites
Faeces Contamination	Septicaemia		Toxaemia		Pyaemia	Peritonitis
Fever					Septicaemia	Pyaemia
Fractures						Septicaemia
GC						Insect Bites
In-bleed						Peritonitis
Jaundice						Polyarthritis
Milk						Pyaemia
Multi Abscess						Pyrexia (Fever)
Oedema						Septic Pneumonia
Oil						Septicaemia
Other						
Peritonitis						
Pleurisy						
Polyarthritis						
PSE						
Scar						
Sebaceous Cyst						
Semen						
Septicaemia						
Septic W						
Skinless						
SPNEUM						
Tail Bite						
Tumour						
Uraemia						
Urine						

Hudson & Hamilton APL Project No: 2015/2209

H4W – Stakeholder Workshop



- International speakers
- Processors
- Producers
- Pig veterinarians
- Animal Health Australia
- Department of Agriculture
- State governments
- Australian Pork Limited

H4W – Workshop - Agreed list of Conditions



Syndromic Condition
Abscess
Anaemia
Arthritis
Ascarids
Bruising
Colitis
Contamination
Dermatitis
Erysipelas
Fever
llietis
Melanoma
Nephritis
Pericarditis
Peritonitis
Pleurisy
Pneumonia
Ante mortem
(emergency kill reason / tail bite / hernia / orchitis)

H4W – Pilot Trials



- Develop a pilot recording program with Marel
- Make available to pilot abattoirs, if needed
 A "bolt on" system (e.g. using tablets)
- Regular data monitoring by SARDI during trial
- 2 export pig abattoirs 4 months trial
- Review trial / modify as necessary
- 4 additional export pig abattoirs + 1 domestic : 4 months trial

H4W – Pilot Trials – Issues to Address



- Can the required data be sustainably collected?
- How reliable/accurate is the data?
 Quality monitoring / assessment
- How useful is the data?
- How robust is the data recording system?
- Who is best placed to collect the data?
 Training needs
- How to match viscera table and retain rail results?
- Are additional collection points required?
- Interaction with Pig Health Monitoring Scheme (PHMS)?

H4W – Pilot Trials – Update



- 2 abattoirs
- 4 months
- 600,000 pigs individual carcase data
- Still developing program for collection of offal data with Marel

H4W – Marel recording program - DRAFT



PO	Inspection	Vet Inspection		Operations
Inspection -	Select context			
Carcas	se without C	onsequences	Carcase with Consequences	Viscera
				Previous Next page page

H4W – Marel recording program - **DRAFT**



PO Inspecti	ion Vet Inspection						Operations
Inspection - Carcase Ins	spection						
				_	# ⁻ of ⁻		
Abscess Carcase	None	×		Peritonitis	No		×
Abscess Commer	ht	×		Pleurisy	None		×
Arthritis	Νο	×	Ð	Ante Mortem	None		×
Bruising	None	×					
Contamination	None	×					:
Dermatitis	None	×					
Erysipelas	No	×					
Fever	No	×					
Melanoma	No	×					
Nephritis	None	×					L
soo	. 🔊 👔	Del		ec.		one al	

H4W – Marel recording program - DRAFT



Material Packaging Pig in	spection Pig inspection II		Operations
Pig inspection - QA			
Absess		District	7 8 9
Abscess	Arthritis	Pleurisy	
			4 5 6
			1 2 3
Disease 2	Disease 3		, 0 <
Disease 2	Disease 3		
			- <
500)		✓ Done



1 Abscess

Table 2: Weekly prevalence of abscesses for different tattoos. Average % represents the average of the weekly prevalences for an individual tattoo since May 2019.

Week	Tattoo	Pigs Killed	No.	%	Average %
26	Tattoo 1	697	4	0.6	0.8
26	Tattoo 2	299	2	0.7	0.5
26	Tattoo 3	140	3	2.1	2.1
26	Tattoo 4	150	0	0.0	0.8
26	Tattoo 5	300	2	0.7	0.3
26	Tattoo 6	370	18	4.9	4.8
26	Tattoo 7	4	0	0.0	0.0
26	Tattoo 8	143	1	0.7	1.7
26	Tattoo 9	35	0	0.0	0.9
26	Tattoo 10	56	0	0.0	0.5
26	Tattoo 11	27	0	0.0	0.0
26	Tattoo 12	39	0	0.0	0.5
26	Tattoo 13	141	3	2.1	1.7
26	Tattoo 14	53	0	0.0	0.2
26	Tattoo 15	8	0	0.0	0.0
26	Tattoo 16	142	1	0.7	0.6
26	Tattoo 17	4	0	0.0	0.0
26	Tattoo 18	180	1	0.6	0.9
26	Tattoo 19	160	0	0.0	0.6
26	Tattoo 20	149	2	1.3	1.7
26	Tattoo 21	20	0	0.0	0.3
26	Tattoo 22	100	1	1.0	0.4
26	Tattoo 23	30	1	3.3	0.9
26	Tattoo 24	17	0	0.0	0.2
26	Tattoo 25	10	0	0.0	7.0
26	Tattoo 26	711	7	1.0	1.2
26	Tattoo 27	65	0	0.0	0.9
26	Tattoo 28	28	0	0.0	0.0
26	Tattoo 29	17	3	17.6	5.5
26	Tattoo 30	20	0	0.0	1.2

