

final report

Project code: B.AWW.0261
Prepared by: Ian Blackwood
Industry Beef Consulting
Date published: 20 February 2020

PUBLISHED BY
Meat and Livestock Australia Limited
Locked Bag 1961
NORTH SYDNEY NSW 2059

Developing an Australian National Standard for Pregnancy Diagnosis and Testing of Cattle

Meat & Livestock Australia acknowledges the matching funds provided by the Australian Government to support the research and development detailed in this publication.

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Executive summary

Beef supply chain participants have identified issues in their existing arrangements for pregnancy diagnosis/testing of cattle. These issues are compounded by legislative inconsistencies between states and territories. In the NT and WA, non-veterinary technicians may be authorised to perform pregnancy diagnosis/testing of cattle and as a result, discussions have been initiated regarding the development of national competency standards for pregnancy diagnosis/testing of cattle. This project was initiated by Meat & Livestock Australia at the request of the Peak Industry Councils and aimed to conduct a comprehensive assessment of the commercial pregnancy diagnosis/testing arrangements currently operating in Australia. A gap analysis was also conducted with the aim to investigate the nature of reported short comings in existing arrangements and further quantify and identify the extent of these shortcomings; assess the supply and demand characteristics of pregnancy diagnosis/testing services; and investigate the capacity to respond to identified gaps, determine future needs and further make recommendations on a proposed national competency standard.

Relevant legislation was reviewed, and surveys of supply chain participants were conducted to obtain a clearer understanding of the issues. Stakeholders included in this study included the veterinary and non-veterinary service providers, exporters, feedlot operators and other providers within the cattle industry. Also examined in detail were the existing training options, currently applicable or similar schemes, including a proposal from AgForce for their 'TestRight' accreditation program which seeks to promote excellence in pregnancy testing diagnosis for manual palpation and ultrasound techniques.

A competency standard would need to outline agreed proficiencies to meet national animal welfare and biosecurity standards for both veterinarians and non-veterinarians. The benefits of having a national standard for pregnancy testing of cattle and a single accreditation scheme were identified as being:

- a. no confusion for clients with having two schemes
- b. economies of scale in administering the scheme
- c. a common accreditation process
- d. independence from any professional group
- e. if designed for third-party audit it provides strong credibility resulting in increased trust and application for end-users
- f. allows for user-pays funding in conjunction with industry funding contributions
- g. allows for the opportunity to apply for national training grants and funds
- h. recognises a common management and marketing skill across Australia
- i. allows client choice of provider, veterinarian or technician
- j. improves access for clients by having all accredited providers in one scheme
- k. it allows for a national DRIS to be developed which can then be used by state and territory jurisdictions when considering legislative changes

There is need for a national competency standard for pregnancy diagnosis/testing of cattle. The standard should be based on National Training Competencies and Assessment, have graduated attainment and be an audit-based accreditation and registration process. It needs to encompass all the components of pregnancy testing and comply with existing Standards and best practice guidelines,

including for animal welfare. The AgForce proposed TestRight scheme was considered to have considerable merit as a model and the new Lay Spayers' Accreditation Scheme also offers many synergies. Other options for how a new scheme might operate are also presented.

Such changes will require considerable input from all stakeholders, but in particular from veterinarians and non-veterinary technicians. The technician sector, without an industry group, is currently unrepresented and there remain significant challenges for engaging with the veterinary profession. The Australian Cattle Veterinarians' (ACV) National Cattle Pregnancy Diagnosis (NCPD) Scheme is now approaching 30 years of age and the PREgCHECK™ program was implemented over 20 years ago. Therefore, a review and update of both is considered timely. A national competency standard for pregnancy testing and its associated, independently audited accreditation scheme, will resolve several issues and support promotion to domestic and export markets of the Australian cattle industry's commitment to animal welfare and objective, measurable practices of reproductive management.

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Abbreviations

ACV	Australian Cattle Veterinarians (committee)
AGMIN	Agriculture Minister's Forum
AHC	Animal Health Committee
ALEC	Australian Livestock Exporter's Council
ALFA	Australian LotFeeders Association
AMIC	Australian Meat Industry Council
ALPA	Australian Livestock and Property Agents Association
ASQA	Australian Skills Quality Authority
AVA	Australian Veterinary Association
AVBC	Australian Veterinary Board Committee
BVD	Bovine Viral Diarrhoea
BVSc	Bachelor of Veterinary Science
CCA	Cattle Council of Australia
CVO	Chief Veterinary Officer
DAWR	Department of Agriculture and Water Resources
DRIS	Decision Regulation Impact Statement
EID	electronic identification
ISC	Integrity Systems Company
MLA	Meat & Livestock Australia
NCPD	National Cattle Pregnancy Diagnosis (scheme)
NT	Northern Territory
NSW	New South Wales
NZ	New Zealand
PD	pregnancy diagnosis (specifically of cattle)
QDAF	Queensland Department of Agriculture and Fisheries
QTAC	Queensland Agricultural Training Colleges
RFIC	Radio Frequency Identification
RIS	Regulatory Impact Statement
RTO	Registered training organisation
RPL	Recognition of Prior Learning
SOP	Standard Operating Procedure
ToR	Terms of Reference
UoC	Unit of Competence
AVAAC	Australian Veterinary Schools Accreditation Advisory Committee
WA	Western Australia

Glossary

Animal Health Committee

The national committee for the state and territory Chief Veterinary Officers, reports to the National Biosecurity Committee (NBC), which in turn reports into the Agriculture Ministers' Forum (AGMIN).

PD Skill Set

Set of Units of Competency that have been defined as being required for the skill of pregnancy testing of cattle.

Peak Industry Councils

Group comprising the Cattle Council of Australia (CCA), Australian Lot Feeders Association (ALFA) and Australian Live Exporters Council (ALEC).

Pregnancy Diagnosis

For the purpose of this report, this is the practice of determining the pregnancy status of an animal as well as additional diagnostic information including the identification of gestational or foetal abnormalities and estimation of foetal age.

Pregnancy Testing

For the purpose of this report, this is the practice of determining the pregnancy status of an animal.

Technician

Used specifically in this Report to mean a person other than a veterinarian, accredited under legislation or otherwise, who offers cattle pregnancy testing services.

Veterinarian

For the purposes of this Report, a person registered under state-based or territory legislation to practice veterinary surgery, which may include more than one state or territory. For the purpose of this report, a veterinarian, is considered to have the potential to offer pregnancy diagnosis services.

1 Background

The Peak Industry Councils (CCA, ALFA and ALEC) have identified that establishing the pregnancy status of a female animal was the most basic and fundamental tool required to manage reproductive efficiency in a cattle breeding herd. To achieve this, cattle producers and supply chain participants, such as live exporters and lot feeders, require access to standardised, good quality, cost-effective pregnancy testing services. Accurate pregnancy testing is also required to meet a variety of market specifications.

The legislative requirements however, that regulate who may undertake and certify the outcome of pregnancy testing of cattle varies between states and territories and at a national level. For example, for live export the requirements for cattle pregnancy testing certification are detailed in the Australian Standard for the Export of Livestock (Version 2.3 2011).

The Australian Cattle Veterinarians (ACV) is a special interest group of the Australian Veterinary Association (AVA) and veterinarians apply for membership through their membership of the AVA. The ACV operate the National Cattle Pregnancy Diagnosis Scheme (NCPD Scheme) under the trade marked brand, PREgCHECK™, (Appendix 1; further information available at <https://www.ava.com.au/about-us/ava-groups/cattle/resources/schemes/pregcheck/>).

PREgCHECK™ (NCPD) is a nationally recognised system of coloured tail tags for the identification and certification of cattle pregnancy status, particularly for sale purposes, explained in detail in the ACV publication Pregnancy Diagnosis in Cattle (revised in 2014).

*PREgCHECK™, **Professional Reproductive Examination** delivers producers confidence in using an accredited cattle vet to deliver accurate pregnancy diagnosis.*

A PREgCHECK™ can only be performed by an accredited vet, meaning a member of the Australian Cattle Veterinarians who has demonstrated knowledge and experience in the pregnancy diagnosis of cattle and undergone an examination by their peers."

In Western Australia (WA) and the Northern Territory (NT), legislation allows for non-veterinarians to conduct pregnancy testing of cattle under certain conditions.

Anecdotal reports from supply chain participants in the feedlot and live export sectors identified short comings, the scale of which are unknown, in existing arrangements for pregnancy diagnosis/testing of cattle entering these markets. Also, anecdotally, many others expressed the opinion that the cattle industry more broadly would also benefit from a review of arrangements. This, coupled with the legislative inconsistencies, prompted discussion about the development of national competency standards for pregnancy testing of cattle. Such a standard would outline agreed competencies that meet national animal welfare and biosecurity standards for both veterinarians and technicians.

Adoption of a national competency standard would aim to ultimately:

1. improve accessibility for cattle producers to authorised/approved pregnancy testing services
2. allow consistent regulatory control to improve standards, integrity and accountability and therefore engender greater confidence in pregnancy testing services across Australia

3. ensure equitable market access where lay technicians and veterinary pregnancy testers operate across a level playing field, with a viable market structure based on a fee for service and/ or cost recovery.

This project was initiated by Meat & Livestock Australia (MLA) at the request of the Peak Industry Councils. Its purpose is to conduct a comprehensive assessment of commercial pregnancy diagnosis/testing arrangements currently operating in Australia and the resources available for addressing any identified gaps.

The gap analysis aimed to:

- i) investigate the nature of reported short comings in existing arrangements for pregnancy diagnosis/testing
- ii) quantify the extent of these shortcomings
- iii) identify the causes of these shortcomings
- iv) assess the supply and demand characteristics of pregnancy diagnosis/testing services across Australia
- v) investigate the capacity to respond to identified gaps and determine future needs
- vi) make recommendations on a proposed national competency standard for pregnancy testing of cattle.

The activities undertaken follow a comprehensive list of tasks developed under the Terms of Reference for the project. The methods used to gather the information and the results are considered under a number of headings that encompass one or more aspects of this list. These headings move from a review of existing relevant legislation, pregnancy diagnosis currently undertaken by the veterinary profession and pregnancy testing carried out by non-veterinary technicians, followed by an assessment of the demand for and use of these services across Australia. Under this heading, pregnancy diagnosis/testing relative to specific aspects of the cattle industry are examined. Assessment of the level and types of dissatisfaction with currently available services is then presented followed by an assessment of existing training and accreditation. Using this information, a gap analysis forms the main body of the Discussion, supported by general conclusions and recommendations.

2 Project objectives

The project aimed to conduct a comprehensive assessment of commercial pregnancy diagnosis/testing arrangements currently operating in Australia and identify resources available for addressing identified gaps. There were two objectives.

1. To undertake an objective assessment of reported shortcomings in the supply of pregnancy diagnosis/testing services, which include:
 - a. restricted access for producers to veterinarians
 - b. error rates in diagnosis by technicians
 - c. problems with accuracy.

2. To investigate the current and potential capacity of industry to address these gaps and thus determine future priorities in terms of developing a national competency standard for pregnancy testing.

Recommendations were made for changes to the current system aimed at improving access, accuracy and integrity of the services provided.

The project addressed the 11 Terms of Reference.

3 Methodology

The project was conducted as desk-based study. Consultation with stakeholders was undertaken by telephone (including conferencing) and e-mail, as outlined below.

The MLA communications team provided expert advice in the development and deployment of a written questionnaire to Feedlots (see Appendix 2). After approval by the MLA Legal team, CCA, ALEC and ALFA were consulted to provide feedback and approval of the content. ALEC and ALFA also provided assistance to distribute the survey out to their members.

A proposed survey of ACV PREgCHECK™ accredited veterinarians, developed in a similar manner but in consultation with the AVA/ACV, is discussed below as are details of methods used to consult with other groups. Face to face meetings with AgForce and AUS-MEAT were held in Brisbane.

3.1 Review of Legislation

All State/ Territory agricultural departments were contacted by email and phone at Chief Veterinary Officer (CVO) level.

Not all States responded to requests for relevant Acts and Regulations or referral for a contact within the CVO unit. In these cases, the legislation has been sourced from the appropriate websites. The States and Territory were also asked to provide details of any current or recent legislative updates or reviews to their legislation to regulate veterinary surgeons and acts of veterinary surgery. Apart from providing a copy of their submission to the Queensland Government Regulatory Impact Statement (RIS; Queensland Government 2018), the AVA and the ACV did not provide any information on their position in relation to any of the Australian legislation. The AVA's website was therefore mined for any information on this topic.

3.2 Pregnancy Diagnostic Services Offered by the Veterinary Profession

A meeting was held with the Executive Officer of the AVA/ACV (the two positions were held by the same officer), following which a draft copy of a proposed survey for ACV PREgCHECK™ members was sent for comment and feedback. The ACV operates a website called "mycattlevets". Some but not all PREgCHECK™ accredited veterinarians are listed on this site, depending on whether the veterinarian has agreed to have their details published. The ACV was asked if it could provide a list of member

veterinarians by location from the mycattlevets website, as well as the total number and location of PREgCHECK™ accredited veterinarians not listed on the site.

Despite indicating that they would respond, no further information was forthcoming. Subsequent activities to engage the ACV in the project were as follows:

1. the AVA provided a copy of their submission made in response to the Queensland Government's RIS
2. a request for the breakdown by age of ACV members accredited with PREgCHECK™ to assess future availability in relation to training needs
3. a telephone conference with the CEO of ACV and four committee members to discuss the project and the information the ACV may choose to provide.

Professional indemnity insurance of vets covers the whole practice and is not usually for any specific service such as pregnancy diagnosis. This brings into question the suggestion that the cost to offer such services is higher for veterinarians than technicians.

It was anticipated at the start of the project that the state and territory agencies would be requested to supply a list of all veterinarians by location. However, during the project it was realised that this would only provide very broad geographical estimates of where vets offering pregnancy diagnosis for cattle might be located. Therefore, the location of all veterinarians by postcode location was not pursued.

In the absence of information requested directly from the ACV, their mycattlevets website was queried for the list of accredited PREgCHECK™ veterinarians. The data was mapped onto Google maps to show the locations of accredited veterinarians by state. Because not all accredited vets are listed, however, the maps showed only an indication of the locations but were considered suitable for the purpose of comparison with the locations of cattle (dairy and beef) and businesses, as described in Section 3.4.2 below.

In order to assess and compare the services delivered by vets and technicians, feedback from users of cattle pregnancy diagnostic services was requested, including:

- i) live exporters
- ii) processors
- iii) feed-lotters (ALFA)
- iv) livestock agents (ALPA)
- v) producers including the Northern Pastoral Companies Group (Steve Banney).

3.3 Pregnancy Testing Services Offered by Technicians

A contact list of 24 technicians who provide pregnancy testing services, primarily in the northern industry, was used to collect information.

The Northern Territory (NT) and Western Australian (WA) Departments of Agriculture offered advice on their programs, with details from the list of registered NT technicians being provided.

Contact with the technicians in states other than the NT and WA, where legislation allows them to operate, was difficult. Technicians do not seek to advertise their existence other than by word of mouth, particularly in Queensland.

Attempts were made to gather relevant information from the AVA and ACV, the Beef Breeding Centre (ABRI and AGBU) at University of New England, Qld AgForce (Renata Berglas) and two major retailers of ultrasound equipment in Australia. Information was also sought and received on the use of technicians for pregnancy diagnosis in feedlot cattle and the northern live export industry, the results of which are presented under section 4.4.

3.4 Demand for and Use of Pregnancy Testing and Diagnostic Services in Cattle Across Australia

A spreadsheet was compiled showing, by state or territory, the number of female cattle one year and older, the number of properties and the Natural Resource Management Regions from the Australian Bureau of Statistics information (Appendix 3; ABS 2017).

3.4.1 Pregnancy Diagnosis/Testing of Feedlot Cattle

The Australian Lot Feeders Association (ALFA) were contacted directly to determine their needs for pregnancy diagnosis of cattle prior to delivery and/or at induction. Madeleine Hamilton, (ALFA Communications Officer) provided assistance to notify members of the project, brief selected feedlots and then email a survey. Details for the feedlots contacted for the survey (those considered most likely to induct female cattle) were provided by the MLA Feedlot Program and reviewed by ALFA.

Prior to sending, the survey went through approval process involving extensive input from the MLA Communications and Legal Teams, with advice from the MLA Project Managers for Feedlots and the MLA Animal Health Welfare and Biosecurity Project Manager.

The survey was distributed by email on 13 August 2018 with a requested return date of 31 August 2018. Only one reply (incomplete) was received by the 24 September 2018. Subsequently, feedlots were approached by the ALFA Training Officer who then worked with them to complete and return the survey for a 30 December 2018 deadline. As a result, four surveys were returned from a total of 10 feedlots requested to participate (40% return rate). The identity of the participating feedlots has been kept confidential.

3.4.2 Pregnancy Diagnosis/Testing of Live Cattle Export

Sam Brown, CEO, LIVECORP, was contacted as were the Australian Livestock Exporters' Council (ALEC) and livestock exporters directly. The aim was to collect data on:

- the number of female cattle submitted for export
- the total number pregnancy diagnosed/tested and by which method
- details of any complaints made by exporters and/or buyers
- northern and southern cattle industry requirements.

The project-approved questionnaire was distributed directly and via ALEC. No response was received from ALEC members. A telephone survey, based on the questionnaire, of live exporters was therefore conducted, explaining that their views would be reported. There was excellent co-operation from all those contacted by phone.

The Australian Department of Agriculture and Water Resources (DAWR) was asked to provide the number of female cattle submitted for export but responded that they did not collect this information. The live exporters contacted noted that they may supply this information to DAWR as part of their Health Record, but none wanted the administrative cost of retrieving it from their own records. DAWR were also asked for, but did not provide, information on the gender of cattle exported as feeder/ slaughter cattle, the incidence of on-board calving or in-country feedlot identified pregnancies.

ALEC provided a list of 12 live exporters of cattle, of which 10 were successfully contacted for the survey. The live exporters are not identified because of confidentiality.

Published literature including the Australian Bureau of Statistics was used to estimate the number of potentially pregnant cattle the live export industry may require to be assessed for pregnancy. The *DAWR Report All Livestock Exports 2014-2018* (DAWR 2018) was searched using key words "Breeder" and "Indonesia" to provide an estimate of the number exported to this market.

3.4.3 Pregnancy Diagnosis in Dairy Cattle

Contact was made with Dairy Australia and a company that records data on behalf of the Australian dairy industry. Both reported that no records are kept on the use of pregnancy diagnosis/testing within the Australian dairy industry either for on-farm management or for market claims.

IDEXX Laboratories Pty Ltd, who supply blood and milk-based pregnancy diagnosis/testing of cattle, report that this part of their business is restricted to the southern dairy industry and is primarily milk-based (Taz Sheppard, personal communication).

It was decided that to pursue other possible sources of data would be time consuming. Given that Dairy Australia is not a financial contributor to the project it was agreed by the MLA Project Manager that the dairy cattle sector be removed from the current phase of the project.

3.4.4 Ultrasound Retail Sales

Two methods of pregnancy diagnosis/testing are primarily used in cattle, manual palpation per rectum and diagnostic ultrasound by rectal probe. B-mode Ultrasound is the preferred method, supported by the ACV and reproductive research scientists in Australia. The two major suppliers of B-mode ultrasound machines, Catagra Group and BCF Ultrasound Australia Pty Ltd, were therefore contacted and asked if they were prepared to provide information on the number and location of the units they have sold over the last five years and the split of sales to veterinarians/non-veterinary technicians. Both companies were wary of releasing sales information about market share for ultrasound equipment.

3.4.5 Feedback from the Livestock Agents Industry

The Australian Livestock and Property Agents Association (ALPA), (Andy Madigan) were asked to provide comments on the current system as well as for the concept of a national standard for pregnancy diagnosis and testing.

3.5 Training

Contact was made throughout Australia, with both vocational and higher education centres who deliver agricultural and animal related courses, such as all national universities, agricultural colleges, state and territory TAFE bodies conducting livestock-based education and training. Contact was also made with AgForce Queensland about their proposal (TestRight, see Appendix 4) for a training/accreditation program for technicians.

The list of Australian Registered Training Organisations was accessed to ascertain the number of RTOs offering the nationally accredited course *Pregnancy Test Animals* (AHCLSK408; see <https://training.gov.au/Training/Details/AHCLSK408>); the course that superseded AHCLSK408A in 2016), and other courses of relevance. The main providers of the course were contacted directly and asked for details of how many courses they have run over the past five years, the number of people they have trained and the location.

The facilitator of the Northern Pastoral Companies Group (Steve Banney) was also contacted for information from member companies.

Universities with veterinary schools were contacted directly by phone or email and their websites mined for relevant data.

Information was obtained from the VOCSTATS database, which records information of all nationally accredited training courses offered and the training attainments from each. (www.ncver.edu.au/research-and-statistics/vocstats). Information was collected for 2015 to 2017 inclusive.

AgForce Queensland provided the project with the current draft of their proposal for developing a training and accreditation program for lay pregnancy testing technicians in Queensland *Cattle pregnancy testing and ovarian scanning for commercial purposes and scientific research, by lay persons* ('TestRight' see Appendix 4).

3.6 Assessment of Client Satisfaction with Current Services

The stud cattle sector has the greatest opportunity to utilise veterinary services (e.g. Artificial Insemination (AI) programs, synchronised oestrus programs, embryo transplant programs, foetal ageing, breeding bull soundness evaluation, and injury treatment), but breed societies and bodies do not record the use of pregnancy diagnosis/testing by method or practitioner. Assessing the satisfaction

with existing pregnancy diagnosis/testing services from this sector is therefore difficult and would need to be done breeder by breeder.

The Australian Meat Industry Council (AMIC) Abattoir/ Processor division was approached through Robert Barker, to participate in the project including for a processor survey on client confidence in pregnancy diagnosis/testing of cull cows.

Information on client satisfaction was obtained by telephone discussion with ten of the twelve major live cattle exporters using sea transport from both northern and southern Australian ports.

3.7 Accreditation

Quality Assurance (QA) system providers operating nationally were identified but of the four main ones that provide ISO: 9001 certifications (SGS Australia, Perth; Lloyds Register Quality Assurance, Melbourne; and BSI Group, Sydney) none listed agricultural livestock production in the services they offer.

The major supplier of QA systems and accreditation to the Australian livestock industries is AUSMEAT. Correspondence was sent to AUSMEAT, with approval from the Project Steering Committee, requesting indicative costs for managing and auditing a proposed pregnancy diagnosis/testing accreditation scheme. AUS-MEAT were also asked to provide recommendations for establishing and managing such an accreditation scheme.

MLA Integrity and Information Systems Company were also approached to determine if they are able to manage such a scheme.

4 Results

4.1 Review of Legislation

The summary of the legislation as it applies to pregnancy diagnosis/testing of cattle is shown in Table 1. The State/ Territory Chief Veterinary Officer Units were asked to confirm the summary of their legislation. Four jurisdictions provided confirmation, which is shown as ✓ in Table 1.

Veterinarians are regulated at the state or territory level by that jurisdiction's specific legislation. Most regulate who may conduct stipulated acts of veterinary surgery, include the requirements for becoming and remaining a registered veterinarian and detail what constitutes various offences. The Australian Veterinary Association (AVA) is a national voluntary organisation representing veterinarians. It has a number of special interest groups such as the Australian Cattle Veterinarians Association (ACV), and provides a wide range of policies and other position statements. It has no legislative power and veterinarians do not need to be members in order to practice.

Table 1. Summary of State/ Territory Legislation applying to Pregnancy Diagnosis and Testing.

	Northern Territory	NSW	Qld	Vic	Tasmania	South Australia	Western Australia
Summary confirmed by relevant jurisdiction	✓	✓		✓			✓
Is Pregnancy Diagnosis (Rectal Palpation) a restricted practice?	NO	NO	YES	NO	YES	YES	YES
Is Pregnancy Diagnosis (Ultrasound) a restrictive practice?	NO	NO	YES	NO	NO	NO	YES (internal method)
Is it illegal for a lay person to charge for providing a pregnancy diagnosis service							
a) for rectal palpation	NO	YES	YES	NO	YES	YES	YES
b) for ultrasound technique	NO	YES	YES	NO	NO	NO	NO (external method)
Is it illegal for a lay person to sign a certificate for pregnancy status (excluding that requiring a veterinary signature)?	NO	YES	YES	NO	YES	YES	YES (unless an authorised person)
Does the State/ Territory Veterinary legislation allow for authorisation of persons for specified practices including pregnancy diagnosis by lay persons?	NO	NO	NO	NO	NO	NO	YES
Is the collection of blood samples for the IDEXX Bovine Pregnancy Test a restricted practice?	NO	NO	YES	NO	YES	NO	YES

Note that the terms used in Table 1 are as asked and do not reflect the definitions of pregnancy diagnosis and testing as developed during the course of the project. There were data recorded for the ACT.

The following notes apply to the jurisdictions listed below.

