Current red meat and pork initiatives to enhance supply chain linkages

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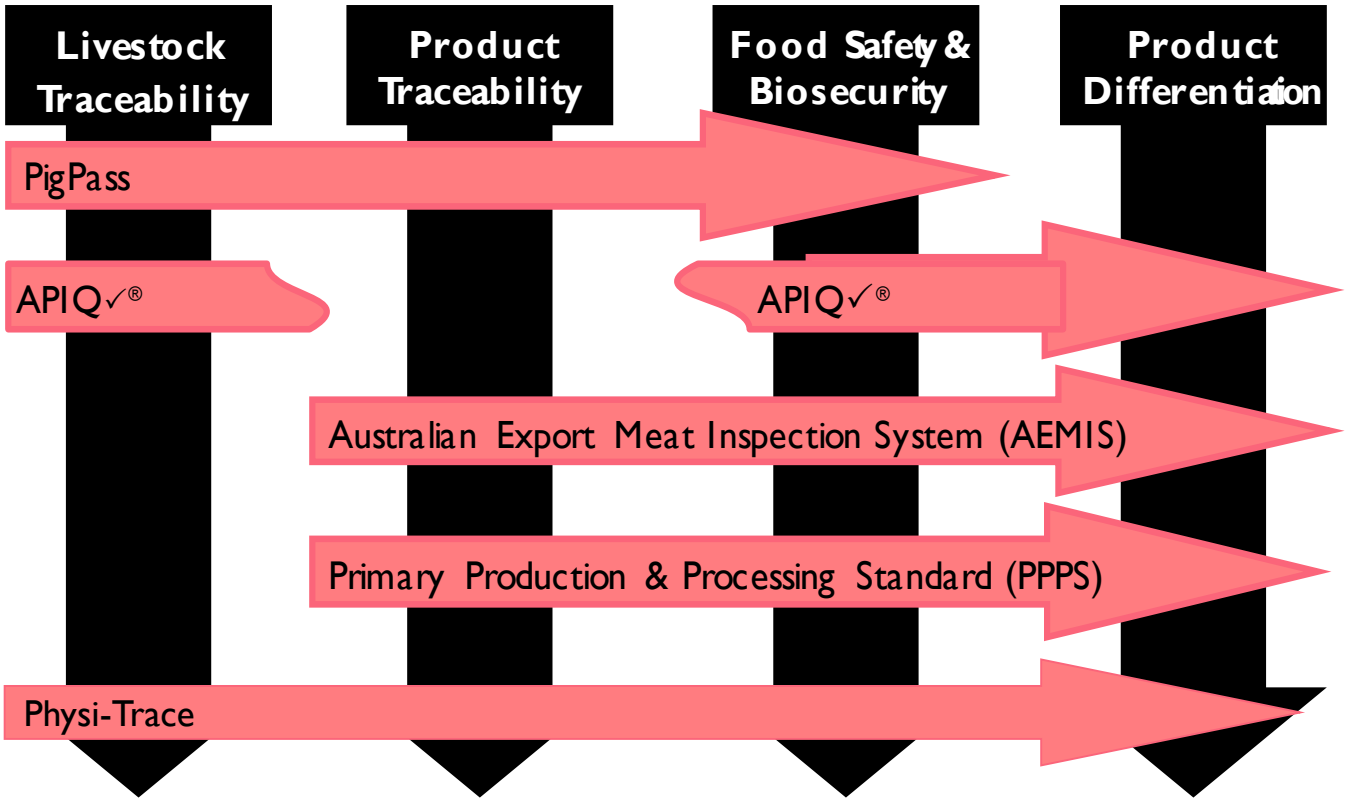
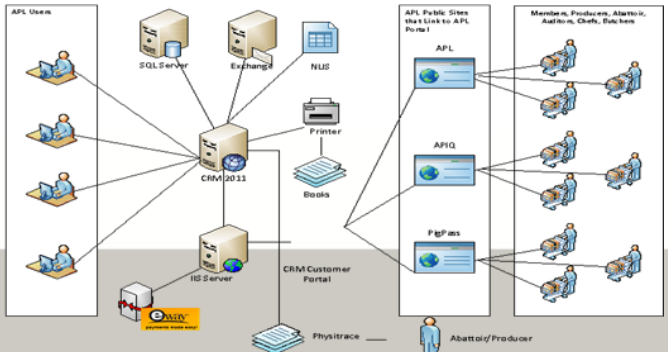
Pork Supply Chain Integrity Program



