

Cattle pregnancy testing and ovarian scanning

for commercial purposes and
scientific research, by laypersons

Decision Regulatory Impact Statement



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1 Executive Summary

The cattle industry is a major contributor to the Queensland economy. Cattle and calf production is the State's largest agricultural industry and in 2017-18 was estimated to contribute \$5.473 billion to the State. This contribution includes around \$244 million from live exports and \$230 from milk production at the farm gate. Off-farm processing adds considerably to these figures.

Pregnancy testing of cattle plays an important role in protecting animal welfare in the Queensland cattle industry and enabling international market access for live exports. It assists in herd management and so, along with scientific research into animal productivity and implementation of practices that improve performance, can contribute significantly to the productivity of beef and dairy herds.

Under the *Veterinary Surgeons Act 1936* (VS Act) performance of an "act of veterinary science" such as pregnancy testing, for fee or reward, is restricted to registered veterinary surgeons. This restriction is generally known as the practice restriction.

It is estimated that there are 112 PREGCHECK veterinary surgeons regularly carrying out pregnancy testing of cattle in Queensland.¹ The Australian Veterinary Association (AVA) also estimates that in 2014 PREGCHECK™ veterinary surgeons performed just over 2.5 million pregnancy tests annually and that at least a further 21% (650,000) tests were conducted by laypersons – either legally (not for fee or reward) or illegally².

This Decision Regulatory Impact Statement (RIS) considers public feedback on a Consultation RIS about the appropriateness of the practice restriction as it relates to:

- pregnancy testing of cattle by laypersons, by both rectal palpation and transrectal ultrasonography, for fee or reward (Section 4 VS Act); and
- ovarian ultrasound scanning performed by laypersons, where the activity has been approved by an Animal Ethics Committee under the Scientific Use Code, pursuant to Section 6 of the *Animal Care and Protection Act 2001* (ACP Act).

1.1 Release of Consultation RIS

Some stakeholders have recently advocated for amendments to the practice restriction:

- AgForce, on behalf of the Queensland cattle industry, has sought the removal of the practice restriction in order to allow cattle producers a greater choice of service providers. The driver for this request is anticipation of a reduction in travel costs charged by remotely located veterinarians and avoidance of indirect costs incurred as producers await the availability of a veterinarian to conduct pregnancy testing.
- AgriScience Queensland, a division of the Department of Agriculture and Fisheries, has sought an exception to the practice restriction to enable trained technicians to conduct ovarian scanning of cattle for productivity research purposes, under the supervision of an animal ethics committee (AEC).

¹ AVA, *Cattle pregnancy testing and ovarian scanning for commercial purposes and scientific research*, Australian Veterinary Association and Australian Cattle Veterinarians to Queensland Department of Agriculture and Fisheries, December 2018

² AVA, *Pregnancy diagnosis of cattle for live export*, Submission from the Australian Veterinary Association and Australian Cattle Veterinarians to Queensland Department of Agriculture and Fisheries, February 2016

To explore these issues, on 19 October 2018 the Queensland Government released a Consultation Regulatory Impact Statement (RIS) that considered three options in relation to AgForce's and AgriScience Queensland's representations:

Three options were proposed for consideration by stakeholders:

1. Status Quo – continue to restrict performance of pregnancy testing and use of transrectal ultrasonography to veterinary surgeons.
2. Remove the practice restriction – include pregnancy testing in the list of acts that are not veterinary science in Section 3 of the *Veterinary Surgeons Regulation 2016* and enable conduct of transrectal ultrasound ovarian scanning under supervision of an AEC.
3. Authorise laypersons to:
 - conduct pregnancy testing of cattle under an approved industry administered accreditation scheme; and
 - perform transrectal ovarian scanning under an AEC approval.

More than 1,000 people provided feedback to the Consultation RIS, through both written and survey responses. Eight hundred and fifty-five of those completed their feedback through to formally expressing their preferred option. Five hundred and sixty-three of submitters identified as producers, 123 identified as veterinary surgeons and 109 identified as laypersons. The remaining submitters identified as concerned citizens (47) and 12 as academics, with another 48 submitters across smaller categories.

In all, 67% of submitters preferred Option 3 (to establish accreditation of laypersons and supervised ovarian scanning), 16% supported Option 1 (to main the status quo) and 15% preferred Option 2 (to completely remove the practice restriction on pregnancy testing and allow supervised ovarian scanning).

1.2 Key stakeholder responses to consultation

The costs of removing the practice restriction (or, equally, the benefits of retaining the practice restriction) are difficult to quantify. The survey, conducted in tandem with the Consultation RIS, also examined concerns around potential loss of testing quality and any adverse animal welfare or productivity consequences.

Producers were generally supportive of the removal of the practice restriction. Of the 563 producers making submissions, 74% preferred Option 3 and another 18% preferred Option 2. A significant number of producers responding to a Consultation RIS survey also consider that the value added by veterinary attendance (such as nutritional and welfare advice) is currently not enough to compensate for the on-costs associated with travel and, on occasions, lost sale opportunities. Survey responses confirm that producers are actively weighing their operational costs against the perceived value of veterinary advisory services. Given that more than 92% of producers expressed support for expanding paid testing to lay persons (via Options 2 or 3), the perceived imbalance in return on investment in veterinary attendance is widespread.

Responses from veterinary surgeons were generally not in support of the removal of the practice restrictions however. Many respondents argued that pregnancy testing by veterinary surgeons is an opportunity to provide advice to producers, conduct surveillance and be available for other veterinary services. They also argued that laypersons have inferior diagnostic ability. While the AVA contends that lay testing is of noticeably lower quality than professional testing, feedback from producers gathered during the survey challenged this assertion, with good and bad accuracy reported for both lay testers and veterinary surgeons.

1.3 Impacts of removing the practice restriction in favour of an accreditation scheme

Within the currently regulatory environment, a black market of lay testers operate. Without regulatory oversight in relation to training and delivery, risks in relation to animal welfare, accuracy and biosecurity on, and between, farms are more likely to arise. The removal of the practice restriction and the introduction of an accreditation scheme (with appropriate monitoring, accountability mechanisms, animal tracing and training), as proposed in the Consultation RIS, is therefore considered to offer significant benefits to accuracy, market access, animal welfare and biosecurity awareness and practices compared to the current situation. However, while Option 2 (the removal of the practice restriction with no accreditation scheme) may also improve market access, it is not considered to provide adequate protections to accuracy and animal welfare outcomes.

1.3.1 Entry of lay testers

During consultation 108 laypersons indicated a 50/50 or more interest in entering the paid market for cattle pregnancy testing. This contrasts with AgForce's estimate of 20 to 30 laypersons referred to in the Consultation RIS. It is unknown however how many of the respondents are laypersons already be operating in the black or grey market.

It is likely that a significant proportion of expressed interest will not materialise given:

- the dropout rate of laypersons completing the survey (only 86 of the 108 completed the survey)
- the assumption by many submitters that the Queensland scheme would replicate 'direct accreditation' requirements of either the Western Australia or Northern Territory models
- fifteen percent of 86 layperson submitters who completed the survey prefer complete removal of the practice restriction (which was Option 2)
- Twenty per cent of lay persons that expressed an interest intended to use ultrasound alone—the accreditation scheme, and the requirements of the Australian Standards for the Export of Livestock, will however require pregnancy testers to be competent in manual palpation.

Nevertheless, the entry of paid laypersons has the potential to reduce demand for pregnancy testing services by veterinary surgeons, part of which is supported by exclusive access to the export testing market. The enablement of paid testing by laypersons may act to:

- legitimise an already functioning herd management black market
- remove exclusive access of veterinary surgeons to the export market; and
- encourage new providers to enter both the herd management and export markets.

1.3.2 Impact on veterinary practices and associated services

While there is some opportunity for increased numbers of local suppliers to increase the demand for pregnancy testing services, there is also a risk that removal of exclusive access to the pregnancy testing market could impinge on the viability of some regional and remote veterinary practices. In turn, this could result in reduced access to veterinary services for purposes including surveillance, emergency response, medications and advice. This risk is more prominent in some regions than others.

The areas in which the risk of loss of access to veterinary services is the highest, are also the areas where producers are experiencing travel and opportunity cost burdens that, in the judgement of the majority of those producers, overwhelm the benefits provided by veterinary surgeons.

The realisation of risk associated with surveillance and emergency response is uncertain in both likelihood and scale. The Department of Agriculture and Fisheries (DAF) recognises it may need to implement strategies to address these risks if they come to fruition. While the scale of this need will become clearer over time mitigation strategies, such as paying private veterinary surgeons to conduct active surveillance programs or calling upon national emergency response teams, may become necessary.

In other areas, producers are not shouldering excessive travel and opportunity costs. In these areas, veterinary surgeons who provide pregnancy testing services that meet market expectations and/or add value, should have nothing to fear from competition from lay testers, many of whom are already operating within a black market.

1.3.3 Animal Welfare

No specific reports of adverse animal welfare outcomes, as a result of laypersons testing, were received during consultation. Nonetheless, incidents of adverse animal welfare outcomes may still arise where testing continues to be undertaken by both inexperienced owners and other unaccredited lay testers. This would be less true for experienced people attracted into lay testing commercially if the practice restriction was removed.

1.4 How accreditation may work

The Consultation and Decision RIS have considered a broad proposal by AgForce for development of an accreditation scheme for lay pregnancy testers in one of the following forms:

- The Department directly accredits laypersons along the lines of schemes operating in Western Australia and the Northern Territory; or
- The Government approves an industry delivered accreditation scheme, where an industry body accredits individual testers.

Accreditation could support testing quality – and possibly increase testing quality compared with tests conducted non-commercially by cattle owners themselves. The first option above falls within current Commonwealth guidelines for acceptance of lay pregnancy testers for live export. The second option falls within the current working draft of the Review of the Australian Standards for the Export of Livestock (ASEL).

As accreditation is primarily for private benefit, full cost recovery would be required. It is anticipated that there are insufficient numbers of laypersons in Queensland for the Queensland Government to establish a scheme where full cost recovery is achievable at a price point that would be accepted by the market. For those reasons, legislative change would need to allow for establishment of industry-based schemes, where national economies of scale may be available.

Ultimately, veterinary surgeons and laypersons may have an opportunity to cooperate to develop a service model that provides more effective value to all players in the supply chain.

1.5 Ovarian Scanning

The RIS also considers the impact of the practice restriction in relation to scientific research conducted under the supervision of an Animal Ethics Committee under the *Animal Care and Protection Act 2001*. The research considered under the Consultation RIS relates to Agri-Science Queensland's research to improve the reproductive capacity of the Northern Beef Herd.

An animal ethics committee (AEC) is a committee constituted in accordance with the requirements of the Australian code for the care and use of animals for scientific purposes (known as the scientific use code). AECs must:

- ethically review and decide on applications and other activities associated with the use and care of animals for scientific purposes, including research and teaching
- monitor the care and use of animals for scientific purposes
- conduct follow-up review of approved projects and activities
- approve guidelines for the care and use of animals
- take actions regarding unexpected adverse events and non-compliance
- report to the relevant institution
- provide advice and recommendations to the relevant institution.

Part of that research being undertaken in relation to the reproductive capacity of the Northern Beef Herd requires ovarian scanning of heifers to be conducted at its Brian Pastures (Gayndah) and Spyglass (Charters Towers) research facilities. AgriScience Queensland argues the timely availability of employed staff, and diagnostic consistency offered by accessing a consistent cadre of technicians, underpins more reliable research outcomes. Like pregnancy testing, conducting ovarian scanning requires proficiency in manual palpation in order to ensure the wellbeing of the animal being tested. This is particularly so given the relatively young age of animals being tested. However, like pregnancy testing, appropriate training and consistent practice can ensure the welfare of the animal does not become compromised whether the tester is paid or not.

The benefits of consistent and timely diagnosis, underpinned by the ethical standards under which the research is conducted, are considered to outweigh the arguments against enabling laypersons to conduct ovarian scanning of cattle for research purposes.

1.6 Conclusions

This RIS has determined that:

1. The agricultural sector's viability is best served by:
 - the availability of choice of appropriately qualified and accredited cattle pregnancy testing provider, with producers best placed to evaluate the cost and benefits of veterinary surgeon attendance in their particular circumstances/regions; and
 - reliable scientific research, supported by consistent interpretation of ovarian scanning results performed by laypersons.

The requirement for Government intervention in surveillance, or emergency response, will be monitored and addressed on an as needed basis.

2. The case has not been made that laypersons are unable to attain a suitable standard of accuracy and integrity for either:
 - ovarian scanning, or
 - pregnancy testing.

And that the intervention of accreditation, or animal ethics committee supervision, is more likely to support consistent quality assurance than the status quo.

3. Animal welfare outcomes are best served by requiring competence in manual palpation which should be a prerequisite for:
 - ovarian scanning, with supervision and support of an animals ethics committee
 - pregnancy testing, within an accreditation scheme

The governance mechanisms also offer the opportunity to ensure broader animal welfare awareness is achieved, along with professional support mechanisms to actively achieve good animal welfare outcomes.

4. The minimum regulatory burden:

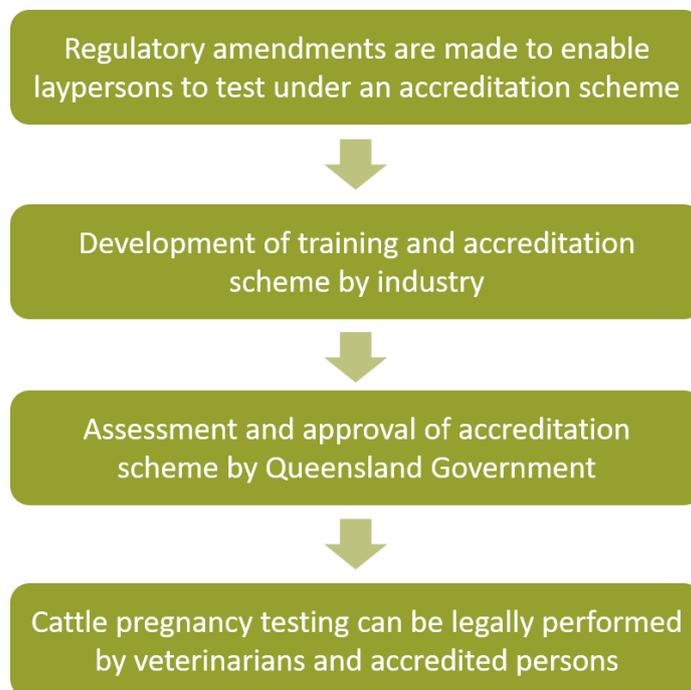
- for pregnancy testing, is best achieved by allowing industry to oversee and deliver an accreditation scheme. This model offers the potential to scale up through national adoption and achieve consequential economies of scale, not available within a Queensland only based model; and
- for ovarian scanning, is best achieved with laypersons conducting ovarian scanning under the supervision of an animal ethics committee.

1.7 Decision

This RIS recommends that legislative amendments be progressed to:

- enable establishment of an industry based accreditation scheme to allow laypersons to pregnancy test cattle, and issue relevant certificates, for fee or reward; and
- allow laypersons to conduct of ovarian scanning of cattle under supervision of an animal ethics committee, for fee or reward

noting the following overview of steps involved in implementation:



2 Background

In October 2018, the Queensland Government released a Consultation Regulatory Impact Statement about cattle pregnancy testing and ovarian scanning for commercial and scientific purposes, by laypersons (the Consultation RIS). The full Consultation RIS is reproduced at Appendix BB.

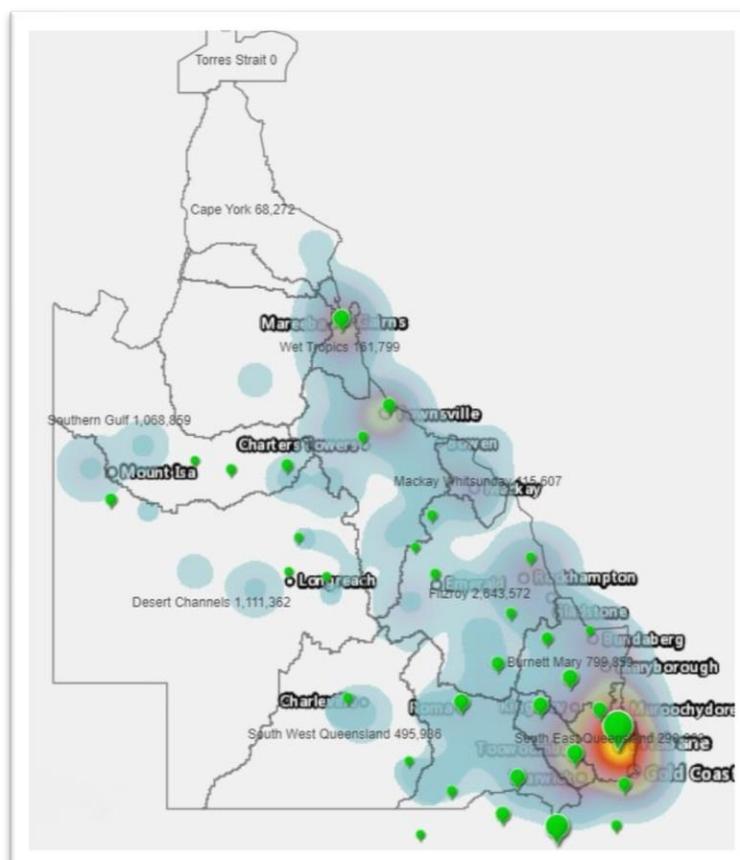
The Consultation RIS explored options to address a perceived shortfall in the supply of veterinary surgeons providing cattle pregnancy testing services, particularly in some regions. Under the *Veterinary Surgeons Act 1936* laypersons are precluded from receiving payment for conducting “acts of veterinary science” and this includes pregnancy testing. As a consequence, it is illegal for laypersons to provide commercial pregnancy testing services that might meet perceived shortfalls in pregnancy testing suppliers.

The RIS also explored the issue of scanning of ovaries of cattle, under the supervision of an animal ethics committee, for productivity research purposes. Ovarian scanning is also considered to be an act of veterinary science for which laypersons cannot receive payment.

The prohibition on laypersons receiving payment for performing “acts of veterinary science” is termed “the practice restriction”.

2.1 The pregnancy testing problem

The Consultation RIS used a heat map to illustrate the density of veterinary surgeons in Queensland and examined the following problem:



- Some stakeholders consider that the maintenance of the practice restriction is depriving producers and laypersons of the opportunity to meet demand for testing services, particularly in some remote areas of the State. This is said to result in operational inefficiencies (such as poorly

timed mustering and the cost of feeding cattle held in yards) and opportunity costs (such as lost sale opportunities) associated with delayed veterinary attendance.

- There are a number of trade-offs to consider including availability of veterinary surgeons to these areas for activities such as surveillance, emergency response and general veterinary services, where veterinary practice viability could be threatened by competition from laypersons.

2.2 The ovarian scanning problem

Due to the location of research facilities, availability of veterinarians can be problematic and, in addition to timing, the use of multiple providers can produce inconsistency in interpretive results.

Researchers consider it is highly desirable to have the same tester, or cadre of testers, conduct all testing so that the results are as timely, consistent and reliable as possible. To achieve this, it is argued there is merit in having competently trained laypersons conduct the scanning under an AEC approved arrangement. In addition to concerns about the integrity of supervision and capability, veterinarian surgeons suggest the loss of income from these sources could undermine veterinary practice viability and availability.

2.3 RIS development process

Consultation with the cattle industry, veterinary surgeons and the RSPCA took place over nearly two years to assemble evidence, negotiate a mutually acceptable approach and prepare the Consultation RIS.

2.4 Policy objectives

The Consultation RIS evaluated the options against the following policy objectives:

- supports the agricultural sector's viability in an increasingly competitive international and domestic market;
- supports the integrity of pregnancy testing and scientific research results;
- incorporates the importance of animal welfare as part of the social licence of providers, of pregnancy testing services, to operate; and
- imposes the lowest responsible regulatory burden.

2.5 Options considered under the Consultation RIS

The Consultation RIS considered three options:

- Option 1: Status Quo/Retaining the practice restriction. Under this option, no regulatory change would be made. It would continue to be an offence for laypersons to conduct either pregnancy testing of cattle or transrectal ovarian scanning for fee or reward.
- Option 2: Lifting of the practice restriction. Under this option:
 - amendments would be made to the VS Act to lift the practice restriction in relation to pregnancy testing of cattle by laypersons
 - an accreditation scheme for the purposes of meeting ASEL requirements would not be established; and
 - amendments would be made to provide that it is not an offence to conduct ovarian scanning via transrectal ultrasound, where the activity complies with the scientific use code and conducted with the approval, and under supervision of, an animal ethics committee.
- Option 3: Laypersons authorised to perform acts under an accreditation scheme or Animal Ethics Committee approval. Under this option legislative amendments would:
 - be made to lift the practice restriction in relation to pregnancy testing of cattle by laypersons

- be made to make provision for accreditation schemes for particular acts
- provide that it is an offence for a layperson to conduct pregnancy testing of cattle unless they are accredited under an accreditation scheme; and
- provide that it is not an offence for a layperson to conduct transrectal ovarian ultrasound scanning provided the activity complies with the scientific use code and conducts the activity with the approval and under supervision of an animal ethics committee.

2.6 Factors relevant to the policy objectives

A general summary of the issues relevant to the policy objectives considered under the Consultation RIS is as follows:

	Option 1	Option 2	Option 3
Extra providers for remote areas for herd management	No gain in provider numbers	New entrants (legal) – unclear if increase would reflect or exceed black market	New entrants (legal) – estimated at 20-30 providers.
Extra providers for remote areas for export market	No gain in provider numbers	No gain in provider numbers	No immediate gain in provider numbers. However provides platform for industry to progress recognition of an accreditation scheme to the Commonwealth
Accuracy of diagnosis	Recognised training skill set	Variable skill set, due to mix in veterinary and lay testers of varying quality	Recognised specific training and skill set
Animal welfare	Recognised skill set plus additional services	Variable skill set and recognition, however previously black market testers may be willing to report animal welfare concerns	Recognised skill set, but limited to pregnancy diagnosis. Previously black market testers may be more willing to report animal welfare concerns
Consistent research observations	Compromised by lack of continuity of personnel	Supported by consistency of personnel	Supported by consistency of personnel
Regulatory burden	Heaviest burden, but compromised on ability to conduct effective compliance	Lowest burden under the VS Act. Compliance under ACP Act conflicted.	Accredited persons have additional responsibilities, but barriers to entry lower than veterinary surgeons
Availability of veterinary surgeons for other purposes (surveillance, emergency response and other veterinary services)	Preserved, with no right of election by consumers	Compromised as may threaten viability of more veterinary practices. Consumers can still elect to engage a veterinary surgeon.	Compromised, but with a more limited number of new entrants. Consumers can still elect to engage a veterinary surgeon.

A more detailed assessment was available in Appendix D of the Consultation RIS.

2.7 Recommendation under the Consultation RIS:

The Consultation RIS recommended Option 3 because:

- It may support supply of more pregnancy testing services, particularly where veterinary surgeons are sparsely located – then estimated at 20 to 30 new entrants
- An accreditation scheme would offer more points of influence over lay pregnancy testing integrity, productivity outcomes and reduce the risk of adverse animal welfare outcomes;
- It would support consistency of observations in scientific research;
- Would provide a platform for industry to seek to address supply concerns for the live export feeder/slaughter market.

This recommendation was made, despite recognising the downside risk to the volume of work to support viability of veterinary practices for other purposes.

2.8 Purpose of a Decision RIS

A Decision RIS explores feedback received during the public consultation period and documents the Government's determination in relation to the matter.

Since release of the Consultation RIS, a new working draft of the Australian Standards for the Export of Livestock has been released. The implications of this are discussed throughout this document along with an examination of the information gathered through the consultation process.

3 Consultation Overview

The Consultation RIS was released on 19 October 2018 and the opportunity to make submissions closed at 5:00pm on 14 December 2018.

Interested parties could make submissions via an online survey and had the opportunity to make free form submissions via mail or email. Some respondents elected to make submissions via multiple avenues, including writing directly to the Minister.

A summary of submission types received follows:

Stakeholder	Online (complete to preference)	Email/Letter	Ministerial correspondence	Total after elimination of identifiable duplicates
Academic	11	1	1	12
Concerned citizen	47	-	-	47
Exporter	1	-	-	1
Layperson	107	3	-	109
Producer*	555	10	-	563
Veterinarian*	103	34	16	123
Other	31	7	-	37
Total	855	55	17	892

Figure 1 - Summary of submissions completed to selection of preferred option

* A small number of submitters chose to identify themselves as both veterinarians and producers. In all, this is thought to be less than 5 of total submissions. These have been included in the veterinarian count.

“Other” includes 10 veterinary students and 9 livestock agents.

The names of email, letter and ministerial submitters are available at Appendix A. Self-identification for the online survey was optional and the names of these respondents are not published.

The online survey was hosted by SurveyMonkey³. The survey opened at approximately 3:00pm on 19 October 2018 and closed at 5:00pm 14 December 2018.

A copy of the questions asked, options available for selection and the pathway the survey took (based on the response made) is available at Appendix Z⁴.

A discussion in relation to the survey process can be found at Appendix B. The discussion notes that:

- Coupled with the recent AgTrends forecasts 2018-19⁵, the data gathered could be regarded as providing representation of a slightly less than average year
- Responses from duplicated IPs have not had a material impact on the outcomes and there is no evidence of any interference in outcomes
- Self-selection by respondents means the data is unlikely to be completely representative of all stakeholders in each group and that particularly polarised views may be expressed
- The achievement of completion rates of greater than 80% for the most affected stakeholders (producers, veterinarians and laypersons) is considered satisfactory.

4 Consultation survey

4.1 Preferred option

The Consultation RIS discussed options in relation to the issues at hand (refer Consultation RIS 10 – *Options to achieve the objectives*). A full discussion in relation to expressed preferences can be found at Appendix C.

4.1.1 Overall preferences

	Veterinary Surgeons	Laypersons	Producers	Other	Total
Option 1	84	0	36	28	148 (17%)
Option 2	2	14	96	19	131 (15%)
Option 3	7	90	406	49	552 (65%)
Other	7	2	7	5	21 (2%)
	100 (12%)	106 (12%)	545 (64%)	101 (12%)	852 (100%)

Overall, Option 3 was preferred by 65% of respondents, followed by Option 1 at 17%, Option 2 at 15% and “Other” at 2%.

4.1.2 Major Stakeholder preferences

In terms of major stakeholders, the selected option generally aligns with anticipated preferences:

	Veterinary Surgeons	Laypersons	Producers	Total major stakeholders
Option 1	84	0	36	120 (16%)
Option 2	2	14	96	112 (15%)
Option 3	7	90	406	503 (67%)
Other	7	2	7	16 (2%)
	100 (13%)	106 (14%)	545 (73%)	751(100%)

The alignment is demonstrated in the following charts.

³ www.surveymonkey.com

⁴ For example, if a respondent indicated they were responding as a concerned citizen, they were taken straight to Question 48 whereas someone identifying as a small animal veterinarian was taken to Question 14.

⁵ <https://publications.qld.gov.au/dataset/queensland-agtrends/resource/ba9b0b4b-e60a-40d4-9cca-f6da11fc3eb6>

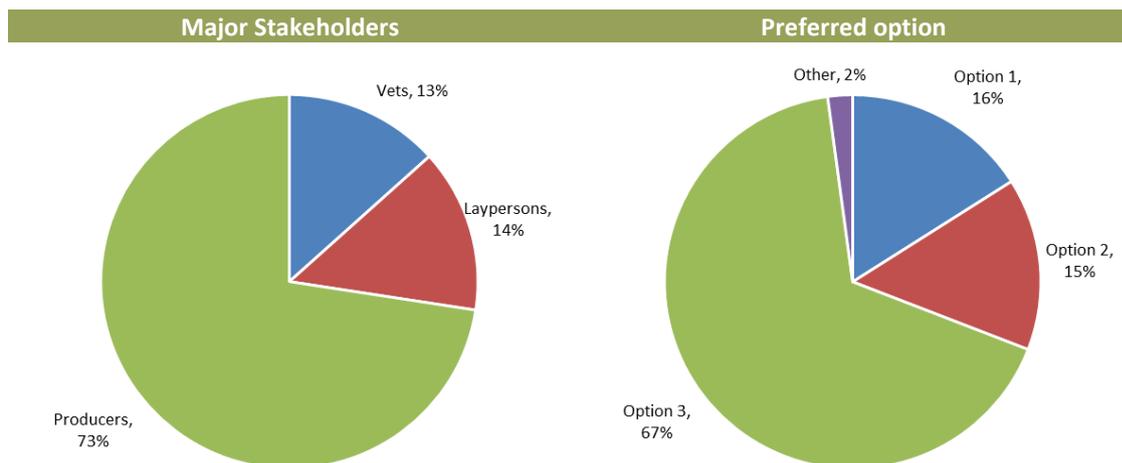


Figure 2 - Option selection alignment to stakeholder type

This shows that, as a general rule, stakeholder preferences are aligned to those polarised views.

4.2 Decision drivers

Contributors to the online survey were subsequently given an opportunity to select from eight possible drivers for their decision. Answers to this question found that:

- All stakeholders place emphasis on accuracy and welfare
- Producers and laypersons place emphasis on cost and timeliness
- Veterinary surgeons place emphasis on the importance of advice, practice viability and regional presence for all purposes
- Producers had mixed preferences in relation to the value of veterinary advice or convenience of stock handling assistance.

4.3 Impact of composite options

The relevance of composite options were also addressed within the online survey. Answers received indicate that:

- The grouping of changes for both pregnancy testing and ovarian scanning, within a single option, did not distort the selection of the preferred option
- Nearly half of the veterinarians that responded did not believe that laypersons should be conducting pregnancy testing, even when they are not paid.

4.4 Current use of pregnancy testing providers

Information about current usage of different types of providers was sought in the consultation survey⁶. One hundred and three producers (32% of 322 respondents) advise that in the last 12 months, veterinary surgeons are the only type of visiting provider used, while another 92 producers (29% of 320) advise that only laypersons are engaged.

Of the 391 producers who had done pregnancy testing in the last 12 months, more than 50% (196) advise they had conducted 100% of all of the testing for the previous 12 months.

⁶ This data was gathered from three separate questions. There was no capacity to cross-check consistency of response (e.g. where a producer advised that they do all their own testing at one point, and then advised they used a veterinary surgeon for a portion of the herd at a later point).

For producers who never use certain categories of providers, 129 of 253 producers (51%) never use laypersons, 106 (42%) never use veterinarians and 18 (7%) never do testing themselves.

It appears likely the ability of producers to do their own testing is impinging on demand for veterinary surgeons for other than the export market. Nonetheless, it is unlikely producer testing could compete with the number of head tested by providers who specialise in cattle pregnancy testing.

Further detail about current use of pregnancy testing providers can be found at Appendix P.

Finding: There is no discernible pattern in use of provider types between regions

4.5 Location of existing and potential providers

In all, 61 lay respondents indicated they would definitely like to legally enter a paid market, with another 27 indicating that it is likely they would. A further 20 considered they might.

Across the State, survey data suggests that establishment of an accreditation scheme would boost supply of pregnancy testing providers by 91%⁷ however it is relevant that a material number of black market lay testers are likely to be already competing with veterinary surgeons. Further detail can be found at Appendix Q.