Northern Territory: Under Australian Standards for the Export of Livestock (ASEL) (Commonwealth Legislation; DAFF 2011) lay persons may attain accreditation for pregnancy testing non-breeder cattle and buffalo for the NT feeder and slaughter export markets, through the NT Department of Primary Industry and Resources. This includes the ability to sign pregnancy status Vendor Declarations. The

prerequisite to accreditation is completion of the national training competency 'Pregnancy test animals' AHCLSK408. Under ASEL only registered veterinarians may pregnancy test breeder cattle and buffalo for export. At 4 May 2018, there were 76 registered to pregnancy test cattle for NT feeder and slaughter export markets. No restriction applies for lay persons conducting routine herd pregnancy testing. Information on the NT scheme is presented in Appendix 5 (also available here https://nt.gov.au/_data/assets/pdf_file/0003/373629/guidelines-accreditation-non-veterinary-preg-testing-cattle-export.pdf). The Northern Territory CVO indicated that their Acts and Regulations are in review. Any outcomes of this project that may feed into their review would be outside the consultation period so would not be considered. The NT accreditation program is therefore also currently undergoing a review process, which is expected to take 1-2 years. The NT review supports nationally recognised training for non- veterinary persons

Queensland: a registered veterinary surgeon may teach techniques of pregnancy testing to an owner of cattle. The legislation is currently under review (see below). The Queensland Government has issued a Consultation Regulatory Impact Statement for "Cattle pregnancy testing and ovarian scanning for commercial purposes and scientific research, by laypersons" (Queensland Government 2018).

Western Australia: lay persons who, by application and supporting endorsement from a registered veterinarian, can prove to the WA Veterinary Surgeons Board that they should be an approved person, may perform the examination of cattle for pregnancy by rectal palpation or rectal probe and ovarian examination per rectum. External ultrasound is not restricted. The approved person may perform pregnancy testing of cattle under the supervision of the registered veterinarian (including remote supervision).

Veterinary Profession Position on Legislation: The AVA addresses the restricted acts of veterinary science in a document of the same name that was approved by the AVA Board on 3 February 2017. The "Restricted Acts of Veterinary Science" document, lists the range of procedures, which AVA members consider should only be performed by a registered veterinary surgeon (AVA 2017). This list makes no reference specifically to pregnancy diagnosis/testing of cattle by method. It does include the signing of any certificate or document prescribed legislation, but only in respect to certification of an animal's disease status.

At paragraph 5 of the document (AVA 2017) it acknowledges variation across the States and Territories with respect to which procedures are restricted to registered veterinarians. It states concerns about several animal related activities, including the pregnancy testing of cattle.

The document also provides a definition of an 'act of veterinary science', including as "*the diagnostic confirmation of, treatment of, and provision of management advice for infectious diseases, physiological dysfunction, psychological dysfunction and injury in animals*". The definition does not list pregnancy diagnosis/testing. The document does describe how appropriately authorised paraprofessionals (technicians) may operate under the supervision of a veterinarian.

The Australian Standards for the Export of Livestock (ASEL): Version 2.3 (DAFF, 2011) of this Standard is, as at August 2018, undergoing a review (DAWR 2018).

The 2011 Standard provides clear requirements for pregnancy status and identifies who is a competent person to make that determination:

- a) for Export as slaughter and feeder animals at page 28, S1.9, part (c), (i) to (iii)
- b) for Export for breeding at page 29, S1.10, part (c), (i) and (ii).

The draft new ASEL (DAFF 2011) requires the use of manual palpation only and it explicitly prevents competent pregnancy testers from using any other means of pregnancy diagnosis (Wayne Collier, Livecorp/MLA, personal communication).

In the new draft, technicians continue to be approved for pregnancy diagnosis by manual palpation of feeder/slaughter animals.

4.2 Pregnancy Diagnostic Services Offered by the Veterinary Profession

PREgCHECK™ The meeting held with the ACV provided information on how their PREgCHECK™ program operates, (see Appendix 1 and AVA website at <https://www.ava.com.au/about-us/ava-groups/cattle/resources/schemes/pregcheck/> for details).

The ACV requires PREgCHECK™ accredited veterinarians to provide annual returns detailing numbers of cattle tested for accreditation renewal, which are regarded as commercial-in-confidence. However, they do not publish or make available total numbers submitted nor the number of herds tested.

Despite indicating after a month that they are working through the requests made of them and would reply, the ACV failed to provide any further information directly addressing the questions. They did however provide information on the PREgCHECK™ program/ National Cattle Pregnancy Diagnosis (NCPD) Scheme (see Appendix 1).

The information on locations of those PREgCHECK™ accredited veterinarians listed on the mycattlevets website (noting that not all accredited veterinarians opt to have their details listed), once mapped, showed that:

- there is at least one in the NT, located in the north of the state near Top Springs
- there are approximately ten in WA, two in the Rangelands to the far north, two in the Northern Agricultural Catchment, with the rest in the South-west and South Coast regions
- in SA there are also approximately ten, one on Kangaroo Is., the rest in the Murray Darling and South East regions
- in Tasmania, there are at least six, spread equally across the north coast of the Cradle Coast and North regions and in the South around Hobart
- in Vic there are at least 50, spread along the southern coast within the Glenelg Hopkins, Corangamite, Port Phillip and Westernport, West and East Gippland, with the rest mainly in the North Central and Goulburn Broken regions
- in NSW, there are over 80, located in a broad band from south to north, mainly east of the Newell Highway, in all regions except for the Western
- in Qld, in contrast there are only about 60 listed, across all regions except the Northern Gulf and Cape York, clustered mainly in the SE corner, more dispersed in the other regions, mostly along the Flinders Highway in the Southern and Northern Gulf and centred around coastal and regional centres.

In the absence of information from ACV, the published literature was consulted. There was no information reported in the more recent Australian Veterinary Workforce Modelling Report (AVA 2015) to quantify the use of rural private veterinary services by livestock producers. This means the Frawley Report is the most current document, despite it being 15 years since it was published.

The Frawley Report uses Australian Bureau of Agricultural and Resource Economics and Sciences (ABARE) figures to show that 23.1% of specialist beef producers, 24.8% of dairy farms and 31.4% of mixed beef/sheep farms use a veterinary practitioner in their livestock production system each year (Frawley, 2003, Chapter 6, paragraph 6.2).

In the same report, both veterinarians and producers confirmed that the most common services were for “fire brigade” calls (i.e. individual animal treatments) and “...low cost routine services that employ relatively little veterinary expertise, such as pregnancy diagnoses, fertility testing and artificial breeding services” (Frawley, 2003, paragraph 6.3).

Despite this, it appears from available information that the overall demand by producers for pregnancy diagnosis from the veterinary sector appears to be low. The Frawley Report discusses the reluctance of animal producers to use veterinarians, and suggests reasons for the low demand for veterinary services (Frawley 2003, paragraphs 6.26 to 6.34) as follows: ‘traditional’ veterinary services provided by a rural mixed practice are seen by producers to add little value to livestock enterprises.

The ACV response to the Queensland Government RIS does not objectively address the issue of demand and supply of veterinary services for pregnancy diagnosis and refers to the Queensland situation only.

From discussions with providers in the far northern Australian pastoral industry, the use of pregnancy diagnosis/testing as a management and marketing tool (loss leader) appears to be significant. Both veterinarians and technicians operate in this market place, but no northern veterinarians who spoke to the author reported a loss of business as a result of competition from technicians. From the information provided by these veterinarians, all of whom were ACV members and PREgCHECK™ accredited, the ability to carry out the technique of foetal ageing to assist clients improve breeder cattle management, differentiates their value-added service from that provided by lay technicians.

Based on information provided by three large veterinary practices servicing the northern industry, some 640,000 cows in this geographic area undergo pregnancy diagnosis with foetal ageing (breeder management) and a further estimated 300,000 cows are pregnancy tested (status only) by lay technicians. These numbers suggest that at least one million head of cattle undergo pregnancy diagnosis/testing annually from an estimated 3.352 million cows, which accounts for 28% of the cow total cow herd. This number excludes the numbers tested for live export in the feeder / slaughter category.

4.2.1 Blood and Milk Based Confirmation of Pregnancy

The confirmation of pregnancy based on blood samples is offered by PregTest Australia and for blood samples and milk by IDEXX Laboratories. A third method by ITL Biomedical (TEGO™ Bovine) is a blood test based on submission of blood collected onto a pad located within a sealed ear tag. The ear tag is applied using a commercially available applicator into the area where veins are located. Blood from the tag hole weeps into the pad, which is then removed and placed in a sealed bag. The samples are

consigned for analysis via post or courier. ITL Biomedical, despite stating that they have an Australian agent, cannot confirm availability of this product within Australia.

PregTest Australia Pty Ltd

PregTest Australia at Yass in NSW offer the blood test for pregnancy confirmation and for Bovine Viral Diarrhoea (BVD) testing. Samples can be sent by Australia Post or courier with about a three-day delivery period common.

IDEXX Laboratories

IDEXX testing, recognised in the ASEL Standard (DAFF 2011) is offered through IDEXX laboratories at Mt Waverley, Vic., Hunley S.A., East Brisbane, Qld, and Rydalmere, NSW. It is also available through a number of other laboratories, including a veterinary practice in Esperance, W.A.

IDEXX provided the following details.

1. They offer two testing methods for blood-based diagnosis, the IDEXX Bovine pregnancy test and the IDEXX Rapid Visual Test, and a milk-based method.
2. The milk-based method is mostly used in the dairy industry and is made available by the Herd Recording laboratories, all of which are located in Victoria.
3. For the blood-based methods, the Rapid Visual Test, a 20 minute on-property test, is currently only supplied to veterinarians and laboratories (supported with training in running and conducting the test) with the bovine pregnancy test being a very small proportion of the pregnancy testing.
4. The blood-based pregnancy diagnosis, performed in IDEXX' own laboratories, is for the live export trade.
5. Blood samples are consigned chilled (esky packed in ice), through courier or Australia Post.
6. The in-house IDEXX Laboratory has a turn-around time of three days.
7. Results are returned to the veterinarian (IDEXX Bovine pregnancy test).
8. Blood based pregnancy diagnosis is used by three live export companies as part of their quality assurance procedures for breeder cattle consignments.

IDEXX indicated, however, (in a later email from Taz Sheppard) they will be able to receive samples from suitably trained non-veterinarians in the future.

No information was supplied by IDEXX concerning:

- a) actual numbers or percentages tested (2016 and 2017)
- b) an indication of interest in training non-veterinarians in blood sampling and consignment packaging for the IDEXX Bovine test or for blood sampling, testing procedures and interpretation for the IDEXX Rapid Visual Test.

4.3 Non-veterinary Providers of Pregnancy Testing

Details of non-veterinary providers of pregnancy testing by state proved difficult to obtain from state agencies as, except for the Northern Territory and WA, no state maintains any register.

The Northern Territory allows trained and accredited technicians to provide pregnancy testing services by manual palpation for the live export industry and for herd management. Currently 76 technicians are registered with NT Department of Primary Industry and Resources. The training of these technicians occurred in 2014/ 2015 at Katherine Rural Campus, under a program managed by Charles Darwin University. From information available from 40 of the 76, the majority (23) work on stations, with nine single contractors and eight working for a cattle mustering business.

There are three 'lay' technicians registered with the WA Veterinary Surgeons Board, but their location and practice details are not reported.

Technicians who perform pregnancy testing for financial return choose to "fly under the radar" to avoid the attention of regulatory authorities and veterinary boards. In the states of Western Australia, Tasmania, and Queensland these boards appear to be more rigorous in enforcing their legislation. Anecdotally, there seems to be an acceptance by some jurisdictions that non-veterinarians charging a fee-for-service but not signing certificates will exist and as such are left alone. It is possible that regulators do not have the resources for enforcement of this matter.

4.4 Demand for and Use of Pregnancy Diagnostic and Testing Services Across Australia.

The Australian cattle industry at 30 June 2017 (ABS, 2017) had an estimated population of:

- (i) 12,176 521 beef cows and heifers one year of age and older, on 37,842 businesses
- (ii) 1,491 652 dairy cows in milk or dry on 5,687 businesses.

The ABS Statistics *Agricultural Commodities, Australia and State/ Territory NRM Regions 2016-17, Tables 2 to 9* (ABS 2017) have been used to compile a spreadsheet which reports by state, the number of female cattle one year and older (the potential target population), the number of properties and the Natural Resource Management Region. This is provided at Appendix 3.

4.4.1 Stud Cattle

The Beef Breeding Centre (AGBU and ABRI) reports that they keep no record of either veterinarians or non-veterinarians who service the stud stock sector, nor do they record the use of pregnancy diagnosis/testing in the sector. The use of pregnancy diagnosis/testing of stud cattle can therefore not be estimated from this source, apart from the one major breed society that reported using a technician to undertake pregnancy testing in herds participating in the Society's breeding projects.

4.4.2 Beef Feedlot Cattle

Specialist veterinary practices and practitioners on a contractual basis service the beef feedlot sector and may or may not undertake pregnancy diagnosis.

The results of the four Feedlot Surveys returned (out of 10 sent) were:

- total cattle inducted for the two-year period 2016 -2017 was 23495 head

- 3 out of 4 feedlots indicated that all inducted females are pregnancy tested
- one smaller operator indicated that only 10% of the female intake were pregnancy tested.
- all feedlots used a combination of vets and lay testers to determine pregnancy status prior to induction: 75% by veterinarians, 25% by lay practitioners
- 50% of cattle diagnosed by veterinarians who were PREgCHECK™ certified
- 100% of lay providers supplied documentation of pregnancy status
- 100% of cattle in the surveyed feedlots where pregnancy status was determined at induction were tested by lay technicians
- of the cattle tested by veterinarians, 50% were diagnosed using ultrasound and 50% by rectal palpation
- 100% of cattle tested by lay providers were examined via ultrasound
- no feedlot used blood testing to determine pregnancy status
- the error rate for both veterinarians and lay providers were the same and varied from 1 to 2% depending on the feedlot, with one feedlot claiming to have had only 2 errors from 8702 head tested (note, the majority of cattle at this feedlot are tested prior to entry by veterinarians)
- the accepted error rate depending on feedlot varied from 0% to 2%.

4.4.3 Live Export Cattle

The MLA State of the Industry Report September 2018 (MLA 2018, p.22) states that in 2017 a total of 867,056 cattle were exported from Australia. The principal markets in 2017 were Indonesia (59%), Vietnam (19%) and China (9%).

The three segments of the live export market report the following share (MLA 2018, p.22):

- a) feeder cattle: 68%
- b) slaughter Cattle: 20%
- c) breeder Cattle: 12%

The number of female cattle which are shipped as feeder/ slaughter cattle is recorded only by the exporters. It is not available from the exporters or from DAWR.

The northern export beef industry is drawn from herds located in the Natural Resource Management (NRM) regions as follows (Australian Bureau of Statistics, 2018 Tables 1-9):

NRM Region	Cows >1 year	No. of Businesses
Northern Territory	1,312,666	179
W.A. Rangelands	687,404	196
NQ Dry Tropics	684,470	576
Cape York	50,083	27
Desert Channels	649,658	546
North Gulf	505,193	177
South Gulf	653,180	299
Terrain	67,008	350

The total number of cattle available for pregnancy testing is therefore 4,609,662, being cows or heifers 1 year or older. These are located across 2,350 businesses. The greatest number of cattle and holdings are in the Queensland NRM regions.

Neither LIVECORP, ALEC or MLA could provide gender-based data for actual live cattle exports. Neither could they supply feedback from live exporters on the accuracy of pregnancy diagnosis/testing.

The Live Export section of the Australian DAWR do not report the gender of live cattle exported from Australia (in order to assess the number that might require pregnancy testing) nor do they obtain in-country feedback from buyers on pregnancies reported for exported cattle declared 'not pregnant'.

Breeder (Female) Export Cattle

Of the four exporters surveyed for the project who participate in the live breeder (female) cattle export market, all reported that they utilised PREGCHECK™ accredited vets and that these were retained by the exporter. When an order for breeder cattle is issued all cattle undergo pregnancy diagnosis and are assessed for reproductive soundness by the accredited vets.

Three of the four exporters reported that they use a blood test method (currently only provided by IDEXX Laboratories) as a check test after rectal examination, to screen for pregnant animals or to meet ASEL standards according to animal size. Section 1.10(c) of the ASEL states:

"...If the veterinarian:

- (i) Is accredited under the National Cattle pregnancy Diagnosis Scheme; and*
- (ii) Determines that cattle or buffalo are too small to be manually palpated safely:*

The veterinarian may base this certification on assessment of the animals by a method other than manual palpation." (DAFF 2011, p.29).

IDEXX confirms that blood-based pregnancy testing is used primarily for live export (Taz Sheppard, personal communication).

One exporter retains a veterinary practice with experienced PREGCHECK™ accredited vets, because they can detect reproductive abnormalities in addition to the actual pregnancy diagnosis.

Exporters sourcing southern industry cattle and shipping from southern ports did not report problems accessing the veterinarians of their choice. Exporters who source northern industry cattle and ship from northern ports, reported that problems arose when shipping delays pushed cattle over the 30 day limit. The availability of the veterinarian of their choice was a major logistical problem when a limited time frame existed as caused by boat delays.

The northern industry exporters surveyed did not export any breeder cattle from January 2017 to October 2018.

The Southern Export Industry operates from the ports of Fremantle, Portland and Geelong for sea transport and the export of breeder female cattle, both beef and dairy, is the main activity with China

the principle market. A total of 135,797 head were consigned to China from January 2017 to October 2018. The exporters retain vets accredited to the NCPD Scheme to determine pregnancy status and reproductive soundness.

Feeder / Slaughter Export Cattle

The feeder/slaughter category comprises 88% of the live export market, and shipped a total of 763,009 head during 2017 (MLA 2018 p.22).

From the information provided by the northern exporters in the survey, the use of accredited 'lay' technicians to determine pregnancy status on-property in the NT and WA, is acceptable to their markets.

All the exporters reported that they had put in place a traceback system for pregnancy testing of consigned female cattle, which used the National Livestock Identification Scheme (NLIS) device to trace back to property of consignment. This allows a misdiagnosis of pregnancy to be reported to the vendor and/or the person stated on the exporter certificate for pregnancy status. Since 2014-15, survey respondents reported that this has led to improvements in the competency of 'lay' technicians and the incidence of misdiagnosis has subsequently decreased.

The Indonesian Export Cattle Market

The Indonesian import protocols (current over the 18 months to November 2018) require that for every five animals imported as a feeder / slaughter animal, a further one female must be imported as a productive breeder (ABC 2018). Based on the number of feeder/slaughter cattle exported to Indonesia (59% of the total for Jan – Jun 2018, i.e. 511,563 head, MLA 2018 p.22), then 102,321 head must be imported as productive breeder cattle to meet Indonesian Government requirements.

This means that at least 102,321 breeder (productive female) cattle need to be pregnancy tested and assessed for reproductive soundness. This must be done by a registered vet who may or may not also be a member of the National Cattle Pregnancy Diagnosis Scheme (NCPDS), depending on the length of voyage. Given that the voyage length from northern ports to Indonesian ports is less than ten days, then only a registered vet may pregnancy test and certify the cattle.

However, the DAWR Report *All Livestock Exports 2014-2018* (DAWR 2018) does not support this estimation, reporting only a single shipment of 2,128 head from Portland in September 2017. It is possible that the Indonesian importers are knowingly in breach of their own Government requirements, but this is an Indonesian problem.

Vendors to the Indonesian market may use technicians to determine pregnancy status, provided the technician or the owner/manager signs the exporter certificate/ declaration for the cattle.

The Vietnamese Export Cattle Market

The Vietnamese market is a major growth market, taking 164,740 cattle 2017 (MLA 2018 p.22). As for the other markets, the gender mix of these cattle is unknown, but one exporter who specialises in supplying this market estimates that 10% of the cattle they source are females.

For this market (non-breeder) the vendor owner/manager makes a declaration for pregnancy status and the responsibility is for the vendor to engage the pregnancy diagnosis provider.

Livestock and Property Agents Association

The Australian Livestock and Property Agents Association (ALPA) responded that they are supportive of a competency standard and accreditation process, which provides integrity to the declaration of pregnancy status for cattle, particularly in the re-stocker cow and heifer market. They also stated that new and emerging methods for pregnancy diagnosis/testing should be included.

AuctionsPlus CEO Angus Street is currently working on updating their Terms and Conditions to stipulate who is eligible to diagnose/test pregnancy in cattle put forward for sale on the AuctionsPlus system.

Key considerations in this update are:

- a) limiting the time between diagnosis/testing and sale to less than three months
- b) re-testing of cattle where this time has been exceeded
- c) establishing a data base to record the pregnancy information with each lot listed.

This database may include the date of diagnosis/testing, electronic identification (EID) tags and test status, range for estimated calving dates, tester accreditation ID and post-sale feedback.

AuctionsPlus has a timeline of two and a half years to adopt the data base. They already have a similar program to record and assist in the audit process of their Livestock Assessors.

Auctions Plus indicated they would like to be engaged in the development of a proposed national standard for pregnancy diagnosis.

4.4.4 Pregnancy Diagnosis/Testing Using Ultrasound

Of the two major suppliers of B-mode ultrasound machines, one provided the information requested, as follows.

Over the last seven years the supplier sold:

- a) a total of 404 B-mode Ultrasound units into Australia
- b) veterinarians – 34 units
- c) non-veterinarians (contractors) – 41 units
- d) property owners/ feedlots – 329 units

The supplier also provided details of Queensland sales:

- a) a total of 246 B-mode Ultrasound units
- b) veterinarians – 16 units
- c) non-veterinarians (contractors) – 24 units
- d) property owners/ feedlots – 206 units.

The supplier did not disclose the final location of units sold.

This information shows that the number of units sold to the non-veterinary sector far outnumbers those sold to veterinarians. It clearly demonstrates the uptake of ultrasound pregnancy testing at property owner and feedlot level.

It is not known how many ACV PREgCHECK™ veterinarians offer ultrasound pregnancy diagnosis.

4.5 Current Training in Pregnancy Diagnosis of Cattle

4.5.1 Pregnancy Testing Existing Competencies of Relevance

The following training Units of Competency exist within the National training framework:

- a) Pregnancy test livestock [rectal manual palpation] (*AHCLSK408, replaces AHCLSK408A*)
- b) Operate vacuum blood collection process (*AMPA2028*)
- c) Comply with industry animal welfare requirements (*AHCLSK331*)
- d) Contribute to Work, Health and Safety Process (*AHCWHS301*)
- e) Apply environmentally sustainable work practices (*AHCWRK 309*)

The above Units of Competency have differing levels of attainment (skills level) and reflect differing levels of autonomy in the skill described by the first numeral in the alpha-numeric description of the Unit of Competency.

For example, the competency AHCLSK408 is described as a Certificate IV skill level by the numeral 4 in the numeric portion and competency AHCWHS301 is described as a Certificate III skill level by the numeral 3 in the numeric portion. The following is a description of these competency levels:

- Certificate II courses are designed for people to undertake mainly routine work or as a pathway to further education
- Certificate III courses are designed to help individuals to progress from entry level jobs
- Certificate IV and Diploma courses are designed for people looking to move into supervisory and management positions

It is proposed that the UoC above would together form the Skill Set for the competency standard pregnancy testing of cattle, with c)-e) being core units for the proposed Pregnancy Testing Skill Set.

4.5.2 Registered Training Organisations (RTO)

There are 40 RTO's in Australia that have *Pregnancy Test Animals* (AHCLSK408) on their scope. However, very few of them are currently active.

Some training providers offer non-accredited short courses in pregnancy testing where participants are provided with a statement of attendance.

The following RTO's are the principal providers of AHCLSK408- Pregnancy Testing Animals:

1. Sulcor Advisory Services (RTO 70207), offering training at their facilities in Attunga (Tamworth, NSW) and in conjunction with Charles Darwin University at the Katherine Rural

Campus Northern Territory.

Over the last five years the training has had:

- over 180 participants in the NT
- 125 participants from NSW
- 25 participants from interstate.

Sulcor Advisory reports an estimated total of 330 people have been trained nationally through their course.

The Northern Pastoral Companies Group was contacted through their facilitator, Steve Banney. Replies from several of the member companies indicated they are willing to provide information on a one on one basis. The replies supported a national accreditation program for trained and accredited technicians to offer an alternative service provider to the veterinary option.

2. Charles Darwin University (CDU) Katherine Rural Campus, which also offers the practical test and theory examination required for NT export accreditation and has the resources to undertake on-property assessment for the UoC Pregnancy Test Animals.

3. Queensland Agricultural Training Colleges (QATC), now closed down, offered training from their campus at Emerald.
This included Pregnancy Testing (manual palpation) Short Courses designed for on farm use, which incorporated the UoC *Pregnancy Test Animals* (AHCLSK408). Of these courses run between 2015 and 2018, QATC reported the following:
 - a) 93 students successfully completed the course
 - b) most of the training was done on one of the college properties
 - c) in some years QATC did not have enough cattle to conduct PD training.