Customer Relationship Management (CRM) System

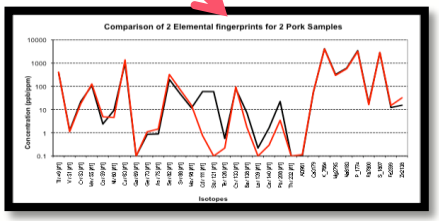


Physi-Trace – what it offers

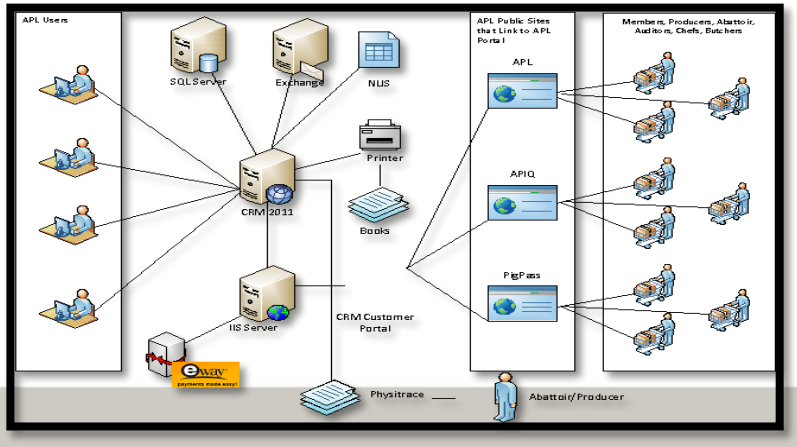
- Robust traceability validation system based on trace elemental profiling implemented by the Australian pork industry
- Supply chain traceability for pork in conjunction with PigPass NVD and supported by other traceability systems

Demonstrating Trust in Australian Pork

Farm of origin for raw pork



Australian or not



AUSTRALIAN Pork™ CERTIFIED OUTDOOR BRED
RAISED INDOORS ON STRAW

AUSTRALIAN Pork™ CERTIFIED FREE RANGE

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Key benefits of Physi-Trace

- Promote greater market confidence in integrity and traceability of Australian pork
- Rapid market re-entry in event of incident (eg. food safety, chemical residue)
- Verification of country of origin and production label claims
- Supports uniform standards for Australian and imported pork
- Deal with fraud issues involving Australian pork

Industry initiatives supporting ongoing reform of the base pork export certification model

Ante mortem

- Producer ante-mortem (APIQ✓®)
- Risk profiles
- APL 'Fit for the intended journey guide' - Land Transport Standards
- PigPass NVD
- ProHand Pigs and ProHand Abattoir
- Ante-mortem inspection
  - Porcine Ante Mortem inspectors (PAMI)

Inspection, Certification and Verification

- Ante & Post Mortem Feedback System and Database
- Risk based assessment of inspection procedures and disposition judgements
- Abattoir Process Control Program
  - Stage 1 – Benchmarking of carcase sites and hazards
  - Stage 2 – Validation of microbial indicators
  - Stage 3 – Boning room interventions

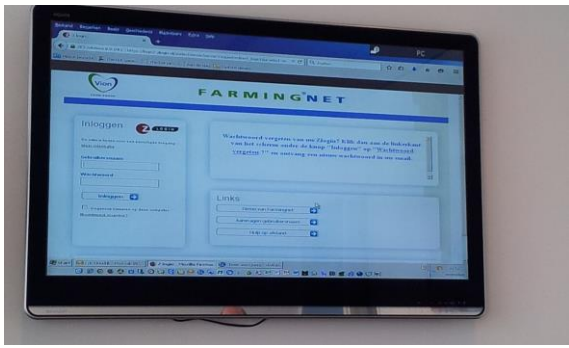
Improved animal health status of Australian pigs

Reporting Process

- Regulator
- Producers
- Customers

Ante and post mortem reporting of condemnation to producers

- 2012 – workshop with key stakeholders including processors, producers, regulators and specialist pig veterinarians
  - Unanimous stakeholder support for concept
- 2013/14 – scoping study of processors and veterinary authorities
  - In-principle support from processors - benefit: cost data required
- 2016 – Undertake benefit cost study to demonstrate value
- Supported by agreed governance rules for data management and reporting



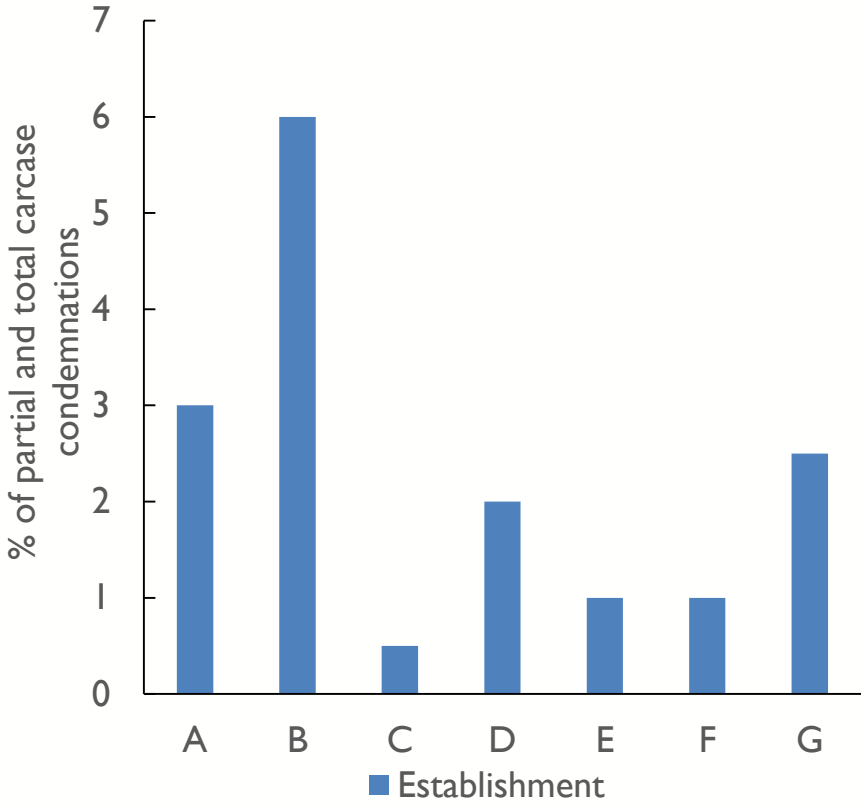
Benefit: cost analysis of a national pig carcass reporting system (APL 2015-2209)