There will be a significant number of issues that will influence demand for, and supply of, laypersons. These include:

- some producers will continue to prefer veterinary attendance (some may not have participated in the survey, because the availability of choice was not considered relevant)
- whether layperson interest is based on an Option 2 model or an Option 3 model
- the entry and maintenance costs associated with an accreditation scheme
- the administrative burden associated with maintaining accreditation
- the extent to which these interested parties are seeking to provide fulltime pregnancy testing services, or a broader suite of cattle mustering, handling and yard work, will influence the number of animals they could possibly test
- cost of fit for purpose equipment, if volume of other intended work could make reliance solely on manual palpation unsustainable
- accreditation may lead to a shift away from a large number of unaccredited testers, to a smaller number of accredited testers
- better industry intelligence could facilitate compliance activity directed at removing illegal operators
- hesitation to enter an accreditation scheme, before it is certain that the Commonwealth will accept an industry based accreditation scheme under ASEL
- realisation that even if an indirect accreditation scheme is accepted by the Commonwealth, ASEL appears likely to require that testing for the export market is conducted via manual palpation
- ASEL is still expected to require veterinary surgeons for the breeder/productive segment of the market⁸ (refer Consultation RIS, 2.2.4 – *Queensland providers and market served*, Table 1). Given Indonesia's "5+1" policy⁹ on farm attendance by veterinarians will be required to

⁷ Refer to Appendix R for how this number was calculated.

⁸ Under ASEL, veterinary surgeons are required to test productive/breeder cattle

⁹ <https://www.mla.com.au/globalassets/mla-corporate/prices--markets/documents/os-markets/red-meat-market-snapshots/mla-indonesia-beef-snapshot-2017.pdf> Accessed 22 January 2019

some extent. Over the last three calendar years, live export out of Darwin and northern Queensland ports have averaged in excess of 70% of animals being destined for Indonesia¹⁰. However, recent reports suggest that only 8-10% of Indonesian lot feeders are requiring the ratio to be met¹¹. Recent flood events may also reduce capacity to meet these ratios.

In the particularly large and remote areas of Queensland, where veterinary presence appears sparse in the above heat map, the *prima facie* increase in supply of pregnancy testing providers is:

- Central West Queensland 175%
- Far North Queensland 13%,
- North West Queensland 79%
- South West Queensland 113%

However, Central Queensland and Wide Bay Burnett are also regions where the *prima facie* supply of laypersons could outweigh veterinary surgeons.

Maps showing the location profile of responding producers, veterinarians and laypersons expressing an interest in the paid market at a regional and local government level in the paid market are available at Appendix S.

Findings:

- The number of laypersons entering the paid market is likely to be less than expressed interest
- The impact of lay testers will vary from region to region

4.6 On-costs

The Consultation RIS discussed the cost to producers of pregnancy testing at 4.4 - Direct and indirect cost to producers. Based on AVA advice, an indicative average professional fee of \$3.00 per head was considered representative for many areas of Queensland. The Consultation RIS concluded that the professional differential between veterinary surgeons and laypersons to producers was not significant. The AVA's submission to the Consultation RIS observes that the structure of fees and rates charged, can also vary depending on the functional efficiency of facilities in which the veterinary surgeons will be operating.

On-costs can add substantially to the cost of testing. Within the consultation survey, producers answered questions about the impact that travel cost is having on their decision to use veterinary pregnancy testing services for other than the export market.

The online survey revealed that the travel cost of veterinary surgeons attending on farm for pregnancy testing was considered to be a deterrent by 48% of producers. However, there are variances in responses based on the location of respondents' operations.

There is a high ratio of opinion that the benefit, of advice received from veterinary surgeons, does not compensate in North West Queensland, North Queensland and Central West Queensland. There is a moderate ratio of the same opinion in Wide Bay Burnett, Central Queensland, South West Queensland and Darling Downs.

¹⁰ <http://www.agriculture.gov.au/export/controlled-goods/live-animals/live-animal-export-statistics/livestock-exports-by-market> Accessed 22 January 2019

¹¹ <https://www.northqueenslandregister.com.au/story/5874200/indonesian-live-exports-looking-positive/?cs=5197>, Accessed 31 January 2019

There is no consistent relationship between the remoteness or size of regions and, the degree to which travel cost is influencing the discretionary engagement of veterinary services for pregnancy testing. This may be attributable to region specific factors including rates of producer own testing, nature of terrain, road conditions, average herd sizes, travel charge regimes and effectiveness of engagement by local veterinarians.

Details, about survey data relating to on-costs, can be found at Appendix I.

Findings:

- Travel cost is a material deterrent to engaging pregnancy testing services
- There is no consistent relationship between remoteness, or size of regions, and the extent to which travel cost is a disincentive

4.7 Availability and opportunity cost

Testing delays for productivity purposes could result in some inconvenience. However delays in testing, particularly for the export market, can result in loss of an immediate sale.

The online survey asked producers and veterinarians about their experience in meeting required timelines. It revealed some disparity between how veterinary surgeons view their ability to meet timelines and how export producers view timeliness. Given that the concerns raised by AgForce relate primarily to the export market, the perceptions of export producers were explored.

To explore the suggestion by veterinary surgeons that producers do not always give enough notice, we asked export producers about the notice they receive from exporters. There appears to be a strong relationship between the perceived adequacy of notice given by exporters and producer feedback about the timeliness of veterinary attendance. This suggests there may be opportunities for industry players, including exporters, to work more closely to overcome adequacy of notice issues.

If an export sale is lost due to inability to secure pregnancy testing, there is an opportunity cost to producers. Thirteen respondents reported that they had lost an immediate sale in the last 12 months with another 34 respondents (based across 59 locations) reporting that immediate sale opportunities were lost on multiple occasions.

Forty-five percent of the export producers in North West Queensland (responding to the survey) report they had lost immediate sale opportunities on multiple occasions in the last 12 months. This supports AgForce's concern that producers in the North West are experiencing significant numbers of events, where sale opportunities are lost. While smaller in numbers, 62% of Central West exporter producers have experienced multiple losses of immediate sale. This represents a material opportunity cost imposition on producers in certain regions.

Further detail in relation to availability can be found at Appendix J.

Findings:

- There is a disparity between how veterinary surgeons view their ability to meet timelines and how export producers view timeliness
- Loss of immediate sale opportunities is a material cost imposition on producers
- Producers in some regions are experiencing multiple events where immediate sale opportunities were lost

4.8 Producer priorities

To better understand priorities, producers were asked to rank six considerations in choosing a pregnancy testing provider. They were given the opportunity to rank cost, timeliness, satisfaction based on previous experience, biosecurity skills, force of habit or identify other issues. Further detail can be found at Appendix O.

If the selections made by respondents are weighted from 6 to 1, then the rankings are:

Issue	Cost	Timing	Satisfaction	Biosecurity	Habit	Other
Score	4.41	4.40	4.32	3.84	2.13	1.90
Rank	1	2	3	4	5	6

Figure 3 - Producer priorities

These results demonstrate that producers are actively applying judgement in the engagement of providers. Cost, timeliness and previous experience are the highest considerations for producers in selecting a pregnancy testing service provider. While biosecurity is also an important consideration, it is not as compelling for producers as cost, timing and satisfaction with testing.

Access to veterinary medicines is also of concern along with the capacity to use tail tags and certify pregnancy status.

Findings:

- Producers are actively applying judgement in the engagement of providers
- Cost, timeliness and previous experience are the highest considerations for producers
- Veterinary medicines and tail tags are additional concerns

4.9 Implications for Surveillance

Veterinary surgeons argue that pregnancy testing is often the only opportunity to go on some farms and that both passive and Northern Australia Biosecurity Surveillance could be compromised by reduced visits and consequential impact of viability of rural practices.

4.9.1 Frequency of use by purpose

Both veterinary surgeons and producers were asked to provide estimates about attendance on farm for both pregnancy testing and other purposes.

Generally attendance on farm, for reasons other than pregnancy testing, is higher than attendance on farm for pregnancy testing (for both producers and veterinary surgeons who chose to respond to the survey):

Producer Estimates		
Frequency in last 12 months	Other reasons	Pregnancy testing
Weekly	2	4
Monthly	32	12
Several times	305	195
Once	169	111
Never	159	92

Veterinary Surgeon Estimates		
Times in last 12 months	Other reasons	Pregnancy testing
50 plus	58	41
21 to 50	29	22
6 to 20	19	27
1 to 5	12	25

For those responding to the survey, a material number of producers have not had a veterinarian attend in the last 12 months for any reason.

More detail can be found at Appendix T.

Findings:

- Veterinary surgeons are more often on farm for reasons other than pregnancy testing
- Many respondents to the survey had not had any veterinary attendance in the previous 12 months

4.9.2 Influence of export testing on on-farm presence

Producer reports of attendance on farms by veterinary surgeons (by location visited) were used to examine the relationship between ASEL veterinary surgeon requirements (as they apply in Queensland) and visits for other purposes.

Engagement of veterinarians for the purpose of certifying export cattle is a material driver of veterinary presence in some regions and particularly North West Queensland where biosecurity surveillance by private veterinarians is argued to be most important¹². Conversely, Central Queensland and Wide Bay Burnett are securing a relatively high rate of opportunities to be on farm compared to the concentration of export producers.

More detail can be found at Appendix U.

Finding: Engagement of veterinarians for the purpose of certifying export cattle is a material driver of veterinary presence in some regions

4.9.3 Impact on presence on farm, if veterinary pregnancy testing was nil

Statistics in relation to visits to regions, by purpose, were examined to estimate the impact of regional surveillance coverage if pregnancy testing by veterinary surgeons was completely lost to laypersons.

The reduction in geographical spread of surveillance is relatively insignificant. For Central Queensland (1.8%), South East Queensland (2.7%) and Wide Bay Burnett (3.1%). However, mitigation strategies to address reductions in surveillance may be required in North Queensland (9.5% reduction in surveillance coverage) and for North West Queensland (17.1%).

The implications for the potential reductions in surveillance coverage are considered later in the Decision RIS at *Section 6.14 - Presence on farm for surveillance*.

More detail in relation to on farm presence can be found at Appendix V.

Findings:

- The potential reduction in geographical spread of surveillance for many east coast regions is relatively insignificant
- The potential reduction in geographical spread of surveillance in North West Queensland appears significant

¹² Reliance on pregnancy testing income by veterinary surgeons, is likely to be higher in regions where “other purposes” to pregnancy testing visit ratios are low

4.9.4 What is current sampling surveillance revealing?

Veterinarians were asked about samples they had submitted in the previous 12 months.

Generally speaking, it appeared that those submitting samples did not necessarily suspect an emergency animal disease, but were quite properly submitting samples for exclusion purposes¹³. One veterinarian advised they detected one emergency disease (anthrax) while on premises for pregnancy testing.

The majority of surveillance samples submitted in the last 12 months relate to enzootic conditions that are of significant economic relevance to the producer and industry, but of minor significance to the Department compared to emergency animal diseases. Refer to Appendix X for more detail.

Finding: Most surveillance samples taken are significant to producers but of minor significance to the Department

4.10 Other implications

4.10.1 Advice and other services

The consultation survey sought to gather data around the issue of productivity and welfare advice received while veterinary surgeons were conducting pregnancy testing. Further detail is available at Appendix N.

There is significant disparity in veterinary surgeons perceptions about the provision of ancillary advice during pregnancy testing visits and producer perceptions about the receipt of advice. For example 40% of veterinary surgeons estimate they always provide advice while only 20% of producers advise they have received advice.

This may be reflective of the polarised views of stakeholders and/or the self-selecting nature of the survey participants. The reality is likely to fall somewhere in between.

Some believe that by freeing veterinary surgeons from the performance of pregnancy testing, they can (and should) use their broader suite of skills to add value for emergencies, production or welfare advice.

Findings:

- **Veterinary surgeons and producers have different perceptions about the delivery of advice**
- **Some producers would prefer veterinary surgeons to concentrate on value-add activities, rather than the physical act of pregnancy testing**

4.10.2 Veterinary intervention due to testing

Veterinary surgeons were also asked to provide information on the frequency with which they administered veterinary medications due to pregnancy testing cattle in the last 12 months. Only qualitative choices were available to reduce respondent fatigue.

Sixty-two percent of veterinarians advised they had never given medication, 16.5% said they had rarely given medication and another 22% said they sometimes gave medication.

Finding: Medical intervention due to pregnancy testing is infrequent

¹³ Samples submitted for exclusion purposes include transmissible spongiform encephalopathies where an investigation subsidy is available to private veterinary practitioners

4.10.3 Accuracy

The Consultation RIS noted concerns in relation to accuracy of testers and the implications for welfare, productivity and market access. Within the consultation survey, questions were asked about the types of providers being used, including owners, and producer perceptions about accuracy. Sixty-six percent of producers were satisfied in relation to veterinary surgeons, another 19% were neutral about veterinary surgeons, 94% of producers were satisfied with accuracy of laypersons and 81% of producers who test their own cattle considered their accuracy to be satisfactory.

It is relevant that expectations producers place on veterinary surgeons compared to laypersons may influence the yardstick applied when assessing accuracy. Veterinary surgeons who do not specialise in pregnancy testing may also be influencing producer perceptions about value for money.

Nonetheless, these responses indicate that the accuracy provided by some lay testers is high enough to meet producer expectations and that laypersons who specialise, and owners who test regularly, may be developing a reliable skill set.

Finally, the 2015 Darwin incident¹⁴ is, on its own, not conclusive evidence that all lay pregnancy testers are unreliable or that an alternate model could not address shortcomings in the supply chain.

Further detail is available at Appendix K.

Some of the possible drivers for accuracy are examined under the Evaluation chapter at Section 6.20 and Section 6.21.

Findings:

- There is evidence that accuracy delivered by some lay testers is high enough to meet producer expectations
- There is evidence that some veterinary surgeons are not meeting producer expectations about accuracy
- The 2015 Darwin incident is not conclusive evidence that lay pregnancy testers cannot provide suitable accuracy

5 Written feedback

5.1 General observations

In freeform responses such as those in letters, and free text aspects of the online survey, it was apparent that various portions of respondents had not read or misconstrued parts of the Consultation RIS. Examples are provided at Appendix D.

Given the extent of polarisation around this topic, the likelihood these misconceptions have skewed the overall outcomes of the survey is likely to be minimal. However, they have potential to compromise the ability of industry players to work together constructively in the future, particularly should an industry scheme be progressed.

5.2 Veterinary surgeons comments

A selection of representative veterinary surgeon comments can be found at Appendix E.

¹⁴ Refer Section 3.6.5 – *Identifying the points of vulnerability*, Consultation RIS

5.2.1 Veterinary support for maintaining the status quo (84%)

The additional issues raised by veterinary surgeons wishing to maintain the status quo are that veterinarian pregnancy testing:

- Supports opportunities to treat other animals, including wildlife
- Supports relationship building for future veterinary work
- Is underpinned by the VSB
- Does not stop producers testing their own cattle
- Underpins maintenance of large animal skills
- Maintains presence for other public benefit purposes.

5.2.2 Veterinary support for change (16%)

The additional issues raised by veterinary surgeons who indicate a preference for change are summarised as follows.

- it is inevitable that laypersons will continue to work
- with the right training, lay testers can achieve a high level of competency
- manual palpation must be a prerequisite to accreditation
- if the legislation is policed, only a limited number of accredited laypersons will enter the market
- laypersons could be employed by veterinary practices
- some form of formal relationship to veterinarians may be appropriate e.g. employment, result reporting, supervision
- regulators should intervene in the lack of veterinary advice sought in the bush.

5.3 Producer comments

A selection of representative producer comments can be found at Appendix F.

5.3.1 Producer support for maintaining the status quo (7%)

The additional issues raised by producers wishing to maintain the status quo are summarised as follows:

- Travel costs are part of living in the bush
- Veterinary degrees should not be wasted
- Producers can't have it both ways (laypersons and viable veterinary surgeons). Rural vets provide an important, always contactable service and contribute to the community

5.3.2 Producer support for change (93%)

Examples, and additional issues, raised by producers who indicate a preference for change are summarised as follows:

- Veterinary surgeons are an important part of the industry, but the cost of service is starting to make the value proposition more marginal. One producer identified two related instances where professional fees, plus travels costs, totalled \$40 a head
- The impact of lay providers on veterinary practices must be weighed against the availability of choice
- Some producers are avoiding travel costs for the export market, by using a reliable lay tester on farm and seeking certification by a veterinary surgeon closer to the loading facility
- If lay persons were performing more routine tasks, veterinary surgeons would be more available to provide specialised veterinary skills, particularly when competing with the filling of an export ship

- Using a veterinary practice does not always mean an veterinary surgeon with current pregnancy testing skills will be provided
- Welfare training should be part of training
- The AVA should work with laypersons to give them access to the PREgCHECK scheme
- Laypersons offer logistical advantages in terms of timing and cattle work and would avoid producers stockpiling enough stock to engage a veterinary surgeon
- Manual palpation must be considered a prerequisite to accreditation.

5.4 Layperson comments

A selection of representative layperson comments can be found at Appendix G.

5.4.1 Layperson comments supporting the status quo (nil)

No freeform comments were received from laypersons that supported the status quo.

5.4.2 Layperson support for change (100%)

The additional issues raised by laypersons who indicate a preference for change are summarised as follows:

- Laypersons and veterinary surgeons can work together so that both providers and producers benefit from the relationship
- Veterinary surgeons who are good at what they do, should not feel threatened by the entry of laypersons into the pregnancy testing market
- There should be an ethics board overseeing laypersons
- Training courses should be improved
- Accreditation for pregnancy testing should include veterinarians

5.5 Peak body feedback

The preferred option of peak bodies making submissions are noted below. The key issues raised by peak bodies can be found at Appendix H.

Body	Preference
AgForce	Option 3
Australian Cattle Veterinarians	Option 1
Australian Veterinary Association	Option 1
Australian Livestock Exporters Council	Option 3
Australian Lot Feeders Association	Option 3
Cattle Council Australia	Option 3
Queensland Dairyfarmers' Organisation ¹⁵	Option 3
RSPCA ¹⁶	Option 3

Figure 4 - Peak body preferences

The additional issues raised by peak bodies opposed to change were:

- The difference between testing for pregnancy status and diagnosis of reproductive problems
- Protecting Australia's disease free status
- The World Organisation for Animal Health Report that recognises Australia's high levels of achievement in biosecurity is founded on a partnership between government and veterinarians and producers
- Increased veterinary costs associated with the loss of economies of scale for practices

¹⁵ Used online survey only

¹⁶ Includes proviso that the training and assessment of competency following the training ensure great animal welfare outcomes

- Certification of pregnancy status is itself an act of veterinary science
- They see no incentive for southern states to participate in an Australia wide scheme
- Expectation that scheme, and associated cost/benefit, should have been included in the Consultation RIS regardless of impediments to consulting with the AVA and ACV in these aspects.

The additional issues raised by peak bodies supporting change were:

- The need for training and accreditation in BOTH manual palpation and ultrasound
- The need for robust trace-forward and trace-back that can unequivocally identify the point in the supply chain accountable for the presence of animals, without the desired pregnancy status
- Initial licensing and annual retesting of accredited persons
- Consistency across states and territories would enhance Australia's trading capacity
- Consideration should be given to incorporating all procedures involving the reproductive tract into an accreditation system
- For pregnancy testing, only manual palpation and ultrasound should be recognised
- Any accreditation scheme must aim to achieve great animal welfare outcomes
- An accreditation scheme must provide the necessary knowledge and support to decline to test an animal inappropriately
- An accreditation scheme must be independently audited, assessed and reviewed regularly
- Training should be given by veterinary and animal welfare experts.

6 Examination of stakeholder issues

Much of the expressed resistance to laypersons entering the paid market is based on comparisons with the PREgCHECK scheme. These include accuracy, foetal aging, insurance, accountability mechanisms, the need for direct regulation, certification and tailtags.

6.1 Accuracy

Submissions by PREgCHECK veterinarians provide examples of where laypersons have failed to provide consistent results and observe that this could have been avoided if a PREgCHECK veterinary surgeon had been used.

In comparison, 15% of producers who responded to the survey indicated they were dissatisfied with the accuracy of veterinary surgeons they have used within the last 12 months. Unfortunately, the split between PREgCHECK and non-PREgCHECK veterinary surgeons subject to this dissatisfaction is unknown.

Given the premium service provided by PREgCHECK veterinary surgeons, it is expected that the accuracy achieved by PREgCHECK veterinary surgeons would be superior to that provided not only by laypersons but also non-PREgCHECK veterinary surgeons.

The argument that lay persons should be measured against the standard of accuracy of PREgCHECK veterinary surgeons is unfair, as it places a higher onus on lay persons than that placed on non-PREgCHECK veterinary surgeons. Evidence from the consultation survey suggests that well-trained and practised laypersons are, based on producer feedback, capable of meeting appropriate levels of accuracy for herd management and the feeder/slaughter market.

6.2 Professional charges

The issue of on-costs must be distinguished from the issue of direct professional costs. Section 4.4 of the Consultation RIS accepted the AVA's suggestion that \$3 was an indicative average cost for

professional fees, per head, before travel. It was further accepted that the professional cost differential between veterinary surgeons and lay persons was not of itself significant.

The figure of \$5 was used for illustrating potential on-costs, based on an anecdotal example provided during development of the Consultation RIS (Yelvertoft Station¹⁷).

7.3 Economic considerations

Using the mid-point of the cost range estimated by Mr Curr, of additional costs of approximately \$5 per head, across 80,000 feeder/slaughter tests for live export purposes per year this implies a maximum cost to the industry of \$400,000 per year from using veterinary surgeons rather than lay testers. This represents around 0.15 per cent of the total value of live cattle exports from Queensland.

Pregnancy testing for herd management purposes may not face the same peak demand problem as that for live export identified by Mr Curr. Illustratively, if the cost differential of using a veterinary surgeon was \$1 per head, and removal of the practice restriction resulted in half of the AVA estimate of at least 3.16 million tests per year moving to lay testers, then the saving to industry from removal of the practice restriction would be \$1.58 million per year. This represents around 0.03 per cent of the total value of cattle production in Queensland.

Feedback gathered during the consultation process identified that one producer experienced a combination of on-cost and professional fees amounting to \$40 a head. Regardless of the illustrative figure per head (be it \$8 or \$40) the important figure within the analysis is the differential, which for illustrative purposes was mooted at \$1 less in travel costs, per head.

Nonetheless it should be recognised, that potential reductions in on-costs are unique to each operation. Some of the drivers and the complex interaction of these variations are included in the discussion at *Section 6.11 - Value proposition*.

6.3 Foetal aging

There are assertions made by both veterinary surgeons and some producers that foetal aging is either, a necessary requirement for all pregnancy testers or, a desirable skill in a pregnancy tester.

Diagnosing pregnancy status requires the ability to recognise different anatomical markers for different stages of pregnancy. However, for the feeder/slaughter market, ASEL:

- does not require certification of stage of pregnancy
- does not discriminate between accredited laypersons or veterinarians

In other words, the standard expected of lay testers should align to the standard provided by non-PREgCHECK veterinary surgeons. If a producer has a particular desire to select a provider proficient in foetal aging, the provider should seek out and engage a premium provider.

6.4 Insurance

Another comparison made is in relation to the requirement for professional indemnity insurance to be held under the PREgCHECK scheme. While the issue of insurance is something that could certainly be considered under an accreditation scheme:

- there is no legislative requirement for veterinary surgeons in Queensland (or most states in Australia) to hold professional indemnity insurance
- responsible purchasers will consider the issue of recourse and make their procurement decision based on their own perception of risk.

¹⁷ Noting however that the AVA and ACV contest the logistical arguments made by Mr Markus Curr at Section 4.4 of the Consultation RIS.

6.5 Accountability

A number of submitters identify recourse to:

- the Veterinary Surgeons Board; and
- show cause procedures of the PREGCHECK scheme

as unique mechanisms in the oversight of veterinary surgeons performance of pregnancy testing.

The VSB advises that there are no records of actions against veterinary surgeons for inaccurate pregnancy testing and this is understandable where no supporting chain of evidence mechanism (traceability) exists. So while the VSB has jurisdiction over the performance of veterinary surgeons, to be able to establish the necessary chain of evidence to prove a complaint a traceability/tagging system such as PREGCHECK or alternate accreditation scheme is necessary.

In practice, the establishment of an accreditation scheme that includes animal identification and traceability requirements, along with a compliance and sanction regime similar to that of PREGCHECK, would effectively subject laypersons a level of accountability similar to that of PREGCHECK veterinary surgeons.

6.6 Industry accreditation

Some submitters argue that an industry-based scheme does not have the necessary teeth to underpin quality outcomes.

PREGCHECK itself is an industry-based scheme that has been very effective at self-regulation. In the case of a lay industry-based scheme which requires government recognition to exist, the Queensland Government will overlay its own audit, compliance and show cause regime to ensure that the scheme meets and maintains the standards required to protect the integrity of the expected outcomes.

6.7 Certification

It was observed that the issuing of certificates is an act of veterinary science and so laypersons could test but not issue certificates. This comment is noted and recognised. To enable laypersons to issue certificates, it would be necessary for the Office of Queensland Parliamentary Council to draft suitable legislative amendments.

6.8 Owner testing

Veterinary surgeons point out that current legislation does not preclude owners testing their own cattle. However this argument is at odds with other arguments about value added by veterinary surgeons' superior accuracy, productivity advice, welfare advice, surveillance and emergency response capability.

There is no obligation on owners to seek formal training. Online availability of cheap ultrasound equipment presents an increasing risk of poorly trained owners inflicting injury on their animals in an effort to avoid travel costs. A more cost effective service provider may encourage more owners to use trained lay persons rather than rely on their own testing skills. This may in turn achieve better animal welfare and accuracy outcomes compared to the current regulatory environment.

6.9 Employment

Some veterinary surgeons' submissions noted that due to veterinary practices being dependent on work associated with pregnancy testing, the loss of this income to lay operators would result in a reduction in associated practice staff. None of the veterinary surgeon submissions made in relation to staff numbers have provided the basis of their estimates.

However:

- given there is already a known black market in some regions, a shift in employment from veterinary surgeons to alternate providers may already be occurring
- it is not considered likely that all pregnancy testing services will pass from veterinary surgeons to lay persons
- working as a pregnancy tester is a form of employment, albeit outside a veterinary practice
- administrative work associated with accredited lay pregnancy testing is also employment

arguments that the entry of laypersons will result in reduced employment have not been substantiated.

6.10 Funding

Some submitters are under the impression that the Government has committed between one to two million dollars to the establishment of an accreditation scheme. However, as stated in the Consultation RIS, the scheme is expected to be self-funding.

6.11 Value proposition

Producers in some regions are incurring significant travel costs and other operational costs associated with securing veterinary attendance. Where sale opportunities are lost or delayed, other opportunity costs arise.

Veterinary surgeons assert that the value of their advice, and fertility diagnostic skills, outweigh the travel cost associated with attendance on farm despite:

- A scenario where the cost of testing has reached \$40 per head due to travel on-costs
- Another scenario where the cost/benefit of engaging both a local layperson and port veterinary surgeon is positive; and
- Survey feedback from producers confirming that travel costs are a deterrent to discretionary pregnancy testing.

The return on investment from veterinary attendance is a farm level issue that is influenced by a number of factors including:

- Distance between yards and veterinary practice
- Difficulty/mode of traversing the distance, including time
- Pricing structure of different practices
- Inter-calving intervals, size of the production operation and number of animals to be tested
- The capacity of the producer to implement any advice.

Astute operators of veterinary practices would ideally be able to model their return on investment at farm level to target prospective clients.

These variables also apply regionally, and so in turn the cost/benefit proposition of veterinary outlays cannot be treated as homogenous for modelling purposes across different regions.

In North West Queensland, nearly nine out of 10 producers were deterred by travel cost while only one in 10 preferred the value add. Across all other regions the rate of deterrence ranged downwards from nine in 10 to 13 out of 20.

In North West Queensland, where export producers who responded were in the majority, 45% reported they had experienced multiple losses of immediate sale opportunities due to late attendance of available veterinary surgeons. The opportunity and operational costs associated with

these lost opportunities further diminish potential return on investment argued to accompany veterinary presence and advice.

Producers completing the survey have made it clear that cost, timeliness and their recent experiences with a provider are their most pivotal drivers.

Within the survey, producers are signalling that the benefit of change outweighs the benefits of the status quo. There is no data on which to evaluate the interplay of the costs and benefits of the preference. However, veterinary surgeons may need to develop tools and strategies to better engage on the value they add.

6.12 Potential for new providers

Assuming change was initiated, the statistics gathered in the survey suggest supply of pregnancy testing services could increase by up to 91%¹⁸ across the State. However realisation of this full percentage is considered unlikely because:

- many of the “new” entrants responding to the survey are likely to be already working in the black market
- accreditation requirements are likely to have a deterrent effect for some would be entrants; and
- improved citizen reporting of illegal operators will allow for increased compliance activity by the Department against illegal operators.

Further, the entry of paid laypersons will not necessarily mean that all reproductive work will flow away from veterinary practices. This is partly due to:

- producers who remain loyal to the veterinary relationship; and
- the possibility some practices may see the entry of laypersons as an opportunity to exit the more routine aspects of reproductive work and provide more value-added services.

The impact on different regions will be variable. Responses suggest that, North West Queensland supply would increase by 79% and Wide Bay Burnett, Central Queensland and Central West Queensland in particular appear to be attracting very significant numbers of new entrants. The number of these persons already operating illegally is unknown.

A number of lay respondents to the survey suggest that lay testers pose no threat to capable veterinary surgeons and a respondent in Western Australia suggests that the establishment of relationships between veterinary surgeons and lay testers has been to everyone’s benefit.

If the entry of laypersons did cause a displacement in provision of veterinary services the impact on general veterinary presence, surveillance and emergency response capacity becomes pertinent.

6.13 Veterinary practice viability

6.13.1 Reliance on live export

Veterinary surgeons highlight a risk, that opening the paid pregnancy testing market to laypersons would result in such a significant loss of practice economies of scale, they would have no choice but to leave the more remote cattle production areas. They note that a 2011 survey of veterinarians in WA (refer Appendix H) indicates that “bovine caseload” of rural veterinary practices reduced from 90% to 19% since deregulation.

¹⁸ Refer Appendix R for information on how this figure was established.

The Value analysis of the Australian live cattle trade - key highlights¹⁹ published in 2018 estimates veterinary practice reliance on live export income as follows:

	Queensland	Northern Territory	Western Australia
Reliance of vets on live export as percentage of business turnover	50% to 75%	80% to 100%	50% to 75%

Not all this work will relate to pregnancy testing itself but may account for a material amount of veterinary income.

However, no suitable information is available to understand:

- the extent of downside risk in Queensland, by region; or
- the ability of reliant practices to develop alternate business models (e.g. employment of, or affiliation with, lay testers) to redirect veterinary expertise to follow up and referral work.

Some veterinary surgeons argue that the loss of this captive market could threaten the role of veterinary surgeons in the community, including for local sponsorships and horse racing events. More compelling risks include treatment of other animals and wildlife, other veterinary services for cattle and the availability of medicines.

6.13.2 Veterinary medicines

Some producers cited access to veterinary medicines as an area of concern.

While reduction in proximity to veterinary surgeons could hinder timely access to medicines, there are already vast areas where the nearest veterinary practice is located hours away or where mail delivery services are infrequent. The impact and response to this concern will vary from region to region and property to property. Ultimately, the decision to source veterinary medicines will be an economic one for the producer.

Another aspect is obligations under the Health (Drugs and Poisons) Regulation 1996. The AVA has developed *Guidelines for prescribing, authorising and dispensing veterinary medicines*²⁰. The guidelines require the veterinarian “has recently seen, and is personally acquainted with, the keeping and care of the animal(s) by virtue of a clinical examination, or by medically appropriate and timely visits to the premises where the animal(s) are kept”. A literal application of this guideline could prove an obstacle but it is not necessarily insurmountable. Innovative veterinary surgeons and producers may be prepared to explore new technologies to assist clients and their animals²¹.

6.13.3 Producer perceptions

Comments provided by producers, make it clear that some producers recognise the risk of losing local practices. Remote and regional producers are usually vocal advocates of the need to buy local, and are aware of the risk of loss of services that follows a failure to support local businesses.