4. Breed'n Betsy offer accredited training from their facility at Byaduk North, via Hamilton, Victoria, and reported that about 50 people are trained annually.
Training in AI is also provided at this facility.

Providers of Artificial Insemination (AI) courses are also known to provide an introduction to pregnancy testing for participants and this has historically in many cases provided a bases for developing the skill. We have not attempted to include the numbers of people who may have completed this training because not all training is provided by RTO's and it is therefore difficult to quantify (commercial in-confidence).

4.5.2 Universities Offering Pregnancy Diagnosis Training

There are seven universities providing a course leading to the Bachelor of Veterinary Science (BVSc) degree. How veterinary faculties teach large animal practice skills is at their discretion, providing courses meet the University accreditation standards. All veterinary courses are subject to the

accreditation standards provided by the Veterinary Schools Accreditation Advisory Committee, which reports to the Australian Veterinary Board Committee (see www.avbc.asn.au/veterinary-education).

Some universities, such as Charles Sturt University, based at Wagga in NSW, have developed courses, which offer greater scope than other institutions in training and teaching large animal practical skills to students.

In the teaching of practical pregnancy diagnosis skills (most usually by rectal palpation in the first instance) veterinary students are provided with cattle on which to practice. The number of cattle available per student varies and is dependent on the cattle herds (beef and dairy) owned or available to the university and the number of practical sessions included in the course.

The universities offering Veterinary Science Courses are accredited for a seven-year period and are listed below:

- University of Sydney
- University of Melbourne
- University of Queensland
- Murdoch University
- Charles Sturt University
- James Cook University
- University of Adelaide

Some universities offer degrees in Animal Sciences with their own content for the course and for the unit of Reproductive Studies. This provides a knowledge of reproductive anatomy and physiology, but students are not taught any method of pregnancy diagnosis.

4.5.3 AHCLSK408 Pregnancy Test Animals: Student Success

Table 3 shows the training attainments from vocational training between 2015 and 2017 from the VOCSTATS data base. Between 2015 and 2017 a total of 486 people commenced AHCLSK408 or AHCLSK408A (superseded by AHCLSK408) Pregnancy Test Animals, with 23 assessed as 'fail' and 17 withdrawals. This means 446 participants have been awarded competency/equivalency in AHCLSK408 Pregnancy Test Animals over the years 2015-17. The majority would have elected to do the Unit as part of a Certificate III or IV in Agriculture.

Table 3: National Training in Competency AHCLSK408 (and formerly AHCLSK408A) Pregnancy Test Animals, 2015 to 2017.

Unit of Competency	Subject Result	2015	2016	2017	Total
Pregnancy Test Animals AHCLSK408/ AHCLSK408A	Assessed - Fail	7	11	5	23
	Withdrawn	9	1	7	17

	Assessed – Pass	218	160	68	446
	Total	234	172	80	486

Several training organisations offer the Unit informally, using outside providers with no assessment undertaken, for example Tocal Ag College at Paterson, NSW, which has approximately 15 students annually. Muresk Agricultural College in Western Australia also offer a similar program, with the assistance of a local veterinarian.

The largest numbers to complete the competence and be assessed are from Sulcor Agricultural Services in NSW (with 230 successful participants from 3 states), and the Queensland Agricultural Colleges where 93 students were successful between 2015 and 2018.

In Victoria, one provider (Breed'n Betsy) uses a simulated bovine reproductive tract for the initial training before moving on to live cows. The operator reports better animal welfare outcomes for the practice cows. He reports that he trains about 50 individuals annually, from both vocational and tertiary institutions (John Irwin personal communication).

The two Australian retailers of B-mode ultrasound equipment (see Section 3.4.3) provide initial training in the use of their machines as part of the purchase package.

4.5.4 Informal/ Mentor based Training

It is well known that the skill of rectal palpation for pregnancy diagnosis is most commonly taught through mentor-based training. In this way, veterinary graduates, after successfully attaining their rigorous degree, would generally develop their skills under the tutelage of an experienced veterinarian. As such, it is not possible to determine how many veterinary graduates have developed competency.

This was the only method available to gain skills for all veterinary graduates up until the introduction of PREgCHECK™ and continues to be for those that are not AVA/ACV members.

Under the PREgCHECK™ system veterinarians undertake a theory assessment and practical examination to attain accreditation. ACV veterinarians, aspiring to become accredited, use mentor-based training to attain the level of experience required, prior to their practical assessment examination.

Use of ultrasound for pregnancy diagnosis by vets is also learned via the mentor method and personal practice after an initial course which may have been undertaken.

In the non-veterinary sector, mentor-based training is similarly the most common method of skills training for pregnancy testing both for rectal palpation and B-mode ultrasound.

The biggest draw-back to all mentor-based training is that the quality of instruction and skills learned depends on the competency of the person providing the training.

4.6 Customer Satisfaction with Existing Services

4.6.1 Feedback from the Cattle Industry

The AMIC's Internal Reference Committee for Livestock Issues Management response was: "...AMIC is not currently supportive of the development of a National Standard for Pregnancy Diagnosis. The method of assessing or diagnosing pregnancy should remain a commercial decision – if a livestock buyer requires PREgCHECK™ or another specific system - that would remain a specification for trade to occur. The processing sector is wary of implementing more Standards on industry and forcing extra compliance where a market-led solution could generate the same, or equivalent, result."

All ten exporters reported that the degree of error acceptable for pregnancy diagnosis/testing depends on the actual contract specifications and the wording of the contract, for example; 'Not Pregnant' versus 'Not Detectably Pregnant'.

All five exporters of feeder/slaughter cattle reported that they had implemented, or were implementing a trace back system for pregnancy, which may be applied pre-shipment at the export receival yards or on-property with the diagnosis/test result received with the vendor consignment.

The traceback systems are based on a Radio Frequency Identification (RFID) device identifying the animal and property of consignment matched to the waybill, as required by the Australian Government for live exports. The Australian Government also requires blood samples to be collected by a registered veterinarian for live export of cattle.

The exporters reported that shipping delays often cause time frames for pregnancy diagnosis/testing to be passed, requiring re-testing. This creates problems where the vet retained by the exporter may not be available to perform the re-test. One exporter explained that there are only five vets available to service northern ports and this includes two located in WA at Broome and one at Kununurra.

Five exporters reported that an accreditation scheme for technicians would be advantageous for meeting:

- a) the stricter requirements being set by importing countries and Australian Government Department of Agriculture and Water Resources Live Export Section
- b) the increased need to have suppliers responsible for pregnancy diagnosis on property.

Where breeding animals (heifers and cows) were being exported, three exporters indicated that the expectation for error would be in the order of two head or less in one thousand tested. ACV accredited PREgCHECK™ vets must be used to meet Australian Standards for the Export of Livestock (ASEL) and are generally contracted by the exporter. The pregnancy diagnosis must be performed as part of the induction process at the pre-shipping yards.

One exporter of breeding animals reported that engaging accredited PREgCHECK™ vets also allowed the cattle to be screened for reproductive tract abnormalities, which fitted their business quality assurance guidelines. The same exporter uses both manual rectal palpation and blood tests to screen cattle for pregnancy where the specifications are for non-pregnant animals.

All the exporters stated that they do find and record inconsistencies in the competencies for pregnancy diagnosis/testing across both the veterinary and non-veterinary providers. This included PREgCHECK™ accredited vets for final diagnosis prior to export and for technicians carrying out on-property testing.

Three exporters use selected veterinarians contracted to the exporter.

The three exporters that use blood tests as part of the pregnancy status assessment also undertake health screening if required (e.g. to detect Bovine Johnes Disease or Ephemeral Fever).

One exporter reported that foetal ageing was important to their supply scheme so engage a veterinarian for that purpose. This exporter undertakes pregnancy diagnosis twice using vets and supports the assessments with a blood-based method (IDEXX). The exporter said that this rigorous screening practice was adopted because they found that:

- a) 5% of heifers diagnosed as pregnant were not pregnant
- b) 2% of heifers diagnosed as not pregnant were pregnant.

All the exporters noted that:

- a) they are improving their traceability systems for pregnancy diagnosis/testing
- b) non – compliance for pregnancy status is an overhead cost to their business and hence a low error rate is required
- c) some importers now also do their own testing and reporting of results to the exporter
- d) their expectations are relative to the numbers involved, the financial penalty* and the cost/benefit of sending the company employed veterinarian to the importing country to investigate error rates.

(*In the feeder/slaughter export market non- compliance with pregnancy status specifications for importing Country will result in the animal being deemed ‘not fit for purpose’ and a commercial penalty may be incurred.)

The incidence of error rates reported by one exporter was 0.5%, which prompted them to introduce an on-property recording system providing written confirmation of pregnancy status and in-country feedback to each supplier.

In contrast, another company that exports between 45,000 and 60,000 heifers per year for the feeder/ slaughter market stated that they have not received any complaints from importing clients about pregnancy status non-compliance over the last four to five years. In this instance, determining the pregnancy status is the responsibility of the vendor and as such is usually done by an NT accredited lay technician. An RFID list is also required to accompany a pregnancy status ‘certificate’.

A supplier of B-mode ultrasound equipment nevertheless reported that an Indonesian feedlot, visited in April 2018, was recording 7% of Australian female cattle entering the feedlot as ‘not pregnant’ were found to be pregnant. The source of this information asked to be un-named and this does weaken the veracity of the information. It also reflects the lack of objective data on pregnancy status of female cattle entering the feeder/ slaughter live export markets in Asia. No exporter was prepared to disclose

specific information on the pregnancy rates of female cattle delivered to the Asian markets (principally Indonesia).

Another exporter has developed a Vendor Declaration for pregnancy to be used by accredited technicians in the NT as well as vets in the NT, WA and Qld. The vets need not necessarily be accredited to the PREgCHECK™ program but must be registered with the Veterinary Surgeons Board of the jurisdiction. This exporter also has a trace-back system in place based on the RFID device.

One exporter reported that in-feedlot testing was done in the country of destination within 20 days of arrival, so a blood testing method was used as part of their pre-shipment process.

One exporter explained that because most live exporters to the feeder/slaughter markets place their buying orders one month in advance of shipping, all the activity to have the cattles' pregnancy status ascertained occurs in a 10 to 14-day window. This requires a high standard of competency in technicians or veterinarians and for them to be available across a large geographic area.

All the feeder/ slaughter exporters required trained and competent accredited technicians in order to meet their live export demands.

4.6.2 Comparison Between Methods

The accuracy of both manual rectal palpation and B-mode ultrasound is dependent on operator training, individual skill, level of experience, maintenance of skills and any history of the animals available prior to testing.

While the ACV periodically reports studies undertaken by members to assess accuracy of alternative methods for pregnancy diagnosis against the manual rectal palpation method, these studies are usually reported internally within the membership.

In the reproductive research work undertaken by the Beef CRC and the Animal Genetics and Breeding Unit (AGBU) based at Armidale, on-going studies of reproductive status of herds in the northern industry are done. In these studies, both manual rectal palpation and B-mode ultrasound are used to determine pregnancy status throughout gestation and detect foetal loss, onset of ovulation and foetal gender.

These studies were undertaken with involvement of some ACV members but particularly Geoffrey Fordyce (QDPI and CQU) and Michael McGowan (UQ). The results of numerous collaborative projects completed by these researchers hold important information to better compare methods, for example there are certain stages of pregnancy where one method may be more reliable than another. The B-mode ultrasound method of pregnancy diagnosis, however, is anecdotally considered to be the most precise of all the ultrasound methods of pregnancy diagnosis. It is noted that the New Zealand (NZ) Qualifications Authority has a Unit Standard "Perform Ultrasound Scanning for Pregnancy Diagnosis in Farm Animals" (Unit 21359; see <https://www.nzqa.govt.nz/framework/explore/domain.do?frameworkId=75201>).

Three live exporters now use blood testing as an additional method of determining non-pregnant status.

4.6.3 The Effect of Poor Occupational Health and Safety

Unsafe work conditions for the performance of pregnancy diagnosis/testing may influence the capacity of service providers to determine pregnancy status. The ACV has published a booklet to advise members on the advantages/ disadvantages of various designs of cattle crushes / squeezes suitable for pregnancy diagnosis/testing work.

Based on the author's experiences in the cattle industry, apart from error rates, producer client dissatisfaction in the process of pregnancy diagnosis/testing can include the following.

1. People factors such as personality, likeable, polite, respectful, trust.
2. Lack of confidence based on a single adverse experience
3. Lack of timeliness and availability to provide the service.
4. Perceived value for money
5. Belief that the cost versus benefit of these services for beef production are not justified given existing management practices (herd health and grazing management/ nutrition) can attain at least 90% live calf births in southern herds.
6. Belief that it is only a "rescue" tool, for example to set up a recovery pathway where mating has been seen to be unsuccessful
7. Belief that it is no longer a skill to be practiced by veterinarians alone.

In relation to point 7 above, the copy of the letter from AgForce Queensland (see Appendix 4) offered the following reasons for producers not contracting veterinarians for pregnancy diagnosis services:

"trouble booking the vet in peak seasons, travel expense (between \$2 per km to \$4 per km there and back), lack of flexibility in delivering the service, especially in peak times, difficulty accommodating the vet's time frames with the activity of mustering one paddock at a time, no perceived difference in the service offered by the lay preg-tester and the vet".

In addition, the feedback from producers in the letter regarding veterinary services can be summarised as follows:

- too stretched and busy in peak times eg. do not have time to offer value added services once on site
- as they have many other clients, they are unable to respond to changes in logistics, producer's time frames
- because of their time constraints they are unable to work as part of a mustering team
- they charge a flat rate which is not scaled depending on their experience
- they are unable to cover all requirements for pregnancy diagnosis during busy times when everyone is needing the service at the same time to meet seasonal demands.

The telephone surveys of the live export sector did not expose any reasons for dissatisfaction, other than the problems caused by shipping delays and cattle passing the 30-day period so requiring a re-test (ASEL requirement).

In the live export sector, there is a recommendation submitted to the current ASEL Review, put forward by Ian Bradshaw, an on-board veterinarian and ACV Committee member, to extend the period between

diagnosis and shipment from 30 days maximum to 45 days maximum. The contention is that this would allow more time for vets to be engaged in the pregnancy diagnosis of cattle, reducing the current bottlenecks caused by shipping deadlines (personal communication with Ellen Buckle, ACV).

The small number of respondents from the feedlot sector reported no reasons for dissatisfaction.

5 Gap Analysis

To review the current systems a critique based on strengths, weaknesses, gaps and opportunities have been undertaken and are presented in the following section. A summary of the critique is set out in Table 2 below.

5.1 Gap Analysis: The Veterinary Sector

The ACV model for PREgCHECK™ is purported to be a “...an accountable and quality scheme with the power to deal with unsatisfactory levels of performance.” (ACV PREgCHECK™ Accreditation Scheme document, undated).

In the publication *Pregnancy Diagnosis in Cattle* (Beggs 2014) the Annual Audit method is described:

“14.1 Accredited Testers will be randomly selected each year and asked to produce:

- a) copies of certificates they have issued under the NCPD Scheme; and*
- b) records of the number of pregnancy examinations that they have carried out”*

The ACV maintains an NCPD Scheme Convenor who is responsible for managing the complaints process. This is clearly laid out in the same publication (pp. 76 – 77). From this it appears that neither PREgCHECK™ nor the NCPD Scheme have a quality assurance program managed by an outside party.

PREgCHECK™ therefore appears to be an accreditation program with a high level of entry but a lower level of quality control for members once accredited.

A critique of the veterinary providers of pregnancy diagnosis in cattle shows the following:

1. a registered veterinarian may pregnancy diagnose cattle by any method without ongoing assessment of their skill, whether or not they are members of the AVA and ACV
2. a registered veterinarian who performs pregnancy diagnosis by manual palpation, ultrasound or the IDEXX Bovine Pregnancy Test may sign certification for pregnancy status, including for live export of:
 - a) feeder or slaughter cattle
 - b) breeder cattle, subject to the length of journey
 However, only ACV members that are PREgCHECK accredited can apply NCPD Scheme tail tags, using manual palpation or B-mode ultrasound for pregnancy assessment.
3. veterinarians that are not PREgCHECK accredited are not accountable to the ACV PREgCHECK™ program and as such their competency can only be assessed via a complaint to the relevant state / territory veterinary surgeons' board

4. ACV members who attain PREgCHECK™ accreditation are the only accredited providers of the NCPD Scheme
5. the maintenance of accreditation, via annual reporting of numbers, is loosely enforced and largely self-managed by records retained in clinic by the veterinarian
6. there appears to be no audit process to verify:
 - a) numbers tested per accredited veterinarian per year
 - b) maintenance of the skill (manual palpation/ B-mode ultrasound)
 - c) lodgement of test results documentation to the ACV
 - d) provision of statements to clients, or non-provision (client choice)
7. reduced resources of the AVA/ ACV bodies to administer PREgCHECK™ / NCPD Scheme, following closure of the ACV administration office in Brisbane, the relocation of the AVA Canberra office and a CEO jointly serving AVA and ACV
8. an accountability system based on complaints from clients which are then referred to a in-house NCPD Scheme Convenor who calls together a NCPD Scheme Complaints Committee.

Table 2 Gap Analysis for Pregnancy Diagnosis Services Offered by the Veterinary Profession

<p>Weaknesses</p> <ol style="list-style-type: none"> 1. All registered veterinarians can legally perform pregnancy diagnosis whether competent or not 2. The current business model of rural mixed practice has questionable viability (Frawley Report) 3. Changes in attitudes to work-life balance in younger graduates creates less interest in acquiring rural mixed practices. 4. Pregnancy Diagnosis/Testing is no longer perceived as a skill for veterinarians alone 5. The PREgCHECK™ Program is not a quality assurance based program and is limited by <ol style="list-style-type: none"> a) being a complaints-based system where complaints are dealt with internally by peer review under the NCPD Scheme Complaints Committee b) a random first party audit process (numbers reported and certificates issued) c) process of reporting of annual numbers d) paper-based audit from in-clinic records 6. Limited by the lack of mobility of veterinarians working from a vet practice 	<p>Strengths</p> <ol style="list-style-type: none"> 1. Tertiary education level 2. Hold Trademark on PREgCHECK™ program 3. Hold registration of NCPD Scheme tail tags 4. Supported by State/Territory legislation 5. Represented and supported by AVA/ACV professional bodies 6. Strong entry level process for accreditation to PREgCHECK™ 7. Live export support for breeding females though NCPDS / PREgCHECK™ 8. PREgCHECK™ supports accreditation for manual palpation and B-mode ultrasound separately or jointly 9. Blood based sampling supported by State and Territory legislation 10. Capacity to add value to service visit (for example from individual expertise in technical areas of cattle production, foetal ageing)
<p>Gaps</p> <ol style="list-style-type: none"> 1. ACV PREgCHECK™ vets not well distributed away from dairy areas and high rainfall cattle regions. 2. Unknown distribution of vets across the northern Australia industry 	<p>Opportunities</p> <ol style="list-style-type: none"> 1. Engage accredited technicians within a practice to undertake pregnancy testing 2. Restrict pregnancy diagnosis to PREgCHECK™ accredited members only 3. Develop a 3rd party audit process for PREgCHECK™ 4. Change business model of rural mixed practice

	to engage with rural industry consultants and farm management (Frawley Report)
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If the information of the likely locations of accredited PREgCHECK™ veterinarians from Section 3.2 is compared to the locations of beef and dairy cattle from Section 4.4, the following gaps appear:

- despite having the greatest number of cattle, 5,714,981 in 2017, Qld has significantly fewer accredited vets than NSW, which had less than half the number of cattle (2,681,235)
- the notable concentration of accredited veterinarians clustered near the capital city, in SE Qld where the number of cattle is relatively small, is not seen in any of the other states or NT
- except Tasmania, where the smallest number of cattle appears to have access to the same number of veterinarians as the North and Cradle Coast regions of the state, however due to the small size of the island, this may not be a significant issue
- although there are significant numbers scattered across most Qld regions, with over a million head in the Fitzroy, the Qld region with the largest cattle population and associated businesses, there are only approximately ten accredited veterinarians
- although there were 50,000 head of beef cattle in Cape York, perhaps not surprisingly there appear to be no accredited veterinarians located there
- similarly, the 400 beef enterprises with over 100,000 cattle in the Western region of NSW do not appear to be serviced by an accredited veterinarian
- nor do the nearly 16,000 head of beef in the 182 enterprises in the Wimmera, or the over 8,500 head and 67 businesses in the Mallee regions of Victoria
- the 1,922,476 beef and dairy cattle in Victoria seem otherwise relatively well serviced as do the regions other than Western region in NSW
- the over 131,000 cattle in Northern & Yorke, Arid Lands and Eyre Peninsula and 535 associated businesses appear to have no accredited veterinarians located within these regions
- the over 170,000 cattle and 2400 businesses in WA also appear to be poorly serviced by the approximately ten accredited veterinarians across the state
- although they are a relatively well spread within the WA regions, except for the Rangelands which has over 68,000 beef cattle with only two, both located in the far north
- there single accredited veterinarian listed for the NT appears to be an issue, despite the territory's network of technicians, and is discussed elsewhere in this report.

(ABS 2017).

5.2 Gap Analysis: The Technician Sector

An analysis of the pregnancy testing services offered by technicians is summarised in Table 3.

The NT Department of Primary Industry and Resources (DPIR) accreditation of non-veterinary technicians to pregnancy test feeder and slaughter cattle for export commenced in 2015. This followed a NT Government sponsored training program with Katherine Rural College providing on-site theory and practical assessments for applicants to the course (see 4.5 for further details).

The NT accreditation program has the following features:

- a) entry is by attainment, and provision of the Memorandum of Grades provided by the RTO for the nationally recognised course *Pregnancy Test Animals AHCLSK408*
- b) accreditation is specific to the NT and is for testing feeder and slaughter cattle for export
- c) an accreditation certificate with an accreditation number
- d) an accreditation period of three years, free of charge
- e) maintenance of accreditation by achieving ongoing pregnancy testing activity with an average of at least 500 cattle per year over a three-year period and no competency complaints lodged with the DPIR and the NT Veterinary Surgeons Board
- f) annual reporting of pregnancy testing activity to the NT DPIR using a Pregnancy Testing Activity Form and pregnancy testing records
- g) this reporting is trust based but supported by records as follows
 1. date of each pregnancy examination
 2. name and address of the owner of the cattle
 3. the property on which the cattle were examined
 4. the number of cattle examined
 5. the number of cattle determined to be pregnant by the accredited person
- h) the DPIR maintains a public register of accredited persons which is shown at their website which lists over 60 technicians
<https://nt.gov.au/industry/agriculture/livestock/animal-health-and-disease>

Table 3 Gap Analysis: Pregnancy Diagnosis Services Offered by the Technician Sector

<p>Weakness</p> <ol style="list-style-type: none"> 1. Unknown number of people, except in NT 2. Fragmented and variable training 3. Wide skill levels by method 4. Hampered by State/ Territory Regulations 5. Lacks formal skills recognition 6. Limited and fragmented training opportunities 	<p>Strengths</p> <ol style="list-style-type: none"> 1. Number of industry people participating in the skill (ultrasound sales) 2. Movement of people within the industry 3. Skill/ education base, Certificate 3 and 4, Diploma, Degree. 4. Mentor based training
<p>Gaps</p> <ol style="list-style-type: none"> 1. Unknown locations of technicians 2. Lack of accessible training 3. Own herd v contracting 	<p>Opportunities</p> <ol style="list-style-type: none"> 1. Non-invasive methods 2. Accreditation process to lift skills 3. Development of industry skill base 4. Identify skilled mentors 5. Accreditation Scheme 6. Increased compliance to live export standards and specifications 7. Increased reproduction rates in national herd 8. Improved confidence in breeder cow re-stocker market

The Technician Sector has no representative body to lobby its purpose or development. The establishment of such a body is necessary to engage this sector in the development of a national standard for pregnancy testing, and later in the management of the national program.

The wide level of skills held by the Technician Sector is a weakness that can be addressed by training and identifying skilled mentors.

5.3 Gap Analysis: The Cattle Industry

5.3.1 Live Exporters

The live export industry reported no specific strengths, weaknesses or gaps in the current system. The following views were however, generally expressed:

- a) the skills of individual vets and lay technicians are now recognised and rewarded with repeat business
- b) technicians registered with a national scheme would provide suppliers of cattle with greater opportunity to improve pregnancy status compliance in the feeder/ slaughter market due to their higher skill levels
- c) the introduction of traceback systems allows the error rate of both vets and technicians to be monitored.

5.3.2 Processors

The Australian Meat Industry Council (AMIC) Internal Reference Committee for livestock Issues Management expressed no view on the current system strengths, weaknesses and gaps. The Committee stated that should a buyer require a specific method or system for cattle pregnancy diagnosis/testing then it would become a trade specification.

5.3.3 Livestock Agents and Feedlotters

The views of ALPA, representing stock and property agents, was shown at Section 4.4.3 above. Similarly, the views of the feedlot sector were also reported above at section 4.4.3.