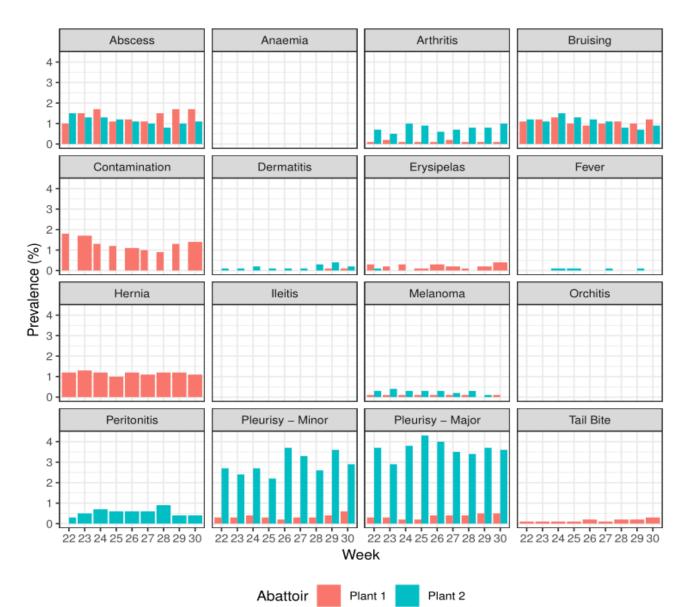


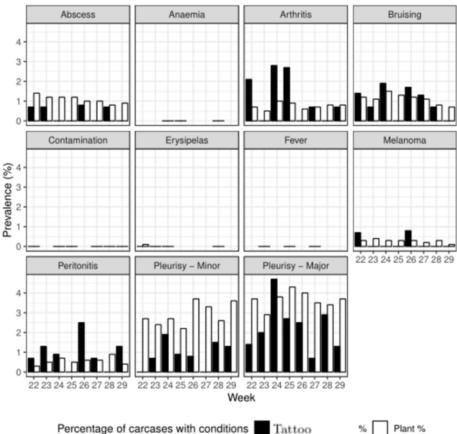
25 Pleurisy

Table 26: Weekly prevalence of pleurisy for different tattoos. Average % represents the average of the weekly prevalences for an individual tattoo since May 2019.

				Mi	nors		M	ajors		Con	demns
Week	Tattoo	Carcases	No.	%	Average $\%$	No.	%	Average $\%$	No.	%	Average %
26	Tattoo 1	449	1	0.2	0.1	2	0.4	0.2	0	0.0	0.0
26	Tattoo 2	200	0	0.0	0.5	1	0.5	0.4	0	0.0	0.0
26	Tattoo 3	200	0	0.0	3.8	6	3.0	1.0	0	0.0	0.0
26	Tattoo 4	181	1	0.6	0.2	0	0.0	0.2	0	0.0	0.0
26	Tattoo 5	201	0	0.0	0.7	1	0.5	0.4	0	0.0	0.0
26	Tattoo 6	61	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
26	Tattoo 7	456	3	0.7	0.7	2	0.4	0.7	0	0.0	0.0
26	Tattoo 8	307	0	0.0	0.1	2	0.7	0.3	0	0.0	0.0
26	Tattoo 9	314	0	0.0	0.3	0	0.0	0.3	0	0.0	0.0
26	Tattoo 10	28	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
26	Tattoo 11	105	0	0.0	0.3	0	0.0	0.6	0	0.0	0.0
26	Tattoo 12	303	3	1.0	2.0	3	1.0	0.6	0	0.0	0.0
26	Tattoo 13	440	1	0.2	0.2	1	0.2	0.3	0	0.0	0.0
26	Tattoo 14	321	1	0.3	1.4	1	0.3	0.3	0	0.0	0.0
26	Tattoo 15	216	1	0.5	0.3	0	0.0	0.5	0	0.0	0.0
26	Tattoo 16	224	0	0.0	0.8	0	0.0	0.5	0	0.0	0.0
26	Tattoo 17	45	0	0.0	0.7	0	0.0	0.4	0	0.0	0.0
26	Tattoo 18	40	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
26	Tattoo 19	38	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
26	Tattoo 20	21	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
26	Tattoo 21	7	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
26	Tattoo 22	130	0	0.0	0.3	0	0.0	0.0	0	0.0	0.0
26	Tattoo 23	1	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
26	Tattoo 24	249	0	0.0	0.2	0	0.0	0.2	0	0.0	0.0
26	Tattoo 25	1	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
26	Tattoo 26	8	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
26	Tattoo 27	138	0	0.0	0.0	0	0.0	0.2	0	0.0	0.0
26	Tattoo 28	74	0	0.0	0.1	0	0.0	0.0	0	0.0	0.0
26	Tattoo 29	219	0	0.0	0.5	2	0.9	0.4	0	0.0	0.0
26	Tattoo 30	6	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0