It is for producers to determine the level of ongoing support they can offer a local business and to continue to support local veterinary surgeons to the extent they find it acceptable to do so.

¹⁹ Dalglish M, Agar O, Herrmann R, 2018, *Value analysis of the Australian live cattle trade - key highlights*, Ag Concepts available at: <http://www.livecorp.com.au/LC/files/c7/c77c998a-3a23-47e0-bd98-4d33dfe78c91.pdf>.

²⁰ https://www.ava.com.au/sites/default/files/documents/Other/Guidelines_for_prescribing_authorising_and_dispensing_veterinary_medicines.pdf . Accessed 28 February 2019

²¹ For example, see story at <https://innovation.nt.gov.au/stories/dr-sue-samuelsson>

6.14 Presence on farm for surveillance

Stakeholder concerns, such as reduction in surveillance activity, need to be evaluated on a regional sense and weighed against the cost (and opportunity cost) imposition on producers and unintended consequences such as double testing on animals.

Even if all pregnancy testing work passed to laypersons, the analysis at *Section 4.9 - Implications for Surveillance* suggests that the potential reduction in geographical spread of surveillance for many east coast regions is relatively insignificant.

However the reduction in geographical spread of surveillance in Northern and West Queensland has potential to be of concern, particularly given that these areas are the most vulnerable to heavier travel cost burden. Provided ASEL recognises indirect accreditation schemes, movement to local lay testers (if available) could become increasingly attractive in these areas in particular and would result in less on farm visits by veterinary surgeons.

The scale for any potential problems that may arise is impossible to estimate for many reasons including:

- Uncertain uptake of the accreditation scheme, including uncertainty of the locations where accredited persons may prefer to operate
- Lack of reliable market intelligence in relation to the number and location of laypersons already operating in the black market, and whether or not accreditation would simply legalise the services they are already providing, rather than displacing veterinary surgeons
- The capacity of veterinary surgeons to adopt different business models to capitalise on pregnancy testing specialisation by laypersons, value add specialisation by veterinary surgeons and the potential for referral work to generate more opportunities for both segments
- variables within regions including herd sizes, geography, location of veterinary surgeons, lay testers, properties and ports and inter-calving intervals noted in the ACV and AVA submission.

Should veterinary presence in these areas reduce to critical levels for surveillance purposes, mitigation measures may be required and could include:

- deploying government officers to conduct active surveillance programs
- paying private veterinary surgeons or to conduct active surveillance programs
- locating government veterinary surgeons within areas of emerging need
- expanding producer based sampling programs.

Including general biosecurity skills, both on and between farms, in initial training and accreditation requirements for laypersons is also considered a desirable mitigation strategy.

6.15 Emergency Response Capacity

The AVA submission to the *Consultation RIS* notes that the World Organisation for Animal Health regards co-operation between Government and private veterinary surgeons as one of Australia's biosecurity strengths. They argue that in turn, the State's emergency response (and surveillance capacity) would reduce.

Veterinarians argue that provision of pregnancy testing by laypersons could mean that:

- the Queensland veterinary skill set for large animals could be lost
- there could be insufficient large animal veterinary surgeons available in the regions to deal with an emergency response.

It is possible that the need for large animal veterinary surgeons would grow as the demand for increased productivity drives demand for skilled operators and/or alternate models for veterinary service delivery. Existing and future veterinary surgeons have a role in determining how to optimise their role in that market.

In the event that veterinary surgeons are not geographically available to meet emergency response requirements, the Department may need to source suitable resources from other parts of Queensland or the National Biosecurity Response Team which is “a group of trained and experienced personnel that may be deployed to assist a jurisdiction in the response to biosecurity incidents. NBRT members are personnel from government agencies with knowledge, experience and training in emergency management, incident management or more specifically, responding to biosecurity incidents”²².

6.16 Animal Welfare

6.16.1 Veterinary intervention

Veterinary surgeons report that medication is sometimes administered as a result of injury associated with pregnancy testing. However, the infrequency with which this occurs must be balanced against the frequency with which animal welfare would be better served by:

- removing disincentives to report animal welfare concerns
- having greater influence over the content of pregnancy testing training
- making accurate pregnancy testing more widely available to make pasture management decisions
- including welfare considerations in training and ongoing accreditation.

6.16.2 Veterinary concerns

A number of veterinary surgeons making submissions argue that the entry of paid laypersons to the pregnancy testing market would compromise animal welfare because:

- Veterinary surgeons are equipped to recognise and give authoritative advice about welfare when on farm
- Laypersons may compromise animal welfare by poor technique or incorrectly diagnosing pregnancy status
- Veterinary surgeons have a level of accountability through registration that includes an ethical commitment to animal welfare.

As discussed in the Consultation RIS (*Section 3.1 - Rationale for Queensland Regulation*), the position of veterinary surgeons needs to be weighed against a black market, where the ability of regulators to influence animal welfare outcomes is compromised. The desire of laypersons to remain hidden from authorities is a disincentive for laypersons to act upon animal welfare concerns which they do recognise.

The question also remains, that why the unaccredited owner of the animals is any better equipped in relation to welfare, technique or accuracy than an accredited layperson. Further, unless an owner comes to the attention of authorities, they are only accountable to themselves.

²² <https://animalhealthaustralia.com.au/training/emergency-animal-disease-training/national-biosecurity-response-team-training/>

Support for the balancing of veterinary intervention against veterinary concerns is found in the RSPCA's submission in relation to the Consultation RIS:

RSPCA Qld supports Option 3 with the proviso that the training and assessment of competency following the training ensure great animal welfare outcomes. Training procedures must be independently audited and assessed, and reviewed regularly to ensure they are delivering the best possible training. The training must have input from veterinary and animal welfare experts. Practitioners should go through a licencing process with the need to regularly re-assess competency built in.

We do not approve option two which would allow anyone to conduct pregnancy testing with no oversight except the *Animal Care and Protection Act 2001* or option one which would mean the black market of uncontrolled pregnancy testing would continue.

Arguments that accredited laypersons will necessarily deliver poor animal outcomes are not accepted.

6.17 Veterinary supervision

Requiring veterinary supervision would need veterinary surgeons willing to supervise. There are two risks in this regard:

- Rejection of a supervision role, based on perceptions around vicarious liability for performance of laypersons
- The potential for resistant veterinary surgeons to refuse to employ/supervise laypersons in order to thwart the entry of competition.

Compulsory veterinary supervision arrangements are not appropriate. However, both laypersons and veterinary surgeons are encouraged to establish mutually beneficial relationships that achieve the greater good.

6.18 Scheme costs

The cost of administering a scheme, and the cost that would be borne by each layperson seeking and maintaining accreditation, will depend on the parameters of the scheme and the ability to spread the cost across true demand for entry to the scheme. True demand is also likely to be inter-dependent on cost.

As discussed in the Consultation RIS (*Section 11 – Preferred Option, Section 13 – Implementation, evaluation and compliance strategy*) consultation with veterinary stakeholders would be undertaken during development of the scheme, including on training and accreditation design standards.

It remains unlikely that the economies of scale to support a self-funding scheme could be achieved within Queensland alone. It is for this reason that an industry based scheme, delivered nationally and fully funded by industry, was the recommended option. Cattle Council Australia has at all times been supportive of a national standard for all providers of pregnancy testing services, be they lay or professional. They see opportunity for adoption of the scheme throughout Australia and this view supports the opportunity to reduce unit costs.

6.19 Competent pregnancy tester under ASEL

Pregnancy testing provisions in the December 2018 working draft of ASEL are relevant. They propose to:

- remove any reference to accreditation, relying purely on legislative permission within the relevant jurisdiction
- require testers to use manual palpation
- restrict laypersons to animals travelling by sea
- restrict layperson to the feeder/slaughter market
- require written certification by the tester that the animal is not detectably pregnant
- provide that the export breeder/productive market will remain in the exclusive market of veterinarians.^{23 24}

If these amendments are progressed:

- the indirect accreditation model under Option 3 would be accommodated under ASEL
- to qualify as an accredited pregnancy tester for the export market, competence in manual palpation will be mandatory
- drafting instructions for legislative change (if intended to underpin the export market) would also need to address the issue of certificates about pregnancy status of animals tested.

6.20 Diagnostic techniques

The use of different techniques was explored in the consultation survey. Further detail is available at Appendix L.

The sole use of ultrasound by laypersons and producers is of some concern. While some training is offered by the more reputable distributors of ultrasound equipment, specialist veterinary advice reveals that without training in manual palpation, this presents risks in accuracy of diagnosis and risks to animal welfare associated with injuries.

There is a case for addressing the perception of some producers and laypersons, that ultrasound scanning is adequate as a standalone diagnostic technique. An alternate approach, requiring manual palpation skills to form part of all training and accreditation eligibility, is appropriate.

Regardless of whether or not a layperson intends to serve the export market, all testers and ovarian scanning technicians must be competent in manual palpation as a prerequisite.

6.21 Equipment

Information on equipment standards is an important aspect of the training for any person intending to conduct pregnancy testing of cattle using ultrasound. Equipment standards might be appropriate for consideration as part of accreditation standards.

6.22 Traceability under ASEL

The working draft of ASEL also includes requirements about traceability. This supports Consultation RIS and CCA observations in relation to the need to eliminate confounding factors in identifying the point of vulnerability in the pregnancy testing supply chain. Traceability is a pivotal aspect of accreditation design.

²³ Refer *Appendix B – Consultation RIS*

²⁴ During consultation, AgForce made it clear that the requested amendments to enable laypersons to conduct pregnancy testing did not extend to the breeder market

6.23 Ovarian Scanning

Like pregnancy testing, conducting ovarian scanning requires proficiency in manual palpation in order to ensure the wellbeing of the animal being tested. This is particularly so given the relatively young age of animals being tested. However, like pregnancy testing, appropriate training and consistent practice can ensure the welfare of the animal does not become compromised whether the tester is paid or not.

Feedback in relation to the ovarian scanning proposal in the Consultation RIS was not common. However those addressing the issue observe that, to protect animal welfare, competence in manual palpation is a prerequisite to performing ovarian scanning. The impact on the veterinary profession of lack of exclusive access to this limited activity is not expected to be material.

The benefits of consistent and timely diagnosis, underpinned by the ethical standards under which the research is conducted, are considered to outweigh the arguments against enabling laypersons to conduct ovarian scanning of cattle for research purposes.

7 Shaping an industry-based accreditation scheme

Legislative provisions and associated governance for a (third party) industry-based accreditation scheme would provide for establishing a scheme for the following functions:

1. Accrediting persons to conduct pregnancy testing of cattle and issue associated certificates, including:
 - the terms and conditions of accreditation
 - auditing of a person's activities under an accreditation
 - responding to non-compliances, including suspension or cancellation of accreditation
2. Reviewing decisions made and resolving disputes under the scheme
3. Developing and seeking approval of standards and procedures to apply under the scheme.

The establishment of a scheme requires two separate approvals for:

- a suitably qualified entity to operate the scheme; and
- the scheme itself, including the governance, administrative arrangements, procedures and control of the scheme.

Under an accreditation scheme, there are two layers of integrity controls relating to record keeping, audit, non-conformances, show cause, suspension and cancellation. For example:

- the operator of a scheme may take show cause action against an accredited certifier who appears to be failing to meet required standards
- the Department may take show cause action against the operator of an accreditation scheme if it appears the scheme is not achieving required outcomes.

During development of the Consultation RIS, and the consultation process itself, a number of themes emerged that will also attract attention during the design process including:

- comprehensive training including manual palpation, disease and welfare recognition, biosecurity between and on farm, appropriate technique and welfare precautions, professional obligations and professional support
- recognition of prior learning and training and testing modules to satisfy holistic requirements such as animal welfare
- types of accreditation such as manual only or manual and ultrasound
- equipment standards

- assessment processes, ongoing performance and monitoring
- record keeping
- dispute resolution
- provision for investigations as required
- welfare protection for testing and training herds
- sourcing and qualifications of assessing officers.

This list is not considered exhaustive and we are optimistic future development of a scheme will benefit from the involvement of the AVA and ACV.

8 Conclusions

8.1 Online Survey

The online survey has corroborated, or challenged, a variety of concerns identified by stakeholders. Observations are that:

- veterinary surgeons are willing to travel significant distances to service client needs
- travel cost is a material deterrent for producers in relation to engaging pregnancy testing services
- inadequate notice is sometimes given to veterinary surgeons. It is also possible some of the problem lies with the length of notice given by exporters
- perceptions of late attendance are higher in live export producers than veterinary surgeons
- there is a problem with supply of pregnancy testing services in some areas, particularly in the North West of Queensland
- producers are suffering material instances of operational/holding/sale opportunity costs when pregnancy testing services are not available to meet sale opportunities
- pregnancy testing is a driver of how often vets get on farm and this is a material driver in Far North Queensland and North West Queensland
- if laypersons took 100% of the pregnancy testing market, there could be a material reduction in surveillance in North West Queensland in particular
- if laypersons took 100% of the pregnancy testing market, some veterinary practices may falter and the presence of veterinary surgeons in some areas for emergency response could be reduced
- according to 94% of producers, laypersons provide satisfactory levels of accuracy
- according to 12% of producers, their own accuracy as a tester needs improvement
- some laypersons, including owners, have limited understanding in relation to the reliability of ultrasound as a sole diagnostic tool and ultrasound equipment standards
- cost, timing and satisfaction with service are the highest drivers for producers seeking pregnancy testing services
- the majority of producers do not consider that the productivity return, they receive from veterinary advice, warrants the costs of veterinary attendance.

8.2 Written feedback

Written feedback and developments in ASEL have highlighted that:

- the ability to competently perform manual palpation is an essential skill
- individual animal tracing is essential to meet the export market and is highly desirable as a quality control tool in meeting some domestic markets
- the ability to certify pregnancy status will be essential for the export market.

8.3 Impact on veterinary practices

Location data sourced through the survey has demonstrated that the value proposition to producers of veterinary attendance is not homogenous across regions nor between producers. Despite allowing for geographical issues, the size of operation and number of animals to be tested is unique to each.

Interest expressed by laypersons in entering the market appears to be well in excess of the numbers anticipated by AgForce. This *prima facie* impact of this interest is distorted by a black market in pregnancy testing services that already exists. Further, uptake of the scheme may be partially limited by the obligations imposed under an accreditation scheme (including manual palpation skills, registration fees and reporting requirements). Increased reporting and compliance requirements may also suppress uptake and create further uncertainty in the extent and location of potential new entrants.

The capacity of veterinary practitioners to adapt creates further uncertainty.²⁵ The Western Australian experience suggests that some veterinary surgeons may see the potential to capitalise on relationships with lay testers. In addition, development of tools to compare productivity gains with the investment of bringing veterinary surgeons on farm, may assist veterinary surgeons to better demonstrate the return on investment they offer to the particular producer they are seeking to engage.

These variables, and the variables that operate within veterinary practices servicing the pregnancy testing market (including client mix, charging regimes, investment in diagnostic equipment, premises consideration and the like) make it unrealistic to definitively project the impact of lay pregnancy testing providers on veterinary practices.

9 Decision

The Consultation RIS identified 4 decision criteria:

- Support for the agricultural sector's viability in an increasingly competitive international and domestic market;
- Support for the integrity of pregnancy testing and scientific research results;
- Incorporation of the importance of animal welfare as part of the social licence of providers of pregnancy testing services, to operate; and
- Imposing the lowest responsible regulatory burden, including costs to Government and compliance costs to the private sector.

Risks in relation to animal welfare, accuracy and biosecurity on, and between, farms are more likely to arise under the current regulative environment. An accreditation regime that addresses monitoring, accountability, animal tracing, reporting, training about proper technique for manual palpation, equipment standards, disease and animal welfare would offer significant benefits to productivity, market access, animal welfare and biosecurity awareness and practices.

The entry of paid laypersons has potential to reduce demand for pregnancy testing services by veterinary surgeons and result in reduced access to veterinary services for purposes including surveillance, emergency response, medications and advice. This risk is more prominent in some regions than others.

²⁵ It is notable that of the current 112 PREGCHECK veterinary surgeons currently operating, only 65 commenced the online survey. While not conclusive, this suggests that at least some PREGCHECK veterinarians do not feel sufficient levels of threat from the entry of laypersons to participate in the survey.

The areas in which the risk of loss of access to veterinary services is the highest, are also the areas where producers are experiencing travel and opportunity cost burdens that, in the judgement of the majority of those producers, overwhelm the benefits provided by veterinary surgeons.

The realisation of risk associated with surveillance and emergency response is uncertain in both likelihood and scale. The Department recognises it may need to implement strategies to address these risks if they come to fruition. This issue needs to be monitored and, the need for mitigation measures, will become clearer following implementation.

In other areas, producers are not shouldering excessive travel and opportunity costs. In these areas, veterinary surgeons who provide pregnancy testing services that meet market expectations are unlikely to be significantly impacted by competition from lay testers, many of whom are already operating in a black market.

To achieve the optimal outcomes, veterinary surgeons and laypersons would cooperate to develop a service model that adds more effective value to all players in the supply chain.

It is anticipated that there are insufficient numbers of laypersons in Queensland to support a scheme where full cost recovery is achievable. For those reasons, legislative change would need to allow for establishment of industry-based schemes, where national economies of scale may be available.

This decision RIS has determined that:

1. The agricultural sector's viability is best served by:
 - the availability of choice of provider, with producers best placed to evaluate the cost and benefits of veterinary surgeon attendance in their particular circumstances/regions; and
 - reliable scientific research, supported by consistent interpretation of ovarian scanning results performed by laypersons.

The requirement for Government intervention in surveillance, or emergency response, will be monitored and addressed on an as needed basis.

2. The case has not been made that laypersons are unable to attain a suitable standard of accuracy and integrity for either:
 - ovarian scanning, or
 - pregnancy testing.

And that the intervention of accreditation, or animal ethics committee supervision, is more likely to support consistent quality assurance than the status quo.

3. Animal welfare outcomes are best served by requiring competence in manual palpation which should be a prerequisite for:
 - ovarian scanning, with supervision and support of an animals ethics committee
 - pregnancy testing, within an accreditation scheme

These governance mechanisms also offer the opportunity to ensure broader animal welfare awareness is achieved, along with professional support mechanisms to actively achieve good animal welfare outcomes.

4. The minimum regulatory burden:
 - for pregnancy testing, is best achieved by the establishment of an industry delivered scheme, with potential for national adoption; and
 - for ovarian scanning, is best achieved with laypersons conducting ovarian scanning under the supervision of an animal ethics committee.

It recommends that legislative amendments to:

- enable establishment of an industry based accreditation scheme to allow laypersons to conduct pregnancy testing of cattle, and issue relevant certificates, for fee or reward; and
- allow the conduct of ovarian scanning of cattle by laypersons, under supervision of an animal ethics committee, for fee or reward

be progressed.

10 Implementation

The terms of the accreditation scheme will not form part of the legislation itself. Rather, applications to establish a scheme will be assessed individually in line with guidelines.

Draft guidelines have been developed to assist potential scheme managers address the essential parameters for the design and delivery of a robust, effective and accountable framework that will deliver the best outcomes for producers, veterinary surgeons, lay persons and animal welfare²⁶.

The design, delivery, administration, compliance, investigation and cost-recovery of the accreditation scheme is in industry's hands.

While the managers of the accreditation scheme will be responsible for audit of participants, Government will retain a role in approving the proposed scheme and periodic audits of the overall operation of the scheme. Both Government activities will attract fees at cost recovery.

Acceptance of an industry based scheme for the feeder/slaughter export market is ultimately in the hands of the Australian Government. However, the most recent Working Draft of the Review of ASEL appears favourable.

As discussed in the Consultation RIS, legislative enablement of a Queensland scheme, industry establishment of the scheme and Australian Government acceptance of the scheme for export purposes is a medium-term proposition.

However the key policy decision has been made to progress lay pregnancy testing. Concurrent to the development and enactment of the necessary legislative changes, industry should progress the design of necessary governance structures, management information systems, documentation, testing regimes, training modules, protocols for the welfare of cattle used for training, recognition of prior learning, completion of additional modules and recruitment of suitable assessors takes place.

This determination is consistent with Option 3, recommended in the Consultation RIS. Consistency with other policies and regulations remains unchanged from the Consultation RIS. The implementation, evaluation and compliance strategy also remain unchanged.

²⁶ Refer **Error! Reference source not found.**

Appendices

Appendix A Names of written submitters

Last Name	First Name	Position	Representing
Allardyce	Caroline		
Anderson	Stephen		
Andrae	Margo	Chief Executive Officer	Cattle Council of Australia
Archer	Lauren		
Bennetto	Matt		
Blacklock	Lauren		
Brieffies	Brendan		
Buckle	Ellen	Executive Officer	Australian Cattle Veterinarians
Dowling	Laurie	Executive Officer	Australian Veterinary Association (Queensland)
Chamberlain	Philip		
Chapman	John		
Cockrem	Ryan		
Croft	Ian		Taroom Vets
Cummins	Phillip	Chief Executive Officer	The North Australian Pastoral Company
Doneley	Bob		
Fordyce	Geoffry		
Gillard	Bianca		
Green	Nikki		
Guilfoyle	Alan		
Hayes	Adam		
Hedlefs	Robert		
Henderson	Barry		
Hollitt	Lynton		
Jephcott	Sandra		
Johnston	Peter	General Manager, Animal Science	Department of Agriculture and Fisheries
Kelly	Kim		
Lethbridge	Russell		
Lynch	Peter		Livestock Veterinary Services
Lynch	Peter		Great Artesian Veterinary Surgery
Lynch	Regan		
McNamara	Anita		
Milford	Carl		
Morley	Andrew		Moura Veterinary Clinic
Mulders	Christian	Chief Executive Officer	Australian Lot Feeders' Association
Nason	Will		Roma Veterinary Clinic
Niethe	Geoffrey		
Norman	Scott		
Oates	Linda		
Oliver	Hugh		Taroom Vets
Owens	John		

Last Name	First Name	Position	Representing
Paarman	Renee		
Paine	Katrina		
Pointing	Brett	Chief Executive Officer	Australian Livestock Exporters' Council
Pott	Bruce		
Reardon	Chris		Warwick Vet Clinic
Rowan	Ken		
Ruppin	Mick		
Salmond	Tessia		
Schneider	Laurence		
Schneider	Pam		
Schooley	Kylie	Principal Veterinarian	Chinchilla Vet Services
Schuller	Tai		
Schutt	John		
Tom	Bill		
Townend	Mark	Chief Executive Officer	RSPCA Queensland
Vetter	Margaret		
Wiles	Andrea		
Wilson	Will	Cattle President	AgForce Cattle Ltd
Wright	Tim		Taroom Vets

Appendix B Online survey observations

Housekeeping

The format of the survey remained constant except for Question 47. Based on responses received in the first week, it became necessary to add a “Not Queensland based” option. The data for the relevant questions has been cleaned to reflect the respondents’ comments.

SurveyMonkey results provide details of the internet presence or “IP” address of respondents. Where an IP identifies multiple responses, it may be that a single person has responded multiple times, a single computer was used by multiple respondents or that multiple people accessed the survey via a single organization's network.

Of the 1,087 responses received via the online survey, replication of IPs occurred as follows:

No. of times an IP was recorded (A)	No. of instances (B)	Contribution of multiple responses (A x B = C)	After removal of original use (C – B)
2 times	55	110	55
3 times	8	24	16
4 times	1	4	3
5 times	1	5	4
6 times	-	-	
7 times	-	-	
8 times	1	8	7
9 times	-	-	
10 times	-	-	
11 times (maximum)	1	11	10
Total		162	95

Figure 5 - Duplicated IPs

The total instances of duplicated IPs (excluding first instance) represents less than 9% of all online submissions.

It is likely that most of the duplicated responses are due to use of the same computing equipment or same network. This could occur in the context of a work place, satellite internet provision or within a household. The occasional duplication may reflect curiosity on the part of some respondents, exploring how “fair” the questions were compared to other stakeholders.

In the interests of disclosure, it is noted that the 11 duplicated IPs relate to the Queensland Government. Two of the respondents identify as veterinary surgeons, 2 identify as laypersons, 2 identify as concerned citizens, 4 identify as producers (which is not unusual for regional staff) and 1 respondent did not continue beyond Question 1. The 10 preferred options expressed by Queensland Government staff account for less than 1% of preferences expressed.

Field Solutions Group accounted for a further 11 of duplicated IPs. Field Solutions is a provider of rural and remote telecommunications solutions.

The next most frequently occurring IP (5 times) was received through Apiam Animal Health IPs. Apiam is comprised of rural veterinary practices.

Completion rate

The profile of completion was as follows:

Commenced survey	Continued to Stakeholder	Continued to Location question	Selected Preferred Option	% completed to preferred option	Maximum question burden
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specific questions						
Concerned citizen	59	n/a	n/a	47	80%	9
Exporter	1	1	1	1	100%	12
Laypersons	121	115	105	107 ²⁷	88%	16
Peak Body	4	n/a	n/a	2	50%	11
Beef producers	690	661	558	551	80%	31
Dairy farmers	4	4	4	4	100%	31
Researchers	4	n/a	n/a	4	100%	9
Mixed practice vet	63	60	43	43	68%	22
PREgCHECK vet	65	63	54	54	83%	22
Small animal vet	10	9	6	6	60%	22
Veterinary Academic	13	n/a	n/a	11	85%	9
Other ²⁸	28	n/a	n/a	24	86%	9
Did not say role	25	n/a	n/a	-	0%	9
Totals	1,087	913	770	854	79%	

Figure 6 - Completion rates

Completion rates are likely to be influenced by stakeholders' perception about the potential impact of change. In all 1,087 respondents commenced the survey, 25 withdrew when they were asked to classify their interest and 854 completed through to selecting their preferred option at Question 51.

The two peak bodies submitting their preferences via the online survey included the RSPCA and Queensland Dairyfarmers Organisation. The others commenced but elected to leave the survey.

When the incentive to complete the survey is taken into account, the relatively low completion rate by small animal veterinarians (60%) and mixed practice veterinarians (68%) is not surprising if equine practice preferences could be at play.

Given the maximum question burden to dairy and beef producers of 31 questions, a completion rate of more than 81% is satisfactory, as is 83% from PREgCHECK veterinarians facing a maximum of 22 questions.

The completion rate for laypersons of 88% against a maximum of 16 questions suggests a highly motivated cohort of respondents.

Survey caveats

When interpreting the information collected from the online survey, it is important to remember:

- The number of representatives in a particular segment. For example in 2014-15, the beef sector was estimated to have over 17,300 specialist beef enterprises²⁹ compared to around 3,064 veterinarians including around 743 large animal practitioners and only 156 PREgCHECK veterinarians³⁰
- The extent of peak body membership and the effectiveness of efforts to promote making of submissions is relevant
- The receptiveness of respondents to online distribution and collection of information, along with the level of comfort respondents have with the written word
- Self-selection by respondents about making a submission. Those who consider they will be most impacted by the change, will be more highly motivated to participate.

²⁷ Laypersons who indicated they were not interested in being paid bypassed the location question and went straight to their preferred option

²⁸ Other included veterinary science students, agents etc

²⁹ <https://www.daf.qld.gov.au/business-priorities/animal-industries/beef/queensland-product>

³⁰ Refer to Table 4 on Page 24 of the Consultation RIS

Self-selection by stakeholders known to have polarised motivations, with significantly varying representation, means that Government cannot adopt the outcomes purely on the basis of a “popular vote”. There may also be large cohorts of stakeholders who are ambivalent, such as producers who would never use a layperson anyway, veterinary surgeons who don’t respond because they do not perceive a threat or laypersons who do not see value in being accredited.

Caution is also necessary around the “Location of Operations” question, which will not provide a definitive picture of supply and demand in any particular region.

Perceptions about how representative the last 12 months were

This question was designed to moderate responses to questions where frequency of an event was relevant.

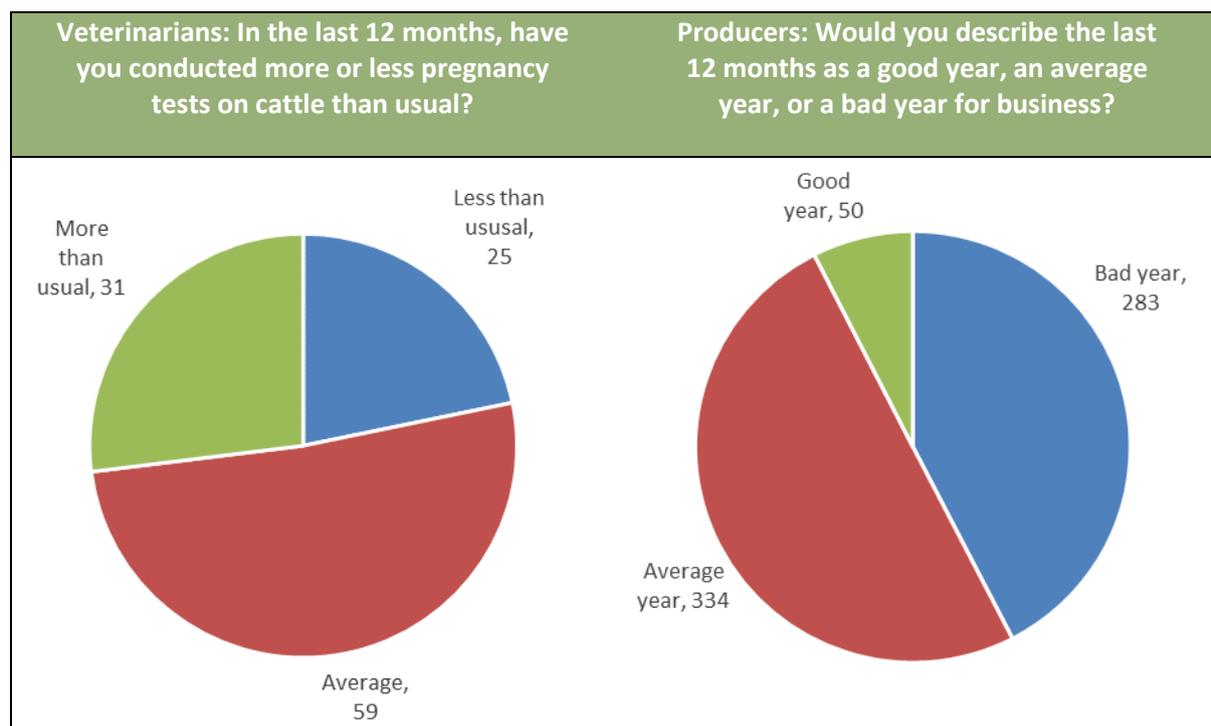


Figure 7 - How representative were last 12 months

On a state-wide basis there is a departure at either end of the spectrum. On a percentage basis, less producers than veterinarians doing pregnancy testing had a better year and more producers had a poorer year. While there are likely to be regional differences, this may imply that veterinarians responding to the survey are cementing the value of their role despite difficulties currently being experienced by producers who responded to the survey.

For both stakeholder groups, the majority of respondents felt they had an average year.

Appendix C Expressed preferences discussion

Preference segmentation

There are some shifts between the preferences of stakeholder groups. The following charts provide further detail about the preferences within the stakeholder groups.