5.3.4 Producers

The submission supplied by AgForce Queensland to the QDAF on lay pregnancy testing includes case studies for the pregnancy diagnostic/testing methods of rectal manual palpation and ultrasound as shown in Appendix 4.

Northern Pastoral Companies Group

From this group one company reported that both accredited vets and a technician were used within their business, dependent on the purpose and the market requirements. Both were retained by the company.

The second reported that they utilise both registered vets and technicians within the business. Of most interest to them was not the existing methods but the new systems being developed using e-software. Blood based diagnosis was also of interest.

Neither of the companies regarded the skill of pregnancy diagnosis/testing (excluding foetal ageing by manual rectal palpation) to be a skill restricted to registered vets in contemporary beef production.

A national accreditation scheme was supported because it provides uniform training, a means of accountability and a potential periodic assessment for quality assurance. Both reported that such a program would benefit staff within their business, resulting in more competent staff.

5.3.5 Australian Cattle Vets

The ACV did not respond to the request made of them as to how they may engage technicians for pregnancy testing services to clients. Their non-response appears to be from a lack of resources and not a lack of goodwill.

The engagement of technicians for pregnancy diagnosis services by a registered veterinary practice is an option to be acknowledged and explored.

The current membership fee charged by the AVA is \$787 per year and for ACV is \$310 per year. Costs for the PREgCHECK™/ NCPD Scheme program are on a user-pays basis. Veterinary registration fees are annual and are state dependent.

5.3.6 Technicians

From the responses received from 9 of the 23 technicians in the reference group it was reported that:

1. they do not want to hold accreditation linked to a veterinary practice (8 respondents)
2. they support an accreditation scheme which allows for
 - a) recognised prior learning
 - b) accredited training with re- assessment to maintain accreditation
 - c) recognition of professional service
3. the fee for becoming accredited was a concern - no response to a suggested fee was given
4. any insurance required for being accredited would need to be fully explained
5. the accreditation should preferably be national rather than by state/ territory
6. management of their recorded work must be in-confidence
7. an annual cost of \$500 to \$800 was suggested for accreditation (1 respondent)
8. an accredited scheme would allow their business to grow
9. a national scheme was preferred which includes vets and accredited technicians (1 respondent)

5.3.7 Contract Service Providers

The AgForce Queensland submission to QDAF (Appendix 4) contains case studies, which highlight the use of contractors to muster cattle and then perform management tasks requested by the owner including pregnancy testing. The cost of this activity is then included in the contract price (personal communication with northern industry technicians). As shown previously, a quarter of the identified technicians are employees of cattle contractors. The engagement of lay technicians seems, therefore, well established by the contractors and would be strengthened by an accreditation program.

5.4 Opportunities to Increase Technician Engagement Options

The opportunities to increase engagement options for Queensland, as discussed in the AgForce proposal and TestRight proposal, require amendment of the Veterinary Surgeons Regulation 2016 to allow non-veterinarians to undertake, charge a fee for and sign certificates for pregnancy status. The proposal does not suggest how technicians could be engaged, only that the accreditation program and scheme management is required for the technician sector to be developed.

Engagement options for accredited technicians could include them being aligned to:

1. a registered veterinary clinic/practice
2. stock and property agents for on-farm and sale-yard based work
3. farm and business management consultants
4. livestock management contractors
5. A.I. contractors
6. live cattle exporters
7. cattle producers.

5.5 Gap Analysis: Existing Training Options

5.5.1 Existing Units of Competency

The existing units of competency *Pregnancy test livestock [rectal manual palpation] AHCLSK408* and *Operate Vacuum Blood Collection Process AMPA2028* could be modified to include cattle. The course content will need to be tailored to match the knowledge and skills required for an individual to be regarded as a competent entry level operator, with the second being amended specifically for collecting blood from the tail vein of cattle. The Competency *AMPA2028* for taking blood samples and processing / packaging for consignment is currently found in the Australian Meat Processing Skill Set.

It is proposed that three further existing UoC could be added to form the basis of core units for a national competency standard:

- a) Comply with industry animal welfare requirements (*AHCLSK331*)
- b) Contribute to Work, Health and Safety Process (*AHCWHS301*)
- c) Apply environmentally sustainable work practices (*AHCWRK 309*).

A new training UoC would need to be developed for pregnancy testing of cattle by B mode ultrasound. Skills Impact is a national not-for-profit skills service organisation, contracted by the Australian Government to review and develop units of competency, skill sets and qualifications, for use by industry and the vocational training and education sector (see <https://www.skillsimpact.com.au/>). Skills Impact report that it will take 18 months to two years to have a new unit approved for delivery.

5.5.2 Current Barriers

A lack of resources, expertise and knowledge of current animal welfare requirements (Standards and Guidelines) is likely to represent a challenge to those RTO's who may offer these units. The adoption of the existing module *AHCLSK408* from the National Training Framework is possible, but it would be

desirable for it to be reviewed in the light of current animal welfare standards. In addition, a common assessment process and standard for attainment would be required for all units comprising the overall competency standard.

The Australian Skills Quality Authority (ASQA) manages the accreditation of UoC and approval for RTOs to deliver courses (approving scope), so any changes or additions would have to satisfy the requirements of the ASQA.

Skills Impact was contacted regarding the development of a new competency to cover all aspects that would be required in terms of knowledge skills and ongoing accuracy by a lay operator. Their National Industry Engagement Manager (Andrew Horgan), indicated that one way to approach the proposed training is to develop a Skillset comprised of the skills necessary for achieving competency. This requires identifying the UoC most suitable for the purpose and where gaps exist (for example use of B mode ultrasound).

The request to develop a unit of competency (for example, the B-mode ultrasound UoC) is managed by Skills Impact, a process that moves from registering a potential gap in training through to an industry Standard registered with Australian Industry Standard Council. When the proposal has achieved a successful “Case for Change” phase then Commonwealth funding is provided to complete the final development and approval process.

The Competency required for B-mode ultrasound UoC would need to be developed as a priority. Skills Impact would advise if the Competency would be rated as Certificate III or IV, or Diploma level. The Australian Qualifications Framework (AQF) have criteria for each of these levels (see www.aqf.edu.au/aqf-levels) which progress based on knowledge, depth of technical application and demonstration of autonomy/judgement/responsibility. They progress from Level 1 (Certificate I) to Level 10 (Doctoral Degree).

Within the cattle industry most skills training is at Certificate II, III and IV, with Certificate V attainment becoming more common (recognising demonstrated prior learning).

5.5.3 Standard Operating Procedures (SOP) for Specific Pregnancy Diagnosis/Testing Methods.

Individual teaching organizations and RTO’s publish their own SOP for specific skills. The potential to offer RTO’s a standardised SOP for the methods of pregnancy diagnosis/testing of cattle would be a useful means of achieving a national approach to methods and animal welfare in pregnancy testing training. It is assumed that Universities would continue to develop and maintain their own SOPs.

SOPs document the instructor: student ratio required for the skill or practice which has an impact on the fee charged to participants for training in the UoC. The Charles Sturt University Animal Care and Ethics site (www.csu.edu.au/division/deputyvc/rdi/ethics-and-compliance) provides a useful guide to SOPs for teaching animal husbandry skills. These SOPs can be used to cost the teaching components of the skill because they state how it will be taught.

5.6 Barriers: Estimation of Costs to Attend a Training Courses

An estimated cost for a residential workshop on pregnancy diagnosis/testing of cattle by rectal palpation was developed from advice received from three rural training colleges.

The cost per participant will be largely determined by the instructor to student ratio shown in the RTO's SOP for the particular method of pregnancy diagnosis/testing. For example, Charles Sturt University (Wagga, NSW) has instructor to student ratios from 1:3 for venepuncture to 1: 16 for pregnancy diagnosis by rectal palpation.

An indicative cost of \$450 to \$600 per day for courses between 2.5 and 4 days duration is realistic, depending on accommodation and overnight meals being included. The training numbers should not exceed 12 people (personal communication Melissa Volhand).

For a course such as in B mode ultrasound pregnancy diagnosis/testing, cost would increase based on the need to have access to ultrasound equipment for the practical component. Participants with B-mode ultrasound equipment could be encouraged to bring their own to the training to defray cost.

A one-day training program for Blood Collection Vacuum Method for ten people is estimated to cost \$250 to \$300 per person, depending on materials provided and meals, based on an instructor to student ratio of 1:3.

5.7 Barriers: Delivery Formats

The delivery method of any UoC is the responsibility of the RTO offering the Unit. This includes the development costs of establishing the training, content and assessment.

There is considerable scope to have an industry developed training package available on-line. The on-line format is ideally suited to the UoC that comprise:

- the three core competencies of the proposed Skill Set
- the proposed competency for Venous Blood Collection (tail vein) in cattle.

An indicative cost to develop an on-line training unit has been provided by Tocal College (NSW Department of Primary Industry, Paterson, NSW). The indicative cost is \$14,490 per unit.

The on-line format may well suit the training requirements of prospective northern cattle industry technicians and should be discussed with rural colleges such as Katherine Rural Campus and Emerald College.

There are techniques that use electronic technology for real time assessment of skills and practices which will need to be assessed during the development phase of any units, with input from the rural training colleges, and TAFE.

There are RTO's who offer skills training in partnership with an industry to develop on-farm skills and professional service skills for the industry. This is called 'Training Led by Industry'. An example is the package developed by Tocal College in conjunction with Cotton Australia and the Grains Research and Development Corporation. This package operates under the AGSKILLED program where 24 courses are

available. The courses are grouped into areas of On-Farm Safety, Crop Production (agronomy and crop protection), Business Management and Machinery and Equipment. (see www.tocal.nsw.edu.au/courses/agskilled). This approach may be an option for MLA / CCA to fund the development of cattle pregnancy diagnosis/testing skills education, including on-line learning.

This way, a standardised training package could be developed by the cattle industry (beef and dairy) which is then made available to an RTO.

Mentor based training is a long-established method of skills training in Australian agriculture (from the historical jackeroo system to the contemporary traineeship system). It requires the costs of acquiring a skill to be met by on the job training and repeated experience, possibly at the individual's expense.

The weakness of the method is the range of knowledge and skill (both not assessed) of the mentor. However, if a training system was developed to accredit mentors then this would allow for a low-cost training system to be made available.

5.8 Opportunities: Existing Quality Assurance Providers

The Quality Assurance (QA) providers operating in Australia primarily service the health, education, mining, manufacturing, business, sustainability, environmental, food and agri-food industries.

The major supplier of QA systems and accreditation to the Australian livestock industries is AUS-MEAT. AUS-MEAT currently support eight livestock QA programs in the Australian livestock sector. The National Spayer Program (AgForce and Cattle Council of Australia (CCA)/MLA) have chosen AUS-MEAT to manage their proposed spayer program (see also the Section 5.9 below Opportunities: Possible Synergies With The Cattle Spayer Accreditation Program).

Because AUS-MEAT and AUS-QUAL are industry owned they recognise the synergies that exist between producer-based programs and assurance schemes used throughout the food chain. Both willingly provided advice to the project and are highly skilled in managing accreditation programs.

AUS-MEAT would therefore appear to be the preferred supplier/manager of an accreditation program for cattle pregnancy diagnosis.

AUS-MEAT have provided the following advice:

“AUS-MEAT is interested in providing an outline of indicative costs in relation to the proposed national standard for cattle pregnancy testing and specifically, in relation the management and auditing of an accreditation scheme aimed at underpinning these standards.

The following reflects the type of information that is required to assist in preparation for a considered response.

1. *What is the forecast level of participation /geographic spread of accredited operators?*
2. *What consideration has been made for development of a database for the program. Is this considered part of the proposal to be prepared by interested certification bodies?*

3. *What consideration has been made for website development? Is this considered part of the service to be provided by the certification agency?*
4. *Are details of accredited operators to be published (via website)?*
5. *What entity will manage the proposed Standards and assume responsibility for applying escalated sanctions?*
6. *What level of engagement is expected between the certification agency and the program owner?*
7. *Is it expected that a single service provider will be responsible or will certification be open to numerous providers and managed centrally?*
8. *Who will be responsible for issuing certificates/communicating with participants – certification body or program owner?*
9. *Who will be responsible for scheme communication activities/website maintenance?*
10. *What minimum skill sets/training requirements for auditors have been identified by stakeholders?*
11. *What are current expectations regarding audit scope – physical or records based?*
12. *What current expectations are there regarding frequency of audit?*
13. *Will the program owner be developing the audit tool or is this for the assigned certification body?*
14. *How is the certification body to be remunerated – directly from participants or to the program owner?*

The above information will assist with working some costings for the requested services.

A copy of the guideline version of the Standards/Scheme as referenced in the briefing note is also requested along with an indication of timeframes.”

In discussions with AUS-MEAT, it was agreed that AUS-MEAT could not provide an indicative cost until an actual draft of the proposed scheme was put forward but the information they requested provides a clear set of questions for the Steering Committee to consider when developing the actual content of a proposed national competency standard.

In a further meeting, AUS-MEAT recommended that an accreditation scheme requires the following.

1. Clearly defined rules, such as the Livestock Production Assurance scheme (LPA, run by the Integrity Systems Company) rules which have been legally reviewed
2. Clearly defined “hatch, match, dispatch” process, recognising that a scheme is only as robust as its ability to remove accreditation status from non-compliant participants.
3. Clearly stated industry standard to ensure industry oversight and overall support
4. A data base Designed to meet the scheme’s purpose and auditing needs
5. Clearly explained role for the scheme owner and scheme manager
6. A planned “soft rollout” via a pilot program to assess;
 - a) Administration support requirements
 - b) Website usability

- c) Documentation process
 - d) Sample audit / verification
 - e) Audit cost
 - f) Recognised Prior Learning assessment process
7. Clearly describe how the on-going component of the scheme will operate.
 8. Clearly defined audit process (record based and/or skills verification)
 9. If audit skills-based,
 - a. the scheme must have the authority to have the audit performed
 - b. skills audit frequency must be defined
 - c. selection process for skills audit must be defined e.g. random
 10. Clearly stated rules for receiving and resolving complaints
 11. Annual fees and a 'levy' per head fee to fund operating and audit costs, where the levy fee is designed so that all are paying equally i.e. a contractor doing large numbers should not be subsidising those who do fewer.

AUS-MEAT have already prepared a spreadsheet to show register and application options for the Lay Spayer Program (MLA project L.PDN.1601), aspects of which could be applied to a national cattle pregnancy diagnosis scheme.

AUS-QUAL advised that they would not be interested in quoting for an industry QA scheme, which had a small participant base.

Standards Australia (www.standards.org.au) provides advice and assistance in the development of national Standards. It does not enforce, regulate or certify the Standards.

There is no current standard for pregnancy diagnosis/testing of cattle. Standards Australia advise that a proposed formal National Standard for pregnancy diagnosis/testing of cattle would require their involvement: (see www.standards.org.au/standards-development/developing-standards/proposal for further information).

Standards Australia report that:

- a) a formal Standard would have a legal status, which may not be the intent of the proposing organization or industry
- b) a peak industry council may apply to Standards Australia for a Standard to be developed
- c) Standards Australia has a stepped process to review the proposal incorporating:
 - (i) application assessed by Stakeholder Engagement Team
 - (ii) application reviewed by Technical Committee
 - (iii) approval
- d) a Standard for pregnancy diagnosis/testing of cattle would sit in the Agriculture category.

Should the CCA propose a formal National Standard for Pregnancy Diagnosis of Cattle then a briefing from Standards Australia is recommended. Conversely, if the intent is to have an industry scheme, supported by an accreditation pathway and an audit system, then Standards Australia need not be involved.

Information on the accreditation process is available from Standards Australia (at <https://www.standards.org.au/standards-development/accreditation>). Accreditation can be achieved in three to four months and is undertaken by a Standards Development Organisation (SDO).

There are currently five accredited SDOs Standards Australia advised that it may be more suitable for an applicant to become an accredited SDO, which requires accreditation with the Standards Australia Board via the Standards Development and Accreditation Committee (ASDC).

5.9 Opportunities: Possible Synergies with the Cattle Spayer Accreditation Program.

The MLA / CCA project for an accredited national cattle Spayer Program (targeted at the northern industry) has many similarities to this pregnancy diagnosis program (MLA project L.PDN.1601). Peter Smith, AgForce Queensland, who provided the following advice is running this Program.

- The spayer project is in the final phase with the aim of having the majority of spayers accredited by end of 2019.
- The project now has a pilot Recognition of Prior Learning (RPL) for select spayers, a database and a scale up process for training/assessing and accrediting all spayers.
- AUS-MEAT as an independent third party is the proposed scheme manager with the proposed scheme owner a stakeholder committee.
- The scheme will not audit spayers - there will be annual renewal of accreditation with reporting requirements.
- There are conditions of accreditation that include compliance with animal welfare and a complaints process.
- The project is a national program and the regions for spaying mainly include northern Australia across WA, NT and Qld.
- The pregnancy testing accreditation can borrow much from the lay spayer system, for example the database could be shared to reduce the costs, if the processes (and therefore the data fields) for accreditation, renewal timeframes etc were fairly similar.
- As the database is yet to be built, it is timely to consider any options for sharing however, there is no third quality assurance component for the spaying program.
- The ACV is not officially providing any support however the old ACV manual has been used to develop a new learner guide which meets requirements for the unit of competency (AHCLSK335; see <https://training.gov.au/Training/Details/AHCLSK335>).
- Prominent vets in the field have acted as technical advisors to the project and have approved all training and assessment materials including a pilot training program.
- The accredited cattle spayer technician under the Program will not be linked to an ACV accredited veterinarian or a registered veterinarian and practice clinic, but vets will play a role in the RPL process by providing third party reports where possible as well as being Industry Experts within the RPL assessment process.
- Veterinarians may include an accredited spayer in their business once the Scheme is up and running.

The opportunities to use the spayer program as a model to answer the questions raised by AUS-MEAT (and presented in the previous section of this Report above) as well as the synergies the program offers

to a pregnancy diagnosis/testing national competency and accreditation scheme, may allow AUS-MEAT to prepare indicative costings for establishing and managing such a scheme.

5.10 Opportunities: Possible Role for the MLA Integrity Systems Company

Ms Jo Quigley, Senior Manager MLA Integrity Systems Company (ISC) advised that the ISC would be interested in a possible role in any proposed national competency standard for pregnancy diagnosis in cattle. ISC was aware of the Spayer Program and the similarities of this program.

Rather than manage the actual program, ISC may act as the scheme 'owner' with a third party (such as AUS-MEAT) managing the accreditation and audit of participants.

ISC also advised that a third-party audit system may be desirable, but the cost prohibitive. An option was suggested to manage the accreditation process and reporting from members using a paper and electronic based data collection system initially, with on-site competency assessments added in the future.

6 Discussion

Following on from the gap analysis, the results can be summed up under four main areas. These are: justifying the need for a national competency standard and any accreditation system based upon it; looking at what legislative change is needed in order to allow for a standard and accreditation of technicians who are not veterinarians; what things should be included in any national standard/accreditation scheme; and finally, suggestions for a process towards achieving such a standard.

6.1 Justification for a National Competency Standard and Accreditation System for Pregnancy Diagnosis/Testing of Cattle in Australia

There was a common viewpoint from people contacted in the course of the project other than from the veterinary sector, that contemporary beef production no longer requires pregnancy testing to be an act of veterinary science. This is particularly the view for determining whether or not an animal is pregnant, especially with the ultrasound and blood-based methods now available.

There were two main items relating to pregnancy diagnosis/testing raised by the various cattle industry groups consulted:

- a) the initiative of AuctionPlus regarding who may certify under their Terms of Trade
- b) the value to the industry of a national accreditation scheme.

In contrast, there was significant concern within veterinary circles of the risks posed to their business. This is discussed in further detail below in Section 6.4. In addition, veterinarians and clients considered that manual rectal palpation carries animal welfare risks and that this will also be of concern for an animal welfare conscious society.

Regional deficiencies in pregnancy diagnosis/testing services cannot be accurately determined because of the unknown number of non-veterinarians and veterinarians outside the PREgCHECK™ program who provide pregnancy testing services. As presented in Results, there are at least 421 accredited PREgCHECK™ veterinarians from 304 practices.

Estimation of numbers and locations is further complicated due to the fact that both veterinarians and technicians are often very mobile, servicing clients interstate or at a considerable distance.

The supply of technicians throughout Australia, other than in the NT where the numbers are known due to the existence of the NT Technician Program, is particularly hard to assess. However, when all known estimates are combined, their number appears to exceed the total number of veterinarians identified as providing pregnancy diagnosis services.

The feedlot sector reported no problems securing the services of either veterinarians or technicians for pregnancy diagnosis/testing at pre delivery or the feedlot induction stage. Similarly, no regional deficiency in pregnancy diagnosis/testing service providers was reported.

In the northern cattle industry, the live export trade has a demand for pregnancy diagnosis/testing due to market requirements and herd management. Live exporters are placing the onus of pregnancy diagnosis/testing onto their suppliers, increasing the demand for competent service providers. The current NT Technician Program appears to assist in meeting this demand. It is noted that this Program is currently under review.

In this northern industry, both veterinarians and non-veterinarians travel long distances to provide the service (approximately a 500 km radius). Provision of pregnancy diagnosis/testing here is in two streams: diagnosis for foetal age most commonly provided by ACV veterinarians, and testing for pregnancy provided by both vets and technicians

The Results have shown that 446 people attained the UoC AHCLSK408 Pregnancy Test Animals between 2015 and 2017. If we were to assume that the 371 people who were not veterinarians that purchased B-mode ultrasound machines from one supplier are not the same people who attained the UoC, then this equates to at least 824 technicians acquiring an entry level of training in cattle testing over the period.

This is a significant number of people who are potential candidates for a national pregnancy testing program. That the current UoC is successful is shown by the 92.2% success rate of students (as presented in Results) indicating that students enrolling in this type of course have a high motivation to pass.

An attempt was made in this study to assess the level of inaccuracy of pregnancy diagnosis/testing in particular where services were provided by a technician. It should be noted also that despite using the word accuracy in the ToR and throughout the report, this term is misleading. The word 'accuracy' is defined in the Oxford dictionary as "*...in exact conformity with a standard or with a truth*". However, when referring to a qualitative rather than quantitative test such as the diagnosis of pregnancy in

animals using rectal palpation or by ultrasound, there are inherent margins of error and the term is misapplied. This is particularly the case for confirmation of not pregnant. An example of this was raised by a processor who noted that very few cows or heifers consigned for processing come with a “Not Pregnant” PREgCHECK™/NCPD Scheme tail tag. Instead, the most common tail tag is “Not Detectably Pregnant” (NDP), presumably because accuracy at the very early stages of pregnancy is lower making a definitive decision problematic.

Further, clients may subjectively assess the “accuracy” of commercial pregnancy testing by veterinarians or lay technicians, fitting a result into their preconceptions, in the absence of definitive proof. It is unfortunate therefore that the author has been unable to identify any published reports which document the success/failure rate of commercial pregnancy diagnosis/testing in the Australian cattle industry.

This creates difficulties when attempting to assess client satisfaction with existing pregnancy diagnosis/testing services. The dilemma of ‘accuracy’ may be better addressed by having a standard which states acceptable levels of error against which those providing pregnancy diagnosis/testing services may be assessed, both by clients and as part of the accreditation process.

The benefits of having a national standard for pregnancy diagnosis/testing of cattle and a single accreditation scheme are:

1. no confusion for clients that may arise from having two schemes
2. economies of scale in administering the scheme
3. a common accreditation process
4. independence from any professional group
5. if designed for third-party audit, it provides strong credibility resulting in increased trust by users and greater application
6. allows for user-pays funding in conjunction with industry funding contributions
7. allows for the opportunity to apply for national training grants and funds
8. recognises a common management and marketing skill across Australia
9. allows client choice of provider, veterinarian or technician
10. improves access for clients by having all accredited providers in one scheme.

6.2 Legislative Change

In gathering information for the project, the author has heard opinions that reflect a disconnect between clients, the policies of the AVA/ACV and the current legislation.

It was suggested that achieving an agreed national competency standard “*lends weight to arguments for making legislative amendments*” (personal communication, Iain McLaren). A further advantage would be the potential it provides for a single national Decision Regulation Impact Statement (DRIS) to be developed. A DRIS considers the problem and options to address them (including alternatives to regulation), the costs and a process for stakeholder consultation. All jurisdictions are able to reference and draw on the DRIS when putting in place their own state-based legislation. Examples where a DRIS has been used are for livestock traceability and the various animal welfare standards.

To attain the support of all state and territory regulatory agencies for a national competency standard and associated accreditation system, will however require lengthy and extensive consultation with the AHC and all jurisdictions.

The timeframe for legislative change is not predictable as each jurisdiction has a legislative review process and there are no commonly applicable dates.

To initiate the consultation process, the project Steering Committee, supported by the Peak Industry Councils, should host a meeting for AHC members and their Senior Policy Officers to brief the members and their staff on the project to date and the proposed direction. The Queensland Government Regulatory Impact Statement and its outcomes may also be relevant to the discussion (Queensland Government 2018).