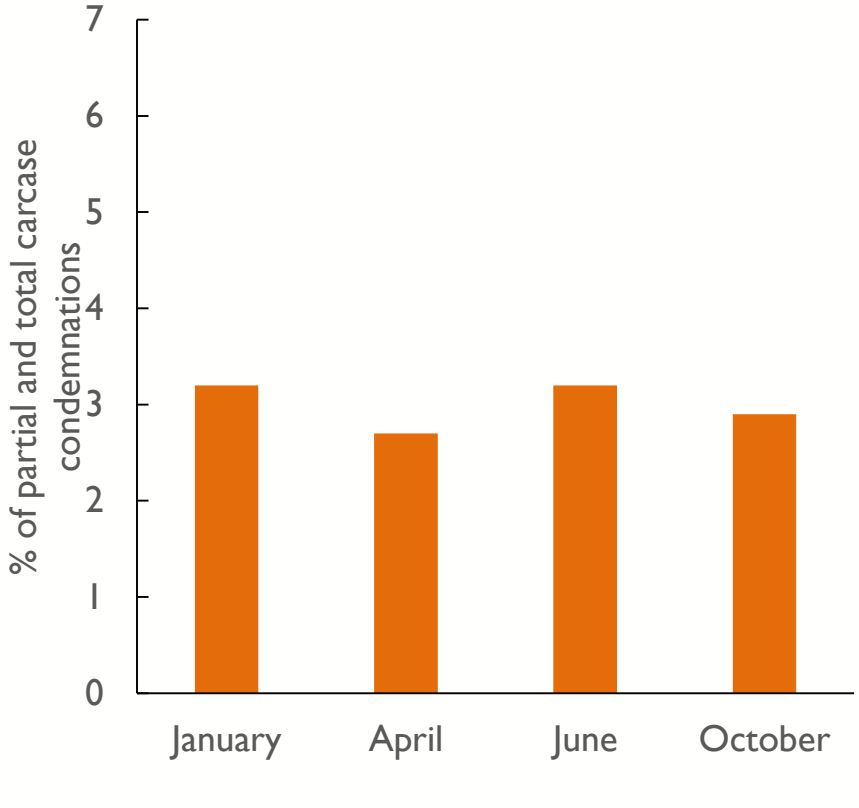
To understand:

- true cost of processing pigs with a range of different pathological conditions
- how data is used and the impact of feedback systems on producer profitability
- financial and operating efficiency benefits by processors and producers
- remaining impediments to the introduction of a national feedback system for pork

Hamilton and Hudson (unpub.)

Partial or total carcase condemnation incidence between establishments (n=7) and between seasons