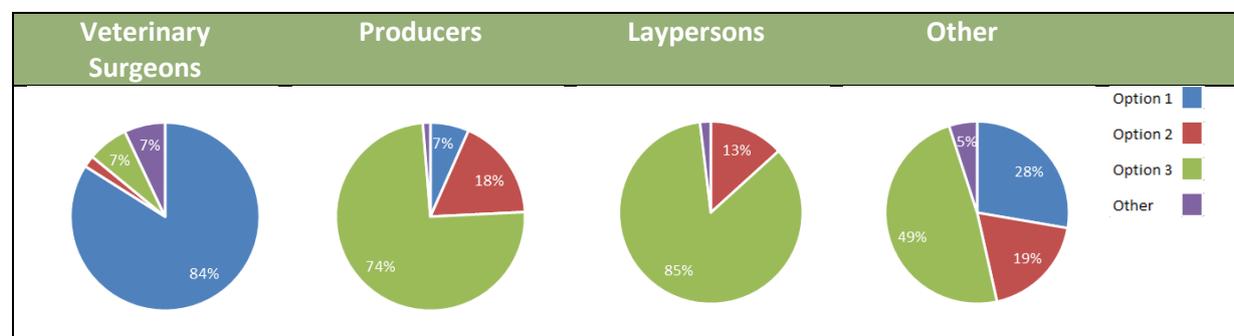


Figure 8 - Preferences by stakeholder group

Observations include:

- While 13% of laypersons believed the practice restriction should be lifted without any further treatment another 85% supported the establishment of an accreditation scheme.
- Seventy-four per cent of producers preferred an accreditation scheme and 18% preferred that the practice restriction be lifted completely. However 7% remain committed to the reliability and value added by attendance of veterinary surgeons.
- Eighty-four per cent of veterinarians preferred Option 1, 2% supported the lifting of the practice restriction and 7% found merit in an accreditation scheme. Another 7% provided qualified answers.

Of the 7% of veterinary surgeons who selected “Other”, most took the opportunity to enunciate principles that are consistent with Option 1 (no change). However the variations that were raised included:

- Accreditation for rectal palpation for all relevant procedures as a pre-requisite
- Support for laypersons with training and accountability similar to veterinarians
- Enforcing the current legislation
- Accreditation of laypersons to the same standard as PREGCHECK
- Option 3, with oversight from a veterinarian
- Accreditation scheme that incorporates biosecurity surveillance training.

Reasons for chosen option

The Consultation RIS consolidated the headline issues raised by peak stakeholders including peak bodies for producers, veterinarians and animal welfare (refer Consultation RIS, 10 – *Options to achieve the objectives*). The following question gave respondents the opportunity to select which of these issues were most important to them.

When choosing from the above options, which of the below did you consider most important?
Select all that apply.

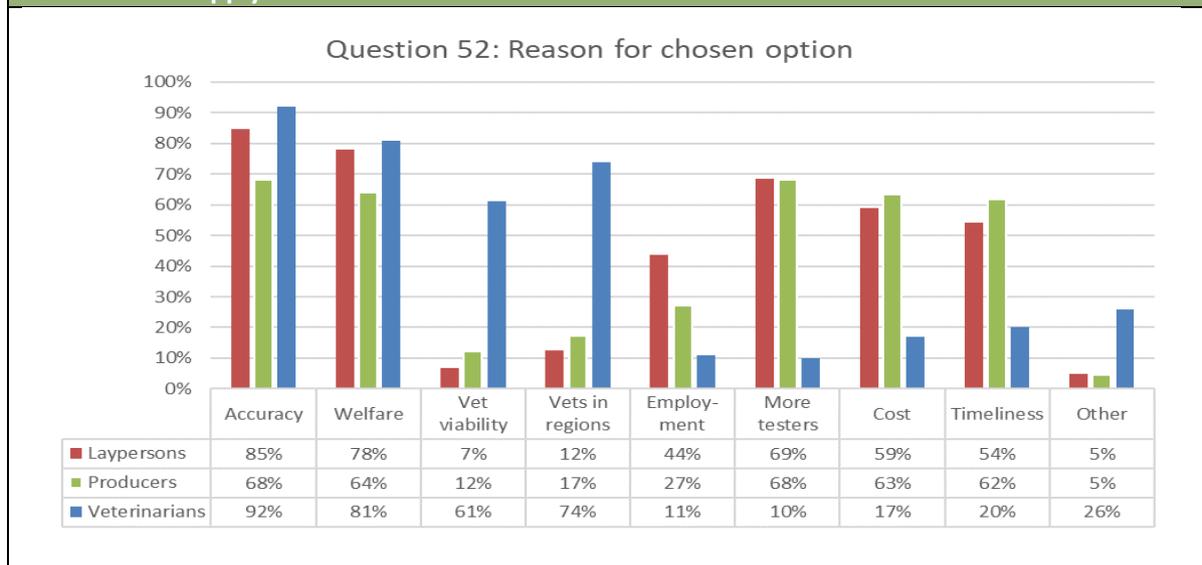


Figure 9 - Reason for chosen option

For laypersons, there appears to be a significant emphasis on accuracy and welfare, followed by more testers, cost and timeliness to producers - which are aspects that serve both layperson and producer interests. A number of lay respondents argue that they offer valid and valuable productivity gains to producers and suggest that depriving producers of their services would be unfair. One argues that the presence of laypersons would support greater initial identification of disease or welfare problems (that may otherwise go undetected) for referral to a veterinarian. Many suggest that the extent of their specialisation makes them more reliable than veterinarians who do not specialise. A number insist that manual palpation skills are a must for all testers.

Producers appear to place close to equal importance on accuracy, welfare, access, cost and timeliness. Some producers place a high value on the value-add of veterinarians. Some producers placed value on efficiencies associated with mustering and yard skills, with pregnancy testing regarded as part of the full service required. One producer lamented the inability to access veterinary surgeons when export quotas are being filled, as veterinary surgeons are unavailable for more life threatening emergencies when they are on the road pregnancy testing cattle for export. Some expressed disappointment with testing results from veterinary surgeons who do not specialise.

Veterinary surgeons also place significant emphasis on accuracy and welfare, followed by the viability of business and the impact that could have on the presence of veterinary surgeons in the regions. Based on commentary from veterinary surgeons in relation to the selection of "Other" benefits, they regard the continued presence of veterinary surgeons in the regions as contributing to the greater good and, consequently, the best interests of producers. The particular values identified by veterinary surgeons include biosecurity response and surveillance, production advice, disease identification, foetal aging, accountability and insurance. Some also identify the contribution of their businesses in terms of sponsorships and community events.

Components of selected option

All respondents were given the opportunity to comment specifically on components of the options. For example, Option 3 is a proposal that includes both:

- allowing pregnancy testing of cattle by laypersons for fee or reward; and
- allowing paid laypersons to conduct ovarian scanning for research purposes, under the supervision of an animal ethics committee.

The components are broken out in the following graphs:

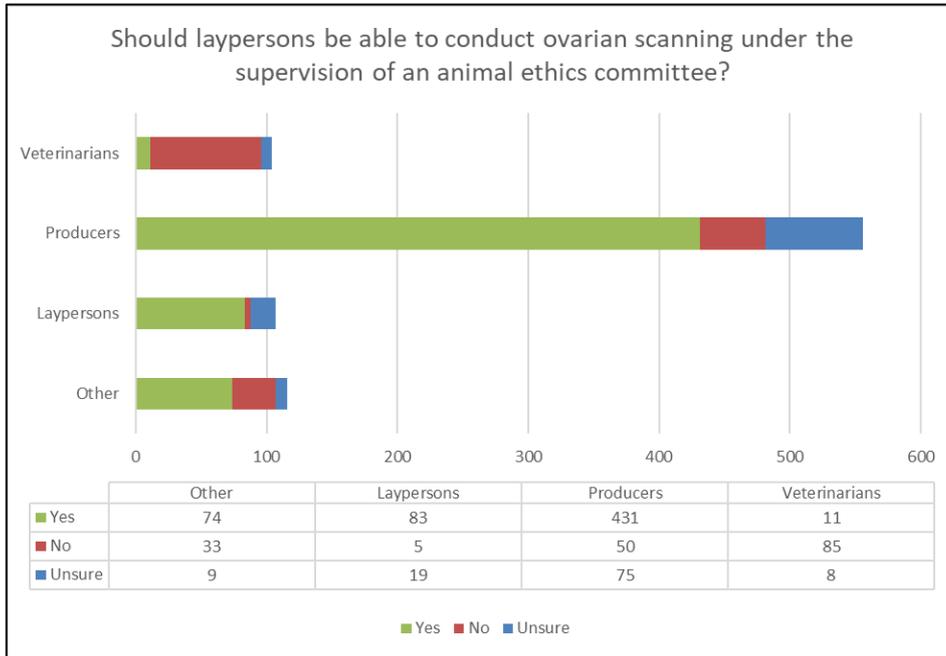


Figure 10 - Ovarian scanning as a stand-alone issue

The clear majority of veterinary surgeons do not think laypersons should be able to conduct ovarian scanning, even under the supervision of an animal ethics committee. However for other stakeholder groups there is a small minority who is unsure around the issue.

However, this uncertainty diminishes considerably in the context of paid pregnancy testing services:

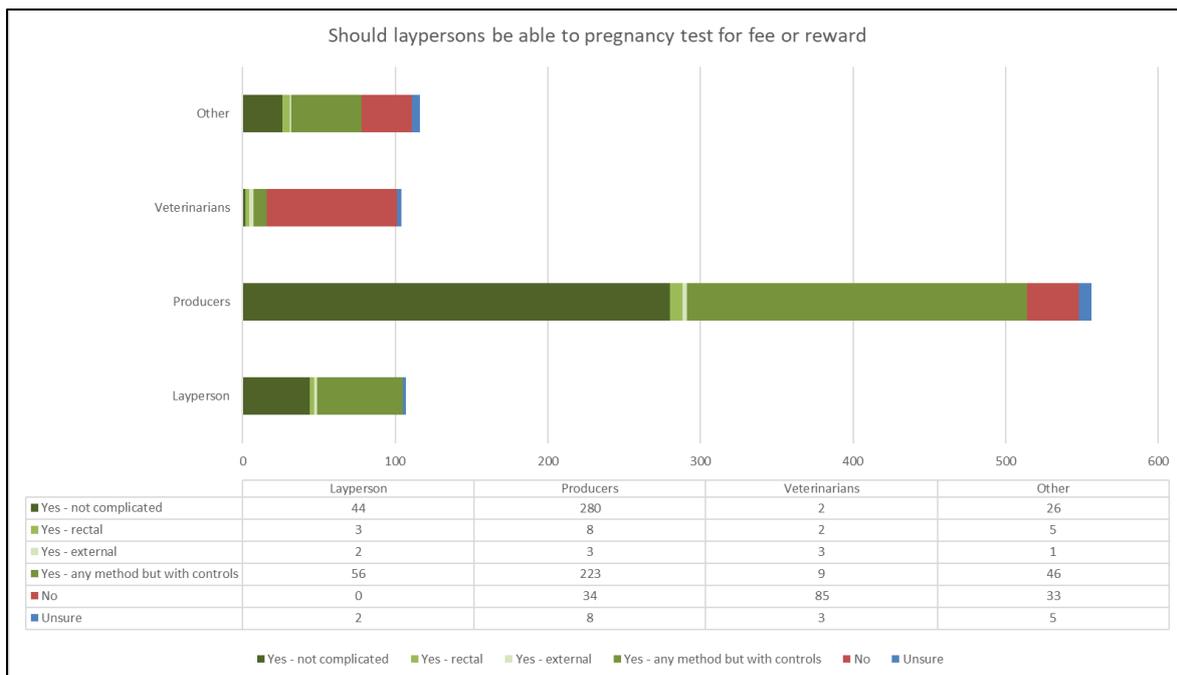


Figure 11 - Pregnancy testing as a stand-alone issue

The rate of veterinarian opposition to research technicians conducting ovarian scanning is reasonably consistent with the rate of veterinary opposition to laypersons receiving payment for conducting pregnancy testing. Eighty-two percent of veterinary surgeons making submissions believe that laypersons should not be able to receive payment for conducting pregnancy testing of cattle.

However, it is of some interest that 46% of veterinarians oppose laypersons conducting pregnancy testing of cattle regardless of whether payment is received:

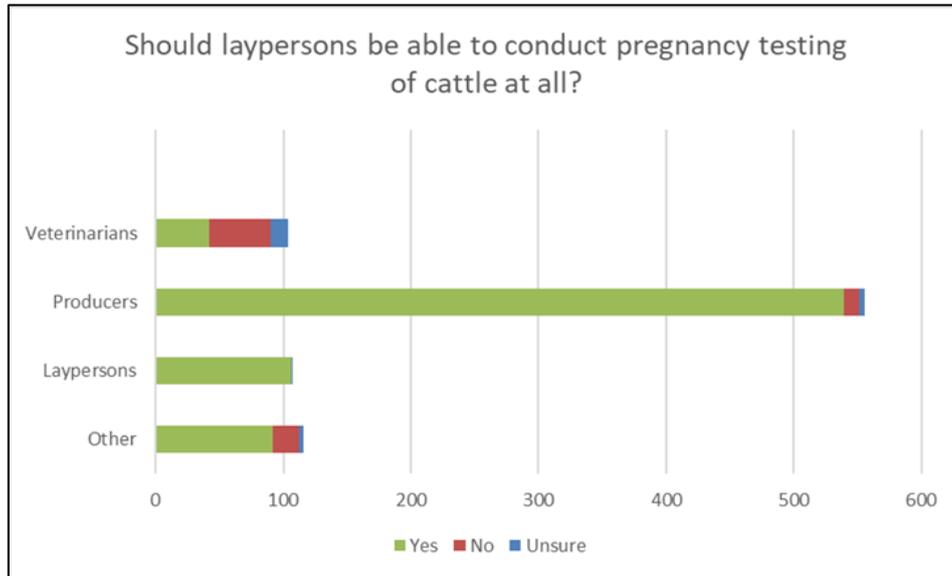


Figure 12 - Pregnancy testing whether paid or not

Unfortunately, freeform comments made in relation to this issue do not make it clear whether the position of these veterinary surgeons is based on accuracy, market access or welfare concerns or the extent to which producers are impinging on potential work opportunities for veterinary surgeons.

Appendix D General observations on feedback

Various portions of respondents misconstrued parts of the Consultation RIS and the associated survey. These misconceptions include:

- assuming that the intent of the RIS was to qualify laypersons to certify pregnancy status for the export market rather than enabling laypersons to conduct pregnancy testing for payment (*1.1 Purpose of this Regulatory Impact Statement*);
- assuming that the accreditation scheme was intended to qualify lay persons for the breeder/productive market;
- not distinguishing between the issue of paid testing by others and unpaid testing, such as by owners (refer *2.2.1 Laypersons, 2.2.4 Queensland providers and market served* and *3.5.1 Lay testing without fee or reward*);
- not recognising that performance of pregnancy testing in the course of employment by laypersons, is regarded by courts as being for fee or reward, and therefore in breach of current legislative requirements (refer *1.1 Purpose of this Regulatory Impact Statement*, in particular footnote 2);
- not distinguishing between the two separate problems of pregnancy testing by laypersons for payment and the issue of research technicians conducting ovarian scanning under the supervision of an animal ethics committee (refer *1.1 Purpose of this Regulatory Impact Statement*);
- not recognising that Options 2 and 3 are aimed only at the conduct of ovarian scanning in the context of formal scientific research where the ACPA requires oversight by an animal ethics committee;
- not distinguishing between unit cost estimates for pregnancy testing professional fees and on-cost estimates for travel, holding and other opportunity costs (refer *4.4 - Direct and indirect cost to producers*);
- not recognising the model proposed under Option 3, is for the Queensland Government to approve an accreditation scheme (refer 11 – Preferred Option page 46) to be delivered by industry, rather than direct accreditation by government as applies within the Northern Territory and Western Australian models;
- not recognising the proposed model does not meet the current requirements under ASEL for the relevant government to directly accredit laypersons³¹;
- assuming that the survey associated with the Consultation RIS could, and was intended to, deliver a broad financial viability assessment based on a small cohort of highly variable veterinary practices that provide pregnancy testing services throughout highly variable regions;
- assuming that an election policy submission made by AgForce in 2015 had been automatically adopted by Government, including the provision of one million dollars of seed funding;
- assuming that the scheme outlined by AgForce represents the entirety of detail that would be required to achieve approval for accreditation;
 - assuming the legislative solution for enabling a scheme would necessarily mean that pregnancy testing would be excluded from acts considered to be acts of veterinary science.

³¹ Based on their submission, it appears possible the AVA and ACV have misconstrued this distinction to conclude that the Consultation RIS suggests that ASEL will be amended to accept lay accreditation for the breeder/productive cattle market. This is not the case.

Appendix E Representative veterinary surgeon comments

Veterinary surgeon comments supporting the status quo

- (lay pregnancy testing) drags the profession down, and absolutely robs cattle producers of skilled help and advice – it is a lose/lose for both professions
- Regular property visits allow for a practice to meet health department requirements for the dispensing of prescription only medicines for livestock
- When veterinarians are on a property doing a routine procedure such as pregnancy diagnosis, they will frequently call out poor welfare practices, and their comments will be acted upon because they have the professional expertise
- The reality is without pregnancy testing there will be very little, if any reasons for vets to come onto properties within an extensive beef livestock system.....in Queensland there will not be any vets coming onto properties, and over time, the skill sets associated with large animals veterinary practice will reduce³²
- The government has reduced the active surveillance capacity on the ground with reductions in staffing at Biosecurity Queensland. Private vets play a very important role in providing this capacity for passive surveillance and as capacity in the event of an outbreak
- Most veterinary surgeries north of the Tropic of Capricorn are part of the Northern Australia Biosecurity Scheme if we take away pregnancy testing how will this scheme continue to be viable?
- In the more extensive beef production areas of northern Queensland, veterinarians deliver a highly valuable service of passive disease surveillance whilst on property for pregnancy diagnosis
- Recent issues with the live export of sheep indicate that our accreditation schemes need to be strengthened and not relaxed to maintain the live export industry
- ... veterinary practice is highly dependent on pregnancy testing The loss of this service to lay operators would have a serious impact on our clinic and would result in the loss of a number of staff
- A lay preg tester will not have any lay support staff
- A lot of our clients had been pregnancy testing their own cattle but once they experience the service that we, as qualified and accredited veterinarians deliver by pregnancy testing they are impressed ... and have now changed over to having us do their pregnancy testing
- Pregnancy testing leads to other cattle veterinary work and is very important in the viability of our rural veterinary surgery
- As it is, the bush is already starved of professionals. Does the beef industry really want to facilitate this?
- I urge Queensland producers to be careful what they wish for
- Deregulation of such a “bread and butter” procedure such as bovine pregnancy testing would reverse the strong passive support for rural veterinary practices (in the context of previous veterinary practice Government support during the Tuberculosis and Brucellosis Scheme)
- Where will the buck stop when our market integrity or social licence to operate is threatened through inaccurate pregnancy diagnosis or adverse animal welfare outcomes?
- There is nothing in this whole argument from the veterinary profession that prevents producers from learning to do their own cattle in-house
- Vets should be the ones to sign certificates. There have disciplinary bodies and insurance. We don't want to lose our export industry because of mistakes by lay people

³² Quoted from a standardised written submission received from 14 different respondents.

- Industry based accreditation schemes are not set high enough. The ACV scheme requires a 100% accuracy rate for accreditation, and applicants have to be able to log a minimum 1500 preg tests prior to assessment. The cost to producers for inaccurate testing far outweighs the potential savings
- There are over 112 vets in Queensland accredited for PREgCHECK
- I believe the stated demand is not high and laypersons undertaking any degree of training and accreditation would soon find it a poor choice of employment
- The big glaring issue I see is that the isolated areas where apparently there is a lack of vets, is not going to attract lay pregnancy testers. They will want to work close to the coast where there is already a high concentration of vets performing this task well and cost-effectively
- Ovarian scanning of pre-pubertal heifers is not a quick process, and it can be quite distressing for the animals concerned
- The excuse of "lack of veterinarians" to provide such services is not true within the areas I work. We also provide outreach clinics like most other veterinary clinics to limit associated travel costs
- We ensure that pregnancy testing is always available on the day required/requested by producers. There is no shortage of availability of veterinarians in our district, and we charge \$3.50/head plus travel. We try our hardest to support our local producers, but in a circumstance of a race to the bottom price wise with laypersons, I worry about accountability & accuracy
- Availability of vets is not a valid excuse. I have never knocked back a preg testing job anywhere in QLD
- Providing a certificate of pregnancy status is an act of veterinary science itself
- Pregnancy diagnosis is a far better description of the procedures than pregnancy testing, because the result of the procedure frequently requires me to use more of my veterinary knowledge than a yes/no answer
- In my experience lay pregnancy testers do not have the accuracy of the PREgCHECK certified veterinarians with incorrect diagnosis in 8-10% of cases
- Veterinary clinics are part of the fabric of rural communities treat injured wildlife and animals for free Veterinary services to town race meetings
- The need for accurate pregnancy diagnosis includes foetal aging
- This would ensure vet income was safeguarded
- With respect to dodgy practice procedures, there are consequences for veterinarians, but do we see such legislation for lay person bovine pregnancy testers to protect producers?
- Increases the cost of other services to remain viable
- Reduces the quality of equipment and service
- Being on farm allows veterinarians and producers to maintain an ongoing relationship
- is the thin edge of the wedge. The next request will be to allow unsupervised lay testers to legally carry a "first-aid" kit they will be requesting anaesthetic, sedatives, anti-inflammatories
- Our practice owner is aircraft equipped to reduce travel costs and make pregnancy cost more accessible for our clients.

Veterinary surgeon comments supporting change

- I am a veterinarian and producer. I can do my own testing but prefer to use a lay person who is doing it all the time
- Just because someone is a registered veterinarian, which means they have a good understanding of anatomy, does not indicate competence in bovine rectal palpation, which is a specialist skill
- Good training can achieve a high level of competency in lay operators for specific procedures

- If the legislation is policed I do not perceive that (accreditation) will open the flood gates for lay operators as the necessary knowledge and skills development and experience will limit lay operators to only dedicated and capable people and exclude the current throngs of 'cowboys' and other well-intentioned but otherwise insufficiently trained operators.
- It may also enable veterinary practices to employ accredited persons when accredited veterinarians are unavailable, to conduct routine procedures involving rectal palpation
- A recommendation: Changes to (legislation/policy) enabling and requiring legal accreditation of lay persons to conduct and teach rectal palpation of the female bovine reproductive tract with, or without, the aid of medical equipment for the purposes of pregnancy diagnosis, foetal ageing, spaying and artificial breeding
- It is inevitable that laypersons will perform this task to a variable standard, however I suggest that such people be required to undertake specialist training and are registered
- The obvious solution to guaranteeing capacity of pregnancy diagnosis and ultrasound services throughout Queensland is addressed and that lay pregnancy testers and scientific officers satisfy the standards of the PREgCHECK scheme would be to allow accredited lay pregnancy testers and technical officers to work under the supervision of a registered veterinary surgeon in practice or within the scientific organisation or department
- I think it would be prudent to keep veterinarians involved somehow. This could occur in a few ways, one of which might be that lay pregnancy testers are required to report test results to a vet clinic. A small fee from the clinic could be charged to interpret the results and provide advice
- I urge those involved to consider what can be done to ensure changes do not worsen the terrifying lack of veterinary advice sought in regional areas

Appendix F Representative producer comments

Producer comments supporting the status quo

- Vet clinics in rural towns support local business and provide an important service. Our local clinic is always contactable and willing to provide free phone advice. We can't have our cake and eat it.
- Viability of Vet practices I think is a big issue
- The veterinarian charges travel costs but unfortunately, whether it's the veterinarian, electrician or dozer mechanic, there is always this cost for the property owners
- Only a veterinarian is allowed to prescribe and dispense S4 medications and without the veterinarian being on these properties in a routine pregnancy testing program, it becomes very difficult for the veterinarian to provide care and treatment without the travel cost to the producer of a property visit or the travel cost to the producer taking the animal to the veterinary clinic
- In the last 10 years the number of people graduating with a Bachelor of Veterinary Science and a huge HECS debt has doubled so these young bright energetic people need to find work not have their options reduced. Lay preg testers can still use their skills preg testing their own cattle
- A veterinarian is capable of recognising other problems/disease with my individual cattle and a herd as a whole. Having a veterinarian preg testing my cattle comes with assurance that they can then begin to identify potential problems with the cattle that can only be performed by a professional.

Producer comments supporting change

- One of our biggest cost for preg test and vets is travel. Bigger mobs obviously work out better for this as far as \$ per head to test. I think with adequate testing of lay testers, welfare, accuracy etc would be looked after, therefore not a big issue. There are plenty of operators out there who are able to perform an excellent job at this task
- I often have to get cattle preg tested twice for live export. Once by a layperson, and then a second time by a Vet at the export yards. I have never had one sent back. Availability of Vets has been a big issue, as well as being cost prohibitive when sending smaller numbers. I have had first year Vets that have been very nice people, but thoroughly inexperienced and not competent. I have also had exceptional Vets as well. However, the lay preg tester that I use is without a doubt the most competent of any person that I have had preg test our cows. Our cows are always marked and I cannot recall a time that I have seen one wrongly assessed
- This year, I had a vet confirm the empty status of 120 heifers that I had already tested empty, to comply with live export protocol. Including travel this amounted to almost \$40/head, only for the shipment to be delayed beyond the 30 day limit of an eligible preg test. So I had to contract a vet to do it again at another \$40/head. This amounted to approximately 10% of the value of the animals just to confirm what I was more than capable of doing myself at no cost
- Having veterinarians available to do more specific tasks. When an export ship is going it is hard to get the vet out to do more life threatening tasks on animals as they are usually booked up for weeks pregnancy testing
- I firmly believe that the veterinarians should be carrying out the far more complicated and invasive procedures for which they are trained
- Impact on local veterinarians should be considered but cattle producers should have the choice of obtaining a veterinarian or a lay person
- I believe there is a space in the market for lay pregnancy testers, and their services will complement the local vet

- During the last few years of dry and reduced cattle numbers, we have been preg testing small mobs. The travel cost of sourcing a vet has been often higher than the cost of preg testing
- I find industry based lay persons are often more practical and understand local factors that affect fertility better than some of the junior vets that are sent out to pregest
- Option 3 but with supervision from a vet clinic so that the disease side can be checked too
- Veterinarians are pricing themselves out of the industry. We need to keep them in the industry & therefore must make our decisions wisely, with their & our best interest at heart. However, if prices for services relating to & surrounding the beef industry continue to skyrocket there won't be a beef industry for anyone to work & live in. We simply do not get enough money for our cattle to sustain the industry moving forward
- If you don't already know mustering doesn't always go to plan. Therefore if you get a mob in unexpectedly and wish to sell some you don't have to try and rustle up a vet. I understand the need for vets but I strongly believe they are not required for pretesting beef cattle unless asked.
- If lay people are trained and assessed to be competent in this skill, it makes it much easier on the cattle and staff - less waiting around/quicker response to market orders. Preg testing can be done as each mob is mustered and animals can be tagged accordingly and set aside for sale.
- The role of pregnancy testing gives young people in the industry a good career option and that career can only be built on accuracy and duty of care with cattle
- If only vets are able to pretest animal welfare issues arise because people tend to stock pile large numbers to cut costs as time is always an issue. Cattle are held in holding paddocks and yards longer than needed which returns stress resulting in weight & pregnancy loss. If accreditation was introduced, lay testers would be accountable for their work and the overall standard of accuracy and welfare would improve
- I am a veterinarian and producer. I can do my own testing but prefer to use a layperson who is doing it all the time
- As a producer (Tester) that is competent in both rectal induced ultrasound and manual palpation, I am a firm believer that if lay people are allowed to test for reward, they must be competent in manual palpation as a basic minimum. Ultrasound should only be recognised as an additional competency. If the tester is only Ultrasound competent, then they should not be testing for reward
- They must also be certified under an industry recognised assurance program like PREgCHECK.
- Welfare training should also be included prior to final certification
- The Aus Veterinary Association needs to work with the lay testers not against them. They have the long respected PREGgHECK certification system. Allowing lay people to access this verification system. This will bring surety to the industry, weed out the cowboys and allow the cream to rise to top. Lay testers have a lot to offer our industry. They just need the guidance and frame work
- I also do agency work selling to live export and availability of vets is a big issue.

Appendix G Representative layperson comments

Layperson comments supporting change

- I was the first layperson accredited in WA. I have been subjected to more vet backlash in the early days than one would ever hope for. Now days 99% of the vets back layperson preg testing and I work extremely closely with numerous vets. Many of these vets refer their preg testing work to me³³
- I find it hard to believe that some vets have lost 90 per cent of their cattle work to lay technicians. With all due respect, how good could someone be if they lose 90% of their work to someone you say is a lay technician (that) you appear to be making out incompetent³⁴
- This isn't about veterinarians versus lay technicians. There are good and bad technicians and veterinarians If a veterinarian is good at (their) job (they) will not lose work to a lay technician
- Veterinarians that are good at their job have nothing to fear
- I feel there should be an ethics board above lay testers..... Introducing a small fee and setting some hoops to jump through may weed out some who are wanting to make a quick buck pregnancy testing following a short course
- I think for the best interest of the producers the courses need to be revamped you should not be accredited just for turning up to a course there needs to be a level of standards that is a bare minimum
- All operators should be accredited be they Veterinarian or Layperson
- It is really hard to watch a vet fresh out of vet school preg test and charge a fee with little or no knowledge of what they are doing, when someone is standing there that has preg tested hundreds of thousands of animals but is not accredited so therefore can't sign off on the job.
- It's the little mobs that become the problem due to expense of using vets.

³³ Submissions were cross-checked for the views of Western Australia veterinary surgeons' on this topic but none were found.

³⁴ In response to a statement made in article from ABC Rural about the impact of lay pregnancy testers in Western Australia. Accessible at <https://www.abc.net.au/news/rural/2011-06-10/lay-cattle-pregnancy-testers-threaten-vet-viability/6184488>

Appendix H Peak body submissions

AgForce



AgForce Cattle Ltd

A commodity council of AgForce Queensland
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Ref: WW/RB/GG128

13 December 2018

Pat Bell
Biosecurity Queensland
GPO Box 46
BRISBANE QLD 4001

By Post & By Email: biosecuritylegislation@daf.gov.au

Dear Pat

Re: Cattle Pregnancy Testing and Ovarian Scanning, Regulatory Impact Statement

AgForce Queensland Farmers (AgForce) is the peak rural group representing beef, sheep & wool and grain producers in Queensland and exists to advance sustainable agribusiness. The broadacre beef, sheep and grains industries in Queensland generated around \$7.2 billion in gross farm-gate value of production in 2016-17. AgForce exists to facilitate the long-term growth, viability, competitiveness and profitability of these industries. The producers who support AgForce provide high-quality food and fibre to Australian and overseas consumers, manage around 40% of the Queensland agricultural landscape and contribute significantly to the social fabric of rural and remote communities.

Thank you for the opportunity to comment on the *Cattle Pregnancy Testing and Ovarian Scanning, for Commercial Purposes and Scientific Research, by Laypersons Regulatory Impact Statement*. AgForce continues to support **Option 3**, because it opens the market and provides an opportunity to lift lay testing to a professional standard.

• Background

AgForce members initially raised issues with veterinarian availability and the need to expand pregnancy testing services during the 2014-15 live export growth period. The AgForce Cattle Board took this request and instigated amending the *Veterinary Surgeons Act 1936* to enable lay testers in 2015 with the then Minister for Agriculture, Forestry & Fisheries, the Hon John McVeigh, who supported the idea. The Hon Minister Leanne Donaldson also supported the proposal as did Hon Minister Byrne and now three years on, the Hon Minister Mark Furner has seen through the commitment to industry to open the Act for public consultation. This bipartisan support has been warmly welcome.

It is important to note the availability of veterinarians in remote areas is not the only limitation with the current legislation. Live export is only one target market area where pregnancy testing services are lacking. Many producers have explained to AgForce that the available veterinarian services do not always fit in with their operations and farm management processes. Examples and case studies have previously been provided to Biosecurity Queensland outlining a variety of deficiencies in the current system and these should be referenced as part of our submission.

1

- **Industry Benefits While Veterinarian Demand Continues to Grow**

Herd fertility is vitally important to lifting the productivity and profitability of Queensland's cattle herd. Access to trained and professional pregnancy testing services that fit with the business management practices are vitally important for the industry to thrive.