The Western Australian Veterinary Surgeons Board allows for the accreditation of non-veterinarian technicians (subject to skills approval) who work within a registered veterinary practice. As of August 2018, the WA Board advised that three persons are authorised to perform pregnancy testing of cattle (one by both manual palpation and rectal ultrasound, one by manual palpation and one by rectal ultrasound).

6.3 What Should be Included in a National Competency Standard and Associated Accreditation Scheme

All the industry bodies contacted expected that, if a standard were to be developed, it would be based on National Training Competencies and Assessment, graduated attainment and an audit-based accreditation and registration process.

The emphasis from all the bodies consulted was that the Standard needs to encompass all the components of pregnancy testing and comply with existing Standards and best practice guidelines. As manual palpation may be considered an invasive procedure inclusion of current animal welfare guidelines is also required.

Other considerations for inclusion are: biosecurity, husbandry and operator safety. As such it is recommended that the development of a Standard must therefore include Statements and UoC covering animal welfare, biosecurity, husbandry and operator safety.

The Queensland Agricultural Colleges already includes these competencies in their training programs. In addition, the Beef Breeding Centre at Armidale develops work place risk assessment statements for all the cattle yards it utilises on co-operating properties, especially where the research is based on reproductive studies. Both could prove useful for the development of a pregnancy diagnosis/testing competency standard.

All methods of pregnancy diagnosis/testing should be incorporated into the Standard.

As reported in Results, there are certain stages of pregnancy where one method of pregnancy diagnosis/testing may be more reliable than another. This “window of usefulness” could be included, by

method, in the Standards to be developed. Similarly, accuracy levels (consistency and reliability) of blood tests are known to be higher at defined times after joining and this needs to be included.

Blood based pregnancy diagnosis is now an easily available tool for many beef producers. As noted in Section 6.1, exporters of live cattle are increasingly placing responsibility on their suppliers to provide cattle of known pregnancy status. Presumably, because it is more objective, they are using the blood-based method to provide additional supporting information to meet their contract requirements. Other clients will weigh up the cost/benefit of the method used for pregnancy diagnosis/testing to decide whether the level of claimed accuracy from blood samples is justified. Blood based testing may thus have a wider appeal in: a) intensive production systems and b) herds where mustering is not an actual cash cost. Blood collection from cattle must therefore be included in any competency standard.

A competency standard must also include a workplace health and safety component and a Safe Method Work Statement for the performance of the practice.

Advice should be sought for example, from state health authorities on the need for all pregnancy diagnosis/testing providers to be screened for, vaccinated against and regularly tested for zoonotic diseases such as Q Fever and leptospirosis.

A scheme based on the AgForce Queensland proposal has much to recommend it and may have the following features:

1. incorporation of the existing AVA/ ACV PREGCHECK program /NCPD scheme, including the use of tail tags or any future identification system (such as electronic identification)
2. incorporate technician accreditation
3. have a common accreditation pathway for both registered providers, veterinarians and technicians
4. have an accreditation stipulating the pregnancy diagnosis/testing method to be used by the providers
5. have a third-party audit process
6. be independently managed and audited by an accredited Quality Assurance program administrator
7. allow accreditation for methods of pregnancy diagnosis/testing other than rectal palpation and rectal ultrasound methods.

6.4 Possible Process Towards a National Competency Standard and Accreditation Scheme

As shown in the gap analysis, both the AgForce Queensland proposal and the NT technician program have valuable content that should be built upon to develop a national training and accreditation program.

AuctionsPlus CEO Angus Street is currently working on updating their Terms and Conditions to stipulate who is eligible to determine the pregnancy status in cattle put forward for sale on the AuctionsPlus system.

AuctionsPlus' important initiatives to stipulate in their 'Terms of Trade' who may be used to provide a statement of pregnancy for any cattle listed for sale on their system were described at the end of section 4.4.3. There would be benefit to having AuctionsPlus included in the development phase of a national competency standard.

The advice provided by AUS-MEAT provides the preliminary information required by AUS-MEAT to prepare indicative costings for establishing accreditation and system management of a Scheme.

There are possible synergies with the accredited Spayer Program: it is possible that technicians would hold dual accreditation in both the Spayer Program and a pregnancy diagnosis/testing program.

Immune status and vaccination history of accredited people could be held on a scheme data base.

Units for which there is no UoC, such as for B-mode ultrasound pregnancy diagnosis/testing, would have to have a UoC developed. As noted in Section 5.8, this process is estimated by Skills Impact to take 18 months to two years and follows a pathway leading to a "Case for Change" which is then assessed by the Australian Industry Skills Council. Successful submissions are then submitted for funding annually (due 30 April) and announced on the 1 June annually.

There should be discussion to standardise the technical content of any included unit(s), as well as the learning material to be used, assessment methods and attainment standards for competency. As noted previously, the Queensland Agricultural Colleges had already developed such a method, which could be used.

While an RTO is usually responsible for the course content and the assessment for a UoC it is proposed that a Pregnancy Diagnosis/Testing Skill Set (comprising all the UoC needed to acquire the skill of pregnancy diagnosis/testing) be identified by a Technical Group. This Group could include the RTOs identified in the report as existing providers of units for pregnancy diagnosis/testing. The Technical group would then develop common training material and assessment methods, standards and guidelines for national use.

From this, a Pregnancy Diagnosis/Testing Skills Training Program can be developed that forms part of the accreditation process.

The benefits of the program would be to:

- a) assist producers increase reproductive rates in breeding herds.
- b) increase liveweight sold per annum by selling cows not fitting the breeding plan.
- c) increase compliance against live export specifications for pregnancy status.

A possible process to assess levels of error by service providers may already exist. The live export sector has now adopted traceback systems for cattle purchases. These allow pregnancy diagnosis/testing results to be recorded from each supplier and hence by pregnancy tester. If a common format and software program was made available to exporters it would be possible to provide sector wide data on pregnancy diagnosis/testing error rates across the supply chains. This data would then be available to a potential national scheme for pregnancy diagnosis/testing or conversely if the database was provided

through the scheme, it would be available from the scheme to clients as well as forming part of the QA and maintenance of accreditation by providers.

The technician sector is unrepresented in the current discussion and their participation in the development of a national standard is recommended.

The PREgCHECK/NCPD program was shown in the gap analysis to have a strong entry level but weak monitoring for compliance and skill retention: competence is self-assessed.

The NCPD Scheme is now approaching 30 and the PREgCHECK™ program over 20 years of operation. A rethink/ rejuvenation of both may be timely.

From the information provided during consultation for the project, along with the strong and forceful opinions expressed by the AVA/ACV on the role of veterinarians to perform pregnancy diagnosis in cattle, it appears that the potential outcome of this project could be perceived as a threat to the financial viability of rural mixed veterinary practices. This threat perception may also extend to the cattle industry where the result might be increased exposure to less competent non-veterinary trained technicians.

The ACV was asked to provide a position statement on how technicians could operate under the supervision of an accredited ACV PREgCHECK™ veterinarian, but no response was received.

A national standard for pregnancy diagnosis/testing of cattle could be beneficial to the AVA/ACV provided service because it would allow:

- a) the opportunity to upgrade QA for the current PREgCHECK™ program to a third-party audit program
- b) the management of the PREgCHECK™ program to be performed by an independent Quality Assurance accredited body
- c) the PREgCHECK™ program to be managed by an independent operator who would manage all accreditation including disputes, and administer the proposed national standard
- d) allow the national standard to have one program and two accreditation pathways -veterinarian and technician.

There is evidence that the AVA / ACV may have difficulty administering the ACV PREgCHECK program due to resourcing issues. Option d) appears to be the most efficient to administer and the least confusing for clients and others in the cattle industry. It is recognised that this concept would be a challenge to the AVA/ ACV as it requires relinquishing control of the existing national NCPD scheme. The Tail Tag copyright registration and PREgCHECK™ program could reasonably be retained by the AVA/ACV. This option allows the ACV to have a veterinary pathway within a new proposed national program.

It is therefore imperative that agreement with the veterinary profession must be achieved if a national standard and single accreditation scheme is to be a reality.

Consultation with the veterinary profession may be facilitated through the AHC if a DRIS is considered as an option (see 6.2 Legislative Change).

Establishment of a Technician Group would provide them with an autonomous voice within the cattle industry and to the Peak Councils.

Within the Technician classification of a joint national scheme, there should be accreditation levels, for various end uses.

Such accreditation levels might be:

Level 1: Initial audit of skill and entry to accreditation to progress to Level 2 and 3, may apply for on-property only accreditation where 500 head of cattle or less are pregnancy tested annually

Level 2: pregnancy testing of 1,000 head or less annually, excluding 'home cattle' (owned or managed), skills audit for provisional accreditation to supply a pregnancy status statement to a client for herd management purposes only

Level 3: pregnancy testing of more than 1,000 head annually, excluding 'home cattle', skills audit for accreditation to supply pregnancy status statement for all clients.

Insurance considerations for technicians should cover third party losses due to provision of a certificate stating a cow is pregnant when it is not, the actions of any staff employed by the technician, damage to vehicles and equipment.

Predicted insurance requirements for technicians (quote provided by Pacific Indemnity Underwriting Solutions Pty Ltd):

- Professional Indemnity Limit \$2,000,000, with an excess of \$2,000
- Public Liability Limit \$5,000,000, with an excess of \$500
- Annual Premium Indication: \$1,980.00 including all charges
- If staff are employed, then the technician will need to arrange cover for workers.
- Vehicle and equipment insurance are required.

"This insurer has confirmed that their Professional Indemnity policy would respond to the scenario: that the individual person/s provides a Report/ Certificate to a Third Party and this Certificate states that the cow/ cattle are pregnant. In the case that the cow was not pregnant, and the third party suffers a financial loss, as they did not buy what they thought they were buying (a pregnant cow), this would instigate a claim." (This information was obtained from the Markey Group, 47 Darby Street, Newcastle; Personal communication with Ms N Gibbs, Markey Insurance and Risk. ngibbs@markeygroup.com.au).

As stated previously, there is much to recommend in the AgForce proposal and it must be considered as a model for discussion and perhaps a starting point for a proposed national scheme for cattle pregnancy diagnosis/testing to include technicians. The model uses the accreditation process and standards from the ACV PREGCHECK program, which may create copyright issues. The progress of the AgForce Pregnancy Testing Accreditation Scheme in Queensland is dependent upon the review process undertaken by the Queensland Government and the QDAF.

The estimated costs, presented earlier in this report, for residential training to attain the full pregnancy testing Skill Set may require financial assistance from Commonwealth Training Grants, for example by a

joint Peak Council /MLA submission. This opportunity should be discussed with Commonwealth training bodies.

On-line training opportunities for UoC within the defined pregnancy testing Skill Set should be identified by the Technical Group. A specific UoC could be selected as a pilot project to evaluate the development of the technical material, the on-line methodology, assessment process and reporting.

It is suggested that the UoC for venous blood collection, using vacuum blood collection process, would be a suitable UoC for such a pilot project because it:

- a) is limited in technical scope
- b) requires the core UoC to be included
- c) could be suitable for on-line assessment via video
- d) suits on-site assessment.

Decisions to develop educational/training material for the pregnancy testing Skill Set should be made early to cater for the significant lead time to progress the UoC through the Skills Impact process (18 to 24 months from lodgement to approval).

As listed in Results (section 5.8 of this report), AUS-MEAT have provided the information they require to prepare indicative costs for an accreditation scheme. It should be noted that AUS-MEAT will not quote for a scheme that has a low participant base.

It is recommended that the Steering Committee determine a proposal for documentation of an accreditation scheme and for AUS-MEAT to prepare an indicative cost. There are advantages to having formal links with the Spayer Program at Steering Committee level.

Concepts for management of the proposed Scheme, similar to that proposed by AUS-MEAT to the Spayer Program, should be sought early in for the development of any pregnancy diagnosis/testing Program.

7 Conclusions

This project explored the need for and possible development of a national competency standard for pregnancy diagnosis/testing of cattle by seeking input from a wide range of organisations and individuals, as set by its Terms of Reference (ToR) (see Section 2.0). This report outlines in Section 3.0 how this was achieved, together with the other methods used to accumulate the information needed, such as the survey to users. Current legislation regulating the assessment of pregnancy in cattle was summarised and providers, industry and associated organisations were asked for their position regarding the proposed competency and associated accreditation scheme. The results are presented in this report in Section 4.0 under a number of headings. From this it can be seen that all of the Outcomes for the Project were met.

The project included conducting a gap analysis, presented in section 5.0, which outlines gaps identified in the existing veterinary and technical sectors and concerns raised by various participants of the cattle industry including the ACV and AgForce Queensland. Gaps and barriers were also identified in respect to

existing training options, such as the lack of a Unit of Competency for pregnancy testing of cattle using ultrasound.

The gap analysis went on to examine opportunities, for example with existing Quality Assurance providers particularly AUS-MEAT, and possible synergies with the Cattle Lay Spayer Accreditation Program, which is in its final phase of development (MLA project L.PDN.1601).

Summarising all the information garnered during the project into a cohesive final report was challenging. The many points to justify a national competency standard and accreditation scheme were discussed. In support of this the need for legislative change was also examined. Content to be included in such a standard and accreditation scheme and process to achieve both are also presented at length in the Discussion at Section 6.0.

From all of this, a comprehensive set of recommendations has emerged and are listed below (Section 8.0).

Veterinarians have been providing high standards of pregnancy diagnosis services to the Australian cattle industry almost since its inception. Not only has the cattle industry undergone significant change, it must now be even more competitive in a global market. It must also be more responsive to new industry standards as well as meet consumer expectations for animal welfare. It must more successfully adopt the results of new research and adapt to new technologies. The veterinary profession itself is also facing major change, particularly in rural areas. In order to continue to support the cattle industry in Australia, new ways of doing things are emerging. One of these is the increasing use of technicians, for example for the spaying of cattle.

This project concludes that the establishment of a national competency standard for pregnancy diagnosis/testing of cattle is justified and timely, also that this be based on a defined Skill Set. This will enable a single accreditation scheme to be developed that has two pathways, to allow both veterinarians and technicians to become accredited. The scheme should accommodate the existing one accrediting veterinarians (PREgCHECK) and the Tail-Tag/National Cattle Pregnancy Diagnosis (NCPD) Scheme. Suggested Scheme QA managers and administrative owners are AUS-MEAT and MLA's Integrity Systems Company respectively.

To achieve such a competency and accreditation scheme will require in-depth and continuing consultation with the veterinary profession, as well as the other industry groups. Establishment of a technician industry group would be also timely, for effective consultation with this sector.

8 Recommendations

2. the creation of a national competency standard for pregnancy diagnosis/testing services in cattle and an associated accreditation scheme to allow for the development of non-veterinary technicians is justified and timely
3. the benefits of having a national competency standard for pregnancy diagnosis/testing of cattle and a single accreditation scheme are:
 - a. no confusion for clients with having two schemes
 - b. economies of scale in administering the scheme

- c. a common accreditation process
 - d. independence from any professional group
 - e. if designed for third-party audit it provides strong credibility resulting in increased trust and application for end-users
 - f. allows for user-pays funding in conjunction with industry funding contributions
 - g. allows for the opportunity to apply for national training grants and funds
 - h. recognises a common management and marketing skill across Australia
 - i. allows client choice of provider, veterinarian or technician
 - j. improves access for clients by having all accredited providers in one scheme
 - k. it allows for a national DRIS to be developed which can then be used by state and territory jurisdictions when considering legislative changes
4. the proposed competency standard needs to encompass all the components of pregnancy diagnosis/testing including vacuum blood collection via the tail vein and compliance with existing Standards and best practice guidelines including a Safe Method Work Statement
 5. the following existing Units of Competency, with a common assessment process and standard for attainment will form the basis for the proposed Pregnancy Testing Skill Set for the competency standard pregnancy testing of cattle, with c)-e) being core units
 - a. Pregnancy test livestock [rectal manual palpation] (*AHCLSK408*)
 - b. Operate vacuum blood collection process (*AMPA2028*)
 - c. Comply with industry animal welfare requirements (*AHCLSK331*)
 - d. Contribute to Work, Health and Safety Process (*AHCWHS301*)
 - e. Apply environmentally sustainable work practices (*AHCWRK 309*)

In addition, a further UoC for pregnancy testing of cattle by B mode ultrasound must be developed for inclusion, as a priority, as well as on-line formats for as many UoC in the Skill Set as practicable.

6. a standardised SOP for the methods of pregnancy diagnosis/testing of cattle to be developed as a useful means of achieving a national approach to methods and animal welfare in PD training
7. the following features based on the AgForce Queensland proposal form the basis of the proposed national accreditation scheme:
 - a. the existing AVA/ ACV PREgCHECK program and NLPDS, including the use of tail tags or any future identification system (such as electronic identification)
 - b. technician accreditation
 - c. a common accreditation pathway for both registered providers, veterinarians and technicians
 - d. an accreditation stipulating the pregnancy diagnosis/testing method to be used by the providers
 - e. a third-party audit process by an accredited Quality Assurance program administrator
 - f. independent management
 - g. accreditation for methods of pregnancy diagnosis/testing other than rectal palpation and rectal ultrasound together with the existing NT pregnancy testing technician accreditation system.
8. the 'Training Led by Industry' model is considered as an option for MLA / CCA to fund the development of cattle pregnancy diagnosis/testing skills education, including on-line learning

9. AUS-MEAT is the preferred supplier/manager of a proposed national accreditation program for cattle pregnancy diagnosis/testing
10. the AUS-MEAT recommendations presented in section 5.8 of this report to be considered for inclusion in the proposed accreditation scheme
11. should a formal national Competency Standard for Pregnancy Diagnosis/Testing of Cattle be developed, then a briefing from Standards Australia is required
12. in order to reduce costs, an option is considered for managing and auditing the accreditation process and reporting requirements from members using a paper and electronic based data collection system initially, with on-site competency assessments added in the future
13. rather than accuracy levels, the proposed standard states acceptable levels of error against which those providing pregnancy diagnosis/testing services are assessed, both by clients and as part of the accreditation process
14. the engagement of technicians for pregnancy testing services by a registered veterinary practice or other business are options to be acknowledged and explored
15. possible synergies with the accredited Spayer Program to be explored
16. the technician sector, which is currently unrepresented in the discussion for a proposed standard and accreditation scheme, should participate via a consultation group in the development process
17. it is imperative that the veterinary profession is included in the development of a proposed national competency standard as well as during development of an accreditation scheme
18. within the technician classification of a proposed national accreditation scheme, it is proposed that there should be levels of accreditation according to the needs of the end uses
19. It is recommended that the Steering Committee:
 - a. consider AUS-MEAT to be the preferred manager and auditor of a proposed pregnancy diagnosis/testing Scheme and advise AUS-MEAT of accordingly
 - b. determine a proposal to document the proposed accreditation scheme
 - c. ask AUS-MEAT to prepare an indicative cost for an accreditation scheme based on that documentation
 - d. create formal links with the Spayer Program
 - e. request the Peak Industry Councils engage with the AVA / ACV to seek agreement on how the proposed national standard for pregnancy diagnosis/testing may move forward
 - f. consider the next stage of the project to be a proposal to be placed before the national Animal Health Committee, supported by the Queensland Government RIS outcomes.

9 Key messages

The project has identified education and training opportunities to improve the knowledge and skills of the pregnancy diagnosis/testing service sector. The impact of the improved knowledge and skills attainment will assist in the improvement of herd reproductive performance, and compliance for pregnancy status when marketing female cattle in the domestic and live export markets.

A national competency standard for pregnancy diagnosis/testing and its associated, independently audited accreditation scheme, will promote the Australian cattle industry to domestic and export

markets as a welfare conscious industry, supported by measurable practices of reproductive management.

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11 Appendices

11.1 Appendix 1 The PREgCHECK® Program



ACV PREgCHECK®
Accreditation Scheme
National Cattle Pregnancy Diagnosis

ACV Producer Website: www.mycattlevet.com.au

ACV website: www.ava.com.au/cattle



ACCREDITED CATTLE VETS DELIVER PROFITABILITY



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ACV's PREGCHECK® Accreditation

The PREGCHECK® (NCPD) scheme seeks to promote excellence in cattle pregnancy testing skills, by way of peer-based assessment and the provision of educational material.

PREGCHECK® (NCPD) is a nationally recognised system of coloured tail tags for the identification and certification of cattle pregnancy status, particularly for sale purposes, explained in detail in the ACV publication *Pregnancy Diagnosis in Cattle* (revised in 2014).

PREGCHECK®, **Professional Reproductive Examination** delivers producers confidence in using an accredited cattle vet to deliver accurate pregnancy diagnosis.

A PREGCHECK® can only be performed by an accredited vet, meaning a member of the Australian Cattle Veterinarians who has demonstrated knowledge and experience in the pregnancy diagnosis of cattle and undergone an examination by their peers.

Taking a holistic approach, a PREGCHECK® accredited vet provides enhanced accountability as they are able to pregnancy test, assess, diagnose and monitor the reproductive outcomes of a beef or dairy herd to deliver increased farm profitability.

Currently the most popular and effective methods of pregnancy diagnosis are rectal palpation and [ultrasonography](#) and these are the only methods approved for pregnancy diagnosis in the PREGCHECK®, Professional Reproductive Examination.

Development of the scheme

The scheme was originally launched with a view to providing a system of certification for cattle pregnancy diagnosis by ACV members. Individual members could apply to become registered and they could then purchase plastic wrap-around tags.

Australian Cattle Veterinarians have registered the PREGCHECK® (NCPD) scheme and the tail tags with the Australian Competition and Consumer Commission (ACCC). Ratchet tags bear the registered certification mark which is an Australian Cattle Veterinarians logo with stripes either side.

The three most common tags are red and yellow indicating over four months pregnant, blue and orange indicating under four months and green and white indicating not detectably pregnant. Each tag bears a serial number and a veterinarian identification code.

Upon applying tail tags under this system, a certificate should be issued by the testing veterinarian providing details of the owner of the cattle, the name of the veterinarian, the registration number, the date of testing, the total numbers tested, and a list of the individual tail tag serial numbers applied and the pregnancy diagnosis categories of the cattle tested.

PREGCHECK® (NCPD) is an accountable and quality scheme with the power to deal with unsatisfactory levels of performance.

Rules of the PREGCHECK® (NCPD) Scheme

The rules of the PREGCHECK® (NCPD) Scheme as stated below are published in the 3rd edition of the ACV publication *Pregnancy Diagnosis in Cattle* (Chapter 22) and is provided to members for download upon joining, and once again upon contacting the ACV office to begin their PREGCHECK® accreditation application. The official rules of the accreditation scheme cover the following areas:

- Certification mark and tail tag system
- Eligibility requirements to become an accredited tester (manual and ultrasound)
- Eligibility requirements to become an accredited examiner



- Examination process and minimum criteria for examination
- Assessment of examination results
- Process for submission of examination results
- Rules regarding use of certification mark and tails tags
- Rules to maintaining accreditation status

The following rules are taken from ACV publication *Pregnancy Diagnosis in Cattle – 3rd Edition – Chapter 22:*

National Cattle Pregnancy Diagnosis Scheme Certification Mark Rules

- the following rules are registered with the Australian Competition and Consumer Commission and are current as at 1st January 2014.

1 Definitions

1.1 in these rules unless the contrary intention appears:

- × **Accredited Tester** means, as the context requires, an Accredited tester (Manual), and Accredited tester (Ultrasound) or both.
- × **Accredited Tester (Manual)** means a member of the ACV who has:
 - (a) has demonstrated qualifications of knowledge and experience in the pregnancy diagnosis of cattle using manual palpation in accordance with the standards established by the ACV; and
 - (b) has successfully completed a practical examination as determined by an Approved Examiner.
- × **Accredited Tester (Ultrasound)** means a member of the ACV who:
 - (a) has demonstrated qualifications of knowledge and experience in the pregnancy diagnosis of cattle using B-mode ultrasound equipment in accordance with the standards established by the ACV; and
 - (b) has successfully completed a practical examination as determined by an Approved Examiner.
- × **ACDC** has the meaning given to it in rule 15.11.
- × **Approved Examiner** means a member of the ACV who has:
 - (a) has demonstrated qualifications of knowledge and experience in the field of cattle pregnancy diagnosis in accordance with the standards established by the ACV; or
 - (b) has successfully completed a practical examination as determined by an existing Approved Examiner.
- × **ACV** has the meaning given to it in rule 2.3.
- × **ACV Executive** means the annually elected executive committee consisting of 9 ACV members including a president, vice president, president-elect, secretary/treasurer, an AVA board member and a policy councilor.
- × **ACV Website** means the website located at www.acv.com.au.
- × **AVA** has the meaning given to it in rule 2.1.
- × **Certification Mark** means the mark set out in Schedule 1.
- × **Mediation** has the meaning given to it in rule 15.8.
- × **Mediation Request** has the meaning given to it in rule 15.8.
- × **NCPD Scheme Complaints Committee** means a committee comprised of three members established by the ACV Executive from time to time to consider and determine complaints about the NCPD Scheme. the committee must include the president of the ACV or a nominee of the president. the other two members are to be appointed by the ACV Executive. decisions of the committee are to be made by majority vote.