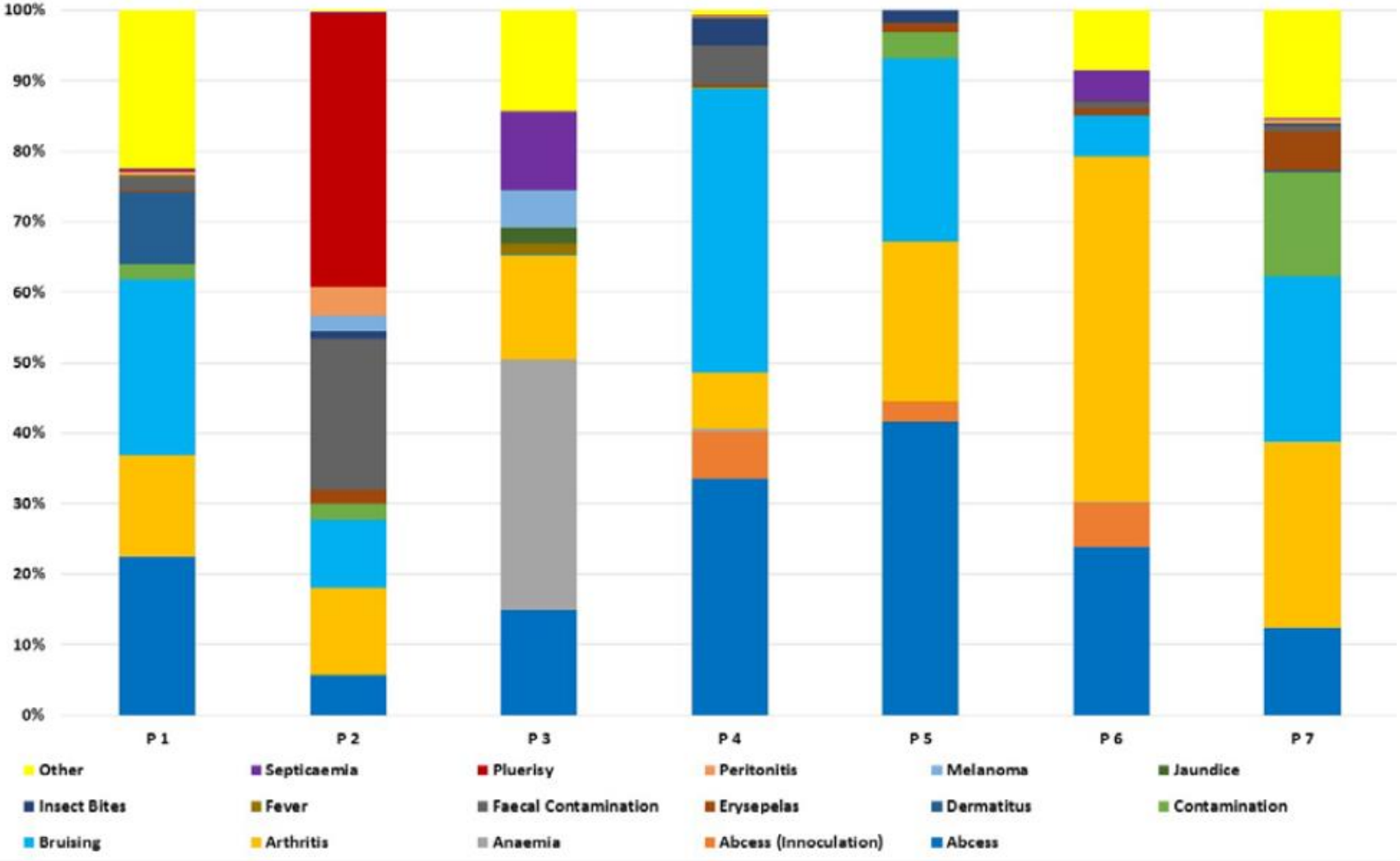




Full or partial condemnation was 3.0% of total pigs processed

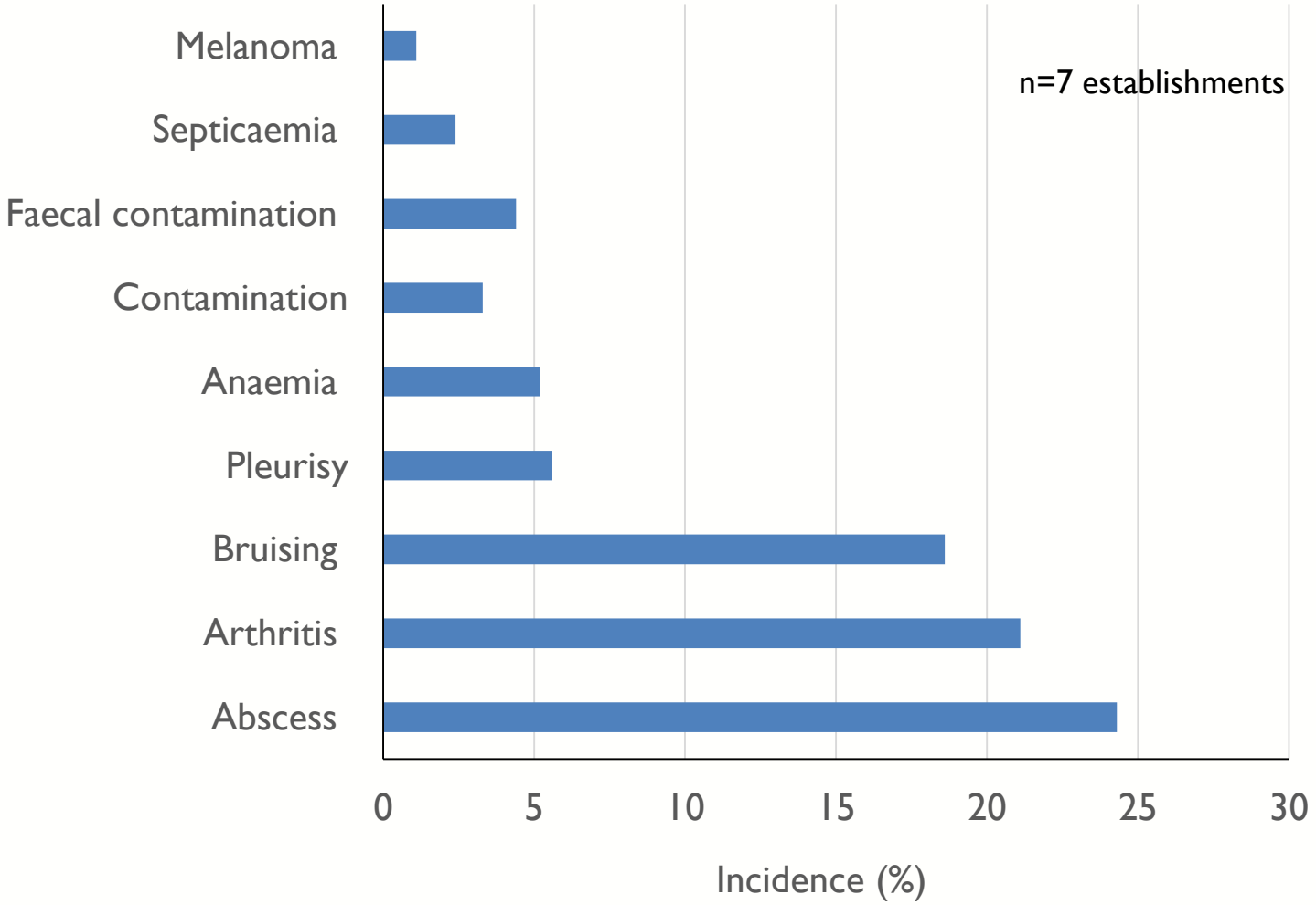
Hamilton and Hudson (unpub.)