For too long Queensland producers have been at a competitive disadvantage to their neighbours in other jurisdictions where lay testers are allowed. It is clear that access to skilled pregnancy testing services is vital to increasing herd productivity and ensuring market penetration. Many lay testers are currently active in Queensland working in areas where there are veterinary services available. Many producers report they found there was no difference between the accuracy and skill of an experienced lay tester and a veterinarian. There is no evidence to suggest this has reduced the business of veterinarians, in fact the number of veterinarians in rural areas has grown according to the Australian Veterinary Association (AVA).

- **Training and Accreditation is Essential**

Pregnancy testing competency, both manual and ultrasound, is a skill learned through training and application. Achieving animal welfare, accuracy and biosecurity are important outcomes and achievable through high quality training. AgForce has always supported the need for a training and accreditation program to accompany any change to the legislation. Our aim is to provide a training and accreditation program which will ensure the desired outcomes are consistently achieved and elevate the existing, often suitably skilled, underground testers to the professional standing they should have. AgForce does not support illegal activity, but practical solutions to this situation are urgently needed. Lay testers in other states and territories have expressed their support for an accreditation program to demonstrate the level of professionalism they currently deliver.

- **New Technology Must Be Included**

Finally, AgForce believes enabling the use of new technology, including ultrasound, is an important feature of any amendment to the legislation. The use of ultrasound is growing and an accreditation scheme will need to accommodate all methods of pregnancy testing. Potentially other technical skills like artificial insemination could be included in the program to expand its expected support of animal welfare and industry productivity and profitability.

- **Training and Accreditation Scheme**

AgForce has commenced the development of a training and accreditation scheme with the assistance of the Australian Lot Feeders Association, ultrasound providers, Queensland Agriculture Training College and other Registered Training Organisations (RTOs). We are grateful to the Australian Cattle Veterinarian association for providing the PREGCHECK scheme to enable our program to be developed in an efficient manner. We have called the new scheme 'TestRight' and aim to provide a program that reflects PREGCHECK standard.

The Pregnancy Testing scheme TestRight seeks to promote excellence in pregnancy testing diagnosis for both manual palpation and ultrasound techniques. TestRight accreditation has been developed by industry to meet the industry desired 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 that producers, buyers and the wider 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 searchable system. They can then commence the necessary preparation for the final accreditation exam.

The 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. Data from this will enable the accuracy of ultrasound results to be measured.

The data capture function will also provide accurate accounting and streamline scheme management and processes for annual recommitment. As pregnancy testing is a competency-based skill, it is expected a defined number of cattle will need to be tested annually by a tester to maintain their accreditation. AUSMEAT have assessed the scheme and deemed it practical and deliverable. They highlighted the advantage of utilising technology to minimise administration costs. The scheme has also been shared with the consultants undertaking the national review of commercial pregnancy standards, initiated by Cattle Council of Australia. The scheme may well also provide an opportunity for harmonisation of skills nationally.

- **Further Collaboration Sought**

AgForce is open to working with the Australian Veterinary Association on the detail of the scheme. It is hoped collaboration will be possible after the legislation is amended; until then it is only reasonable there is a separation of ideas and positions. It is also hoped Biosecurity Queensland will assist and share data from the regulatory impact consultation survey that could indicate potential demand for a training program.

- **National Approach**

Fortunately, the review of the Australian Standards for the export of Livestock (ASEL) has occurred at an optimal time to enable national legislation to reflect the states'/territories' legislation. If Queensland regulation comes into line with northern Australia, then the TestRight scheme can provide a basis for harmonisation across the north opening export market processes to accredited lay testers.

AgForce thanks Biosecurity Queensland for the time taken to develop and run a regulatory impact consultation process and looks forward to a positive result for industry.

Any questions on this submission should be directed to Renata Berglas, Cattle Policy Director, by email at: berglasr@agforceqld.org.au

Yours sincerely



Will Wilson
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Australian Veterinary Association/Australian Cattle Veterinarians



**Cattle pregnancy testing
and ovarian scanning
for commercial
purposes and scientific
research**

Submission from
Australian Cattle Veterinarians and
Queensland Division
Australian Veterinary Association Ltd

To:
Department of Agriculture and Fisheries
bioscelegislation@daf.qld.gov.au;

Closing Date 14 December 2018

www.ava.com.au



14 December 2018

The Australian Veterinary Association submits informed comment on the proposed changes to regulations around cattle pregnancy diagnosis and ovarian scanning.

About us

The Australian Veterinary Association (AVA) is the national organisation representing veterinarians in Australia. Our 9500 members come from all fields within the veterinary profession. Clinical practitioners work with livestock, companion animals, horses, wildlife, conservation and zoo animals. Government and institution employed veterinarians work with animal health, public health and biosecurity. We also have members who work in research and teaching in a range of scientific disciplines. Veterinary students are also members of the Association. The AVA has a range of special interest groups (SIGs), allowing members with shared interests or expertise to develop their practice and skills in a specific area. These include Australian Cattle Veterinarians, Conservation and Biology Animal Welfare and Ethics, Public Health, Equine and Sheep.

Executive Summary

Recommendation

AVA strongly advocates that pregnancy diagnosis remains an act of Veterinary Science. The deregulation would have massive impacts on **biosecurity, animal health and welfare**, as well as veterinary practice sustainability.

Supporting comment on the recommendation

Cattle producers need accurate and reliable pregnancy diagnosis. Veterinarians provide vital information on reproductive diseases, welfare and biosecurity. This advice is crucial to farm productivity and sustainability.

An active and functional biosecurity system is a key component of our Australian biosecurity system, and provides the foundational support for our clean, green image in overseas markets. Our relative disease-free status enables us to enjoy access to many markets, in comparison to other countries.

Both the national CVO Mark Schipp and the Queensland CVO, acknowledge the importance of a biosecurity partnership with private veterinarians. A cornerstone of our submission outlines the situation that has occurred in WA since deregulation. The corner store analogy – if you don't use the corner store it will shut down. The number of veterinarians servicing the production animal market in WA has contracted. Producers now pay a penalty when engaging veterinary services because travelling times have increased. This outcome in a geographically dispersed state such as Queensland will be catastrophic. This will lead to a long-term cost to our beef industry rather than the likelihood of any cost savings.

Further lay pregnancy testing can only lead to serious and detrimental biosecurity outcomes for Queensland's trade relationships and obstruct any necessary biosecurity responses in the face of a disease outbreak.

Ensuring acceptable animal welfare standards are maintained with accurate certification of an animal's health and pregnancy status is paramount for the Queensland beef industry to maintain its social licence and to continue to operate. Issues with live sheep export indicates that our accreditation schemes need to be strengthened and not relaxed if we are to maintain Australia's \$1.35B export trade.

Certification is a key issue that has not been addressed in the RIS. Pregnancy diagnosis of cattle is an act of veterinary science, as is the signing and issuing of certificates relating to the description, health, diagnoses and treatment of animals. In the same way you are required to visit a doctor for a sickness certificate. Certification by a professional is universally accepted as written proof of evidence in most situations and countries.

This submission provides details relating to a number of aspects missing from the RIS, particularly around cost benefit analysis.

Response to the consultation

Certification

Pregnancy diagnosis of cattle is an act of veterinary science, as is the **signing and issuing of certificates** relating to the description, health, diagnosis and treatment of animals. In the same way a doctor needs to sign a sickness certificate, certification by a professional is universally accepted as written proof of evidence in most situations and countries.

Social licence and cattle industry sustainability

The live export trade has become an integral part of the Australian cattle industry and even temporary cessation of the trade causes catastrophic effects as was evidenced in 2011. Ensuring acceptable animal welfare standards are maintained and that there is rigor in our certification on animal health and pregnancy status is paramount for the Queensland beef industry to maintain its social licence, and to continue to operate. Recent issues that have arisen with live export of sheep indicate that our accreditation schemes need to be strengthened and not relaxed to maintain the live export trade worth \$1.35 billion to Australia.

The PREgCHECK™ system

The Australian Cattle Veterinarians PREgCHECK™ scheme enjoys the benefit of over 1,000 members and complaints are covered by registration fees charged by that association. This scheme and the Australian Cattle Vet members have supported the Australian Cattle industry for many years. The PREgCHECK™ has developed into what is arguably the best in the world for certification of pregnancy in cattle. Any issues or complaints relating to certification are handled by the professional body (ACV) that operates the scheme. In summary, the PREgCHECK™ scheme is underpinned by: -

- Previous acquired knowledge of a veterinary degree which automatically includes training in anatomy, diseases, physiology and basic manipulation of the reproductive tract of cattle.
- Registration as a veterinarian with the relevant State Veterinary Surgeons Board (sometimes multiple) and membership of the Australian Veterinary Association and Australian Cattle Veterinarians.
- A comprehensive 95-page manual "Pregnancy Diagnosis in Cattle" that covers all aspects of pregnancy diagnosis.
- A log demonstrating that any prospective veterinary graduate has manually palpated a minimum of 2,000 animals prior to examination.
- Basic rules to follow where uncertainty exists e.g. "Never put an empty tag on an animal unless you have palpated the empty uterus".
- A test by an accredited examiner on 100 animals with zero tolerance on positive or negative animals and guidelines for the prevalence of pregnancy status in the mob on which the examination is conducted.
- A certified examiner who has at least 5 years' experience and who has tested >20,000 head.
- Individual identification (normally a colour coded tail tag) of every animal tested that is traceable back to the individual veterinarian who performed the test.
- A certification that accompanies each mob tested which lists the ID of all animals in the mob along with any tail tags that have been replaced.
- A traceback system to investigate all complaints.

- A random annual audit system.
- Potential deregistration by the Veterinary Surgeons board for professional misconduct as a veterinarian and automatic loss of accreditation.

For a lay pregnancy tester, the only recourse is the civil court, and outcomes would be highly dependent on the individual's financial and insurance situation. At present there is no insurance policy that would cover a lay pregnancy tester.

Biosecurity and risk to Queensland markets

An active and functional biosecurity system is a key component of our Australian biosecurity system, and provides the foundational support for our clean, green image in overseas markets. Our relative disease-free status enables us to enjoy access to many markets, in comparison to other countries. Zoonotic disease can threaten the lives of the producers and their families, but even non-zoonotic diseases can threaten their livelihoods, as trade sanctions are likely in a disease outbreak situation. Both the national CVO Mark Schipp and the Queensland government through Biosecurity Queensland, acknowledge the importance of a biosecurity partnership with private veterinarians. This is needed because of the decline in government veterinary services, both at the state level (across all jurisdictions), and the national level within the Department of Agriculture and Water Resources.

This partnership approach is acknowledged by states and federal governments through the Intergovernmental Agreement on Biosecurity (IGAB) schedule 4 which is to enhance programs that build capability in both the public and private sectors, and the community for the early detection of pests and diseases.

Private veterinarians are key to ensure passive disease surveillance is carried out, and it is the key to early detection and validating disease status. A key part of this disease surveillance is on-farm veterinary visits as these are critical for herd health, biosecurity, animal welfare and disease detection. Through this system private veterinarians are able to support the Queensland Government without any direct cost.

Queensland is different to other states, both with the provision of government veterinary services and the extensive production livestock systems. The reality is that without pregnancy diagnosis there will be very little, if any, reason for veterinarians to come onto properties in an extensive beef livestock system. In the southern states with more intensive practices, including dairy, there are many reasons for veterinarians to interact with, and provide services to, producers. There has been AGforce media on why Queensland doesn't have what NSW has, however in NSW there is extensive network of LLS vets who play an important role in biosecurity, and Queensland does not have this resource.

Lay practitioners get on farm, undertake the work as quickly as possible, and do not have the training to evaluate animal health issues that could be an indication of a disease outbreak. In an emergency response situation large numbers of personnel are required. During the 2007-08 equine influenza response, large numbers of veterinarians from the private sector were employed to perform field operations such as performing field surveillance and to assist in control centres.

NAQS utilising Agricultural White Paper funds is undertaking a program called the Northern Australia Biosecurity Surveillance project (NABS) which is aiming to strengthen disease surveillance activities across vet practices in northern Australia. This leads to the current situation where there are conflicting state and federal government messages on the role of rural veterinary practitioners. If the Queensland government supports changes to deregulate cattle pregnancy diagnosis, this will reduce rural veterinary practice viability and reduce or eliminate private veterinary surveillance on rural properties. It is the corner store analogy – if you fail to use it then it shuts down. There are serious statewide biosecurity implications arising from the proposed changes. The Queensland government has reduced the active surveillance capacity on the ground with reductions in staffing at Biosecurity Queensland. As stated at public forums by the Queensland CVO, private veterinarians play a very important role in providing this capacity, both for passive surveillance, and as capacity in the event of an outbreak. However, if there is no reason to go out to a property, then we can't undertake this role,

and it will mean that the Queensland government will need to fund this activity. Additionally, it is only larger practices with multiple veterinarians that are able to provide assistance in an outbreak situation. A reduction in income from pregnancy diagnosis will result in a reduction of veterinarians in multi vet practices in rural areas and will mean that there are no resources available to the government in the event of an exotic disease incursion. Modelling has already shown that veterinarians would be the most critical resource to be depleted in the event of a modest outbreak of FMD and was certainly the case in the UK FMD outbreak in 2001.

Internationally it is recognized that private veterinarians are a key component supporting Australia's strong animal health status which in turn underpins our capacity to access international markets. A 2015 report by the OIE's on Australia's Performance of Veterinary Services (PVS) recognises the collaborative approach to maintaining our animal health status and the benefits that brings Australia—it is something we could not achieve without the assistance of Australia's nearly 13,000 registered veterinarians.

Australia's and Queensland's reliance on exports requires continual increases in production, value and safety. Australia's modest population and gradual consumption growth leads many Australian farmers to depend on new international markets to expand and maintain profitability. A high animal health and food safety status is of cardinal importance for Australia. Queensland is heavily reliant on agricultural exports, particularly beef. The Australian Veterinary Association questions why Queensland is seeking to weaken the backbone of the states biosecurity and animal health security.

Specific Comments on the Regulatory Impact Statement (RIS)

The RIS as presented fails to provide a balanced, or adequate overview of the situation. There are unfortunately anecdotal assumptions which very much weaken the validity and robustness of a Regulatory Impact Statement. Apart from this there is also much that the RIS does not include. We will address both the inaccuracies, and the missing information separately.

Putting the RIS into Perspective

1. **Cost benefit analysis:** The RIS states that it is impossible to provide a meaningful cost benefit analysis of the situation, however given the low-cost savings that the RIS details of \$1.58M, we believe that some form of cost benefit analysis is essential. The Queensland government has undertaken cost benefit analysis on outbreaks such as FMD, and these do demonstrate the costs.
2. **Costs of pregnancy diagnosis in the RIS are highly inflated:**
Veterinary practices use a number of different models for pregnancy diagnosis. Some are based on a per head basis, some on an hourly rate and some on a combination of these and a rate per kilometer travelled to the diagnosis property. In the far north of the state the cost of pregnancy diagnosis services tends to be lower due to larger numbers, and far lower than the \$5/head that the RIS states, as the table below demonstrates. These figures were obtained from practices in October 2018.

Location	Cost (incl GST unless stated)
Hughenden	\$2.09/head, \$1.65/km travel
Goondiwindi	\$90 first cow \$2.75 /head or \$272.73/hr (excl GST)
Mt Isa	First 50 head \$8.75 each Then \$2.40/head
Clermont	\$3.00/ head incl GST Flag fall of \$88.00 if under 100 head NLIS certificate - \$4.00 per head With tags - \$4.50 per head Travel \$1.76 per km incl GST
Cloncurry (and servicing Gulf) – 3 veterinarians plus two mobile veterinarians	\$2.20/head \$2.53/ head for boats and use of NLIS reader

3. **Projected cost savings with lay pregnancy testers**

The RIS details a projected annual cost saving across Queensland of \$1.58M per year. In comparison to the value of the Queensland Beef Industry, with a gross value of beef production at the farm gate valued at \$5.07 billion in 2014-15, these projected saving are very small. In the table above, we can see whilst there is a variation of costs between practices and across the state, that the cost is closer to \$3 per head. For a comparison, an illegal lay pregnancy tester operating in Julia Creek is currently charging \$2.00 a head, and \$1.50/km travel, so for the Cloncurry and Gulf region there is very little difference in cost, and thus potential savings to the producer. Lay testers operate on a commercial basis similar to veterinarians.

There are several factors more directly related to the cost of pregnancy diagnosis, and these relate to the facilities on farm, which are frequently unsafe, poorly functional and sometimes nonexistent. A functional crush will increase operator speed, and thus reduce the cost of service per animal. Practices with clients that provide functional, safe facilities frequently charge much lower than 'average' rates, and certainly lower than lay operators typically charge. Producers in Queensland would be much better off if advised to focus on the cost savings, that can be achieved by having functional handling equipment. There are substantial direct costs contributed by unsafe and poorly functional handling equipment. The primary driver of Pregnancy Diagnosis costs are the facilities through which cattle are processed, including whether or not there is a safe, functional vet crush. Second most important driver is the stockmanship of the operators providing assistance and the third factor is how organised they are.

4. **Location of veterinarians in Queensland:** The RIS finds there are inadequate veterinarians in the channel country, however there is a Cloncurry based practice that has three veterinarians, plus an additional two mobile veterinarians. The Hughenden practice has four veterinarians.
5. **Importantly, potential costs associated with the RIS proposal include a lack of timely advice on herd production problems.** Veterinarians can provide science-based advice on herd production problems that will optimise production. Lay testers are not trained to do this. As an example, dystocia in cattle has been estimated to cost the national beef herd in excess of \$50 million/year. It is increasingly evident that dystocia is a major cause of calf loss in the northern beef production areas. Veterinarians can provide professional advice on how to mitigate this problem. A questionable cost-saving of \$1.58 million touted in the RIS pales to insignificance in comparison to the influence of just this one example.

What's missing

6. **Export certification or lay testing across the entire state:** There would appear to be two distinct issues here and the arguments for lay pregnancy diagnosis don't apply equally. Firstly, there is the perceived need to use lay pregnancy testing to service a live export industry which may involve as few as 80,000 heifers a year and secondly there is an argument for lay pregnancy testers to charge for services over the whole of Queensland which is largely well serviced by cattle veterinarians and lay testing who can operate in their own businesses.
7. **Risk profiles of supply chains:** There is no understanding demonstrated of the different risks of cattle in various supply chains. Risks associated with stud breeders vary dramatically from those associated with live export.
8. **The facts on lay testing schemes in WA and NT:** The impact statement indicates that successful lay pregnancy testing schemes are operating in both WA and the NT but fails to state that there are only three lay pregnancy testers working in WA and that they must operate under the supervision of a registered veterinary surgeon. The document also portrays a lay pregnancy testing scheme that is working very successfully in NT but fails to provide account of the serious

flaws uncovered in an investigation undertaken by Dr Geoff Neithe in 2015 i.e. four years after the live export ban, which is contained in the appendix.

9. **Providing certification acceptable to importing countries:** The report suggests that pregnancy diagnosis should not be classified as an act of veterinary science and compares it with other procedures such as artificial insemination and semen testing. However, it fails to outline that the provision of a certificate is also deemed an act of veterinary science and this is an extremely important aspect of the bigger picture under consideration here, especially when it comes to export certification.
10. **The decline in the proportion of females being exported as feeders:** The writer intimates on page 23, that 50% of the export cattle in Queensland are female without any supporting documentation but this would appear not to be the case as it is probably closer to 20%. If this claim of 50% is true, then it should be substantiated with some accurate data.
11. **The role of pregnancy diagnosis in specific regions of Qld:** The document provides a table of breeder numbers for Queensland and the veterinary density servicing those regions. For instance, it reveals there is only one vet per 185,814 head in the desert channels but then fails to explain that probably none of these cattle will ever be destined for the live export market as it is basically a fattening region. Well in excess of half of these cattle are bullocks. Similarly, it provides data to show low veterinarian to breeder cow numbers in the northern and southern gulf but fails to reveal how many of these animals are actually routinely pregnancy diagnosed each year as normal management practice; especially where the 12-month inter-calving intervals are very low. The Cash cow project showed that only 17% of breeders \geq 4 years of age have a 12 month inter calving interval in these regions.
12. **A confusing case study:** The regulatory impact statement provides a case study from Yelvertoft Station which is located between Mt. Isa and Cammoweal and then attempts to explain mileage costs being greater to get a vet from Mt Isa compared to Cloncurry – the only problem is, Yelvertoft is much closer to Mt. Isa than it is to Cloncurry. Even lay pregnancy testers operating illegally in Queensland currently charge mileage. All lay pregtesters working on the black market operate commercially apparently using prevailing veterinarian pricing structure.
13. **A proposed accreditation scheme without essential integrity:** The favoured accreditation scheme as proposed by Agforce sounds good on the surface as it includes
 - a. Completion of a unit of competency/certificate of attainment
 - b. access to the accreditation tool to record a period of practice and repetition to develop reliable testing skills and
 - c. examination and certification.

This process is rather analogous to going from 'L' plates to 'P' plates after acquiring a driver's licence. However, the proposed scheme fails to mention the essential elements of any accreditation scheme and these are the need to include individual identification of the animals at the time of the testing, the accompanying certification that details animal ID with test results, the audit scheme and the traceback mechanism for breakdowns.
14. **The cost of compliance and transparency:** The impact statement proposes that the accreditation scheme should be run as pilot in Queensland for 20-30 lay testers but has not mentioned the cost of accreditation, auditing of the scheme and most importantly who will pay for market failure when a complaint in a feedlot has to be investigated overseas. The Australian Cattle Veterinarians PREGCHECK™ scheme enjoys the benefit of over 1,000 members and complaints are covered by registration fees charged by that association.

15. **Details lacking on the quality of the proposed lay testing service:** The favoured option is an accreditation scheme for lay pregnancy testers in Queensland but it fails to provide any detail on the quality of the proposed service. A pregnancy testing scheme that simply denotes non-pregnant versus pregnant animals is a completely unsatisfactory outcome for an industry that wishes to manage its reproductive performance and to identify where losses are occurring. Foetal aging must be part of any pregnancy diagnosis scheme. If the proposal is to introduce a scheme similar to the one which exists in the NT, then this would be a retrograde step for both the domestic and export beef industries.
16. **The reality of a national lay pregnancy testing scheme:** The writers suggest that a national accreditation scheme is almost a *fait accompli* and that it would therefore be able to be self-funded as there would be presumably much greater membership at a national level. However, the logic, or need for lay operators in southern states to join a national scheme has not been realistically explored. The simple facts are that no female feeder or slaughter cattle ever originate out of the southern states and lay pregnancy testers cannot certify breeding cattle for live export under ASEL requirements. There are no identifiable advantages for lay pregnancy testers to join a national scheme. The writers therefore need to provide some certainty that a national scheme is both practical and imminent to ensure that enough funds can be generated to sustain a reputable accreditation scheme.
17. **No decision on lay pregnancy testing prior to completion of ASEL:** The writer implies that the current ASEL review may relax the requirements for PREGCHECK™ veterinarians to be used for breeder cattle, but this is highly unlikely given the recent introduction of additional requirements to ensure free martins are not exported as breeder cattle into China. Failure of the accreditation scheme in the live export of sheep in recent months would also suggest that accreditation schemes need to be strengthened and not relaxed to maintain the live export trade worth \$1.35 billion to Australia.
18. **Status of lay pregnancy testing in Queensland:** Conspicuous by its absence in this document, is the failure to mention that pregnancy testing has, and is still currently taught to non-veterinary students at Agricultural Schools in Queensland and to producers at privately run schools. Cattle producers can therefore test their own stock and remain within the confines of the current legislation. Thousands of students have been instructed in the procedure over the decades. No data has been provided on how many females are tested annually by their owners.
19. **Gross income survey data does not provide an accurate assessment:** Survey data is provided on gross incomes being derived from cattle in mixed veterinary practices. It is a little unclear what this data is highlighting but it must be pointed out, that gross income by species is a poor reflection of activity within a practice as the overheads involved with small animal practice such as kennels, clinic rent, veterinary nurses and expensive support equipment all have to be recovered by the practitioner whereas cattle practice is largely ambulatory.

Other Jurisdiction experiences

The Western Australia situation

Section 26(4) (b) of the *WA Veterinary Surgeons Act 1960* allows for the authorization of a person who is not a registered veterinary surgeon to carry out, under the direction of a registered veterinary surgeon, an act of veterinary surgery that is specified by regulation.

The WA Veterinary Surgeons' Board authorizes non-veterinary testers to test cattle for pregnancy by ultrasound or manual palpation under specific conditions set out in the Board's accreditation guideline documents.

The legislation is quite clear about both the scope and the intention of the legislation to deregulate pregnancy diagnosis. The true situation in Western Australia is quite different. Producers now employ lay pregnancy testers in Western Australia without abiding by the required restrictions and there has been little enforcement activity to increase compliance with the requirements of the scheme.

In Western Australia, this scheme has:

- ▣ reduced the number of veterinarians in rural areas
- ▣ reduced opportunities for newly-graduated veterinarians to work in rural areas
- ▣ impaired surveillance for exotic and zoonotic disease
- ▣ reduced access to veterinarians with the necessary skills to support livestock producers
- ▣ diminished welfare outcomes for livestock, and
- ▣ increased issues of food safety by reducing veterinary oversight in the procurement and administration of scheduled and unscheduled medications.

Surveys undertaken in 2011 by veterinarian Zoe Chatfield (nee Bagshaw) found that the bovine caseload of rural veterinary practices in WA had declined from 90 percent to 19 per cent since deregulation in WA. Veterinary practices surveyed stated that businesses could increase their cattle veterinary staffing levels by an additional 80% if pregnancy diagnosis were only able to be undertaken by a veterinarian. Noting that in veterinary clinics there is a ratio of 1 to 1.4 support staff per veterinarian employed, there is a considerable flow on employment effect for local rural communities based on the number of veterinarians employed.

After it was deregulated within WA there were many lay pregnancy testers working in the system. Within a relatively short time there was a great deal of attrition from the system, and there are currently only three registered with the vet board, and one of these is injured and has not undertaken any work for some time. In the South-west region of WA, the lay pregnancy testing provider has structured his business and workload to maximize profitability, and no longer will work at properties with small herds, poor facilities, or work with unsuitable crushes. In the 11 years since deregulation the single lay operator in the south west of WA has had a substantial impact on the availability and level of veterinary services available to cattle producers over a large region. Several practices have reduced the number of veterinarians in this time or have diverted veterinary resources elsewhere in their business. Declining contact with cattle producers has resulted in a loss of established veterinary-client-patient (VCP) relationships, reduced the level of service available, reduced skill level of veterinarians relevant to cattle producers and substantially increased the cost of veterinary services to livestock producers as the regular, scheduled income stream of pregnancy diagnosis work has been eroded. Now cattle producers have reduced access to veterinary services, or have to engage veterinary services from further afield, at significantly higher cost. It is highly likely that a similar boom and bust cycle will occur in Queensland. This would destroy veterinary sustainability and reduce veterinarians in rural practices, impact on Queensland biosecurity capability and in 5 years' time Queensland producers will not be any better off, and in fact will be worse off.

Our discussions with AgForce have indicated between 10 and 20 Queenslanders may embrace such a scheme if it was offered. It is unreasonable to expect the Queensland tax payer to pay for the cost of setting up a pregnancy testing scheme for such a small number of service providers when the market is already sufficiently served by highly-qualified and regulated veterinarians. If the cost, as indicated by the election platform document, is \$1 million to set up such a scheme, then the minimum cost per tester is at least \$50,000. This compares to veterinarians funding their own training and registration board and leaving university with a personal debt in excess of \$100,000.

Northern Territory

The NT situation is far from acceptable. ESCAS does not allow misdiagnosed "empty" feeder heifers to exit the Indonesian supply chain as cow-calf pairs any longer. This has resulted in importers fining exporters for non-compliant animals. In one mob of approximately 1360 females audited for pregnancy status at the Darwin export depot, lay testers had incorrectly diagnosed (as not pregnant) 95 pregnancies up to seven months of gestation – a 7% error rate.

AVA has been in direct contact with exporters who have stated with certainty that they do not want the deregulation of pregnancy diagnosis services in Queensland as it has occurred in the Northern Territory. One exporter has asked us to do whatever we can to ensure that “Queensland does not become like the Northern Territory”.

Some exporters are getting lines of heifers retested at the Darwin depot and are consistently finding in the order of 5% of heifers submitted from the lay testers are non-compliant to required pregnancy status. When asked whether this is the case with Queensland vet-tested cattle, they reported that they don't see the same issues. Furthermore, the exporters claim that they have never had a problem sourcing feeder heifers for export from Queensland due to lack of access to a veterinarian.

Pregnancy testing prior to export is a business cost that confers much greater value to northern heifers than other supply chain options. Compromising Queensland's ability to export heifers is a real risk to this value chain.

Other factors for consideration

Dispute options

In the case of a lay technician there is access to civil court proceedings in the event of dissatisfaction with the service delivery, and veterinarians hold indemnity insurance, which has significant yearly cost. For veterinarians producers have two mechanisms for dealing with unsatisfactory results. They can go to the ACV PREGCHECK™ scheme and they will address the issue within the scheme. The producer can also go to the relevant state Veterinary Surgeon's board.

Practice sustainability and vet employment in the region

In March 2018 the ACV undertook a survey of members using survey monkey (n=72). Importantly, for practice sustainability, when asked the question *'do you think there will be a loss in practice income if lay pregnancy testing is allowed'*, 94 per cent of veterinarians said there would be an impact, and 50 per cent of these said a great deal or a lot. This proposed change will impact veterinarians in rural areas in Queensland and decimate the industry, just as occurred in Western Australia, as our case study demonstrates.

To lose the income from pregnancy diagnosis would result in many rural practices becoming financially unviable. Losing these practices will ultimately result in substantially diminished disease surveillance, biosecurity, food safety and animal health and welfare services within the state of Queensland, as well as having a negative social impact on rural communities.

Ultrasound

Ultrasound devices are an excellent tool for the diagnosis of pregnancy, but when reasonable throughput is the goal, their use to assure empty status is absolutely inappropriate. To prove this point, a group of PREGCHECK™ accredited examiners, using the ultrasound in the course of their usual pregnancy testing logged the results from 40 management groups amounting to 4,143 cows.

They kept track of the number of animals misdiagnosed by ultrasonography alone, backed up by the gold standard of manual palpation. The ultrasound's sensitivity for positive pregnancy status varied from 78.5% to 100% with a mean of 95.6%. Translated, this data set showed that up to 21.5% of pregnancies could have been missed, with an average of 4.4% missed pregnancies if the animals diagnosed as empty by ultrasonography had not been manually confirmed.

The specificity for empty status was much worse, varying from 0 to 100% with a mean of 79.3% meaning that on average only 79.3% of the animals where a pregnancy was not visualized were actually empty. Overall, from 4,143 animals tested by rigid ultrasound, 181 pregnancies were missed by the ultrasound.

Biosecurity Queensland Survey

The Biosecurity Queensland survey that has been sent out was very flawed in design, and frankly appears biased or demonstrates incompetence and a lack of understanding. It does not provide scope to demonstrate the nature of rural practices that travel large distances, and undertake thousands of pregnancy diagnoses per week, and ten's, if not hundreds of thousands, per year. The results obtained will be questionable.

Ovarian scanning addition

AVA is puzzled by the inclusion of ovarian scanning in this RIS. Ovarian scanning must also remain in the hands of registered veterinarians. Ovarian scanning is used to ascertain puberty and to diagnose the cause in some cases of infertility. As it is used in the diagnosis of disease, and diagnosis of disease is an act of Veterinary Science, it should be restricted to registered veterinarians. As the process of ovarian scanning is undertaken on prepubertal heifers and it is not a quick process, it can be quite distressing for the animals concerned and detrimental to their welfare in some cases, it should be restricted to registered veterinarians.