- » **NCPD Scheme Convener** means the person appointed by the ACV Executive as the convener of the NCPD Scheme.
- » **NDP** means not detectably pregnant. It is a pregnancy status under the NCPD Scheme which is assigned to cows that are not detectably pregnant or that are less than 6 weeks pregnant (in the case of diagnosis using manual palpation) or that are less than 5 weeks pregnant (in the case of diagnosis using B-mode ultrasound equipment).
- » **Regulator** means the Australian Competition and Consumer Commission (ACCC) and any successor thereto having the exercise of power to approve rules governing the use of certification trademarks registered under the [Trade-Marks Act 1995 \(Cth\)](#).

2 Australian Veterinary Association

- 2.1 the Australian Veterinary Association Ltd ACN 008 522 852 (**AVA**) is an association of individuals who are interested in the field of veterinary science.
- 2.2 the members of AVA consist of individuals who are interested in the practice of veterinary science. Full members must hold a qualification in veterinary science that is registrable in Australia. Membership is also open to students enrolled in a faculty of veterinary science at a university in Australia. Student members have all the privileges and liabilities of membership except those of voting and holding office.
- 2.3 AVA has several special interest groups including the Australian Cattle Veterinarians (ACV).

3 Australian Cattle Veterinarians

- 3.1 the ACV is a special interest group of the AVA.
- 3.2 Membership of the ACV is open to all financial members of the AVA who have an interest in any type of cattle work.
- 3.3 Members of the ACV comprise veterinarians from private practice, veterinarians employed by government departments of agriculture and the quarantine service, veterinarians employed by universities, agricultural and veterinary consultants, and veterinarians employed by chemical companies. Veterinary students are also encouraged to participate.
- 3.4 the ACV is managed by the ACV Executive.
- 3.5 Many members of the ACV volunteer their time to assist the ACV in the development of professional standards.

4 National Cattle Pregnancy Diagnosis Scheme (NCPD Scheme)

- 4.1 the NCPD Scheme is a nationally recognised tail tagging system established by the ACV for the identification and certification of cattle pregnancy status, particularly for sale purposes.
- 4.2 the NCPD Scheme promotes excellence in cattle pregnancy diagnosis skills by way of [peer-based](#) assessment and provision of educational material.
- 4.3 Accredited testers are [authorised](#) to use the Certification Mark on cattle tail tags and paper certificates to indicate to consumers that the relevant cow has had its pregnancy status diagnosed by a veterinarian meeting the eligibility criteria set by the ACV.
- 4.4 Each cattle tail tag must bear the Certification Mark, the Accredited tester's unique accreditation number and a unique tag serial number. tail tags are available from the ACV and must not be altered.
- 4.5 the pregnancy diagnosis of the cattle is to be [categorised](#) by the Accredited tester as follows:



Category	Pregnancy Status	Colour of tag
O4 PREG	Over 4 months pregnant	Red / Yellow
U4 PREG	Under 4 months pregnant	Blue / orange
NDP	Not detectably pregnant	Green / White
CAT A	Not detectably pregnant or less than 3 months pregnant	White / navy
PREG	Pregnant – stage of gestation either not confirmed or not required	White / Black

- 4.6 in conjunction with the cattle tail tags, a paper certificate is to be issued by the Accredited tester to the owner of the cattle. the certificate must bear the Certification Mark and set out details of the owner of the cattle, the name of the Accredited tester, the Accredited tester's accreditation number, the date of diagnosis, the total number of cattle examined, and a list of the individual tail tag serial numbers applied and the pregnancy diagnosis categories of the cattle examined.
- 4.7 only individual ACV members may be registered as an Accredited tester. this means that each individual ACV member in a practice has their own accreditation number and cattle tail tags. if an Accredited tester leaves one practice and moves to another, they retain the same accreditation number and all stocks of that Accredited tester's tail tags should be retained by him or her. tail tags must not be used by any other veterinarian.
- 4.8 Accredited testers must comply with the following guidelines when determining the correct pregnancy status of a cow and which tail tag to use:

Category / Tag	Guideline
O4 PREG	tags may only be applied where the cow is confirmed pregnant and 4 or more months in calf.
U4 PREG	tags may only be applied where the cow is confirmed pregnant and less than 4 months in calf.
NDP	tags may only be applied to where the cow is not detectably pregnant and the reproductive tract is palpably normal. the uterus must be fully examined for evidence of pregnancy or abnormality. Cows categorised by manual palpation as not detectably pregnant may include some cows that are less than 6 weeks in calf.
CAT A	tags may only be applied where the cow is confirmed either not detectably pregnant, or less than 3 months in calf. Where an abnormal reproductive tract is identified, the presence of the abnormality must be recorded on the accompanying certificate.
PREG	tags may only be applied where the cow is confirmed pregnant, and stage of gestation is either not confirmed or not required.

5 The Certification Mark

- 5.1 the AVA owns the Certification Mark.
- 5.2 the AVA ~~authorises~~ the ACV, and any person ~~authorised~~ by the ACV, to use the Certification Mark in connection with the national Cattle Pregnancy Diagnosis Scheme on the terms and conditions set out in these rules.
- 5.3 the Certification Mark is to be used to indicate that pregnancy diagnosis services have been provided by a veterinarian who meets the standards set by the ACV.

6 Accredited Tester

- 6.1 the ACV may grant to any member of the ACV who is registered as an Accredited tester a non-exclusive license to use the Certification Mark in accordance with these rules.



- 6.2 to be eligible to undergo examination to become an Accredited tester (Manual) a candidate must:
- be a full member of the ACV;
 - be covered by professional indemnity insurance, with a reputable insurance company, and
 - be a registered veterinarian who has:
 - examined for pregnancy and logged a minimum of 2,000 head of cattle in total using manual palpation; or
 - previously been registered as an Approved Examiner or an Accredited tester (Manual).
- 6.3 to be eligible to undergo examination to become an Accredited tester (Ultrasound) a candidate must:
- satisfy the criteria set out in rules 6.2(a) and 6.2(b);
 - be an Accredited tester (Manual); and
 - be a veterinarian who has:
 - examined for pregnancy and logged a minimum of 2,000 head of cattle in total using B-mode ultrasound equipment; or
 - previously been registered as an Accredited tester (Ultrasound).
- 6.4 the ACV has log books which veterinarians and students can use to log the number of cattle examined for pregnancy and indicating diagnosis by manual palpation or via B-mode ultrasound equipment. Students can begin logging their 2,000 head during student years.
- 6.5 once eligible, a candidate may arrange to undergo a practical pregnancy diagnosis examination under the supervision of an Approved Examiner. Contact details for Approved Examiners are available from ACV on request.

7 Approved Examiner

- 7.1 the ACV may authorise one or more persons to act as an Approved Examiner.
- 7.2 Approved Examiners are independent contractors and do not act as an agent or partner of the AVA.
- 7.3 to be eligible to become an Approved Examiner, a veterinarian:
- must satisfy the criteria set out in rules 6.2(a) and 6.2(b);
 - must be graduated for at least 5 years;
 - must be an Accredited tester and
 - must have examined for pregnancy and logged a minimum of 20,000 head of cattle in total by manual palpation.
- 7.4 Members who wish to become an Approved Examiner may submit evidence of the number of pregnancy diagnoses they have carried out and logged to the NCPD Scheme Convener.

8 Pregnancy Diagnosis Examination

- 8.1 An Accredited tester candidate must contact an Approved Examiner (contact details are available from ACV on request) and arrange a mutually convenient time to undergo a practical pregnancy diagnosis examination.
- 8.2 the number and location of the herd of cattle to be examined is to be mutually agreed between the candidate and the Approved Examiner.
- 8.3 the minimum criteria for a suitable herd for pregnancy diagnosis examination purposes for an Accredited tester (Manual) are:
- minimum of 100 head to be examined;
 - expected pregnancy rate of 50% to 90% (a good representative sample of animals that are not pregnant must be examined);
 - minimum of 50% of pregnant cows must be under 4 months pregnant (to enable assessment of earlier stages of pregnancy when a calf cannot normally be palpated easily), with preferably a good proportion of these



- between 6 to 8 weeks' gestation (to enable assessment of the very early stages of pregnancy palpable); and
- (d) any other characteristics that may be set by the ACV from time to time.
- 8.4 the minimum criteria for a suitable herd for pregnancy diagnosis examination purposes for an Accredited tester (Ultrasound) are:
- (a) minimum of 100 head to be examined;
- (b) expected pregnancy rate of 50% to 90% (a good representative sample of animals that are not pregnant must be examined);
- (c) minimum of 50% of pregnant cows must be under 4 months pregnant (to enable assessment of earlier stages of pregnancy with gestational age estimation by ultrasound);
- (d) minimum of 25% of pregnant cows must be over 4 months pregnant (to enable assessment of ultrasound diagnosis when visualization of the uterus, fetus and associated structures is incomplete and potentially difficult); and
- (e) any other characteristics that may be set by the ACV from time to time.
- 8.5 despite rule 8.3 and 8.4, if the Approved Examiner has difficulty locating a suitable herd for pregnancy diagnosis examination purposes, at the mutual agreement of the Approved Examiner and the candidate, examination may take place on two or more occasions, and on two or more herds, so long as the total number of cows examined meet the relevant criteria.

9 Assessment of Examination Results

- 9.1 Approved Examiners must apply the following criteria to the assessment of pregnancy diagnosis examinations undertaken by Accredited tester (Manual) candidates:
- (a) A candidate will fail the examination if the candidate misdiagnoses one pregnant cow as empty or vice versa;
- (b) A candidate will fail the examination where, for more than 15% of the cows assessed, there is a variation of his or her estimate of gestational age from that estimated by the Approved Examiner of more than 2 weeks in pregnancies up to approximately 4 months and more than 1 month in pregnancies over 4 months;
- (c) Candidates are permitted to record an inconclusive diagnosis (recheck/possibly pregnant) in up to a maximum of 10% of cows assessed by the Approved Examiner to be less than 8 weeks pregnant; and
- (d) Candidates are permitted to record an inconclusive diagnosis (recheck/possibly pregnant) in cows assessed by the Approved Examiner to be more than 8 weeks pregnant or NDP, at the discretion of the Approved Examiner. In exercising his or her discretion, the Approved Examiner must consider the degree of difficulty of palpation in each specific case. As a guide:
- (i) the Approved Examiner should exercise discretion in favour of the candidate where the Approved Examiner agrees that an inconclusive diagnosis is a reasonable diagnosis under the circumstances; and
- (ii) an inconclusive diagnosis by the candidate should not occur in more than 1% of cows assessed by the Approved Examiner to be more than 8 weeks pregnant or NDP.
- 9.2 Approved Examiners must apply the following criteria to the assessment of pregnancy diagnosis examinations undertaken by Accredited tester (Ultrasound) candidates:
- (a) An Approved Examiner may concurrently determine the pregnancy status of cows being examined by the candidate using the same ultrasound equipment as the candidate where:
- (i) there are suitable facilities (i.e. the B-mode ultrasound equipment has an external screen);
- (ii) the Approved Examiner has previously passed accreditation as an Accredited tester (Ultrasound); and
- (iii) the Approved Examiner has demonstrated extensive experience with ultrasound pregnancy diagnosis of more than 20,000 head, to the satisfaction of the NCPD Scheme ~~COVERED~~.
- However, in cows where an inconclusive diagnosis, or NDP diagnosis has been recorded by the candidate, the Approved Examiner must confirm the diagnosis by manual palpation.



- (b) in all other circumstances not addressed in rule 9.2(a), the Approved Examiner must concurrently confirm the diagnosis by manual palpation of all cows examined;
 - (c) Examination of each cow by the candidate must be performed first in order to ~~minimise~~ ultrasound contact problems with the rectal wall, which is known to occur after manual palpation;
 - (d) A candidate will fail the examination if they misdiagnose one pregnant cow as empty or vice versa;
 - (e) A candidate will fail the examination where, for more than 15% of the cows assessed, there is a variation of the candidate's estimate of gestational age from that estimated by the Approved Examiner of more than 2 weeks in pregnancies up to approximately 4 months;
 - (f) Candidates are not required to estimate gestational age in animals assessed to be more than 4 months pregnant;
 - (g) Candidates should be able to detect 90% or more of the pregnancies using ultrasound diagnosis. Where ultrasound diagnosis is inconclusive candidates must confirm the diagnosis by manual palpation;
 - (h) Candidates are permitted to record an inconclusive diagnosis (recheck/possibly pregnant) in cows assessed by the Approved Examiner to be more than 8 weeks pregnant, at the discretion of the Approved Examiner.
in exercising his or her discretion, the Approved Examiner must consider the degree of difficulty of ultrasound examination and manual palpation (where the diagnosis is confirmed by the candidate by manual palpation) in each specific case. As a guide an inconclusive diagnosis by the candidate should not occur in more than 1% of cows assessed by the Approved Examiner to be more than 8 weeks pregnant
- 9.3 Subject to any conditions recorded by the Approved Examiner under rule 9.4, a candidate who fails a practical pregnancy diagnosis examination may arrange to undergo another practical pregnancy diagnosis examination at any time, with the same or a different Approved Examiner.
- 9.4 if a candidate fails a practical pregnancy diagnosis examination, the Approved Examiner may indicate on the examination results sheet any conditions regarding the candidate's ability to re-sit the examination, for example:
- (a) Eligible to re-sit immediately;
 - (b) re-sit after revision of fetal ageing; or
 - (c) re-sit after logging a further 200 head of cows that are diagnosed as less than 4 months pregnant.

10 Submitting Examination Results and Accreditation

- 10.1 Examiner report Forms for examination of Accredited testers and for Approved Examiners are available from the ACV and need to be completed by the Approved Examiner and returned to the ACV.
- 10.2 Upon receipt of an Examiner Report Form showing successful completion of the pregnancy diagnosis examination and verification of the results by the NCPD Scheme ~~Convenor~~, the ACV will register the candidate as an Accredited tester (Manual), Accredited tester (Ultrasound) or Approved Examiner (as the case may be).
- 10.3 the ACV maintains a register of all Accredited testers and Approved Examiners. the register may be inspected by a member on request.
- 10.4 Upon accreditation, the ACV will issue each candidate with a unique accreditation number and will issue a signed certificate to the Accredited tester, setting out the veterinarian's name, accreditation number and status as either Accredited tester (Manual), Accredited tester (Ultrasound) or Approved Examiner.

11 License to use the Certification Mark

- 11.1 By signing the Examiner Report Form each candidate agrees, subject to accreditation as an Accredited tester (Manual), Accredited tester (Ultrasound) or Approved Examiner:



- (a) to use the Certification Mark in accordance with these rules; and
 - (b) to diagnose the pregnancy status of cattle in accordance with the standards and guidelines published by the ACV from time to time.
- 11.2 there are no fees associated with use of the Certification Mark, however:
- (a) Accredited testers must purchase their own cattle tail tags; and
 - (b) Accredited testers and Approved Examiners must pay all fees required to retain ACV membership.

12 Tail Tags

- 12.1 Upon accreditation, each Accredited tester may order cattle tail tags which display their unique accreditation number and a serial number from the ACV using the order forms available from the ACV.
- 12.2 other paperwork, such as books of certificates and promotional brochures and posters, and an optional ACV Accredited Tester Stamp may be available from time to time from the ACV.

13 Maintaining Accreditation

- 13.1 to maintain accreditation as an Accredited tester or an Approved Examiner, the Accredited tester or Approved Examiner must:
 - (a) hold and maintain his or her ACV membership;
 - (b) continue to be covered by professional indemnity insurance, with a reputable insurance company; and
 - (c) submit an annual return, in the form approved by the ACV, confirming that he or she has examined for pregnancy:
 - (i) in the case of an Accredited tester (Manual), at least 1000 head during the previous 12 months using manual palpation;
 - (ii) in the case of an Accredited tester (Ultrasound), at least 1000 head during the previous 12 months using B-mode ultrasound equipment;
 - (iii) in the case of an Approved Examiner, at least 5000 head during the previous 12 months using manual palpation.
- 13.2 the ACV may permit an Accredited tester or an Approved Examiner to maintain accreditation where the Accredited tester or an Approved Examiner is able to confirm that the annual average number of cows he or she has examined for pregnancy over the previous three years exceeds the relevant number set out in rule 13.1(c).
- 13.3 if an Accredited tester or an Approved Examiner ceases to hold ACV membership or fails to submit an annual return by the due date, he or she must immediately:
 - (a) stop using the Certification Mark;
 - (b) stop holding themselves out to be an Accredited tester or Approved Examiner (as the case may be); and
 - (c) destroy, or return to the ACV, all stock of the tail tags bearing the Certification Mark in their possession or under their control.

14 Annual Audit

- 14.1 Accredited testers will be randomly selected each year and asked to produce:
 - (a) copies of all certificates they have issued under the NCPD Scheme; and
 - (b) records of the number of pregnancy examinations that they have carried out

15 Complaints

- 15.1 Any complaints about the NCPD Scheme should be directed to the ACV in writing. All complaints must be signed and include the address and contact details of the complainant. The ACV will refer the complaint to the NCPD Scheme Convener who will undertake an



- investigation in consultation with the NCPD Scheme Complaints Committee.
- 15.2 the ACV will acknowledge receipt of the complaint to the complainant within 7 days after receiving the complaint, noting that the matter has been referred to the NCPD Scheme Convener.
- 15.3 the NCPD Scheme Convener or nominee will then make direct contact with the subject of the complaint and advise them of the nature of the complaint. this initial contact will be face to face or by phone, and be followed up with a letter detailing the nature of the complaint.
- 15.4 Within 14 days after receipt of the complaint, the NCPD Scheme Convener or nominee will ask each party to provide written submissions within a reasonable period of time, but no less than 21 days after the date of the request, and will advise each party that recommendations will be based on the written submissions.
- 15.5 the NCPD Scheme Convener will then, as soon as reasonably practicable:
- provide a copy of the submissions received from the parties to the NCPD Scheme Complaints Committee; and
 - convene a meeting or teleconference with the members of the NCPD Scheme Complaints Committee to consider the complaint and the written submissions of each party to the complaint.
- 15.6 the NCPD Scheme Complaints Committee will decide if the complaint has merit and if so, will decide on an appropriate remedy, which may include:
- for complaints about pregnancy diagnosis examination results - the complainant may be required to re-submit themselves for examination by an Approved Examiner selected by the ACV;
 - for complaints about the performance of an Accredited tester or an Approved Examiner – the subject Accredited tester or Approved Examiner (as the case may be) may be required to submit themselves for re-examination by an Approved Examiner appointed by the ACV Executive. if so, the ACV will meet the ACV appointed Approved Examiner's costs for the re-examination. the ACV appointed Approved Examiner will be required to provide a written report about the results of the re-examination to the NCPD Scheme Complaints Committee. if the Accredited tester or Approved Examiner (as the case may be) is found to be lacking in the necessary skills, then:
 - that person may have their accreditation suspended or revoked until they submit to retraining and re- examination at their own expense; and
 - the original Approved Examiner of that person may also be subjected to re-examination.
- 15.7 the NCPD Scheme Convener in consultation with the NCPD Scheme Complaints Committee will provide a written response to the complainant and to the subject of the complaint confirming the outcome of the investigation.
- 15.8 if:
- the NCPD Scheme Complaints Committee is unable to resolve a complaint within 90 days after the ACV receives the complaint, or by a later date as mutually agreed by the parties; or
 - the complainant is not satisfied with the outcome of the investigation,
- the complainant may apply for independent mediation (Mediation) of the matter by written notice to the ACV (the Mediation request) either immediately after the 90-day period referred to in paragraph (a) above expires or within 14 days after receipt of the findings of the investigation.
- 15.9 if the complainant has made a Mediation request, the complainant and the subject of the complaint will use their best ~~endeavours~~ to resolve the dispute by Mediation. Any agreement reached by Mediation will be final and binding on the parties.
- 15.10 Each party will bear their own costs of the Mediation and will pay an equal share of any fees of the mediator and any other costs of the Mediation.
- 15.11 the complainant and the subject of the complaint will nominate a mediator by agreement. if the complainant and the subject of the complaint do not agree on a mediator within 14 days after the Mediation request, the



mediator will be chosen by the Australian Commercial disputes Centre (**ACDC**).

- 15.12 the Mediator will establish the rules and procedure governing the mediation.
- 15.13 nothing done or not done by the mediator during any Mediation under this rule 15 will be admissible in any subsequent court proceedings as evidence of partiality or bias or a breach by the mediator of the rules of natural justice.
- 15.14 if the dispute is not settled within 30 days after the commencement of Mediation (unless such period is extended by agreement of the parties), it must be submitted to arbitration administered by the ACDC. the arbitration is to be conducted at a location agreed between the parties and in the absence of agreement in Sydney, in accordance with the ACDC rules of Arbitration which are operating at the time the dispute is referred to the ACDC and which terms are deemed incorporated in these rules.
- 15.15 nothing in these rules will prevent the complainant and the subject of the complaint from proceeding directly to arbitration or adopting an alternative form of dispute resolution acceptable to both parties.

16 ~~Unauthorised~~ Use

- 16.1 Accredited testers must report to the ACV:
 - (a) all infringements of the Certification Mark; and
 - (b) all uses of the Certification Mark which ~~are in conflict with~~ these rules, as soon as reasonably practicable after becoming aware of the infringement or conflicting use.
- 16.2 Accredited testers must defer from all actions which could possibly adversely affect the reputation of the Certification Mark and NCPD Scheme and must take care to support the reputation of the Certification Mark and NCPD Scheme as appropriate.

17 Indemnity

- 17.1 Each Accredited tester indemnifies the AVA against all damages, losses, costs and expenses incurred by the AVA arising out of:
 - (a) any non-compliance by the Accredited tester with these rules or any other AVA requirements in relation to the NCPD Scheme and/or the Certification Mark; and/or
 - (b) the incorrect diagnosis of the pregnancy status of a cow; and/or
 - (c) the incorrect use of a cattle tail tag under the NCPD Scheme.

18 Amendment

- 18.1 the ACV may apply for variation of these rules ~~provided that~~ it gives all Accredited testers and Approved Examiners notice of any proposed amendment.
- 18.2 Any amendment of these rules becomes effective when the regulator approves the variation.

Schedule 1 – Certification Mark





PREgCHECK™ Accreditation
 (National Cattle Pregnancy Diagnosis Scheme)
Practical Examination Declaration



Examinee's Declaration

I, _____, declare that on ____/____/____ I am a current member of the AVA and Australian Cattle Veterinarians (ACV) SIG and that I will, on approval of my PREgCHECK™ accreditation by the ACV, agree to abide by the regulations of the scheme as set out in the Australian Cattle Veterinarians publication "Pregnancy Diagnosis in Cattle".

In particular, I agree to only use tail/ear tags issued under this scheme while I am a current member of the AVA and ACV SIG and not to lend my tags to any other person.

Signed: _____ (Examinee) Date: ____/____/____

Accreditation type

(please tick) Manual Accreditation Ultrasound Accreditation (I am currently PREgCHECK™ manually accredited)

Criteria	Min Number Each Class	Total number tested
Herd Size	100	
Empty	10	
4 months and greater (≥4)	30	
Less 4 months (<4)	30	
Of which _____ are 6-10 weeks	10	

Misdiagnosis (fail is any misdiagnosis)

- The candidate did not misdiagnose any empty cows/heifers as pregnant
- The candidate did not misdiagnose any pregnant cows/heifers as empty

Error (total should be LESS than 15%)

- _____ (insert number) errors less than 4 months (more than 2 weeks variance is considered error)
- _____ (insert number) error 4 months and greater (more than 1 month variance is considered error)

Examiner's Declaration

I am an accredited PREgCHECK™ Examiner PREgCHECK™ (NCPD) No. _____

I, _____, of _____ declare that on ____/____/____ I examined the above named person at _____

In my opinion this person has passed the requirements to be an accredited pregnancy tester as set out in PREgCHECK™ Accreditation Scheme rules.

Signed: _____ (Examiner) Date: ____/____/____

Examinees must have tested at least 2,000 head prior to examination

Please return to ACV office via email, fax or post.