Variation between establishments for major causes of carcase defects leading to intervention



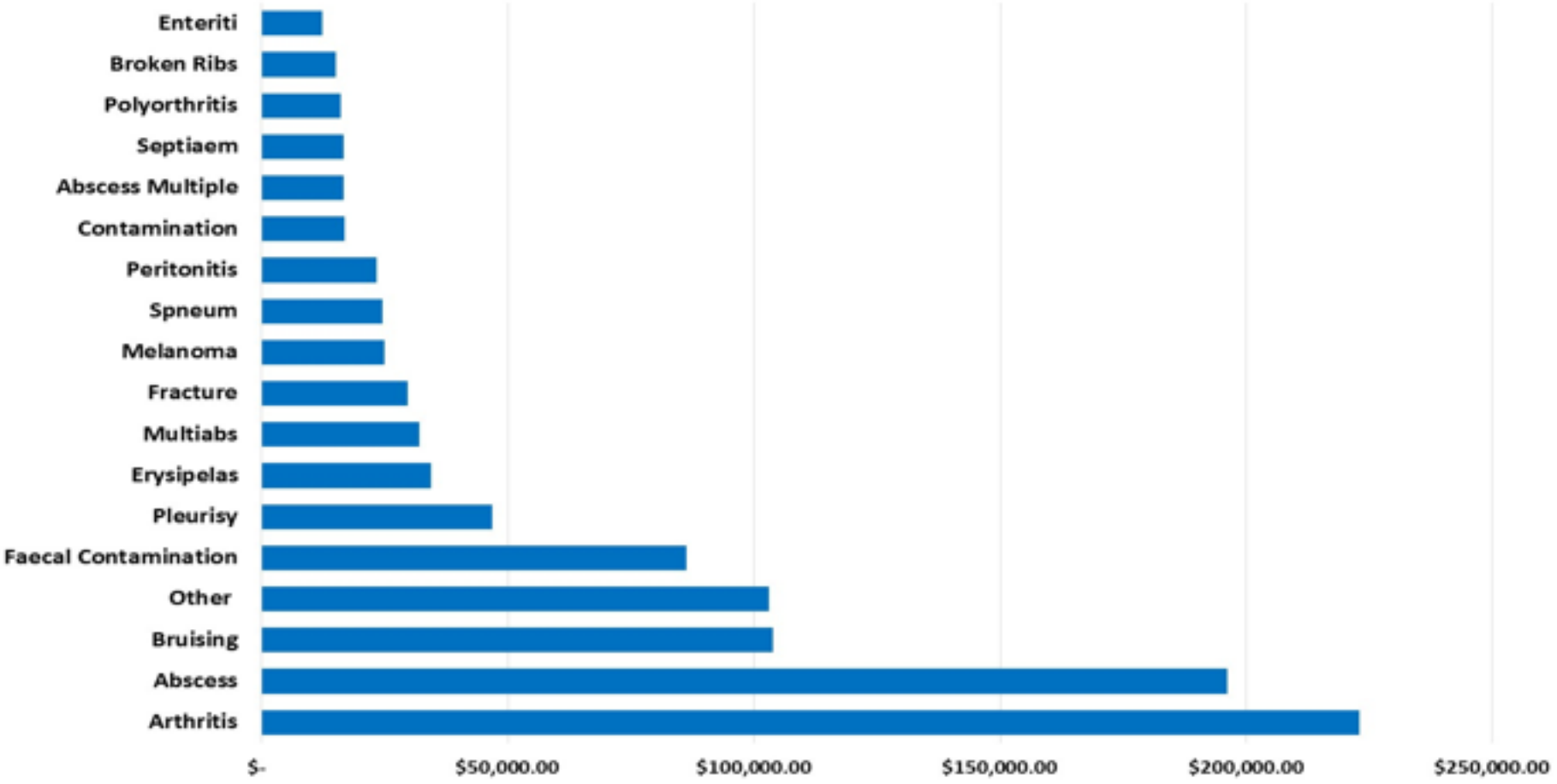
Hamilton and Hudson (unpub.)