Summary

Pregnancy diagnosis needs to remain an act of veterinary science in Queensland for the long-term benefit of the live export industry. In addition to maintaining high levels of accuracy and accountability with results, veterinarians also provide many value-added services while on farm providing pregnancy diagnosis. These include conversations about animal health and production, disease and biosecurity-related matters, and a *defacto* passive disease surveillance system.

If the cattle industry wishes to have access to rural veterinarians for emergency and other routine work, it is necessary to maintain a viable veterinary industry. Removing pregnancy diagnosis as an act of veterinary science and establishing a non-veterinary pregnancy testing process will undermine this. In turn this risks animal health and welfare, surveillance and potentially the access to export markets which Northern Queensland relies on.

Clearly, the most efficient and effective way of achieving pregnancy diagnosis of cattle in Queensland is by veterinarians providing the service to meet market demand as is currently the case. ACV has a publicly-available list of current accredited pregnancy testers who have agreed to have their contacts included. Our office has never received a call from a producer unable to find a veterinarian to test their cows and heifers.

If the Queensland government wants to provide additional resources for Queensland producers then a far better long-term solution would be investing the money in bonding veterinary graduates into rural areas within Queensland. The \$1M proposed by Agforce for this scheme would indenture 20 to 40 students over a 5-year time frame into Queensland rural communities, meeting the needs of the Queensland cattle industry for this generation and the next.

In conclusion, AVA believes this will dramatically impact on the Queensland Cattle Industries long term sustainability, lead to poorer animal health and welfare outcomes, and impact on Queensland ability to maintain its post border biosecurity responsibilities as outlined in the Intergovernmental agreement on biosecurity.

This regulatory impact statement fails to provide a balanced and comprehensive assessment of the real issues being discussed here and it is highly recommended that any decision be put on hold until the ASEL requirement is completed and a more balanced statement can be prepared.

Appendix 1 – Report by Dr Geoff Niethe on pregnancy testing under ASEL

PREGNANCY TESTING UNDER AESL

Background: The instructions with regards pregnancy testing for the export of livestock is unambiguous under the Australian Standards for the Export of Livestock (Version 2.3) 2011. If the specs are for feeder or slaughter cattle, under S1.8 females must be (a) of a liveweight of more than 200 kg and less than 650, (b) must have been pregnancy tested during the 30 day period before export and certified in writing as not detectably pregnant by the registered veterinarian or competent pregnancy tester who pregnancy tested the cattle; or (c) be accompanied by a vendor declaration that certifies that they have been spayed. In the NT and WA, a **competent pregnancy tester**, is a person accredited by the relevant agency to conduct pregnancy tests. If the spec is for pregnant cattle, they must be from condition scores 3 to 6 (inclusive) on a scale of 1 to 7. Females must have (a) an individual liveweight of more than 200 kg and less than 650 kg, (b) have been pregnancy tested within the 30-day period before export and certified in writing as no more than a maximum of 190 days pregnant for cattle. The certification must be provided by a veterinarian who is a member of the Australian Cattle Veterinarians and an accredited tester under the National Cattle Pregnancy Diagnosis Scheme and who pregnancy tested the cattle. If the accredited veterinarian states that the animals 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. If the stock are transported by air, under S6.6, the maximum days pregnant at the scheduled date of departure is 250 days.

Pregnancy Diagnosis: - The 2 most reliable and practical methods to establish the pregnancy status of an animal is by manual palpation or using ultrasound. B mode or real time ultrasound with the transducer embodied in a specially designed pole/introducer has been developed for cattle and offers increased speed (especially in rotary dairies) and less fatigue/stress on the operator. While a recordable image is theoretically possible, the disadvantages include the initial cost of the machine, the need to confirm not detectably pregnant animals manually and the inability to reliably determine pregnancies in animals greater than 4 months pregnant i.e. where the gravid uterus has dropped over the brim and is deep in the abdominal cavity of the animal. The non-pregnant uterus is sometimes difficult to locate using the sector probe which has been employed in these devices. Manual palpation by an experienced operator who has been trained in foetal aging can effectively determine pregnancy status down to 6 weeks of age in almost all animals (the exception being extremely large and fat breeders where the uterus can't be retracted) and is the gold standard. Manual palpation is the favoured option for identifying "not detectably animals" and those with uterine abnormalities e.g. 'freemartins' however the size of the animal being examined limits its use in heifers <250 kgs by many operators except those with very small hands and forearms. There could be potential animal welfare considerations if rectal manipulation in heifers of 200kgs were to be widely condoned. Fortunately, the prevalence of pregnancies in animals of this age is extremely low as the recommended and accepted industry target weights for joining heifers in Australia is 230-280 kgs for Jersey heifers and 330-370 kgs for Holstein-Friesians.

Age (months)	Jerseys Target live weight kg	Holstein-Friesian Target live weight kg
Birth	20–25	35–45
Weaning (2–3)	70–80	90–100
12	170–180	250–280
15 (mating)	230–280	330–370
24 (pre calving)	400–450	550–600

Target live weights (kg) for Holstein-Friesian and Jersey heifers

Courtesy of "Growing Heifers" by Ray Johnston, NSW Agriculture, Gloucester, Dick Buesnel, NSW Agriculture, Bega and John Moran, Agriculture Victoria, Kyabram

A device to determine pregnancy externally at the right flank and paralumbar fossa of an animal is still under development and is not currently available and so has not been considered in this discussion.

The NCPD Scheme: Certification of pregnancy is fundamental for quality assurance in any market specification with regards breeder stock. The Australian Cattle Veterinarian (ACV) National Cattle Pregnancy Diagnosis (NCPD) scheme has been developed over two decades and underpins the export protocols for all breeder cattle in the live export trade. Accredited non-veterinarians can be used for feeder and slaughter cattle from the NT and WA but not for animals intended for breeding. The NCPD has developed into what is arguably the best in the world for certification of pregnancy in cattle and while no scheme can offer absolute guarantees, any issues or complaints relating to certification can and should be handled by the professional body (ACV) that operates the scheme. In summary, the NCPD scheme (see attachment) is underpinned by:

- A veterinary degree which automatically includes training in anatomy, diseases, physiology and basic manipulation of the reproductive tract of cattle.

- Registration as a veterinarian and membership of the Australian Veterinary Association and Australian Cattle Veterinarians.
- A comprehensive 95-page manual "Pregnancy Diagnosis in Cattle" that covers all aspects of pregnancy diagnosis.
- A log demonstrating that any prospective veterinary graduate has palpated a minimum of 2,000 animals prior to examination.
- Basic rules to follow where uncertainty exists e.g. "Never put an empty tag on an animal unless you have palpated the empty uterus".
- A test by an accredited examiner on 100 animals with zero tolerance on positive or negative animals and guidelines for the prevalence of pregnancy status in the mob on which the examination is conducted.
- A certified examiner who has at least 5 years' experience and who has tested >20,000 head.
- Individual identification (normally a colour coded tail tag) of every animal tested that is traceable back to the individual veterinarian who performed the test.
- A phone number on each tail tag that can be used in case of complaints.
- A certification that accompanies each mob tested which lists the ID of all animals in the mob along with any tail tags that have been replaced.
- A traceback system to investigate all complaints.
- A random annual audit system.
- Potential deregistration by the Veterinary Surgeons board for professional misconduct as a veterinarian and automatic loss of accreditation.

It should be noted that a separate accreditation and examination process exists for those veterinarians that are now using ultrasound examination in their pregnancy diagnostic service.

Additional comments: The current standards should ensure there are no issues with pregnancy diagnosis and certification of pregnant breeders in the live export trade. The odd abortion can occur when transporting animals, but this is a risk associated with pregnancy and would normally be expected to <1% unless some unforeseen stressor or agent were involved. Abortions in breeders less than 8 months pregnant are readily recognised on development and size/weight of the foetus and will be recorded as such. The only issue that could possibly arise is with animals being transported by air and where the requirement is for the pregnancy to be <250 days. Foetal aging becomes more problematic once the pregnancy develops past 4 months and a one-month error is generally acknowledged and accepted in animals that are >4 months pregnant. The issue here would be one of birth during transit and provided the calf survives and conditions on the plane are satisfactory, then consumer concern should be minimal.

If the specification is to deliver a pregnant animal and the animal on arrival does not calve within roughly 1 month either side of its expected calving date, then this is a matter for the ACV to follow up through their NCPD scheme and the necessary complaints and actions investigated. The customer from the importing country needs to be aware that the scheme exists and that complaints are taken seriously. The complainant needs to have the contact details of the NCPD convener, the original accompanying certification, a list of animals that were incorrectly diagnosed and evidence (where possible e.g. photo) of the transgression. Now traceback becomes problematic once the animals leave the country and "one off" issues would be difficult to follow up BUT if the problem is sizeable or if the offending operator persistently is making mistakes, then ACV can certainly examine the suspect offender back in Australia as an absolute minimum requirement for traceback.

Under the NCPD scheme, no accredited tester should be certifying animals are empty (not detectably pregnant) unless they can categorically establish (usually by manual palpation) that the animal is non-pregnant. Now if the animal is too small to examine manually and if they are unable to assess the reproductive tract with an ultrasound (linear probe), then the heifers must not be included in the shipment. On the other hand, if the specification for the shipment is for a non-pregnant heifer suitable for breeding and if the animals are too small to manually palpate, then the glass speculum test can be used to at least ensure the animals are not a "freemartin". An additional safeguard or protocol which should be considered for inclusion in the certification process is a declaration by the owner (especially dairy farmers) that none of the heifers included in the mob are known to be a female cotwin of a twin at birth. It must be remembered that the incidence of free martins is quite low – usually 1% or less.

In addition, the Australian Cattle Veterinarians have recognised that they need to further develop their certificate of pregnancy to be suitable for large shipments in the live export trade and to include the individual NLIS of each animal tested.

An awareness program may also be required when importing young/small Holstein heifers. The importer needs to recognise that the majority of Holstein heifers will not reach maturity until they have reached a weight of around 300 kgs so it could take 6-12 months depending on nutrition for imported weaner heifers to start cycling after they have arrived in the importing country.

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Appendix 2

LAY PREGNANCY SCHEMES IN AUSTRALIA AND NZ - UPDATE PAPER

20th April 2015

In the initial paper titled "LAY PREGNANCY SCHEMES IN AUSTRALIA AND NZ", compiled in October 2014, information was provided on how each of the lay pregnancy testing schemes in WA, NT and NZ operate, e.g. training, accreditation, reporting, auditing, and uptake. This update paper provides additional information as to the success or otherwise of the schemes supported by data where data was available, and addresses a number of questions raised by Agforce.

All of the information provided in this report has been supplied in complete confidence. In some instances people interviewed have been prepared to be named but in doing so, the confidentiality becomes diluted and so it was felt that provision of the contact details will provide an effective avenue to follow up any of the information provided in this report if respondents wish to identify themselves.

The following people associated with the live export trade were contacted in preparing this update paper:

Organisation	Person	Contact Details
Vet Surgeons board , Qld	Registrar	07 32393600
Vet Surgeons Board, WA	Registrar	08 93172353
Australian Cattle Veterinarians	Anna Gates (Convenor of the NCPD scheme)	0417 636839
Australian Cattle Veterinarians	Enoch Bergman (President)	0427 716907
South East Asia Live Export Sales	Kevin Mulvahil (Managing Director)	08 89415710
NTLEA	Tony Eggington	08 89996186
Dept of Agriculture (Darwin)	Johnathon Benyei (Senior Veterinarian)	08 89207001
Dept of Agriculture (Darwin)	Michelle Byers (Senior Field Veterinarian)	08 89984908
Austrex	Warrick Barrett (General Manager)	0428 186064
Elders International	Patrick Underwood	0407 262 260
Wellard Rural Export	Mr Bernie Brosnan (Managing Director)	0419 866268
Frontier International Agri	Mr Ashley James (Operations Manager)	0427 411 406
Australian Accredited Veterinarian	Hamish Brett	0405 101577
DPIF (NT Department)	Susanne Fitzpatrick - Senior veterinarian (responsible for the Lay Pregnancy scheme in the NT)	0407 498003
DPIF (NT Department)	Malcolm Anderson (Chief Veterinary Officer)	malcolm.anderson@nt.gov.au
Ministry for Primary Industry New Zealand	Roger Poland DVM MANZCVS Senior Adviser (Animal Welfare)	Telephone: 64-4-894 0372 Facsimile: 64-4-894 0733

Update of Veterinary Surgeons Act

The Veterinary Surgeons Acts in both Queensland and Western Australia are still in the process of being reviewed. No one was prepared to put a date on when these reviews will be completed and when changes might be introduced into parliament. There are no proposed changes to the act in WA with regards a 'prescribed person' who is able to perform acts of veterinary science under a registered veterinarian. In Queensland, with the recent change in government, no indication was provided as to what changes may occur and when this is likely to happen.

Prevalence of false negatives by lay pregnancy testers

While there are sound arguments for the use of lay pregnancy testers by properties in the NT with regards convenience, cost and ensuring the live export trade flows smoothly, no one that was interviewed supported its reliability in the current format. Despite the fact that no lay pregnancy testers had lost their accreditation, breaches are occurring and there is mounting pressure from the Indonesian importers to ensure pregnant animals don't end up in their consignments. Several exporters stated that the ratio of steers to heifers being exported has increased from 66.6% steers : 33.3% heifers to 80% steers : 20% heifers in recent times due to growing numbers of unwanted pregnancies in the consignments. Indonesian feedlots (Santori, TUM and WST) have all expressed serious concerns about the level of pregnant animals arriving at their feedlots. One exporter is arranging for an Australian Cattle Veterinarian to travel to

Santori to investigate further and to try and get a better handle on the actual extent of their losses. While pregnant animals that calve during transit pose serious welfare issues, the main reasons why pregnant heifers are not wanted in feedlots are:

1. When heifers are being purchased on a live weight basis, then the importers are paying for live weight that cannot be recuperated. At around \$2.00/kg live this can add an extra \$5.00 to \$40.00/beast.
2. The feed conversion ratio of pregnant animals is less than their non pregnant counterparts as extra feed is being diverted to the growing foetus.
3. The Indonesian butchers have become very anxious about slaughtering pregnant animals both on religious grounds and reduced dressing percentage.
4. Animals that are 'springing' or looking 'calfy' at slaughter have to be retained at the feedlot until they calve out and this represents an additional economic cost on those animals.

Because of the growing concern of importers at least one live exporter is now doing their own quality assurance at the export depots in Darwin. There is not a lot of data available but a recent test in late March 2015 detected 95 misdiagnosed animals in a consignment of 1,360 head, i.e. 7% errors. The test was performed by an accredited veterinarian in the National Cattle Pregnancy Diagnosis (NCPD) scheme. Approximately 50% of the pregnancies were 2-3 months, 30% were 4-5 months and 20% were 6-7 months pregnant. There were multiple testers used in this consignment and up to 6 lay pregnancy testers are expected to receive warning letters from the Chief Veterinary Officer as soon as the details and the accompanying paperwork is forwarded to the Department from the exporter. Another set of data from late 2014 found 150 pregnant animals in a mob of 700 head (14% error rate). One live exporter confidentially advised that he thought the pregnancy rate was running at around 4%. This is further supported by feedback from at least one Indonesian feedlot which is pregnancy testing heifers on arrival.

Failure of the feedback system in the NT

The issue in the NT is quite sensitive and live exporters have been reluctant to report errors to the Department of Primary Industry and Fisheries (DPIF) for fear of losing customers in what is a very competitive environment. Pregnant animals either have to be returned to the property of origin or slaughtered at a much reduced price at the abattoir. Export yards invariably get left with unwanted animals that have to be fed. It has also been stated that the corporates are equally at fault but because they can exert significant pressure with regards weight of numbers, no one to date has been prepared to instigate regulatory action by supplying details to the DPI&F. Apparently the rate was so bad by one corporate producer that the procedure developed was to ensure a roadtrain was kept back until after the pregnancy test was performed by an accredited veterinarian at the export yard. The station roadtrain would then take the pregnant animals back to the station. However, the practice of pregnancy testing everything at the export yards is not the favoured option as it is not only time consuming and expensive, but also adds another level of stress on the animals in short haul consignments. On the other hand, an exporter who sources over 50% of their cattle out of Queensland stated that he has no issues at all with the Queensland cattle as they are all tested by NCPD veterinarians. Both the reliability of the test and the accompanying paperwork has never been a problem.

It would appear that there are several major issues with the current NT scheme. At an operational level, animals can be tested up to 30 days prior to being exported. This means that animals which are <8 weeks at the time of the test (NB, the NT scheme is based on the earliest diagnosis of pregnancy at 8 weeks) can be up to 12 week pregnant by the time they are loaded. In addition, the NLIS tag is used to identify these animals but unless staff and personnel involved in the preparation of these animals have a list of all the animals tested along with access to an NLIS tag reader, then visual identity of tested animals can be problematic where tested animals are retained in holding paddocks at the property of origin for up to 30 days.

Most of the other issues with the current scheme seem to relate to the examination process, getting adequate experience prior to undertaking the test and ability to maintain quality outcomes:

1. A test immediately following a school is not recommended except for students who have had prior adequate practical experience. Documentation of having tested several thousand head prior to sitting the examination is highly advocated.
2. The rigour of the test required for accreditation is totally inadequate, i.e. able to detect as pregnant cows which are 8 or more weeks pregnant with an accuracy of 100% in 20 cows and attained a pass mark of 80% in the theory examination. A test similar to the NCPD scheme could be considered, i.e. at least 100 head with a wide range of pregnancies.
3. Attendance at a 'one off' school unaccompanied by ongoing supervision and feedback results in a situation where the operator never finds out when they are making the same mistakes.
4. Accredited examiners need to conduct the scheme.
5. Quality assurance cannot be maintained if a feedback system is not adequately resourced and regulated. An initial application charge together with an ongoing annual registration fee would provide funds for investigations, random audits and general administration of the scheme. It would also ensure that only the genuine operators would be engaged. An annual fee of say \$500 amounts to 10 cents per head for an operator

who would test 5,000 head a year. This cost is much less than the costs and problems borne by the purchaser of unwanted pregnant animals.

Pregnancy testing is really about operator honesty and self-assurance. An immediate action that could be adopted by lay preg testers in the NT if nothing else happens in the short term is to promote awareness of the issues and a slogan “**if in doubt, leave her out**”, i.e. only send animals where the empty uterus has been palpated.

The NCPD scheme

The cattle veterinarians have had only one veterinarian reported in recent times for misdiagnosis and possible loss of accreditation. This problem was investigated and subsequently it was found that the failure of the cows to calve (as was initially diagnosed pregnant) was in fact due to an outbreak of Pestivirus in the tested positive animals. The disease was confirmed by laboratory diagnosis of the affected animals.

NCPD veterinarians have to report annually as to the numbers they test and many veterinarians lose their accreditation or don't renew it if they aren't actively participating in the scheme. All NCPD veterinarians have to be registered veterinarians, a member of the Australian Veterinary Association and a member of the Australian Cattle veterinarians. It costs most NCPD veterinarians around \$1,000 p.a. to maintain their accreditation and this does not include the ongoing cost of Continuing Professional Development.

NZ export testing

The export of livestock (sheep, cattle, deer, and goats) for slaughter is prohibited unless the risks to New Zealand's trade reputation can be adequately managed. Individual consignments may be approved on a case-by-case basis at the discretion of the Director-General of Minister for Primary Industries (MPI). Approval may only be granted if the Director-General judges that the risks can be adequately managed. The factors considered can include:

- the export is for slaughter of livestock in commercial slaughter houses
- the importing country has requirements in place that meet the World Organisation for Animal Health 'Guidelines for the Slaughter of Animals'
- cattle exported for slaughter are stunned prior to slaughter in accordance with any of the methods described in the Guidelines
- the importing country has requirements in place that meet the World Organisation for Animal Health 'Guidelines for the Transport of Animals by Land, Sea and Air', in relation to the unloading and post-journey handling and transport of livestock
- a pre-shipment audit of slaughter facilities by inspectors nominated by MPI, carried out at the exporters' expense, demonstrates compliance with the above requirements
- any other matter the Director-General of MPI considers necessary to manage the risks to New Zealand's reputation as a responsible exporter of agricultural products.

Exporters are also required to provide a declaration as to the purpose of export for all livestock exports. Consequently, while export of cattle for slaughter is feasibly possible, the live export trade in cattle revolves around dairy heifers to various countries as listed in the original paper.

If the requirement is for pregnant animals, then certain requirements must be met. Cows should be shipped as early in pregnancy as possible. It is highly unlikely that heifers more than six months pregnant at the date of shipment would be granted an Animal Welfare Export Certificate.

The Recognised Person* will assess pregnant cattle's eligibility for export by:

- a) the use of owner declarations stating the first date of mating and/or
- b) the results of a pregnancy test, supplied by a veterinarian or appropriately qualified paraprofessional** on practice letterhead, stating the date and method of testing, and the stage of pregnancy for each animal at the time of testing.

* The Recognised Person is “A person recognised under section 103 of the Animal Products Act 1999 for the purpose of performing specified functions and/or activities. In the context of this standard, refers to an AsureQuality veterinarian managing the consignment during pre-export preparation”

** An appropriately qualified paraprofessional is “A person who has completed a bachelor degree in Veterinary Technology.” They usually work under the guidance of a registered veterinarian. Qualified veterinary nurses and technicians carrying out the veterinary functions/technical tasks their training equips them for. Bachelor of Veterinary Technology graduates, for example, have veterinary nursing skills and are also trained for an expanded role in clinical examination, history taking, implementing treatment/preventative plans, emergency response, and advanced pain management.

Contact details

This submission is a joint submission by the Qld Division and the Australian Cattle Veterinarians.

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Australian Livestock Exporters Council



12 December 2018

Department of Agriculture and Fisheries
GPO Box 46
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By email: bioseclegislation@daf.qld.gov.au

Dear Dr Woods,

Review of the *Veterinary Surgeons Act 1936*

Australian Livestock Exporters' Council (ALEC) welcomes the opportunity to respond to the review of the *Veterinary Surgeons Act 1936* in relation to pregnancy testing of cattle, and ovarian scanning for scientific research, by laypersons (for fee or reward).

ALEC is a member-based, peak industry body representing Australia's livestock export sector. It sets industry policy, provides strategic direction to the industry and represents Australia's livestock export trade in Australia and internationally. ALEC members account for more than 96 per cent of Australia's annual livestock exports, by volume and value. ALEC's membership also extends to supply chain participants including registered premise operators, ship owners, feed suppliers and other service providers to the trade.

ALEC supports the application of option 3 to: *"provide that it is not an offence for laypersons to conduct pregnancy testing of cattle under an approved accreditation scheme or to conduct ovarian scanning with the approval of, and under supervision of, an animal ethics committee."*

Australian Livestock Exporters' Council believes in good reforms that encourage animal welfare and meet cattle industry, veterinary practice and research objectives.

On behalf of its members and the broader live export industry, ALEC is thankful for the opportunity to play an active role on this reform. Should you have any questions, please do not hesitate to contact us.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Brett Pointing".

Brett Pointing
Chief Executive Officer
Australian Livestock Exporters' Council

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17 December 2018

Biosecurity Queensland
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41 George Street
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Via email: bioseclaw@daf.qld.gov.au

RE: VETERINARY SURGEONS ACT 1936 - CATTLE PREGNANCY TESTING AND OVARIAN SCANNING FOR COMMERCIAL PURPOSES

The Australian Lot Feeders' Association (ALFA) would like to take this opportunity to thank the Queensland Department of Agriculture and Fisheries for facilitating consultation on the Regulatory Impact Statement (RIS) for cattle pregnancy testing and ovarian scanning.

As the Peak Industry Council (PIC) representing grainfed beef producers, ensuring accountability throughout the supply chain remains crucial to maintaining strong commercial arrangements. The development of robust assurance programs promote accountability and allow for the continued commercial growth of supply chain participants.

Please find attached ALFA's submission which provides our industry perspective on the proposed options highlighted through the RIS.

We welcome the opportunity to further discuss the current issues facing industry in relation to pregnancy diagnosis and opportunities in which industry and government may work to resolve these.

Kind Regards

Christian Mulders
Chief Executive Officer
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AUSTRALIAN LOT FEEDERS' ASSOCIATION (ALFA)

**SUBMISSION IN RESPONSE TO THE VETERINARY SURGEONS ACT 1936 - CATTLE PREGNANCY
TESTING AND OVARIAN SCANNING FOR COMMERCIAL PURPOSES**

DECEMBER 2018



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EXECUTIVE SUMMARY

The Australian Lot Feeders' Association (ALFA) is the Peak Industry Council (PIC) for grainfed beef producers. Representing 380 accredited feedlots in Australia and a total capacity of 1.29 million head, our industry contributes approximately 4.4 billion dollars to Australia's economy each year.

Queensland has the largest number of feedlots, with the state accounting for 62% of feedlots and a carrying capacity of approximately 680,000 head. In the last fifteen years the Queensland feedlot industry expanded significantly which led to a direct economic contribution of \$294 million to Queensland's state economy in 2017. Ensuring consistency of the products and services delivered throughout the supply chain is crucial to ensuring the continued growth of the feedlot sector.

Accurately establishing the pregnancy status of a female animal is unquestionably the most basic and fundamental tool required to manage reproductive efficiency in a breeding herd. Supply chain participants require access to standardised, good quality, cost-effective pregnancy diagnostic services, which are essential for on-farm reproductive management, meeting a variety of market specifications and improved animal welfare outcomes.

Equally important is maintaining the flexibility for individual feedlots to implement pregnancy management plans which meet both the commercial needs of their operations and their obligations under the National Feedlot Accreditation Scheme (NFAS). This principle is fundamentally supported through the Veterinary Surgeons Act in that it does not prevent the act of pregnancy testing or ovarian scanning as an internal management tool. Therefore, the legislation allows feedlots to utilise on-site knowledge and skills to perform pregnancy testing and/or ovarian scanning by lay persons without breaching the Veterinary Surgeons Act. Maintenance of this principle is vital to ensure that feedlots preserve the flexibility to meet their requirements within NFAS.

Furthermore, ALFA supports the Australian Productivity Commission's recommendations that recognition of industry assurance programs or schemes which provide a mechanism to evaluate compliance, should in many respects replace government legislation, further reducing regulatory burden. Identifying areas across the sector in which regulatory burden can be minimised or removed, promotes the growth of industries and economies.



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RESPONSE TO THE REGULATORY IMPACT STATEMENT

1. Status quo - continue to restrict performance of pregnancy testing and ovarian scanning to veterinary surgeons

Inconsistencies in services provided by veterinarians to accurately diagnose pregnancy status in cattle, has undoubtedly led to the need for producers to engage alternative services. Providing comprehensive training and maintaining accountability throughout the supply chain remains fundamental to ensuring supply chain participants can receive accurate result when engaging pregnancy testing or ovarian scanning services.

As highlighted in the RIS accurate diagnosis of pregnancy in animals is often not a skill acquired through theory, but a skill learnt through significant training and practice. Therefore, isolating the capacity for pregnancy testing and ovarian scanners to veterinary surgeons (as prescribed in current legislation), is fundamentally in opposition to the research outcomes provided throughout the RIS.

Queensland's Red Tape Reduction Advisory Council has highlighted a need to reduce the regulatory burden enforced on businesses, particularly in relation to activities which are considered low risk. ALFA supports this evaluation of regulatory frameworks and suggests that the acts of pregnancy testing and ovarian scanning can be considered low risk, providing a suitable accreditation scheme exists to provide accurate and accountable services.

In conclusion, ALFA does not support option one of the RIS.

2. Remove the practice restriction - include pregnancy testing in the list of acts that are not veterinary science in Section 3 of the Veterinary Surgeons Regulation 2016 and provide that it is not an offence to conduct ovarian scanning with the approval of, and under supervision of, an animal ethics committee

Whilst option three will undoubtedly create greater availability of ovarian scanning services to producers, ALFA fears that oversight from an animal ethics committee in isolation would provide little authenticity of the accuracy of the services being delivered. In turn, this would have a negative impact on the beef industry, leading to increased inaccuracies in pregnancy diagnosis and decreased animal welfare outcomes across the state.

Additionally, option 2 fails to incorporate the act of pregnancy testing as an activity which can be conducted by a lay person. As mentioned above allowing for lay ovarian scanning will undoubtedly provide some benefit to producers. However, the exclusion of lay pregnancy testing in option 2 will continue to limit resources and therefore not provide sufficient access to services needed to meet industry demands.

In conclusion, ALFA does not support option two of the RIS.



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3. *Provide that it is not an offence for laypersons to conduct pregnancy testing of cattle under an approved accreditation scheme or to conduct ovarian scanning with the approval of, and under supervision of, an animal ethics committee.*

ALFA notes that QDAF has seemingly appointed option three as its preferred outcome and likewise supports the deregulation of the Veterinary Surgeons Act to allow laypersons to conduct pregnancy and ovarian scanning under an approved scheme. It is understood this option will allow lay people to conduct pregnancy and ovarian scanning under an approved scheme when performing a pregnancy testing service for another party. However, this not prevent feedlot operators conducting their own pregnancy tests for incoming livestock that currently occur to effectively manage the welfare of pregnant heifers.

With this in mind, ALFA provides the following guidance of our proposed accreditation scheme for lay people and work to date on the development of a scheme.

Research conducted on behalf of the cattle industry has demonstrated that inconsistencies in pregnancy testing and ovarian scanning are not isolated to Queensland and therefore pose significant risk to supply chain participants nationwide. These reports have promoted industry (ALFA, Cattle Council of Australia and Australian Live Exporters Council) to pursue the development of a National Standard for Pregnancy Diagnosis which will include ovarian scanning. Through this process significant engagement has occurred with veterinarians to ensure the services delivered by lay people can meet the expectations of existing services offered by veterinarians and the expectations of those attaining those services.

It is ALFA's opinion that the development of a National Standard for Pregnancy Diagnosis would act as a suitable mechanism in which laypersons could demonstrate competency under the Veterinary Surgeons Act nationwide. Importantly a National Standard, would ensure consistency across the states and territories, removing a level of ambiguity surrounding the level of skill a competent person should have. Furthermore, a National Standard would enhance the trading capacity from both the Northern Territory and New South Wales into Queensland, improving stock security and increasing demand on services.

The RIS also identifies social licence as a key consideration throughout the legislative review, suggesting that a veterinarian's registration and qualifications, allow them to operate a social licence. ALFA agrees that this is a true reflection of current perceptions, however, recognises that this is a perception which industry has the capacity to alter through the development of a robust quality assurance program. An assurance program which is recognised nationally will undoubtedly allow lay persons to receive recognition for their knowledge and skills, which will in turn promote their social license.



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ALFA supports the Australian Productivity Commissions, recommendation that recognition of industry assurance schemes should in many respects replace government legislation. We therefore support the deregulation of the Veterinary Surgeons Act and advocate for National Standard being recognised as a suitable mechanism in which lay person demonstrate competence.

In conclusion ALFA supports option three of the RIS.

Cattle Council of Australia



14 December 2018

Queensland Department of Agriculture and Fisheries
By email: bioseclegislation@daf.qld.gov.au

Dear Sir/Madam

RE: CATTLE PREGNANCY TESTING AND OVARIAN SCANNING IN QLD

Please see **attached** Cattle Council's submission in response to the Queensland Department of Agriculture and Fisheries' release of its Regulatory Impact Statement (RIS) associated with *Cattle Pregnancy Testing and Ovarian Scanning in Queensland*.

Cattle Council is the peak industry body for Australian grass-fed cattle producers. Its primary task is to create and support policies that benefit the national herd and its owners. The Council is primarily a federated body; AgForce is one of its member organisations.

As stated in the RIS, "under the [Qld] *Veterinary Surgeons Act 1936*, performance of an 'act of veterinary science' such as pregnancy testing for fee or reward is restricted to registered veterinary surgeons" (p. 3).

On the Queensland cattle industry's behalf, AgForce is seeking the removal of this 'practice restriction' to allow Queensland cattle producers a greater choice of service providers.