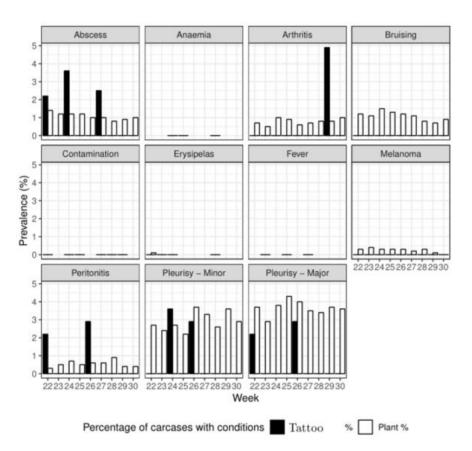




Percentage of carcases with conditions Tattoo

Table 68: Number of pigs killed per week Pigs Killed Week Tattoo





Week Tat	too Pigs Killed
22	45
23	37
24	28
25	28
26	35
27	40
28	35
29	41
30	15





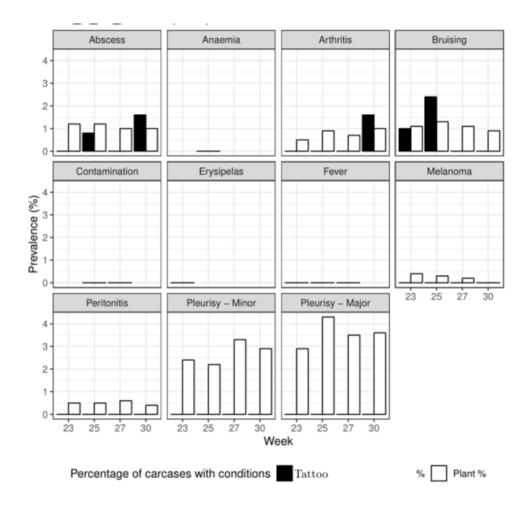


Table 74: Number of pi	igs killed per week
------------------------	---------------------

Week	Tattoo	P	igs Killed
23			102
25			123
27			102
30			62



Table 0	0: Number of	carcases with	i parts rem	loved c	or condemnee	i (parti	al of w	note) for this week
Week	Pigs Killed	Condition	FQ/HQ	Leg	Backbone	Ribs	Side	Carcase skinned
31	673	Bruising	0	2	0	0	0	0
31	673	Colitis	3	0	0	0	0	0
31	673	Erysipelas	0	0	0	0	0	1
31	673	Pleurisy	5	0	0	0	1	0

Table 60: Number of carcases with parts removed or condemned (partial or whole) for this week

Table 66: Number of carcases with parts removed or condemned (partial or whole) for this week

					\ `		/	
Week	Pigs Killed	Condition	$\mathrm{FQ/HQ}$	Leg	Backbone	Ribs	Side	Carcase skinned
31	649	Abscess	7	1	0	1	1	0
31	649	Arthritis/Poly Arthritis	0	1	0	0	0	0
31	649	Bruising	0	1	0	0	0	0
31	649	Colitis	1	0	0	0	0	0
31	649	Pleurisy	2	0	0	1	0	0
31	649	Tail Bite	1	0	0	0	0	0

H4W – Next Steps



- Collection of offal data
- Roll out in more export abattoirs + domestic abattoir
- Further development of report templates for the processor and the producer
- Producer workshops
- Case studies



HEALTH 4 WEALTH

A Research Project

Enhancing Supply Chain Profitability through Reporting Peri-Mortem Inspection Data to Livestock Producers

This project is supported through funding from the Australian Government Department of Agriculture as part of the Rural R&D for Profit program.