Major causes/defects leading to total or partial carcase condemnations



Hamilton and Hudson (unpub.)

Accumulated economic loss ($A) resulting from total or partial carcase condemnations



For the four months of the study, direct economic loss of product (i.e. dressed weight opportunity cost) was ~ $1,021,000.

Key outcomes to date

- Main impediments to collecting, collating and analysing data
  - Inconsistency in data format in which data was presented by processors;
  - Lack of continuity in terminology applied to various causes/defects which required intervention;
  - Lack of continuity in the terminology applied to various carcass components requiring intervention;
  - Inconsistency in the scope and frequency of intervention information recorded along the slaughter chain.
  - Difficulty in extracting information from plant systems for analysis
- Additional economic losses incurred include:
  - Customer penalty discounts for incomplete carcases
  - Loss of carcass through additional trimming (not recorded in all but one processor)

Hamilton and Hudson (unpub.)

What next …?

- Impact on slaughter chain efficiency
- Management changes to avert either full or partial impact of certain causes for intervention
- Finalise the economic benefit: cost of implementing a national pig peri-mortem reporting system for processors, producers and industry regulators.

- Offal condemnation data not collected

AUSTRALIAN Pork

Australian Government
Department of Agriculture and Water Resources

This project is supported by funding from the Australian Government Department of Agriculture and Water Resources as part of its Rural R&D for Profit programme.

RR&D4P 'Health 4 Wealth' project

- Develop standards for the consistent reporting, recording and analysis of peri-mortem information for use by producers, processors, regulators, and other key stakeholders.

Expected outcomes

Optimise productivity and industry profitability through:

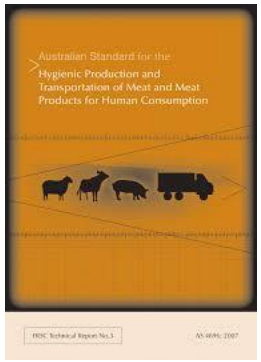
- Informed production decisions and regulatory procedures
- Improved animal health monitoring
- Maximise yield outcomes

Government of South Australia Primary Industries and Regions SA · SARDI Research and Development · AMPC Australian Meat Processor Corporation · mla Meat & Livestock Australia · Agriculture Victoria

The road ahead …

- Business case – go/no go milestone
- Standardised framework to enable reporting consistencies of carcase and offal condemnation data
- Minimum competency levels for data collection
- Agreed governance rules
- Validation studies
- National extension and adoption strategy
- Provision of data from peri-mortem inspection procedures

Stakeholder engagement, consultation and involvement



Review of Australian Standard 4696 for Post-Mortem Meat Inspection and Disposition Judgment (2007)

Andrew Pointon, **David Hamilton**,

Andreas Kiermeier, Elizabeth Wilcock

Need - Modernisation

Risk Assessment review of Schedules 2 & 3 Domestic Standard AS4696 (2007)

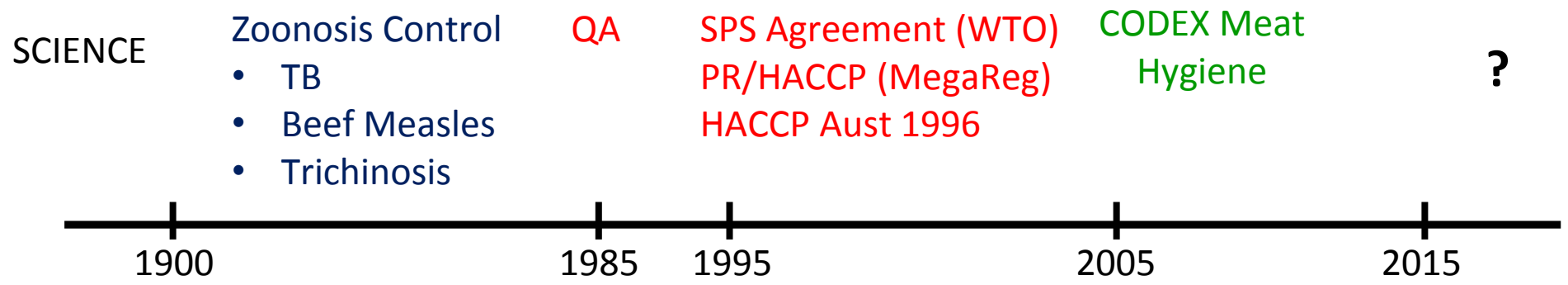
Gardner Murray –Australian Chief Veterinary Officer (1986 AVJ)