This being a Queensland issue notwithstanding, Cattle Council recognises its potential ramifications nationally and its importance as a basic principle of choice, provided standards of service are maintained or improved.

At stake are Australia's reputation for supplying accurately diagnosed pregnancy-status cattle to the export and lotfeeding trades, the capacity for the veterinary profession to maintain an on-farm presence, and the maintenance of sound animal-welfare practices.

In providing this submission, Cattle Council has attempted to balance these priorities with the backdrop of a national pregnancy-testing standard being developed for adoption by jurisdictions to cover all pregnancy-testing practitioners operating for commercial purposes. This is a separate project unrelated to that of Queensland's, but worth noting, especially as outcomes from the two projects must be complementary.

Please contact Cattle Council's Advisor on Animal Health, Welfare and Biosecurity, Justin Toohey, or me to discuss aspects of this submission if you require.

Yours faithfully

Ms Margo Andrae
Chief Executive Officer

Attachment: Cattle Council of Australia submission

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Submission – Cattle Pregnancy Testing and Ovarian Scanning by lay persons for Commercial Purposes and Scientific Research

CATTLE COUNCIL'S OVERARCHING POSITION

Of the three options put forward by the Queensland Department of Agriculture and Fisheries (QDAF) in its Regulatory Impact Statement (RIS) entitled, *Cattle Pregnancy Testing and Ovarian Scanning in Queensland*, Cattle Council of Australia supports Option 3, viz:

- Authorise laypersons to:
 - ~ conduct pregnancy testing of cattle under an approved accreditation scheme;
 - and
 - ~ perform transrectal ovarian scanning under an AEC approval.

Aside from seemingly meeting the desires of the Queensland cattle sector as enunciated in Section 10.3 of the RIS (pp. 42-46), QDAF is noted as appointing this its preferred option. Option 3 also appears to align most closely with AgForce's proposed scheme, known as *TestRight*, which comprises a comprehensive set of parameters for meeting industry expectations, animal-welfare responsibilities and, to a large extent, veterinary priorities.

Having stated its overarching position regarding the options, Cattle Council presents below a number of recommendations for consideration by QDAF; for ease, these recommendations are offered with an assumption a suitably robust and well-resourced scheme will proceed.

INTRODUCTION

Through its RIS, QDAF is examining the appropriateness of the "performance of an 'act of veterinary science' such as pregnancy testing for fee or reward [remaining] restricted to registered veterinary surgeons". The 'practice restriction', as it is described in the RIS (p. 3), is being examined in reference to:

1. more timely access to pregnancy testing services;
2. avoidance of logistical challenges, and associated opportunity costs, as producers await the availability of a veterinarian to conduct pregnancy testing; and
3. some reduction in travel costs charged where long distances are covered by testers.

QDAF offers three options for consideration:

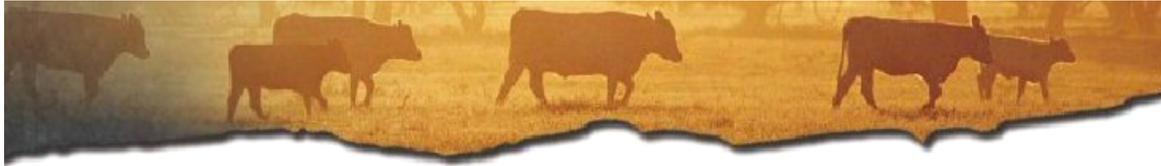
1. status quo
2. remove the practice restriction, or
3. authorise lay persons to:
 - a. conduct pregnancy testing of cattle under an approved industry administered accreditation scheme; and
 - b. perform trans-rectal ovarian scanning under an Animal Ethics Committee approval.

QDAF indicates its preference for Option 3, pending feedback from the public consultation process.

DISCUSSION

Reasons for the RIS

In its RIS, QDAF comprehensively sets out the reasons behind, and advantages from, pregnancy testing. These relate to animal welfare, production management, market requirements, religious beliefs (in foreign markets) and Australia's reputation as a supplier of fit-for-purpose cattle (p. 10f).



Five different methods of pregnancy testing are referenced: rectal palpation, rectal ultrasonography, flank ultrasonography, milk tests and blood tests, with each method varying in its suitability for early testing, foetal aging, anatomical variations between animals, levels of accuracy, costs, time involved and risks associated with performance (p. 11).

Of importance to this RIS, and to the cattle industry and veterinary profession of Queensland, is whether the most appropriate forms of 'commercial' pregnancy testing can be legally assigned to lay operators or should remain restricted to veterinarians¹. If the former is accepted, regulatory change will be required. It is recommended the lay operator be restricted to manual rectal palpation and rectal ultrasonography.

In this submission, Cattle Council of Australia presents a position it believes is in the best interests of cattle producers; the sustained provision of veterinary services is part of this consideration, although balanced against the benefits from access to lay operators.

It should be noted that, as the Queensland cattle industry's representative organisation, AgForce Qld is a member of Cattle Council of Australia under its federated structure and, as such, has input to the content of this submission.

Proposed National Standard

In a separate but somewhat related project currently underway, Cattle Council has joined with the Australian Livestock Exporters' Council and the Australian Lot Feeders' Association to pursue the development and application of an Australia-wide standard for pregnancy testing. Results from this MLA-commissioned work are expected in mid to late 2019.

Referencing this study is important for three reasons:

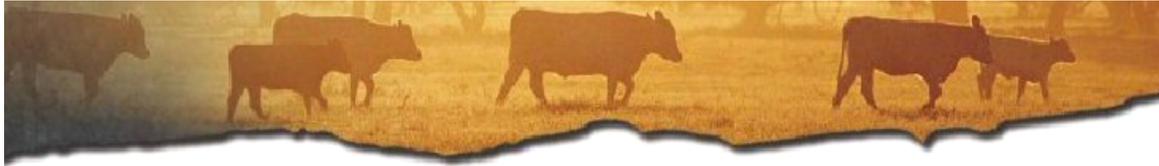
1. recent history has exposed risks associated with poor performances by some pregnancy testers involved in the livestock export and feedlot trades, and an inadequate tracing mechanism is in place for corrective action to be taken;
2. if changes are adopted by the Queensland Government, it must be cognisant of the need for complementarity with the national standard when it is finally brought in; and
3. Australian Cattle Veterinarians' (ACV) PREgCHECK™ scheme must feature heavily in any future standard, be it at national or State/Territory level.

Proficiency

As with most animal-management practices, skill and proficiency come with knowledge and repetition.

Veterinarians undergo up to six years of university training, equipping them with theoretical knowledge and a base level of practical skill in pregnancy testing. In order to satisfy the requirements for entry into the ACV's PREgCHECK™ scheme, a significantly higher level of proficiency must be demonstrated. PREgCHECK™-accredited vets need to provide evidence of having completed 2,000 head of pregnancy tests prior to undertaking a stringent practical test on 100 head of cattle, where they must score 100% correct in terms of pregnant/empty and in assessing stage of gestation. To maintain accreditation, PREgCHECK™ vets must provide evidence of having completed 1,000 tests every year.

¹ It is acknowledged that pregnancy testing can already be legally performed by lay operators, but only in the absence of remuneration or commercial gain of any kind.



New lay pregnancy testers, on the other hand, usually lack *theoretical* knowledge, placing them behind veterinarians at the outset, although their practical experience and proficiency may well be high due to numbers done. Accredited lay testers in WA and NT are required only to conduct 500 annual tests as a rolling three-year average.

Both classes of pregnancy testers require high levels of repetition to be considered proficient; based on the point above, it could be argued lay testers require more than vets; certainly not less.

It is useful to note that, from the 2019 spaying (northern-dry) season onwards, lay spayers using the DOT will require accreditation under a newly created accreditation scheme managed by AUSMEAT. Cattle Council pressed for this development in readiness for the Cattle Welfare Standards being introduced by States (including Queensland) and Territories by 2019².

It is entirely feasible for the two accreditation schemes (pregnancy testing and DOT spaying) in the future to be rolled into the one system as two units; other operations (artificial insemination, embryo transfer, semen collection) may also prove to be valid units for later addition.

RECOMMENDATION 1: That, to achieve and maintain accreditation, lay pregnancy testers be required to meet the same practical requirements as vets within the PREGCHECK™ system.

RECOMMENDATION 2: That future consideration be given to incorporating all lay operations involving the reproductive tract into the one accreditation system with relevant modules.

Traceability and other vulnerabilities

'Traceability' is used here in reference to the tracing of individual animals and/or of individual testers in the event of non-compliance or false/inconsistent declarations.

Under Section 3.6, QDAF explains in some detail the 'points of vulnerability' associated with non-compliance. Evident are problems at each link of the supply chain: producers, exporters, and lay and vet testers; lay testers come in for particular attention under Section 3.6.5.

On page 21, QDAF cites ACV as identifying a wide range of reasons for non-compliance, then states:

Confounding factors need to be eliminated in order to isolate the integrity and competency of the pregnancy testing provider, no matter whether the tester is a registered veterinarian, a PREGCHECK™ veterinarian or a layperson. Without open and cooperative participation of all players in the supply chain, unequivocal identification of the point in the supply chain responsible for the presence of animals without the desired pregnancy status is problematic.

Cattle Council supports the elimination of all 'confounding factors' in order for pregnancy testers' true performance to be recorded and tracked, and is standing by to assist in any way. By providing a clear line of sight between the act of testing and the final outcome post livestock delivery, performance data will truly reflect the testers' competency levels, with corrective action able to be taken when non-compliance is evident.

It is anticipated the national standard, when developed and implemented, will address these very issues; however, as Queensland regulations are likely to be amended prior to the national standard being finalised, it would be exceedingly useful for the Queensland

² At least one State – South Australia – has already incorporated the Standards into law.



Government to lead the way. A robust traceability mechanism is essential for any future system to succeed.

RECOMMENDATION 3: *That QDAF ensure the inclusion of a robust traceability mechanism for livestock and pregnancy testers, and a system for correcting anomalies or ejecting repeat offenders in cases of testers' non-compliance with agreed industry standards.*

RECOMMENDATION 4: *That, in the event of the Queensland Government introducing State-based changes before any national standard for pregnancy testing is finalised and applied, QDAF be willing to share the results of its chosen model with those developing the national standard.*

Supply of pregnancy testers

Much of the northern pastoral zone funnels cattle into, and is dependent on, the livestock export trade. All producers in this zone should therefore, where possible, have similar access to services such as pregnancy testing.

Producers in this zone within Western Australia and the Northern Territory have access to legally sanctioned commercial lay pregnancy testers; producers in the Queensland portion of this zone only have access to accredited vets, which potentially places them at a disadvantage because of distance and time constraints affecting the vets' availability.

The higher the vantage point from which to assess the supply of veterinarians in Queensland, the more it seems supply is adequate. For example, within Table 4 – *Potential demand for pregnancy testing services*, it would appear from a State-wide vantage point there are sufficient PREGCHECK™-accredited vets to meet existing demand across all cattle types. However, at the more granular, regional level, it is evident supply is significantly 'lumpy', leaving some regions far worse off than others (Table 5 – *Indicative number of veterinary providers by natural resource management region*).

It is for this reason Cattle Council falls to the basic premise of 'choice'. The provision of lay pregnancy testers in these regions is supportable, remaining cognisant of the lay pregnancy testing restrictions in the Australian Standards for the Export of Livestock³.

Other matters

Cattle Council acknowledges the commercial benefits to producers Australia wide that flow from good management practices. Pregnant cattle require different management techniques than do empty cattle; likewise, specific management decisions are needed for unwanted pregnancies and 'unwanted empties' in cattle.

Greater accessibility to accredited pregnancy testers will bring greater incentives for producers to manage the pregnancy statuses of their herds, and hence improvements in business sustainability and animal welfare.

As a means of future-proofing this initiative, Cattle Council urges QDAF to ensure sufficient flexibility is built into regulations to allow the adoption of new technologies as they come to hand.

³ It is important to note the following clause in the Australian Livestock Export Standards: *Competent pregnancy testers may only diagnose pregnancy for feeder/slaughter cattle or buffalo by manual palpation and are not approved to use ultrasound diagnoses or the IDEXX pregnancy test. They cannot complete pregnancy testing of breeder or productive cattle or buffalo consignments for any market.*

Queensland Dairyfarmers' Organisation

QDO relied purely on the on-line survey. They advise that they conducted a Facebook poll to gather the opinion of the membership base. Over 80% believed laypersons should be permitted to pregnancy test cattle for fee or reward. QDO selected Option 3.



RIS Submissions: Lay Pregnancy Testing in Cattle
Biosecurity Queensland
Department of Agriculture and Fisheries
GPO Box 46
Brisbane QLD 4001
12/12/2018

Dear Sir/Madam

Thank you for the opportunity to comment on this Regulatory Impact Statement. RSPCA Qld has a core remit to care for the welfare of all animals and our consideration of the issues involved here revolve around animal welfare criteria.

Basically our position is that anyone who carries out either of the procedures under consideration (pregnancy testing and ovarian ultrasound scanning) must not only be competent to do so in terms of returning accurate results, but must also have a good understanding of the broader animal welfare implications. This should include the ability to assess the health and welfare of the animal and to be prepared to not carry out the procedure on animals that are not healthy enough or showing signs of distress. They should also have a thorough understanding of the animal welfare issues specific to the procedure and how to minimise them and monitor the animal's well being as they carry out the activity.

As part of their five year training, veterinarians gain this broader understanding and appreciation of the animal as a whole and how any specific activity impacts on the animal. While, of course, training for lay persons carrying out these procedures cannot replicate veterinary training and nor does it need to, it must strive to prepare the practitioners with a broad set of skills and understanding so that the welfare of all animals involved will be protected while delivering accurate results. Both procedures under discussion must not be viewed or taught as simple skills, rather they must be taught as procedures being carried out on living animals that can feel and be affected by the activity.

RSPCA Qld supports Option 3 with the proviso that the training and assessment of competency following the training ensure great animal welfare outcomes. Training procedures must be independently audited and assessed, and reviewed regularly to ensure they are delivering the best possible training. The training must have input from veterinary and animal welfare experts. Practitioners should go through a licencing process with the need to regularly re-assess competency built in.

We do not approve option two which would allow anyone to conduct pregnancy testing with no oversight except the *Animal Care and Protection Act 2001* or option one which would mean the black market of uncontrolled pregnancy testing would continue.

The Royal Society
for the Prevention of
Cruelty to Animals
Queensland Inc.

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If we can provide any more information, please don't hesitate from contacting me or our Principal Scientist, Dr Mandy Paterson on mpaterson@rspcaql.org.au.

Yours sincerely

A handwritten signature in black ink, appearing to read "Mark Townend".

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Patron: His Excellency the Honourable Paul de Jersey AC, Governor of Queensland.
HELPING ANIMALS • ENLIGHTENING PEOPLE • CHANGING LIVES



Appendix I On-costs

The Consultation RIS discussed the cost to producers of pregnancy testing at 4.4 - *Direct and indirect cost to producers*. Based on AVA advice, an indicative average professional fee of \$3.00 per head was considered representative for many areas of Queensland. The Consultation RIS concluded that the professional differential between veterinary surgeons and laypersons to producers was not significant. The AVA's submission to the Consultation RIS observes that the structure of fees and rates charged, can also vary depending on the functional efficiency of facilities in which the veterinary surgeons will be operating.

To explore on-costs, a case study was used in the Consultation RIS to strike an average on-cost associated with veterinary surgeons (such as travel and holding costs) of around \$5.00 per head.

Within the consultation survey, producers were asked questions about the impact that travel cost is having on their decision to use veterinary pregnancy testing services for other than the export market. Only six options were offered:

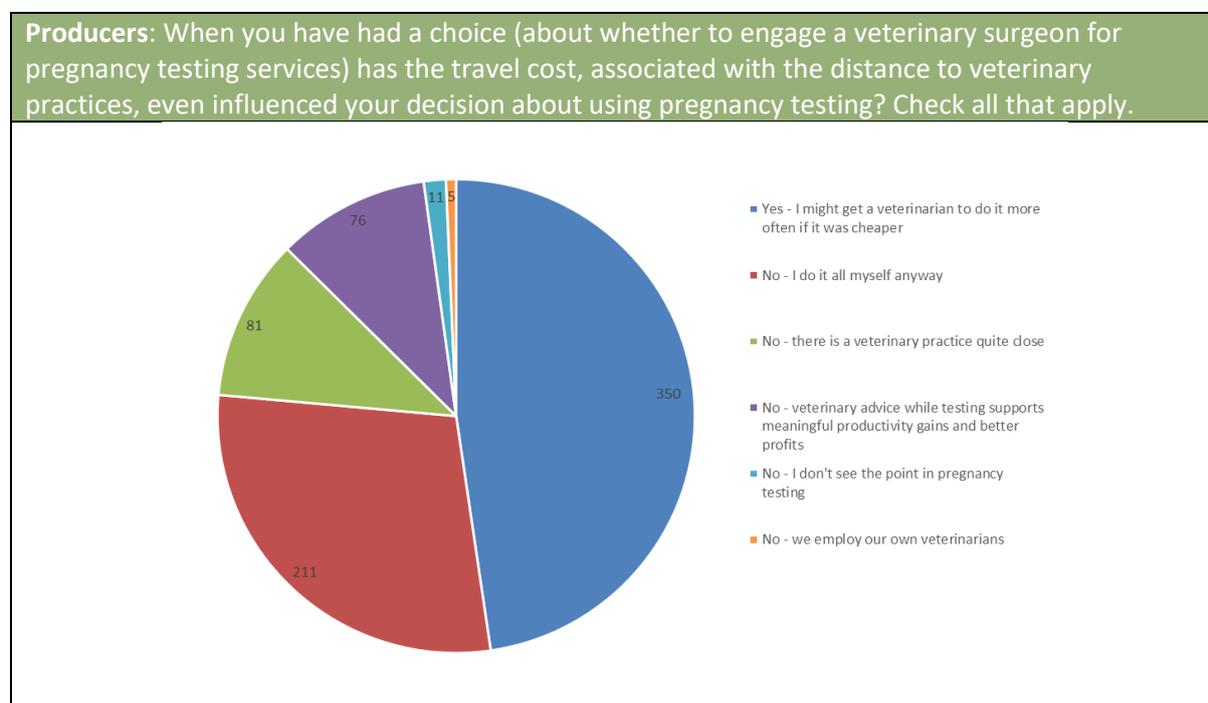


Figure 13 - Travel cost and tester selection

The travel cost of a veterinary surgeon attending on farm for pregnancy testing was considered to be a deterrent by 48% of producers. While the next highest response group indicated they do all their own testing (28%) more than 10% considered that the additional advice they received from veterinary surgeons supported meaningful productivity gains and better profits.

There are variances in responses based on the location of respondents' operations. The following graph compares the number properties by location where cost of travel has deterred the producer from engaging a veterinary surgeon to location where the value of advice received from a veterinary is considered to provide sufficient return on investment to warrant the cost of travel:

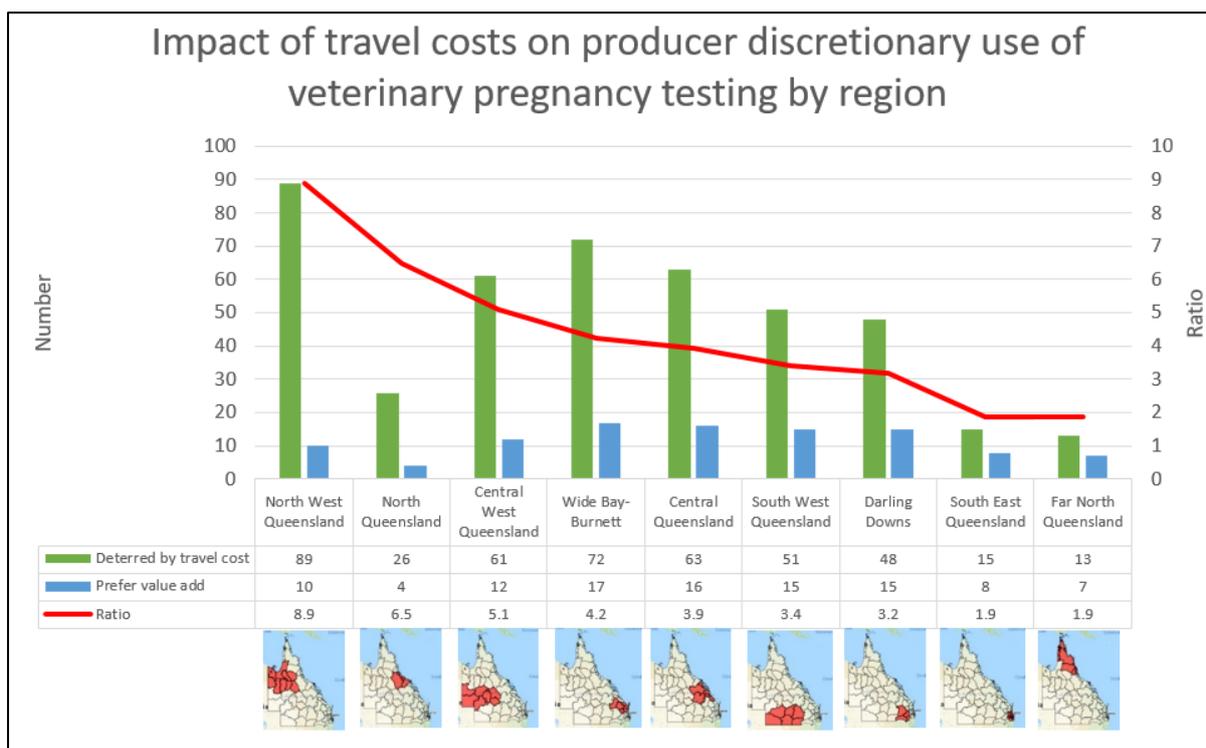


Figure 14 - Travel cost influence by region

The high ratio of opinion, that the benefit of advice received does not compensate for travel costs in North West Queensland (9:1) and Central West Queensland (5:1), might be considered consistent with the vastness of these areas.

However in a relative sense, the North Queensland (6.5:1), Central Queensland (3.9:1) and Wide Bay Burnett (4.2:1) outcomes suggest other factors may also be influencing responses, including:

- veterinary practice specific issues influencing the outcomes such as the extent of advice offered by veterinary practitioners or how effectively productivity advice is being “sent and received” locally;
- the difficulty of terrain including ranges, river crossings and density of road network , making road distance travelled relatively high compared to the density of veterinary practices and size of the region³⁵;
- in turn, these obstacles will influence the travel methods and travel charge regime of each practice;
- type of road conditions, or even number of gates that must be opened and closed, influencing the speed of travel within a region;
- relative herd sizes within each region and the consequent ability to average travel costs over more head;
- calving intervals within particular regions³⁶; and/or

³⁵ For example, while travelling the 318 kilometres from Charleville to Eromanga is estimated to take 3 and a half hours, travelling 317 kilometres from Rolleston to Tambo is estimated to take 6 and a quarter hours.

³⁶ Noted by Dr G Niethe in his submission of 16 November 2018 and referencing the Northern Australian beef fertility project: CashCow (available from <https://www.mla.com.au/research-and-development/search-rd-reports/final-report-details/productivity-on-farm/northern-australian-beef-fertility-project-cashcow/370>)

- relatively high rates of respondents conducting their own pregnancy testing, with figures for Central Queensland of 55% and 57% for Wide Bay Burnett, compared to the Queensland average of 49%.

The outcome for Far North Queensland (1.9:1) suggests that producers in this region may more frequently perceive there are benefits in having veterinary attendance for ancillary productivity advice.

Appendix J Availability and timeliness

The Consultation RIS noted AgForce concerns in relation to the availability of veterinary surgeons to conduct pregnancy testing.

Perceptions about timeliness

Producers and veterinarians were asked about their experience in meeting required timelines.



Figure 15 - Perceptions about timeliness

These questions are misaligned, given that veterinary surgeons are responding in a general sense whereas producers are responding in an export sense. It seems reasonable to assume that generally veterinary surgeons would make particular efforts to meet timelines for export testing purposes. However, given that the concerns raised by AgForce relate primarily to the export market, the perceptions of export producers must be explored.

Relationship to exporter notice

During the preparation of the Consultation RIS, the AVA suggested that in some cases producers could provide veterinary surgeons with better notice in relation to testing requirements. To explore this suggestion, we asked export producers about the notice they receive from exporters.

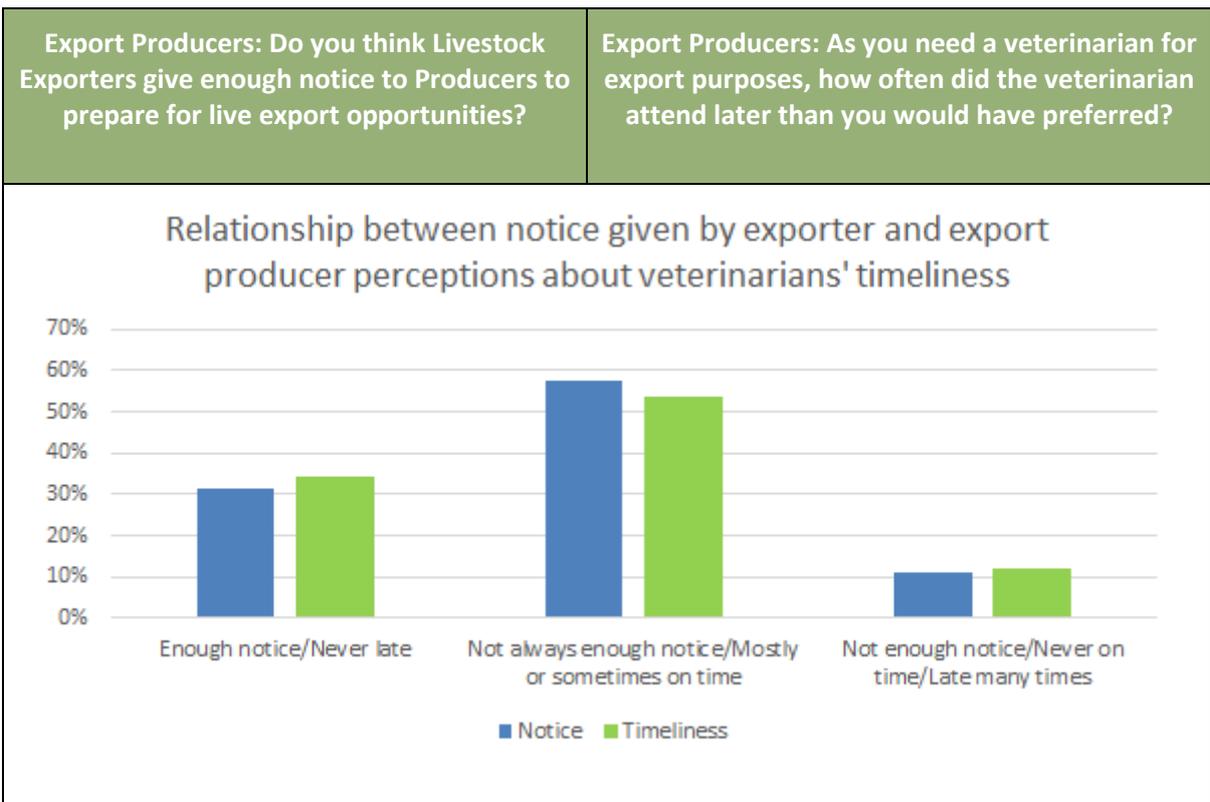


Figure 16 - Perceptions about exporter notice

There appears to be a strong relationship between the perceived adequacy of notice given by exporters and producer feedback about the timeliness of veterinary attendance.

Impact of late veterinary attendance for export producers

While delays in attendance can result in operational costs associated with cattle handling and holding, the loss of a sale after incurring these costs is relevant:

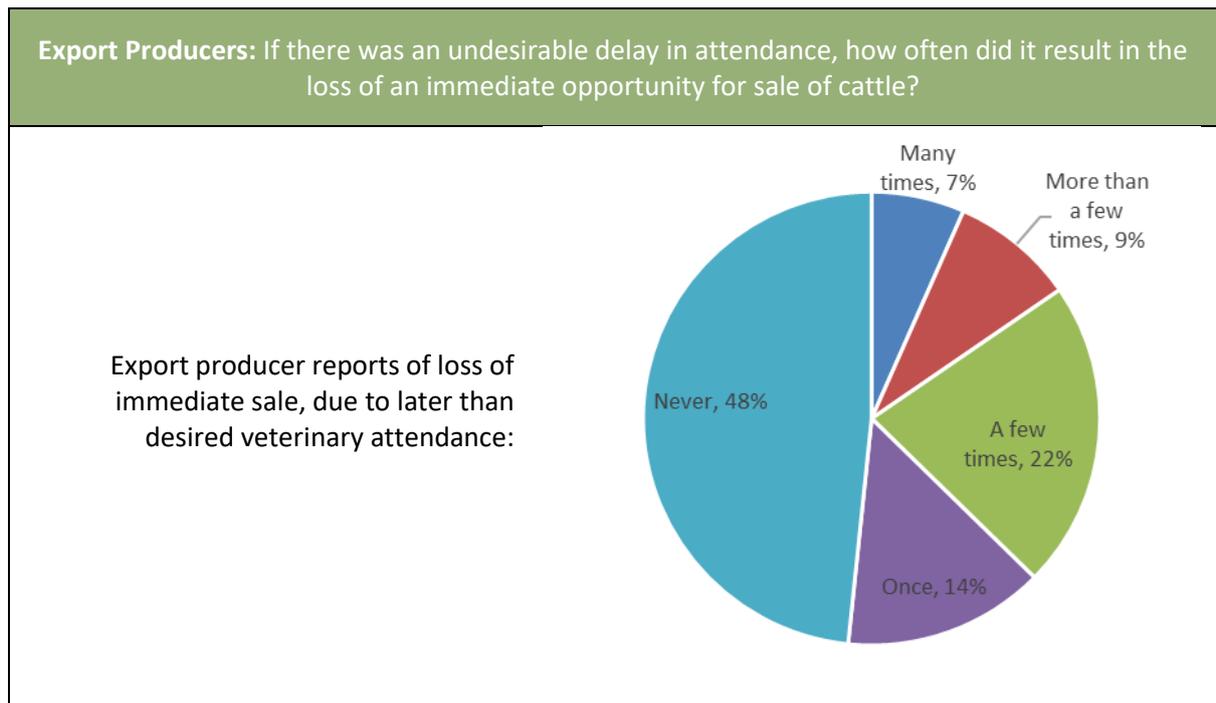


Figure 17 - Consequence of late attendance on sale

Whether the responsibility for inadequate notice can be attributed to exporters, producers or veterinary surgeons, 44 of the 91 export producers that responded said that delays in attendance have not resulted in the loss of an immediate sale.

Thirteen respondents reported that they had lost an immediate sale in the last 12 months with another 34 respondents (based across **59 locations**) reporting that **immediate sale opportunities were lost on multiple occasions**.