Australian Cattle Veterinarians
 a special interest group of the Australian Veterinary Association Ltd
 3/2404 Logan Road, Eight Mile Plains QLD 4113 | p. 07 3422 5302 | f. 07 3423 1503 | e. acv@ava.com.au



PREgCHECK® ACCREDITATION
 (National Cattle Pregnancy Diagnosis Scheme)
ACCREDITATION RECORDING SHEET



ACCREDITATION TYPE (please tick) Manual Accreditation Ultrasound Accreditation (I am currently PREgCHECK® manually accredited)

The following cattle have been examined at _____ on ____/____/____

RESULT	EXAMINER RESULT	RESULT	EXAMINER RESULT	RESULT	EXAMINER RESULT	EXAMINEE	EXAMINER
1		26		51		76	
2		27		52		77	
3		28		53		78	
4		29		54		79	
5		30		55		80	
6		31		56		81	
7		32		57		82	
8		33		58		83	
9		34		59		84	
10		35		60		85	
11		36		61		86	
12		37		62		87	
13		38		63		88	
14		39		64		89	
15		40		65		90	
16		41		66		91	
17		42		67		92	
18		43		68		93	
19		44		69		94	
20		45		70		95	
21		46		71		96	
22		47		72		97	
23		48		73		98	
24		49		74		99	
25		50		75		100	

CRITERIA	MIN NUMBER EACH CLASS	TOTAL NUMBER TESTED
Herd Size	100	
Empty	10	
4 months and greater (≥4)	30	
Less 4 months (<4)	30	
Of which _____ are 6-10 weeks	10	

If min criteria are not met in one herd, multiple herds are accepted. Please use a separate form for each herd. In this instance, criteria in summary boxes totalled must meet min number requirements. This sheet must accompany the Examiner's Report.

COMMENTS

EXAMINEE NAME: _____

Signed: _____ **Date:** ____/____/____

EXAMINER NAME: _____

Signed: _____ **Date:** ____/____/____



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ACV **PREGCHECK® Accreditation Scheme information for producers**

The ACV producer's website www.mycattlevet.com.au provides reliable, accurate information for Australian Cattle Producers provided by Australian Cattle Veterinarians.

Below are some links to downloadable information flyers about **PREGCHECK**® for both beef and dairy cattle.

[FACT SHEET - **PREGCHECK**® Dairy information](#)



[FACT SHEET - **PREGCHECK**® Beef information](#)



11.2 Appendix 2 Feedlot survey

Feedlot Survey

Question 1

Number of female cattle inducted in

2016: _____ 2017: _____

Question 2

Are all inducted female's pregnancy tested? Yes / No.

Question 3.

if **No**, what percentage are tested? _____%

Question 4.

Is pregnancy status determined

Prior to induction by a veterinarian? Yes/ No

OR

Prior to induction by a lay provider? Yes / No

If both are applicable, approximately what percentage of each?

Vet _____% Lay _____%

Question 5.

Are vet PD cattle PREGCHECK tagged and certified? Yes/ No

Question 6.

Are lay provider PD cattle issued with written certification of PD status? Yes/ No

- **100% of lay provider supplied documentation of pregnancy status.**

Question 7

Is pregnancy Status determined

At induction by a veterinarian? Yes / No

Is the Veterinarian PREGCHECK accredited? Yes / No

OR

At induction by a lay provider? Yes/ No

If both PD providers are used, approximately what percentage are PD by a

Vet _____% Lay Provider _____%

Method of pregnancy diagnosis.

Question 1

Are your cattle checked:

By a vet using rectal palpation _____ (_____%) or ultrasound _____ (_____%)

OR

By a lay provider using rectal palpation _____ (_____%) or ultrasound _____ (_____%)

Question 2

Is the blood test (IDEXX) an acceptable PD method for your feedlot? Yes/ No.

Question 3

Error rate: Measured as ‘the number (or percentage) of pregnancies misdiagnosed i.e. either born/slipped in the feed yard or detected at slaughter.’

Rectal palpation by vet _____ (_____%); Ultrasound by vet _____ (_____%)

Rectal palpation by lay provider _____ (_____%);

Ultrasound by lay provider _____ (_____%).

Question 4

What is an ‘acceptable’ percentage error rate (regardless of method and technician)? _____ %.

11.1 Appendix 3 Female Cattle Numbers by Natural Resource Management Region

Taken from the ABS Statistics *Agricultural Commodities, Australia and State/ Territory NRM Regions 2016-17, Tables 2 to 9* (ABS 2017).

State and NRM	Head of Beef Cows Over One Year of Age	Number of Beef Businesses	Head of Dairy Cattle	Number of Dairy Businesses
Northern Territory	1,312,666	179	0	0
Western Australia	1,088,060	2,290	64,192	186
Peel-Harvey	47,303	269	6,387	24
Perth	2,390	12	0	0
South West	103,713	670	52,000	145
South Coast	143,899	567	5,805	17
Rangelands	687,404	196	0	0
Northern Agricultural	49,536	281	0	0
Wheatbelt	53,815	295	0	0
Queensland	5,629,256	10,629	85,725	497
NQ Dry Tropics	684,470	576	474	4
Burnett Mary	403,467	1,919	20,669	117
Cape York	50,083	27	0	0
Condamine	166,541	1,142	23,226	108
Desert Channels	649,658	546	0	0
Fitzroy	1,303,804	2,385	4,979	61
Reef Catchments	80,936	383	0	0
Terrain	67,008	350	11,658	52
North Gulf	505,193	177	0	0
South Gulf	653,180	299	0	0
S/W Qld	278,047	437	0	0
S/E Qld	170,660	1,007	24,554	149
Border Rivers/ Murray Darling	589,594	1,362	165	6
Co-op Management Area	26,615	19	0	0
NSW	2,517,179	13,526	164,056	867
Central Tablelands	254,880	1,452	4,654	25
Central West	316,335	1,919	13,373	46
Greater Sydney	14,250	131	4,663	20
Hunter	223,517	1,140	28,531	200
Murray	206,870	1,026	20,322	127
North Coast	169,394	1,324	34,925	203
North West	430,657	1,900	5,632	27
Northern Tablelands	367,987	1,497	0	0

Riverina	235,899	1,371	3,052	20
South East	183,996	1,366	48,904	199
Western	113,394	400	0	0
South Australia	464,000	2,408	46,962	139
Alinytjara Wilurara	742	1	0	0
Eyre Peninsula	8,946	139	0	0
Kangaroo Island	8,962	76	0	0
Adelaide Mt Lofty	21,191	273	10,751	57
Northern & Yorke	26,502	326	670	2
Arid Lands	95,041	70	0	0
Murray Darling	32,498	479	0	0
South East	270,118	1,044	35,541	80
Tasmania	214,448	1,109	155,713	396
North	111,764	506	60,876	146
Cradle Coast	79,709	388	94,832	240
South	22,975	215	5	10
Victoria	947,472	7,673	975,004	3,602
Corangamite	90,653	624	159,274	628
East Gippsland	74,494	452	10,947	50
Glenelg Hopkins	249,463	1,421	213,749	624
Goulburn Broken	106,881	1,212	160,458	585
Mallee	8,664	67	0	0
North Central	46,309	803	109,014	360
North East	143,984	987	32,375	149
Port Phillip Western Port	63,159	778	71,413	353
West Gippsland	147,942	1,147	217,774	853
Wimmera	15,923	182	0	0
ACT	3,440	28	0	0
Total	12,176,521	37,842	1,491,652	5,687
Nthn Export Sector (Max)	6,043,938	5,399	0	0
Nthn Export Sector (Likely)	4,609,662		0	0

11.2 Appendix 4 Letter from AgForce and Details of TestRight Proposal



Thursday 22 March 2018
Patrick Bell
General Manager, Biosecurity Strategy and Legislation
Biosecurity Queensland
Department of Agriculture and Fisheries
Via email: Patrick.bell@daff.qld.gov.au

Dear Pat,

Re: Request for further evidence on lay pregnancy testing in Queensland.

Thank you for meeting with the Cattle Board on the 23 February 2018 it was a good opportunity to discuss lay pregnancy testing and for you to hear first-hand about the wide use of lay pregnancy testing services across Queensland.

AgForce Cattle Board proportionally represent Queensland graziers from each region on the MLA map supplied. The current composition is six representatives from north Queensland, four from Central, two from South East, three from Southern Inland, and one from western Queensland. There is also a youth member from CQ and a corporate representative from the Northern Pastoral Group that represent the main corporate pastoral properties in Queensland.

Many on the Board report that herd management is undertaken by staff or contractors hired to muster and manage the herd on the property. It is not always possible to untangle the grey area of payment for the preg-testing service when it is bundled into other on property work undertaken by staff or contractors. Common reasons why vets were not contracted to do the work include:

- Trouble booking the vet in peak seasons,
- travel expense (between \$2 per/km to \$4 per/km there and back)
- lack of flexibility in delivering the service, especially in peak times
- difficulty accommodating the vet's time frames with the activity of mustering one paddock at a time
- job was too small to cover the cost
- No perceived difference in the service offered by the lay preg-tester and the vet.

In general vets are only called upon if there is a commercial imperative eg. saleyard, or live export to compensate for the additional cost of travel and the inconvenience of booking a month in advance. Many extensive properties in western and northern Queensland rarely call on any vet services at all. This is no doubt the case regardless of the regulation around Australia.

Current level of underground activity

Cattle Board members in all areas could count between 2 and 5 active lay pregnancy testers available in their region. This indicates the business is currently well established and wide spread across Queensland. The Board was not comfortable to provide names as the activity is illegal and they wish to maintain their relationships with the veterinary community.



AgForce Cattle Ltd

A commodity council of AgForce Queensland
CAN: 087 429 888

Level 2, 110 Mary St, Brisbane, Qld, 4000
PO Box 13186, North Bank Plaza, Brisbane Qld 4003

Ph: (07) 3236 3100
Fax: (07) 3236 3077
Email: agforce@agforceqld.org.au

There is no evidence to indicate the current level of pregnancy testing undertaken by lay testers is impacting vet's ability to make a living. When producers book a vet, they need to provide sufficient notice, indicating appointments are already fully allocated. The only substitute for vet work will be the live export of cattle.

The AgForce TestRight accreditation scheme has been designed to create a level playing field for vets and lay testers, which in turn should reduce substitution for, live export. TestRight ensures when demand peaks for live export there will be an accredited lay tester available to fill the gap and provide the same level of service. (important to note this is dependent on commonwealth legislation amendments). Further while AgForce understands the AVA writes letters occasionally to lay testers asking them to stop the illegal activity they are not actively pursuing lay testers indicating competition for other activities is not a significant issue.

Producers that invest in ultrasound equipment may also provide the service to their region to cover the cost of purchasing the unit. Lay pregnancy testing is not the primary source of income but a sideline activity. Universally all members of the Cattle Board have used lay pregnancy testers at some point or on a regular basis with the exception of Bim Struss because his local Veterinary practise has adequate highly experienced Vets that provide the service at a very competitive rate.

Improving biosecurity

An AgForce survey of members indicated large animal vets are very pressed for time and do not offer any additional advice while on property. There is no evidence to support the argument vets provide additional support, herd health advice, or biosecurity while on property for live export pregnancy testing. Vets take biosecurity planning seriously and charge around \$300-\$500 to produce a biosecurity plan for producers. Preg-testing is a specific service quite separate to biosecurity or any other service provided by the surgery.

AgForce have offered to work with the AVA to include some additional information into their on-farm services. This would be universally applicable to the accredited lay preg-testers and vets. We agree with the vets every property visit presents an opportunity to improve producer's herd health and biosecurity measures and this opportunity is currently being missed.

A number of case studies follow in our member's own words. To maintain the authenticity we have made very few alterations to their submissions.

Case study 1:

Producer in the Gladstone region pregnancy tests heifers annually. He employs a contract mustering team or utilises staff to manage the process. A number of animal husbandry activities are undertaken during the muster including pregnancy testing. Contract mustering professionals often provide a full suite of services and because of this their businesses are very competent in delivering the pregnancy testing service. The pregnancy testing activity is fitted into the total mustering process.



AgForce Cattle Ltd

A commodity council of AgForce Queensland
CAN: 087 429 883

Level 2, 110 Mary St, Brisbane, Qld, 4000
PO Box 13186, North Bank Plaza, Brisbane Qld 4003

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Fax: (07) 3236 3077
Email: agforce@agforceqld.org.au

Accuracy has been consistently high both with testers using manual and ultrasound. The fee for service is built into the contract or staff wages. The local vet practice is not far away but the call out cost to undertake only one part of the job is prohibitive in comparison. Each paddock is mustered on a different day and the full herd managed over a six-week period scheduled around other farm activities. This schedule is not conducive to utilising a vet.

The practise of mustering and processing paddock by paddock is more common than not in Queensland. It supports animal welfare to have a paddock of cattle in the yards and processed in the shortest amount of time. If a Vet were to be used in these circumstances the travel component would be prohibitive considering they would be called out every other day.

Case study 2:

Family owned stud and commercial business in the Dawson Valley. The business utilises local lay pregnancy testers because they have consistently delivered fast and accurate service and also the ability of aging foetuses with a scanner. All pregnancy testers in this region use the ultrasound scanner. The local vet is not as fast or as flexible with availability as the lay preg-tester. The travel cost for the lay preg-tester is significantly less than the vet. There are at least four lay preg-testers available in the area and all offer a reliable competent accurate service.

Case study 3:

Camooweal producer uses the Mt Isa vet to undertake pregnancy testing 1,000-3,000 head for live export annually. There are always issues booking the vet on the dates needed as the practice is stretched thin on the ground. Following are direct quotes from this member.

'Vets drive during the night to make it from station to station to meet the live exports deadlines. They are working all day and driving to the next job during the night so no spare time for a friendly chat. There is no additional advice on animal health provided by the vet when they come onto the property.'

'They arrive, do the job and leave.'

When there are not enough vets to cover all the bookings the Mt Isa practice sends vets that are qualified but have no experience in pregnancy testing. Inaccuracy rates of 15-20% in these inexperienced vets has led to complaints from exporters and producers.

'Just because someone is a good vet does not mean they can preg-test'.

'As for vets providing advice on biosecurity they are normally in such a hurry, they all seem to work with head phones on so no chat while they work. We don't normally get other work done by the vet while on property because there isn't time.'

The producer would like to do more herd management in the future and considered that the addition of qualified lay pregnancy tester would be very valuable in the area. 'We have a very good



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relationship with our local vet but he is very time poor maybe if we had a lay preg-tester in the area the vet would have more time to do other vet work.'

'There are no lay preg-testers operating close to Camooweal but if they were able to do live export heifers I am sure someone would take it up. There are a lot of large company's around me and they use lay testers quite a bit for the simple reason everyone wants the testers at the same time. My neighbours in the Northern Territory do not have the same constraints and use a lay preg-tester for live export with good results.'

Case study 4:

A large-scale business with no live export, and properties spread from breeding in the Gulf through fattening and a feedlot in the southern Queensland covering 3.6 million hectares. Herd management undertaken by lay pregnancy testers in a few different capacities. Two pregnancy testers (they only provide this service as a business nothing else) are contracted to do large mobs of pregnancy testing, usually organised weeks in advance. They charge a per head rate that varies with their experience; beginners are cheaper due to speed and potential inaccuracies. Estimated testing per year 3,000 to 4,000 head per year.

In addition, one contract musterer is employed in the gulf that offers a preg-testing services if required for herd management. He does small numbers when needed as a matter of convenience, so that those animals can be processed at the time rather than wait to get a larger group together. This supports our mantle of animal welfare. Estimate per year 1,500-2,000 head.

There are some senior staff that are competent preg-testers and do smaller mobs in a similar fashion to the contract musterers. when required, to get smaller mobs processed and turned out in a timely manner. Estimate per year 1,500 -2000 head.

We do use vets in the same way as the contract lay pregnancy testers for large numbers of females for management. The senior vets, like the experienced lay preg-testers, are fast and have a high level of accuracy. We have had inaccuracies from both inexperienced junior vets and inexperienced lay preg-testers, however, the vets do not say they are inexperienced and charge at a flat rate, whereas in our experience, the junior lay preg-tester are clear about their skills and charge a lower rate to compensate for this.

When a vet is required to geld a colt or other necessary activities jobs are bundled together to save time and cost. This is not always possible and during the busy time of year vets have jobs to get to immediately following the job they are booked for.

'The vets generally do have earplugs in for noise, never headphones I'd object to that, and don't chat much while they work. I don't have a problem with that though as it does require concentration to preg-test properly and answering vet related questions, or general chat, while working I have found can slow the process down.'



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The business of herd management will continue regardless of legislation change. The use of currently illegal practices is wide spread and if stamped out would have a greater impact on herd productivity. Pregnancy testing is seasonal and unlikely to sustain a business as a stand-alone service. Vets are not competing for mustering jobs.

Case Study 5:

Cloncurry producer use the local vet for live export. Has the same issues as others; it is difficult to book the vet in peak times, the travel cost is expensive and the mustering process not conducive. Uses a skilled cattleman on contract to undertake the muster and other husbandry activities including herd management preg-testing. There have never been any issues with the lay testers accuracy or animal handling skills. The vet and lay tester's skills have be comparable, cost and timing are the main difference.

Case Study 6:

Augathella producer always uses a vet for herd management, does not do any live export and would prefer to do so as the vet has been more consistent then the lay testers. There are a number of lay testers in the area. The vet is hard to get and there are very few that still offer preg-testing services in the region. The producer has used the local lay tester and found some are better than others. He supports the idea of a training and accreditation process to ensure lay testers are accountable and competent.

Quite a few people in the region are purchasing the ultrasound equipment to manage their own herds and do a fair bit on the side to pay it off. 'We are currently looking at ultrasound options and deciding weather to invest in the equipment.'

Case Study 7:

Extensive operations in the Channel Country do not regularly use vets for herd management as vet practices are a long way away. There is limited live export from the Channel Country, so mandated use of vets is not needed. In addition to the productivity and herd health benefits of pregnancy testing, progressive producers are also wanting to avoid animal wellbeing issues by reducing the likelihood of transporting late pregnancy cattle. Although it would be uneconomical to use a veterinarian for pregnancy diagnosis before trucking cattle (due to both activity and travel costs), there is great merit in training some of the staff/managers from Channel Country properties to undertake pregnancy diagnosis. Trained lay preg-testers could significantly reduce or eliminate the risk of inadvertently transporting late pregnancy cattle to slaughter.

Ultrasound

Case study 1:

Trained and licenced as a lay pregnancy tester (manual) in the Northern Territory currently using ultrasound equipment in Queensland. The ultrasound has proved to be a good investment the accuracy, speed and reduced physical strain worth the cost of purchasing the machine. The training provided by the ultrasound company was of a high standard and provided clear understanding of proper use. 'I have never experienced a rectum perforation or any other animal welfare issues. During training and examination in the NT the examiner requested a demonstration of the



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ultrasound and he was very impressed with the equipment and technique.' Actively working in Queensland but concerned about the activity not being legal would prefer to be above board.

Ultrasound

Case Study 2;

Bim's near neighbour bought ultrasound equipment for their extensive and feedlot operation. Initially they provided lay testing services to the region to cover costs, until the work load grew to large and they stopped doing it. The training provided by the Ultrasound company was excellent and adding to their existing experience with cattle was all that was required for competency and animal handling skills. The growing client base and repeat custom over a couple of years, is a clear indication of accuracy, speed and animal handling skills.

Ultrasound

Case study 3:

'I have accidentally perforated/scratched more cattle with my fingernail during manual palpation than with the ultrasound equipment. In the years I have been using the ultrasound there have been no animal welfare concerns. The training that was provided when the equipment was purchased specified correct use of the probe to prevent perforations.'

The machine was purchased to test the family herd across several properties. The service is also provided to a select group when time permits. 'If I had time in peak season I could preg-test full time the demand is so high.'

While an understanding of anatomy and manual palpation is useful the ultrasound training is a separate skill and has proved to be very accurate on the family herd. The only time manual is used is to verify empty especially with big old Brahman cows. 'For example, I tested 120 head with the ultrasound then re-tested 4 manually and one was pregnant.' This is more a case of skilled technician than any requirement to train in manual palpation prior to learning ultrasound technique. Manual palpation is a back-up not a requirement.

The family utilises vets for other issues and for live export cattle. The vet is generally pressed for time and will not accommodate other requests like gelding a horse while on property. The vet has never offered any general biosecurity information while on property to date.

If you require further information please contact Renata Berglas Livestock Policy Director berglasr@agforceqld.org.au or phone, 07 3236 3100.

Yours sincerely

Anthony (Bim) Struss
Cattle Board President

DRAFT Proposal

TestRight Pregnancy Testing Accreditation Scheme

Scheme Rules version 1, 8-12-17

Accreditation

The Pregnancy Testing scheme 'TestRight' seeks to promote excellence in pregnancy testing diagnosis for manual palpation and ultrasound techniques. TestRight accreditation was developed by industry to meet industry standard for the commercial pregnancy testing practitioner.

Built on the national unit of competency AHCLSK408 Pregnancy Test Animals the TestRight scheme will deliver accurate pregnancy testing results producers and industry can rely on. Candidates upon completion of the unit of competency or an equivalent certificate will present their record of attainment/Certificate of attainment to the TestRight Scheme Manager who will register them in the system. They can then commence the necessary preparation for the final accreditation exam by examining 2,000 head and recording the results.

Primarily aimed at non-vets that wish to pregnancy test cattle as a fee for service, the scheme is also open to producers for herd management and vets for data management.

TestRight scheme provides transparent accountability through a trace forward trace back data capture system which enables Accredited Testers to record all transactions, providing oversight of technician's services and an avenue for customer feedback.

Development of the scheme

The scheme has been developed in Queensland to meet animal welfare requirements and ensure a professional licensing scheme for commercial pregnancy testing is available for non-vet technicians. The trigger for the development of this scheme was the call from industry for an open market for pregnancy testing and the opportunity to amend legislation to facilitate this. The scheme is built on the foundation principals of the Australian Veterinary Association PregCheck scheme. The PregCheck scheme is only open to vets. TesRight is open to anyone that meets the standards outlined below.

The scheme developed in Queensland will be open to technicians nationally.

Rules of the Scheme

The rules of the accreditation scheme cover the following areas:

- Eligibility requirements to become an accredited tester (manual and ultrasound)
- Eligibility requirements to become an accredited examiner
- Examination process and minimum criteria for examination
- Practical Exam Assessment
- TestRight Accreditation
- Rules to maintaining accreditation status
- Complaints and Appeals

1. Definitions

1.1. In these rules unless the contrary intention appears:

Accredited Tester means an Accredited tester (Manual), and an Accredited tester (Ultrasound) or a dual Accredited tester (Manual and Ultrasound). In Queensland if the pregnancy tester is not a vet, only a TestRight licenced Accredited Tester can charge a fee for commercial pregnancy testing services.

Accredited Tester (Manual) means a technician who has:

Demonstrated competency to the standard required by the Unit AHCLSK408 - Pregnancy test animals (Release 1)

- as evidenced by a Statement of Attainment from an industry approved Registered Training Organisation (RTO) and experience in the pregnancy diagnosis of cattle using manual palpation in accordance with the standards set by industry; and
- Successfully completed a practical examination as set out in the rules of the scheme.

Accredited Tester (Ultrasound) means a technician who has:

- Demonstrated competency as determined by an Approved Registered Training Organisation (RTO) or approved industry provider and experience in the pregnancy diagnosis of cattle using ultrasound in accordance with the standards set by industry; and
- Successfully completed a practical examination as set out in the Rules of the scheme.

Accredited Tester (Dual) means a technician who has:

- Demonstrated competency as determined by an Approved Registered Training Organisation (RTO) or approved industry provider and experience in the pregnancy diagnosis of cattle using manual palpation and ultrasound in accordance with the standards set by industry; and
- Successfully completed a practical examination as set out in the Rules of the scheme.

Approved RTO means RTO has met industry standards as determined by the **TestRight scheme Oversight Committee**.

Foetal Aging: means the ability to determine foetal age which is generally measured as: over 4 months pregnant; under four months pregnant, not detectably pregnant, less than 3 months old, pregnant age not determined.

NDP means not detectably pregnant. It is a pregnancy status under the TestRight scheme which is assigned to cows that are not detectably pregnant or that are less than 6 weeks pregnant (in the case of diagnosis using manual palpation) or that are less than 5 weeks pregnant (in the case of diagnosis using ultrasound equipment).

POP means Property of Origin

RTO means registered training organisation

ROA means record of attainment from an RTO

COA means certificate of attainment from an industry training provider

TestRight scheme Oversight Committee means a committee comprised of one members from the scheme manager, one industry representative, one trainer, one government representative and one vet. Decisions of the committee are to be made by majority vote.

TestRight Scheme manager administrates the scheme, refers complaints to the Oversight Committee and manages scheme accreditation requirements, annual renewal, fees etc.

Trace Forward Trace Back data capture (TFTB data capture) is central component of the scheme. It provides a data capture tool to record each cow's pregnancy test against individual accredited testers and examiners. The TestRight accredited practitioner will be able to record vital details about the property of origin and if desired rate the producer. For example, if the cattle are control mated or not, the testing facilities crush holding yards etc., cattle welfare etc. could be rated.

The scheme manager will be able to use the tool to assess standards, verify numbers of head tested to maintain accreditation, and provide evidence to the Oversight Committee if there are complaints.

The TFTB data capture tool can also enhance customer service by enabling the input of direct customer feedback. Customers will be invited to rate the Accredited Testers see how others have rated them in their area and record any issues. The Accredited Tester is able to use data to promote services and benchmark skills against peers.