1. Chronic, localised…are no more than a historical event and should not determine the suitability of meat for human consumption
2. Cross-contamination….by inspection of LNs
3. Update to reflect improvements in animal health (TB, *C. bovis*, CLA)
4. Most are just Suitability….transfer to company QA

Codex Micro Risk Assessment (1999), Hygienic Practice for Meat (CAC 2005)

EU risk assessments changed/ing to visual only inspection (Pork ND)

Evolution of meat inspection



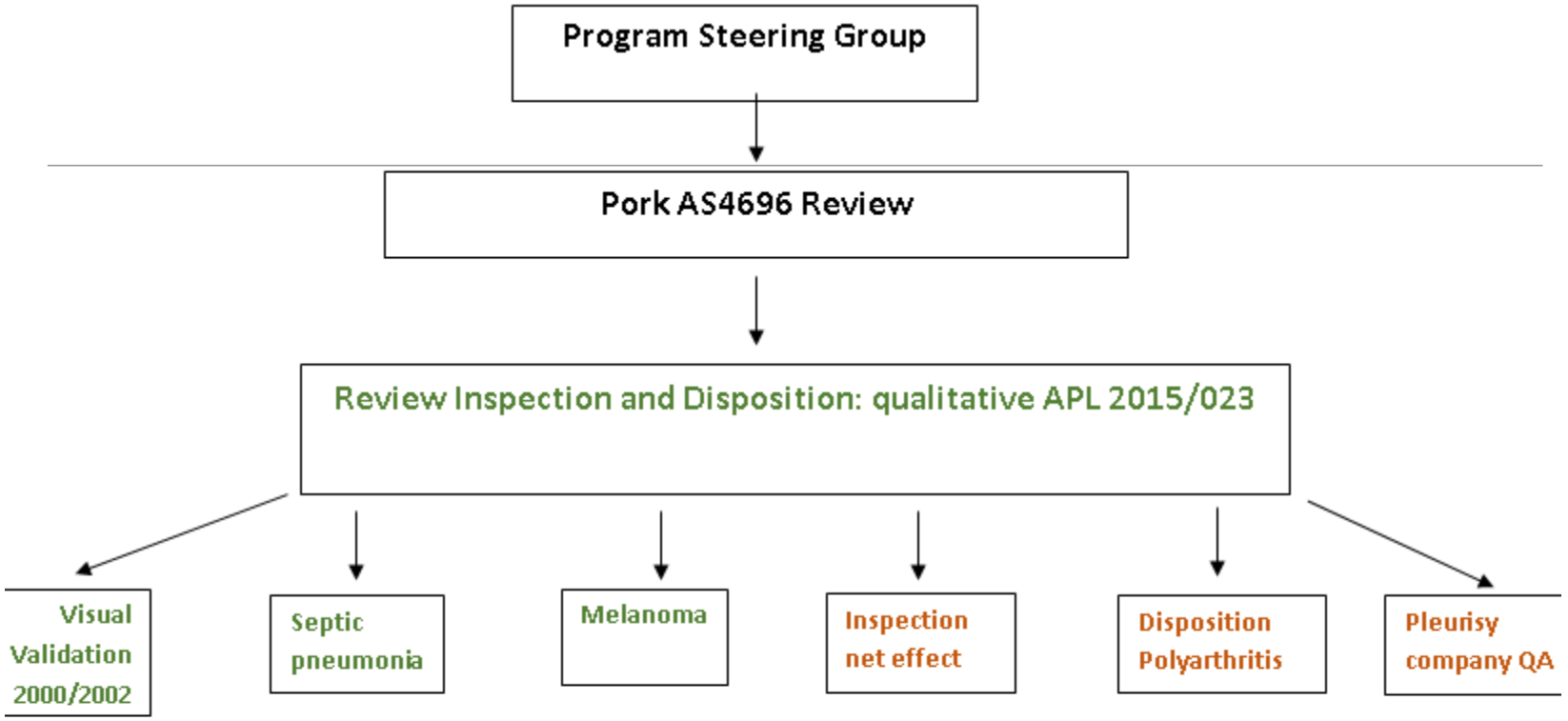
Approach - Codex Qualitative Risk Assessment

- Update Hazard Identification (Australia)
- Conduct Exposure Assessment
- Classify Foodborne Vs non-foodborne
- Evaluate lesion prevalence, distribution, cause
- Conduct qualitative risk rating hazard/lesion combinations
- Review inspection cross contamination data
- Identify alternative procedures (equivalent)
- Evaluate impact on risk
- Review disposition judgements

Methods

- Modelling
- In plant comparison trials
- Abnormality distribution studies (prevalence etc)
- Carcase hazard status (is meat affected eg TB)
- Microbial cross-contamination studies
- Develop a communication strategy