Regulator means the Department of Agriculture and Fisheries or the Head of Power for the Veterinary Surgeon's Act 1936.

2. TestRight Scheme

- TestRight is an industry developed accreditation scheme that guarantees consistency in accreditation of pregnancy testing technicians.
- TestRight scheme will contribute to the protection of cattle welfare when pregnancy tested by ensuring that all cattle tested on a fee for service basis are either Accredited Testers or vets.
- To provide pregnancy technicians with a process for recognition and evidence that they have met industry standard for commercial pregnancy testing operators and are accredited by the industry to conduct pregnancy testing of cattle.
- The scheme is recognised by government as meeting industry standards by (TBD)....
- the TestRight scheme promotes excellence in cattle pregnancy diagnosis, accrediting non-vet pregnancy testers.
- Standards are maintained through trace forward trace back (TFTB) data capture system that enables the Accredited Tester to build a profile based on number of head tested and customers feedback.
- Accredited Testers are authorised to provide a Customer Certificate to the owner of the cattle stating the diagnosed pregnancy status of the cow. The certificate will contain all requirements listed in 3.
- Accredited Testers and Approved Examiners are required to record all pregnancy diagnosis of cattle in the TFTB database.

3. Customer Certificate

The certificate will specify the following:

- TestRight accredited technicians unique identifying number.
- The unique TFTB data capture invoice code
- The target market specifications for which the cattle are destined: saleyard, feedlot, export, herd management or private sale.
- the method of diagnosis either manual or ultrasound technique
- either individual NLIS tags or the mob or brand, number of head, property identification code (PIC), date and time.
- Customer Certificate invoice code will be recorded in the TFTB data capture system against the Accredited Tester or Approved Examiner's license number.

4. Target market specifications

- POO herd management techniques have a significant impact on probability a cow is pregnant. If the bull runs with the herd accuracy may be reduced. As opposed to six-week controlled joining process.
- TestRight provides producers and Accredited Testers with an agreed accuracy range base on POO management techniques.
- Different markets have different requirements, depending on time in transit, risk, destination and decision to be made. Therefore, gestational aging may not always be required.
- Destinations could include, saleyard, private sale, feedlot, live export, or herd management.
- Margin of error, is determined by taking these factors into consideration.

- Accuracy

5. Trace Forward trace back (TFTB) data capture

Records:

- Accredited testers (Manual palpation, Ultrasound or Dual) pregnancy diagnosis results against their license number.
- Data entered by Accredited tester includes number of head, NLIS or mob, PIC, time, date, testing method manual or ultrasound, pregnancy status, POO accuracy status POO conditions, and the customer Certificate code.
- Customers feedback, recommendations and issues
- License suspensions
 - either on hold pending investigation or
 - bared or
 - lapsed.

Who has access to the TFTB data:

- Accredited Testers and Approved Examiners can access their audit reports and test records.
- The Scheme Manager has access to all the data
- The Oversight Committee can apply to the Scheme Manager for data to support decision making upon request.
- Customers will have access to limited data.

6. Accredited Tester Manual Palpation requirements

To be eligible to register to become an Accredited tester (manual) a candidate must:

- Have a statement of attainment (SOA) for the unit of competency AHCLSK408 Pregnancy Test Animals from an industry approved RTO.
- Have applied to the TestRight Scheme Manager for a log in code to record pregnancy diagnosis in the TFTB data system.

- Have pregnancy tested and recorded in the TFTB database a minimum of 2000 head of cattle using manual palpation or be able to verify by other means.
- Must commence logging manual palpation pregnancy testing in the TFTB database within 2 months of undergoing training.

7. Accredited Tester Ultrasound requirements

To be eligible to undergo examination to become an Accredited tester (ultrasound) a candidate must:

- Have a certificate of completion in pregnancy testing (ultrasound) from an industry approved RTO or an approved commercial provider.
- Have applied to the TestRight Scheme Manager for a log in code to record pregnancy diagnosis in the TFTB data system.
- Have pregnancy tested and logged in the TFTB database a minimum of 2000 head of cattle using ultrasound technique or be able to verify by other means.
- Must commence logging ultrasound pregnancy testing in the TFTB database within 2 months of completing training.
- The TFTB data capture tool must be used to log cattle tested for accreditation purposes. Technicians can begin logging their 2,000 head during their study time. If recognition of prior learning process has been applied for technicians completing their unit of competency may initially provide evidence of 2,000 head tested by other means. However once licensed under the scheme all cattle must be recorded in the TFTB tool.

8. Approved Examiner (Manual)

- Approved examiners can be an independent contractor, veterinarian, technical industry expert or the RTO trainer as long as they are approved by the TestRight Scheme Oversight Committee.
- To be eligible to be an Approved Examiner a person must satisfy criteria (6) or be a qualified veterinarian; must have five years' experience post qualification; and have a certificate four in training.
- Must be experienced with manual palpation pregnancy diagnosis of more the 20,000-head diagnosed.

9. Approved Examiner (Ultrasound)

- Approved examiners can be an independent contractor, vet, technical industry experts or the RTO trainer as long as they are approved by the TestRight Scheme Oversight Committee.
- To be eligible to be an approved examiner a person must satisfy criteria (7) or be a qualified veterinarian;
- must have five years' experience post qualification; and have a certificate four in training.
- Must be experienced with ultrasound pregnancy diagnosis of more the 20,000-head diagnosed.

10. Pregnancy Diagnosis Examination

- A candidate for accreditation must contact an Approved Examiner (contact details available on TestRight website) and arrange a mutually convenient time to undergo a practical exam.
- The Approved Examiner fee is to be negotiated between the Candidate and the Approved Examiner.
- The Approved Examiner must discuss animal welfare considerations with the candidate prior to examination.

- The number and location of the herd of cattle to be examined is to be mutually agreed between the Candidate and the Approved Examiner
- The minimum criteria for a suitable herd for pregnancy diagnosis examination purposes for manual accreditation are:
 - o Minimum of 100 head to be examined;
 - o Expected pregnancy rate of over 45%
 - o A proportion of cows must be under 4 months pregnant, preferably 6 to 8 weeks gestation.
- The minimum criteria for a suitable herd for pregnancy diagnosis examination purposes for ultrasound accreditation are:
 - o Minimum of 100 head to be examined;
 - o Expected pregnancy rate of over 45%
 - o A proportion of cows must be under 4 months pregnant, preferably 6 to 8 weeks gestation.
 - o A proportion of pregnant cows must be over 4 months pregnant
- If a suitable herd is difficult to locate the examination may take place on two or more herds at separate times and locations so long as the criteria is met.

11. Practical Exam Assessment

- **Approved Examiner (Manual)** must apply the following criteria to the assessment of pregnancy diagnosis examinations undertaken by an Accredited tester (Manual):
 - o The Approved Examiner must manually palpate or ultrasound test all cattle after the candidate and record the result of the diagnosis for comparison.
 - o A candidate will fail the exam if they misdiagnose one pregnant cow as empty or vice versa;
 - o Candidates are permitted to record an inconclusive diagnosis (recheck/possibly pregnant) in up to a maximum of 10% of cows assessed by the Approved Examiner to be less than 8 weeks pregnant; and
 - o Candidates are permitted to record an inconclusive diagnosis (recheck/possibly pregnant) in cows assessed to be more than 8 weeks pregnant or not detectably pregnant at the discretion of the Approved Examiner on a case by case basis dependent on the degree of difficulty of palpation in each specific case.
 - o Approved Examiner will discuss:
 - animal welfare, and associated risks involved with the candidate and
 - any abnormalities and results from the test.
- **Approved Examiner (ultrasound)** must apply the following criteria to the assessment of pregnancy diagnosis examinations undertaken by an Accredited tester (Ultrasound):
 - o An Approved Examiner (ultrasound) must concurrently determine the pregnancy status of the cow using a dual screen and the same ultrasound equipment.
 - o A candidate will fail the exam if they misdiagnose one pregnant cow as empty or vice versa;
 - o Candidate should be able to detect a minimum of 90% pregnancies using ultrasound diagnosis.
 - o Candidates are permitted to record an inconclusive diagnosis (recheck/possibly pregnant) in up to a maximum of 10% of cows assessed by the Approved Examiner to be less than 8 weeks pregnant; and
 - o Candidates are permitted to record an inconclusive diagnosis (recheck/possibly pregnant) in cows assessed to be more than 8 weeks pregnant or not detectably

pregnant at the discretion of the Approved Examiner on a case by case basis dependent on the degree of difficulty of palpation in each specific case.

- Approved Examiner will discuss:
 - animal welfare, and associated risks involved with the candidate and
 - any abnormalities and results from the test.
- Subject to any conditions recorded by the Approved Examiner a candidate who fails a practical pregnancy diagnosis examination may arrange to undergo another practical exam at any time with the same or a different Approved Examiner at their own expense.

12. Fast track

- Recognition of prior learning for experience candidates will fast track the process of examination. Candidates may be eligible to provide evidence to the Approved Examiner of prior experience (similar to the RPL process for obtaining a SOA) which counts to the minimum requirement of 2000 head tested prior to examination.

13. TestRight Accreditation

- The Candidate applies to the TestRight Scheme Manager and provides an application form, evidence of the exam outcome, ROA or COA (in the case of ultrasound), ID and fees for accreditation.
- the Examiner report forms part of the assessment and needs to be completed by the Approved Examiner and returned to the Scheme Manager. The Examiners report template is available on the TestRight website.
- Upon receipt of an Examination Report showing successful completion of the pregnancy diagnosis examination, the TestRight Scheme Manager will verify results and register the candidate as an Accredited tester (Manual), Accredited tester (Ultrasound), Accredited tester (Dual) or Approved Examiner as the case may be.

14. Refusal

- The Scheme Manager may conclude that the application should be refused on the grounds that it does not meet the requirements of the scheme rules.
- In refusing the application the Scheme Manager will:
 - advise the applicant of the refusal decision in writing - the preferred method is email
 - advise the reasons for refusal of the application under these rules
 - advise the applicant that they may either remedy the application so that it meets the requirements or make an appeal to the scheme owner against the decision to refuse.
 - An application can either be remedied and re-submitted to the Scheme Manager or the decision by the Scheme Manager can be appealed to the scheme owner.

15. Certificate of attainment:

- Upon Accreditation, the Scheme Manager will provide the Accredited Tester with a signed certificate of attainment setting out their name, license number, accreditation status, either Accredited Tester (Manual), Accredited Tester (Ultrasound) or Accredited tester (Manual & Ultrasound) or Approved Examiner.

16. Data management:

- The Accredited Testers will be required to record all cows tested in the TFTB Database. Entering the data will generate a unique invoice number to be included on the Customer Certificate. The Scheme Manager will have access to the customer certificates and the Approved Testers data to verify accreditation requirements and manage complaints.

17. Maintaining Accreditation

To maintain accreditation as:

- an Approved Tester (Manual),
- Approved Tester (Ultrasound),
- Approved Testor (Dual)
- Approved Examiner

The requirements are:

- Pay an annual licensing fee,
- Testers records all pregnancy diagnosis in the TFTB database,
- Allow the Scheme Manager to extract annual reports for each tester/examiner,
- Accredited Tester must diagnose a minimum of 1000 head in a 12 month period,
- Approved Examiner must diagnose at least 5000 head in a 12 month period,
- Accredited Testers will be randomly selected each year and desktop audited via the TFTB database,
- If requested an Accredited Tester may need to provide copies of Customer Certificates issued under the TestRight scheme.

18. Complaints resolution

- Any complaints about the TestRight Scheme should be submitted in writing and directed to the TestRight Scheme Manager.
- All complaints must be signed and include the address and contact details of the complainant.
- Complaints can only be submitted by the owner of the cattle or a person verifiably present at the time of the testing diagnosis or the purchaser of the cattle as specified on the Customer Certificate.
- Complaints must be submitted within six-month of the pregnancy testing occurring.
- The complaint must relate to the pregnancy diagnosis of the cattle in question and can only be made about specific issues which include:
 - Animal welfare,
 - Accuracy of the test performed,
 - Concerns about the competency of the Accredited Tester to perform the role of a pregnancy tester under this scheme
 - Breaches of Commonwealth and State regulations or codes
- The Scheme Manager will acknowledge receipt of the claim within seven days of receipt, and will action the response by forwarding the complaint to the Oversight Committee for a decision.
- The Scheme Manager will then make direct contact with the subject of the complaint and advise them of the nature of the complaint.
- The Scheme Manager will then refer the matter on to the Oversight Committee for consideration and action.
- The complainant must agree to fully cooperate with the investigation by the Oversight Committee.
- The Scheme Manager will provide the complaint and the complainant/Accredited Tester's details and data from the TFTB database to the Oversight Committee for review and decision.
- The Oversight Committee will then decide if the complaint has merit and if so will decide on an appropriate remedy which may include:
 - The complainant may lose their accreditation and be removed from the TestRight scheme until they submit to retraining and re-examination at their own expense (if this action is taken it will be made public on the website);

- The original Approved Examiner of that person may also be subject to re-examination.

19. Complaint outcome:

- The Scheme Manager in consultation with the TestRight scheme Oversight Committee will provide a written response to the complainant and the subject of the complaint confirming the outcome of the investigation.
- Any suspension or loss of registration resulting from the complaint and decision will be made public on the website.
- Accredited Testers and Accredited trainers operating outside of the scheme rules will be referred to the regulator for further action.

20. Appeals against accreditation:

- An applicant may appeal a refusal to issue accreditation or renewal by submitting a written appeal to the Scheme Manager clearly marked as “Appeal” within 90 days of the date of refusal.
- The appeal application must address the grounds of refusal and the appellant must agree to provide any further information needed as requested by the Scheme Manager.

21. Appeals against the complaints decision:

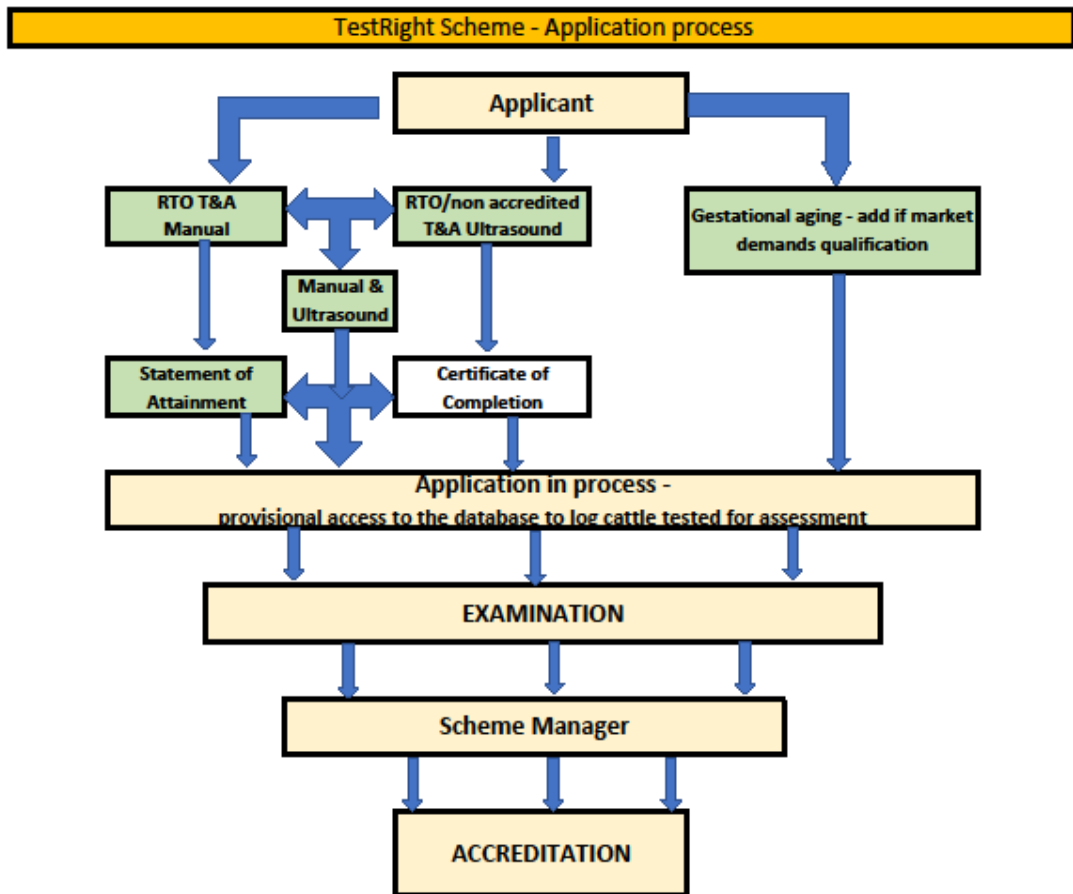
- complainant may apply in writing for an independent mediation of the matter within 28 days of receiving the findings of the Oversight Committees investigation if they are not satisfied with the findings.
- If the complainant requests mediation then every effort will be made to resolve the dispute by mediation.
- Each party will bear their own costs of the mediation and will pay an equal share of any fees of the mediator and any other costs of mediation.
- The complainant and the subject will nominate a mediator by agreement. If the complainant and the subject of the complaint do not agree on a mediator within 14 days after the mediation request, the mediator will be chosen by the Australian Commercial Disputes Centre (ACDC).
- The mediator will establish the rules and procedure governing the mediation.
- If the dispute remains unsettled within 30 days after the commencement of mediation (unless extended by agreement between the parties) it must be submitted to arbitration by the ACDC.
- Nothing in these rules will prevent the complainant and the subject of the complaint from proceeding directly to arbitration or adopting an alternative form of dispute resolution acceptable to both parties.

22. Accreditation entitlements

- All Accredited Testers and Approved Examiners will be provided a unique log in to the secure TFTB data capture system and access to their individual information.
- They will also be able to view public information available on the TestRight website including customer feedback and other Tester’s credentials.

23. Amendments

- The TestRight scheme Oversight Committee can make amendments to these rules provided that it gives all Accredited Testers and Approved Examiners notice of any proposed amendments.



11.3 Appendix 5 NT DPRI guidelines

Guidelines for Accreditation of Non-Veterinary Pregnancy Testing of Feeder and Slaughter Cattle for Export and Slaughter Cattle for Export

ANIMAL BIOSECURITY BRANCH

THESE GUIDELINES ARE CURRENTLY UNDER REVIEW

Regulation:

<http://www.agriculture.gov.au> administered by the Australian Government Department of Agriculture and Water Resources (DAWR) requires competency standards for pregnancy testing of slaughter or feeder female cattle and buffalo for export. The relevant standard (S1.9) is attached (Attachment 1).

An Export Advisory Notice (EAN) 2013-01 ID specifies additional identification and reporting requirements for the pregnancy status of cattle sourced for live export.

EAN 2016-21 (26 August 2016) – Pregnancy Declarations – all species specifies the requirements including that a list of NLIS Radio Frequency Identification Devices (RFIDs) of pregnancy tested animals must be attached to the Vendor declaration.

EAN 2016-22 (26 August 2016) – Pregnancy testing requirements for cattle specifies who can and how pregnancy testing can be done for live export including that only veterinarians can test productive heifers / breeders.

For the purpose of certification of cattle intended for export from Northern Territory or Western Australia to certain countries that are not pregnant, DAWR Biosecurity Live Animal Exports accepts certification by a registered veterinarian or a person accredited by the relevant agency in the State or Territory for the purpose of certification of non-pregnant cattle for export from Northern Territory (NT) or Western Australia.

In all other jurisdictions pregnancy testing for export must be done by a registered veterinarian. Under the State Veterinary legislation, pregnancy testing is considered an act of veterinary surgery in Queensland, Western Australia and Tasmania.

Authorisation in Western Australia is managed by the WA Veterinary Surgeons Board <http://www.vsbwa.org.au>

DAWR Biosecurity Live Animal Exports will require the accreditation number of non-veterinary pregnancy testers to be written on the vendor declaration form for export. Investigation of false declarations for pregnancy testing may be made under the Export Control Act administered by DAWR Biosecurity.

Accreditation by the NT Department of Primary Industry & Resources (DPIR).

PLEASE NOTE THIS PROCESS IS UNDER REVIEW.

authorise the provision of non-veterinary pregnancy testing services for live export in the NT. A person may apply for accreditation to be recognised as a non-veterinary pregnancy tester for slaughter and feeder cattle for export from NT by:

1. Completing the accreditation application form available on the DPIR website <https://nt.gov.au/industry/agriculture/livestock/moving-and-exporting-livestock/exporting-livestock-from-the-nt> and scroll down to - **Pregnancy Testing**.
2. Attaching a copy of the Memorandum of Grades provided by a Recognized Training Organisation (RTO) for the nationally recognized course *Pregnancy test animals AHCLSK408*

Applicants meeting these criteria will be accredited for pregnancy testing slaughter and feeder cattle for export which originate in the NT. The accreditation does not allow pregnancy testing of cattle or buffalo for export in or through other States.

A certificate of accreditation will be posted to the applicant with an accreditation number which is used when the accredited person provides certification that export cattle are non-pregnant. Accreditation will last for a period of three (3) years, providing conditions for maintenance of competency are complied with.

Maintenance of accreditation will rely on ongoing pregnancy testing activity with a moving average of at least 500 cattle per year over a three (3) year period, annual reporting of pregnancy testing activity to DPIR, pregnancy testing for export purposes.

Pregnancy Testing Training

The Charles Darwin University (CDU) Katherine Rural Campus is a Recognised Training Organisation (RTO) which provides the nationally recognized pregnancy testing training course *Pregnancy test animals AHCLSK408* and the practical test and theory examination required for export accreditation.

The assessment can be undertaken on a commercial cattle property with a suitable crush, race and forcing yards with prior arrangement through the CDU Katherine Rural Campus. The assessment can be combined with normal management activities.

Assessment by theory and practical examination will be:

- Undertake a practical examination in diagnosing 20 animals as pregnant or non-pregnant (100% accuracy).
- Undertake a theory examination (minimum score of 80%)

Katherine Rural campus contacts

General enquires | Freecall: 1800 779 577 | Ph: (08) 8973 8311

Tim Biggs

Team Leader Agriculture & Rural Operations Studies

Katherine Rural Campus, CDU

Ph: (08) 8973 8325 | Fax: (08) 8973 8300 | tim.biggs@cdu.edu.au

Maintenance of Competency:

Maintenance of accreditation will rely upon the satisfactory performance of the accredited person and compliance with the conditions set out in these guidelines.

1. Accreditation is valid for a three (3) year period.
2. The accredited person must maintain records of:
 - a) the date of each pregnancy testing examination;
 - b) the name and address of the owner of the cattle;
 - c) the property on which the cattle were examined;
 - d) the number of cattle examined;
 - e) the number of cattle determined to be pregnant by the accredited person.
3. Each year, the accredited person must submit the following documentation to the Department of Primary Industry & Resources by 31 December:
 - a) Pregnancy testing activity form
 - b) Pregnancy testing records for the year
4. A complaint has not been received related to competency. A formal process of investigation will be established to investigate complaints.

Evidence of pregnancy testing activity can be provided by:

- Export pregnancy testing records which can be corroborated by exporter or DAWR Biosecurity;
- Production pregnancy testing records corroborated by employer.

The Department of DPI&R may cancel the accreditation of an accredited pregnancy tester if after due enquiry there is substantiated evidence to show that a person is not competent. The person will have the opportunity to respond to evidence presented.

The criteria for maintenance of competency may be reviewed by DPIR in consultation with stakeholders. Amendments will be published on the Department of Primary Industry and Resources website, and accredited persons will be advised by mail.

Record Keeping by DPIR

The Department of Primary Industry and Resources will maintain a register of accredited persons which is published on the Department of Primary Industry & Resources website <https://nt.gov.au/industry/agriculture/livestock/animal-health-and-diseases> and click on **Exports - Pregnancy Testing**.

A list of accredited pregnancy testers will also be provided to DAWR Biosecurity Live Animal Export veterinarians and the Northern Territory Livestock Exporters Association (NTLEA).

Accredited pregnancy testers will be notified in writing 3 months prior to the date of accreditation expiry. The current address maintained by the Department of Primary Industry and Resources will be used for contact with accredited persons. It is the responsibility of the accredited person to notify the agency of a change of address.

DPI&R Contact

Susan Gillis
Registrar – Veterinary Board of the NT
GPO Box 3000, DARWIN NT 0801
Ph: (08) 8999 2028 | Fax: (08) 8999 2146
susan.gillis@nt.gov.au

Further Information:

Charles Darwin University (CDU) Katherine Campus
<http://www.cdu.edu.au/campuses/katherine/campus.html>

Pregnancy test animals (AHCLSK408) course details and Recognised Training Organisations (RTOs) <http://training.gov.au/Training/Details/AHCLSK408A>

Department of Agriculture Biosecurity Live Animal Exports:
<http://www.agriculture.gov.au/>

Australian Standards for Live Export (ASEL) V2.3 <http://www.agriculture.gov.au/>

Northern Territory Livestock Exporters Association (NTLEA) <http://www.ntlea.com.au/>