Program Overview - Review of Post-Mortem Meat Inspection and Disposition Judgments Australian Standard 4696



Validation trial options

- In-plant comparison current v alternative
- Modelling effect of change on non-detection
- Micro Hazard status of condemnations – Disposition?
- Modelling net effect – Hazard mitigation
- Opportunities and effectiveness of company QA

RA Example – Validation of Visual Post-mortem Inspection in Australia

(Pointon et al 2000; Hamilton et al 2002)

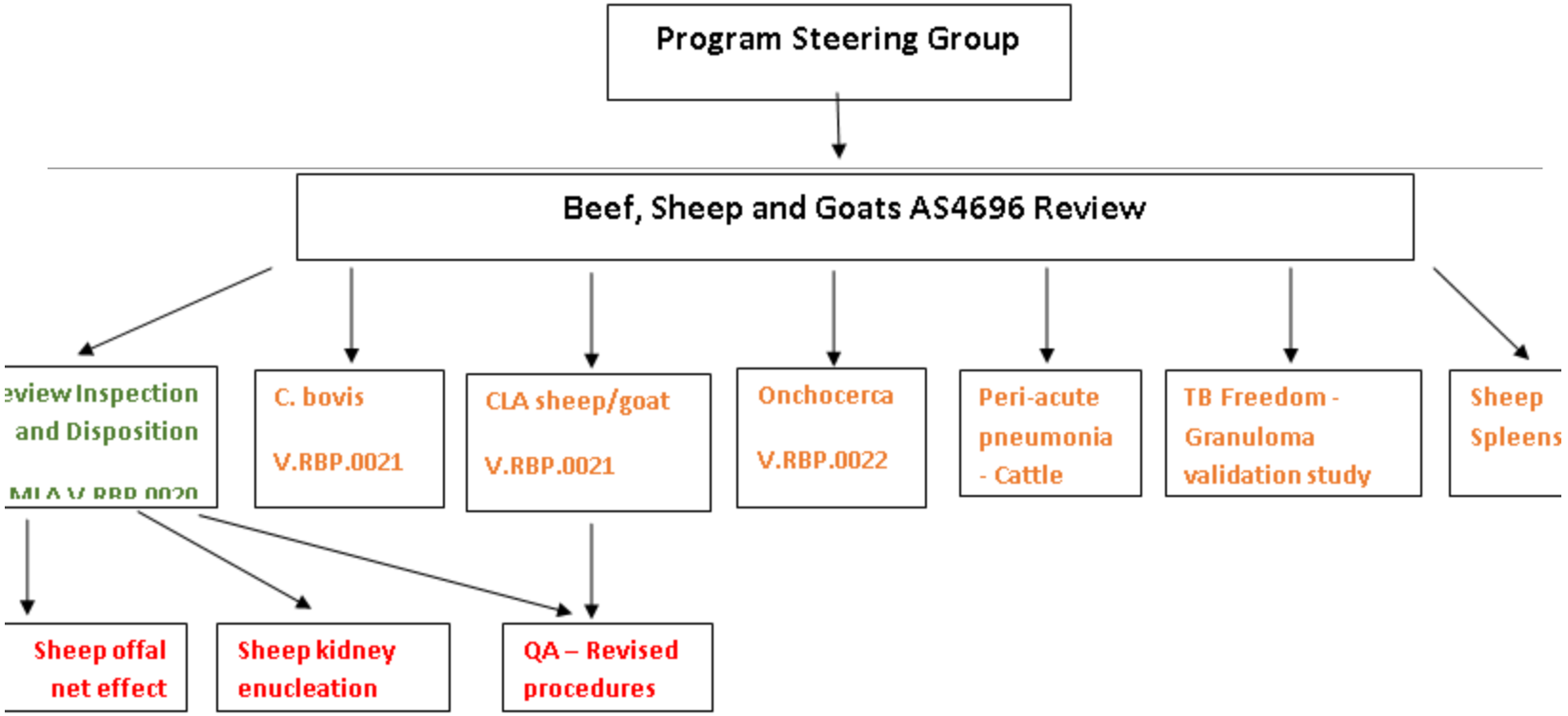
Risk-based Assessment of Inspection

- Non-detection traditional 28% arthritis missed; @3% prev visual missed 10% more than traditional
- **Equivalent** food safety – carcase and product/cut micro
- Reactive lymph nodes poor indicator for total condemnation
- Total condemnations **equivalent** for traditional and routine visual inspection
- Significant potential for cross-contamination from incised LNs

Risk Management Regulatory Changes

- Changes limited in view of data provided, pre-Codex 2005 – under-capitalisation
- EU changed to routine visual inspection – citing Aust evidence

Program Overview - Review of Post-Mortem Meat Inspection and Disposition Judgments Australian Standard 4696



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In Summary

- Current inspection procedures not carved in stone
- Greatly improved animal health
- Farm feedback (H4W)
- Risk assessment key to change
- Data is king
- Better utilise skilled resources (vets, inspectors)
- Open communication vital