The location of properties with multiple losses of immediate sale were:

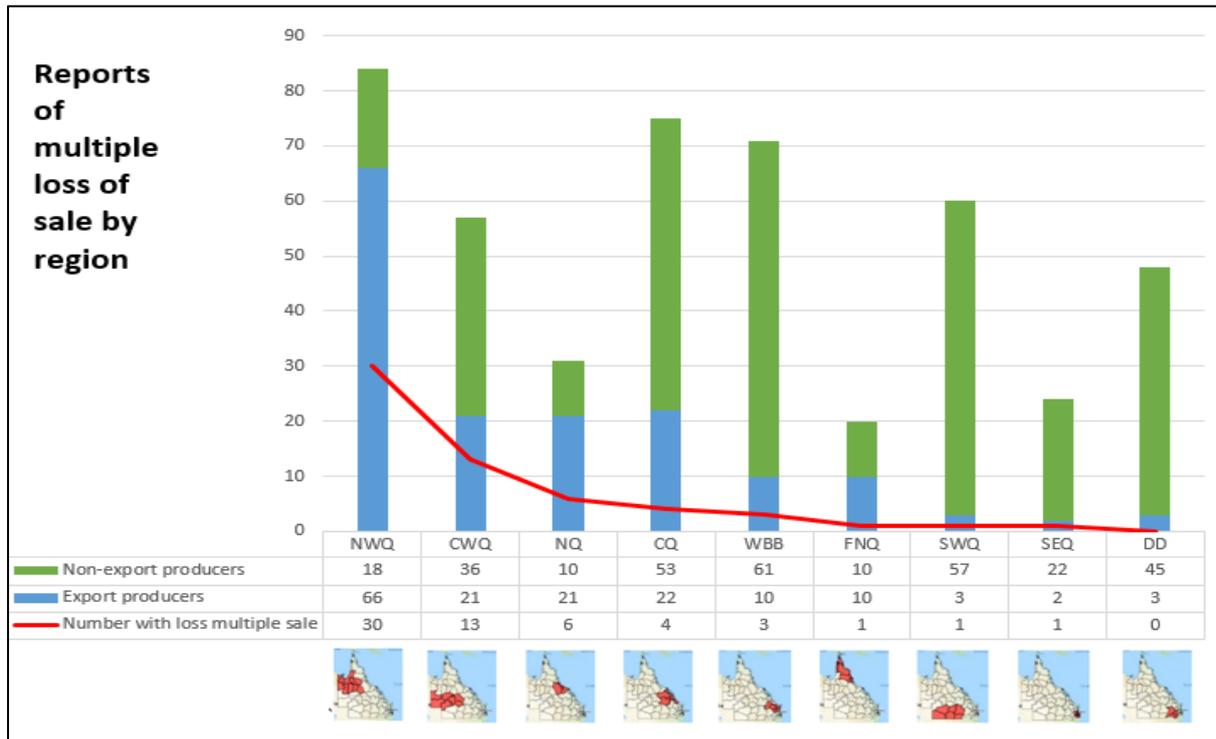


Figure 18 - Multiple losses of sale by region

The highest number of export producers responding to the survey are in North West Queensland and 45% of these report that have lost immediate sales on multiple occasions. While the number of export producers in Central West Queensland is less than one third of those on North West Queensland, 62% of responding export producers are reporting multiple incidents of loss of immediate sale opportunity.

Appendix K Accuracy

Perceptions about accuracy of testing services

The Consultation RIS noted concerns in relation to accuracy of testers and the implications for welfare, productivity and market access.

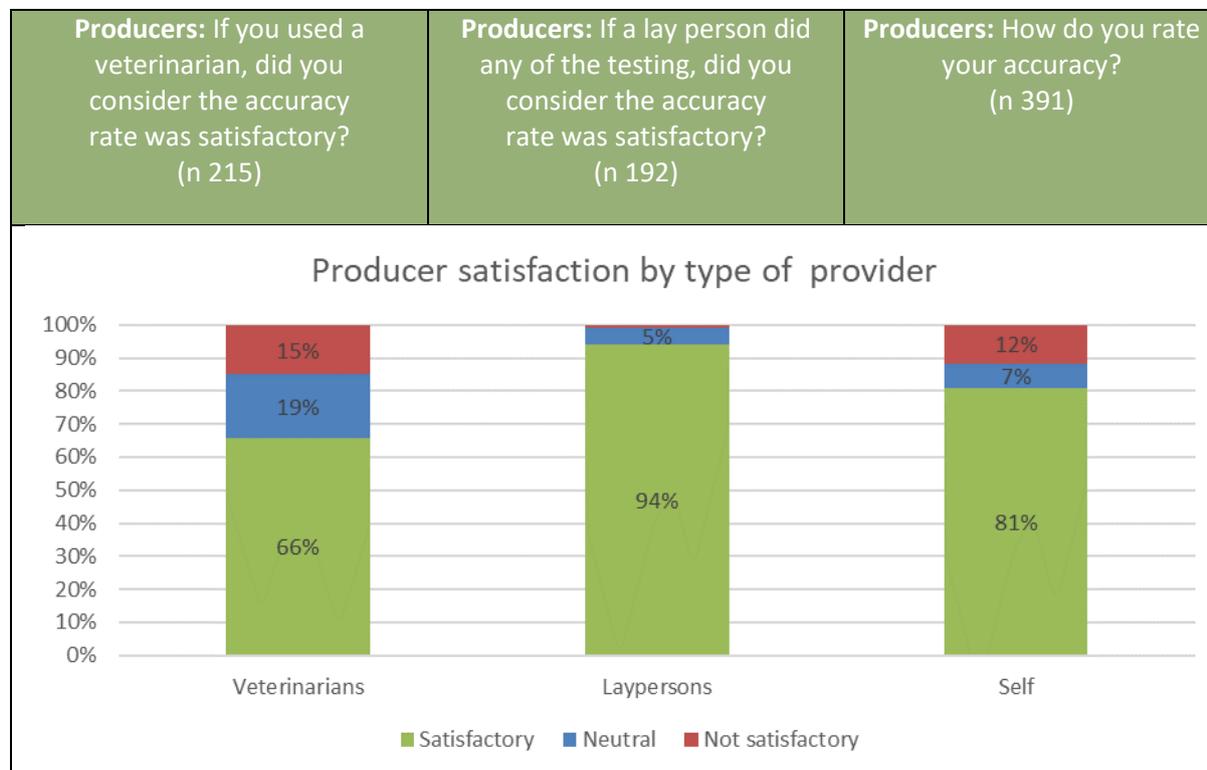


Figure 19 - Producer perceptions about accuracy

Producers were asked to rate the accuracy of veterinarians, laypersons and themselves. Qualitative choices (rather than quantitative) were provided to reduce respondent fatigue in completion of the survey:

- Sixty-six percent of producers were satisfied in relation to veterinary surgeons, 19% gave a neutral rating and 15% found the results unsatisfactory.
- Ninety-four percent of producers were satisfied with accuracy of laypersons and 1% found the results unsatisfactory.
- Eighty-one percent of producers who test their own cattle considered their accuracy to be satisfactory while 12% considered there was room for improvement.

The outcomes in relation to accuracy are at odds with:

- A number of veterinary submissions about subsequent testing, including the issues that led to a 2015 Darwin diagnostic verification exercise where 7% of 1,360 cattle would have been detectably pregnant at the time of testing (refer Consultation RIS, 3.6.5 – *Identifying the points of vulnerability*)
- The rate of reliance on only the ultrasound **diagnostic technique** by both producers and laypersons and PREGCHECK guidance that ultrasonography has a window of greatest reliability when cows are between 6 to 14 weeks in calf (refer Consultation RIS, Appendix A – *“B-mode: Ultrasound Scanning*).

Nonetheless, for those that chose to respond, written comments may provide some clues:

- possible practice of dispatching new graduates for pregnancy testing jobs
- inconsistency in the veterinary surgeons dispatched by a practice to conduct pregnancy testing
- using a local veterinarian who does not maintain a specialisation in pregnancy testing
- the veterinarian/producer who provided feedback that they use a layperson who **specialises** in pregnancy testing
- there may also be a case for questioning the level of awareness in producers of the PREGCHECK scheme.

Appendix L Diagnostic techniques

As discussed in Appendix A of the Consultation RIS, accuracy is influenced by the use of appropriate diagnostic technique and equipment.

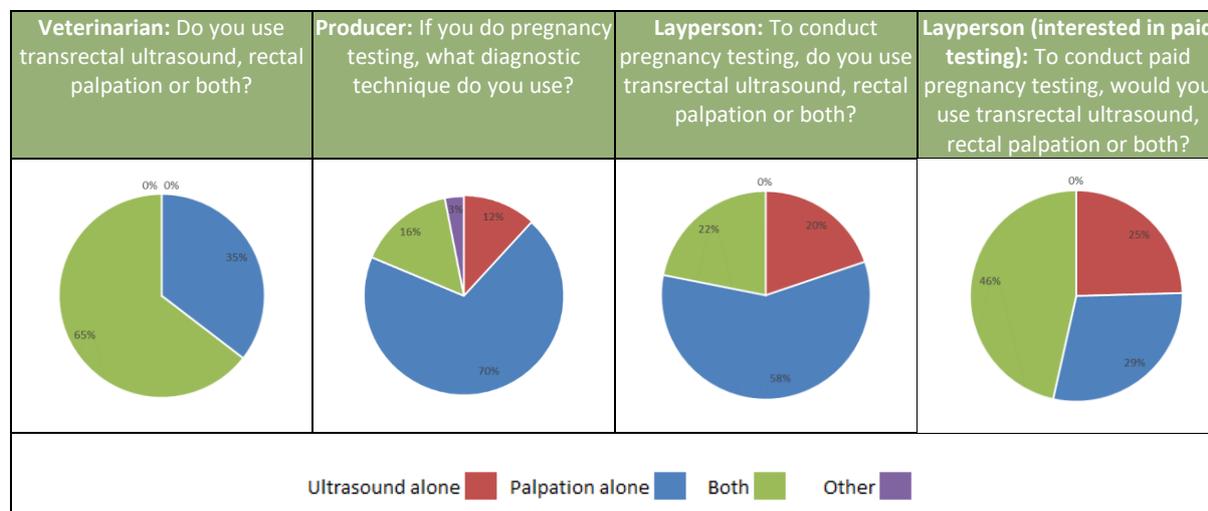


Figure 20 - Diagnostic techniques

Veterinary Surgeons: For the last 12 months, 35% of veterinary surgeons advise they have used manual palpation alone, including 21 mixed practice veterinary surgeons and 19 PREgCHECK veterinary surgeons. The other 65% of veterinary surgeons advised they had conducted pregnancy using both manual palpation and ultrasound, including 31 mixed practice veterinarians and 44 PREgCHECK veterinary surgeons. Six veterinary surgeons had not done any testing in the last 12 months.

Producers: Three hundred and ninety-one producers provided responses in relation to the diagnostic technique they use. In all, 70% of producers use manual palpation alone while another 16% use both ultrasound and manual palpation. Three per cent are using alternate techniques such as blood testing while 12% are relying on ultrasound alone. None of the 4 dairy producers that responded had done any pregnancy testing.

Laypersons: Twenty-eight laypersons advise they do pregnancy testing without fee or reward. Of these, 58% rely on manual palpation, 22% on a both ultrasound and manual palpation and 20% rely on ultrasound alone. For laypersons indicating they might enter the paid market, 29% advised they would rely on manual palpation alone, 46% would rely on both manual palpation and ultrasound and 25% would rely on ultrasound alone.

The exclusive use of manual palpation skills is generally higher in producers (70%) compared to laypersons (58%) however, without some form of intervention, it is possible that producer adoption of ultrasound techniques without manual palpation skills, could also increase. Fall back on manual palpation skills provides a degree of quality assurance for suboptimal equipment, unclear ultrasound results and underpins necessary knowledge for some stages of pregnancy testing.

Appendix M Equipment standards

Due to the ease with which cheap ultrasounds can now be purchased on line, respondents were asked questions about equipment standards to explore knowledge about whether ultrasound equipment being used is fit for purpose.

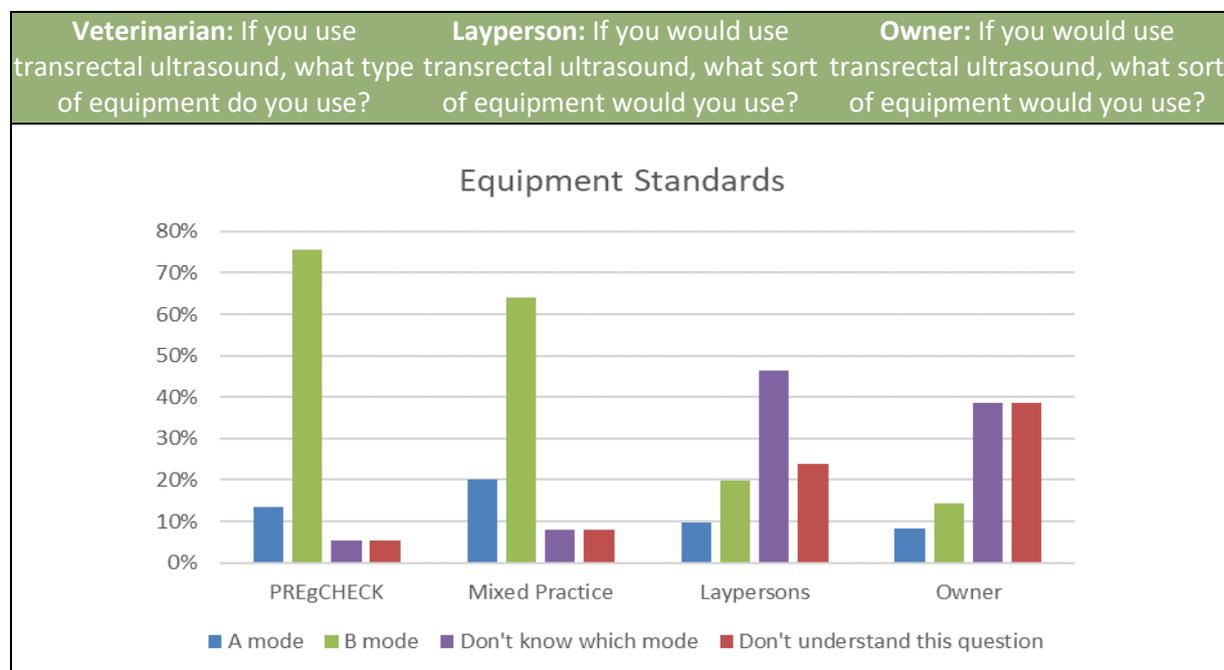


Figure 21 - Equipment Standards

Veterinarians: The ACV regards only B-mode ultrasound as suitably reliable equipment and the graph above notes that, of those veterinarians using ultrasound, 76% of PREgCHECK veterinarians are using B-mode and 64% of mixed practice veterinarians are using B-mode. Six veterinarians are using A-mode. Small numbers of veterinarians in both groups either do not know the mode of their equipment or selected the option “I do not understand this question”.

Laypersons: A total of 70% of laypersons either do not know what mode of equipment they would use if they could be paid (46%) or do not understand the nature of the question (24%). This aspect of lay provider knowledge becomes more concerning in the context of those who use only ultrasound techniques now (20%) or intend to use only ultrasound techniques in the future (25%).

Producers: The Consultation RIS (*Section 2.2.1 Types of pregnancy testing providers – Laypersons*) discusses current training provided by registered training organisations to enable owners to test their own cattle. In addition, some ultrasound providers are currently offering ultrasound only training in relation to their own products³⁷. Yet it is likely there is at least some presence of testers who have acquired a device via the internet and may be relying on a basic “user guide” provided with the product. In the case of producers, there is a total of 78% of respondents who do not know either the mode of their equipment (39%) or selected the option “I do not understand this question”(39%).

³⁷ For example see <http://catagra.com/training.html>

Appendix N Value-add

Veterinary Advice

During drafting of the Consultation RIS, veterinary surgeons alerted the Department to the value of advice they provide while on premises for pregnancy testing purposes. Written submissions made during the consultation process has also revealed producers and veterinary surgeons who emphasise the value of productivity advice received during pregnancy testing.

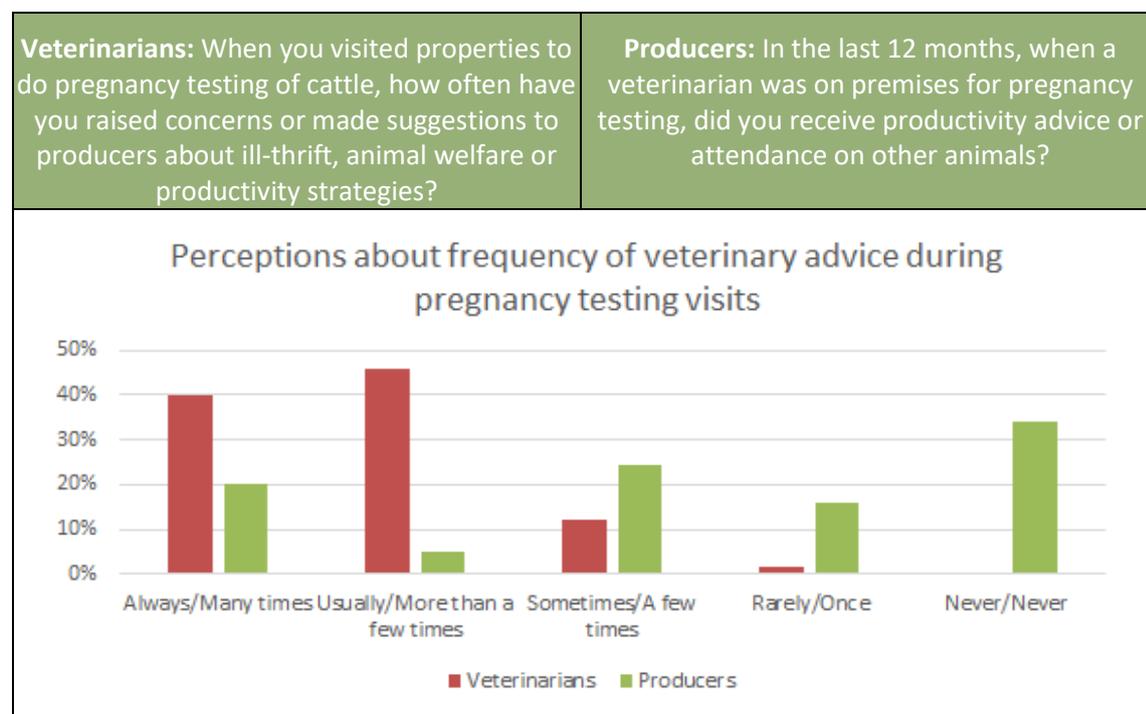


Figure 22 - Perceptions about advice

The free form comments provide examples of other value add by veterinary surgeons including the treatment of other animals, recognition of animal welfare issues and reproductive disorders, local involvement such as sponsorships and service to local racing events.

Some respondents also note that, if the reduced demand for pregnancy testing by veterinary surgeons leads to closure of veterinary practices or loss of economies of scale, users of veterinary services will be disadvantaged by increased professional fees (to support viability) or increased distances and travel costs.

Some respondents suggest that, given the perceived additional benefits of veterinary advice, the Government should intervene for the purpose of requiring producers to receive veterinary attendance.

Stockmanship

Free form comments from laypersons and producers revealed some alternate views on value-add including stockmanship and yard skills, breadth of services provided, operational efficiencies, local knowledge of production trends and different, sometimes more compatible, relationship skills.

Two producers suggested that the value added by laypersons, was to free up veterinary surgeons:

- During peak live export consignment filling, when veterinary surgeons are not available to attend for urgent, non-pregnancy testing, needs

- To add the value of their broader training, while technicians are performing the repetitive, more narrow activities.

Veterinary medicines

Section 71 of the Health (Drugs and Poisons) Regulation 1996 (HDPR) applies to the dispensing of veterinary medicines and states:

Veterinary surgeons

(1) To the extent necessary to practise veterinary medicine, a veterinary surgeon is authorised to—

- (a) obtain a controlled drug; or*
- (b) possess a controlled drug at a place occupied by the veterinary surgeon; or*
- (c) if the veterinary surgeon is reasonably satisfied that an animal the veterinary surgeon is treating needs a controlled drug for a therapeutic use as part of the animal's medical treatment—*
 - (i) administer the drug to the animal; or*
 - (ii) dispense or prescribe the drug for the animal; or*
 - (iii) obtain the drug for the animal; or*
 - (iv) sell a controlled drug to a person for the person's animal.*

Within the AVA guideline, the AVA advises that it is the obligation of veterinary surgeons to “Comply with prescribing requirements, including establishment of a legitimate veterinarian / user relationship before prescription.” One of the identified criteria is:

The veterinarian has sufficient knowledge of the animal(s) to initiate at least a general or preliminary diagnosis of their medical condition. This means that the veterinarian has recently seen and is personally acquainted with the keeping and care of the animal(s) by virtue of a clinical examination, or by medically appropriate and timely visits to the premises where the animal(s) are kept.

Appendix O Producer priorities

To better understand producer priorities, producers were asked to rank six issues³⁸ they might consider when choosing a pregnancy testing service provider:

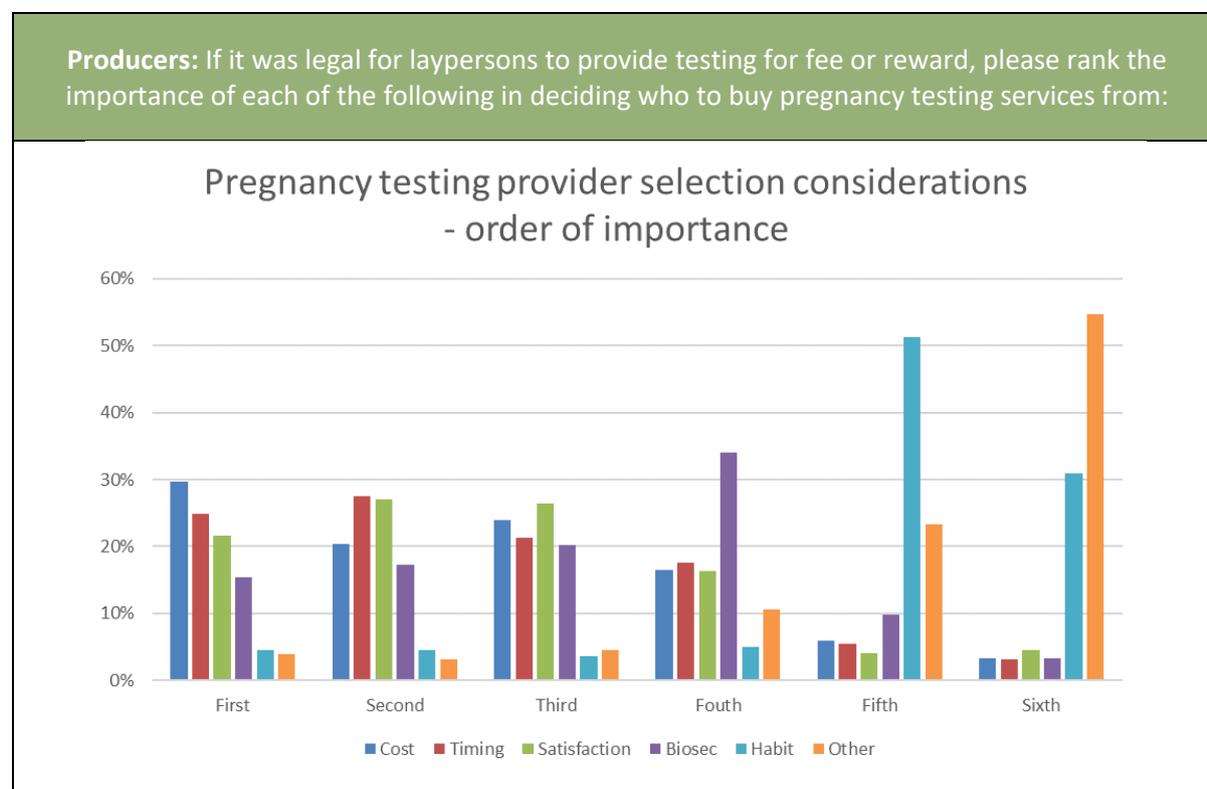


Figure 23 - Producer priorities

Of the 417 producers who responded, 30% selected cost as the primary consideration, 25% selected timing, 22% selected satisfaction (based on previous experience), 15% selected biosecurity skills, 4.6% operated on habit (I don't really think about it) and 4% had other reasons.

Habit and "other" generally came in as the lowest considerations for producers.

The low ranking for habit, coupled with the consistency with which cost, timing and satisfaction appeared in the first three preferences, indicates that producers are actively applying judgement in their selection of providers.

Biosecurity appears as a fourth line priority, before "habit" and "other".

Producers who prioritised "Other" were asked to expand on that selection. Answers included the value-add items considered above (for both veterinary surgeons and laypersons), access to tail-tags, proximity and specialisation.

³⁸ The full description of the options were:

- Cost – the degree to which you are price conscious
- Biosecurity skills – the ability of the provider to recognise signs and symptoms of disease at the same time
- Satisfaction – based on previous service provided
- Timing – the need for the service to be provided at a specific/critical time
- Habit – I don't really think about it
- Other benefits

Appendix P Current mix of providers

Pregnancy testing is performed by producers, visiting laypersons (whether paid or not) and veterinary surgeons and, apart from the export market, these groups represent competition to each other.

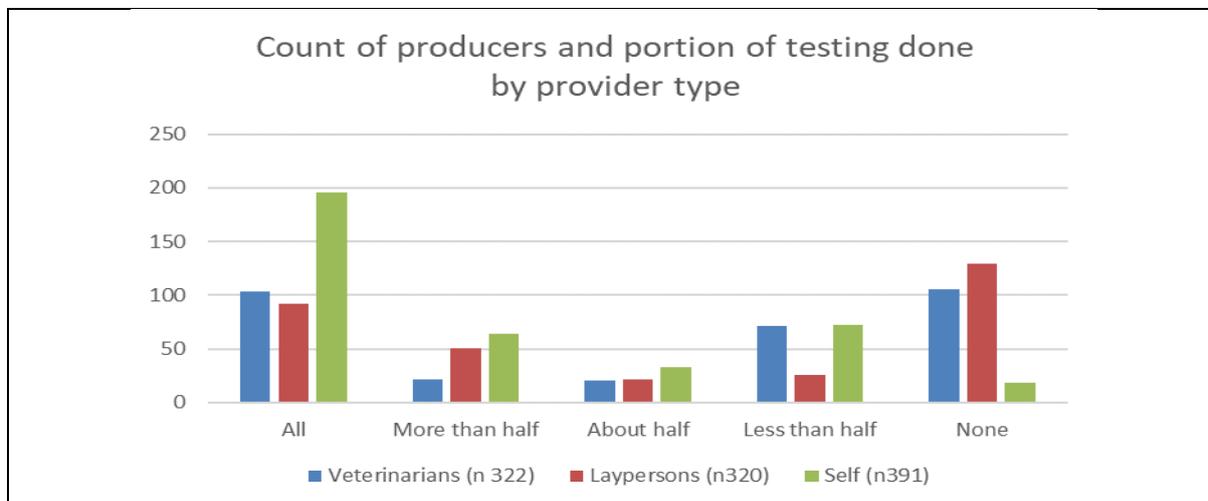


Figure 24 - Current mix of providers

Responding producers indicated that in the last 12 months, 322 had arranged for someone other than themselves to visit the property to conduct pregnancy testing. Thirty-two percent of producers advise that veterinary surgeons are the only type of visiting provider used, while another 29% advise that only laypersons are engaged.

However, responding producers also indicated that in the last 12 months, 391 of them had conducted pregnancy testing themselves. Of these 391 producers who had done pregnancy testing in the last 12 months, more than 50% (196) advise they had conducted 100% of all of the testing for the previous 12 months.

For producers who never use particular types of providers, 51% never use laypersons, 42% never use veterinarians and 7% never do testing themselves.

There is no discernible pattern in use of providers between regions, however it appears likely the ability of producers to do their own testing is impinging on demand for veterinary surgeons for other than the export market:

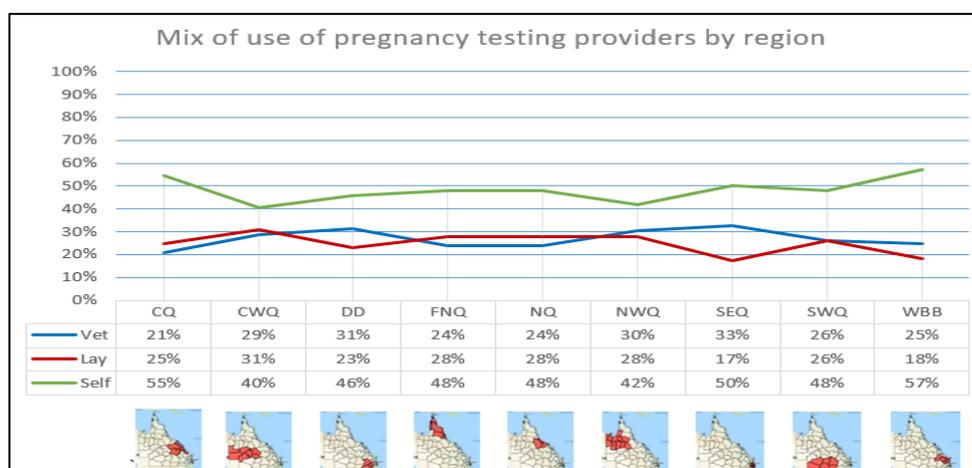


Figure 25 - Mix of providers by region

Even though 50% of responding producers indicate they do all their own testing and another 16% advise they do more than half of their own testing, it seems probable that the average number of cattle being tested by cattle specialist veterinarians, and presumably black market laypersons, will still be higher than producers:

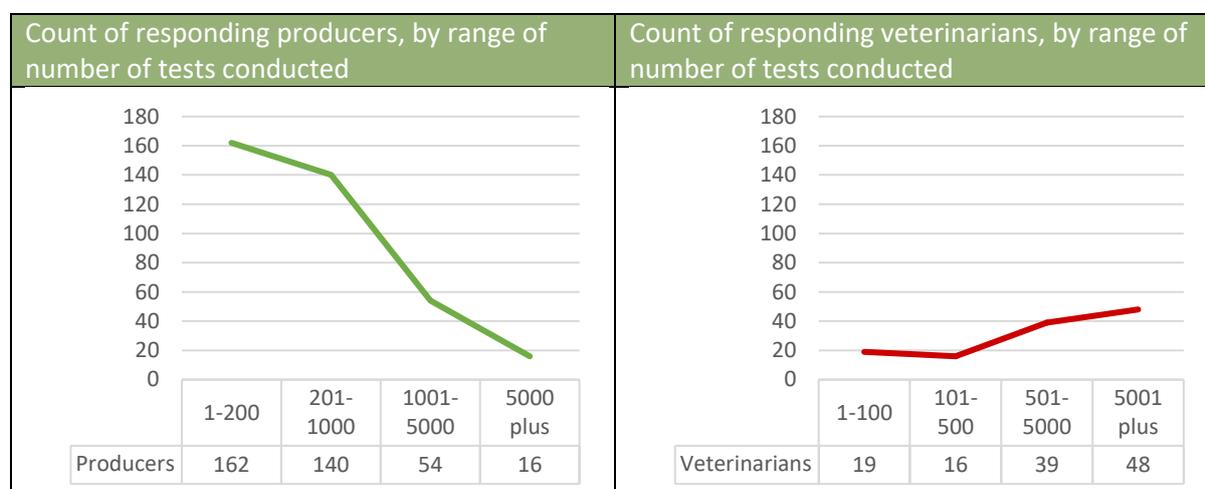


Figure 26 - Testing volumes by provider type

Producer testing peaks in the 1-200 range while veterinary testers peak in the 5,000 plus range. The tendency for producers to test smaller numbers will be driven primarily by average herd sizes in Northern Australia - reported at 1,576 from 2012-13 to 2014-15³⁹. Only 55 farms across Queensland carried more than 5,400 head in 2016-17⁴⁰. Other drivers will include:

- Time demands associated with operating other aspects of the business;
- Fatigue, associated with high rates of exclusive use of manual palpation by many producers (refer Consultation RIS, *Appendix A – Rectal Palpation*);
- The purpose of the testing e.g. pasture management, export market and the impact this has on the perceived need for accuracy (refer Consultation RIS, 2.1 – *Why pregnancy status matters*);
- Reluctance to engage a veterinary surgeon, where location and resultant travel costs could limit the ability to spread travel costs across a suitable number of animals (refer Consultation RIS, 4.4 – *Direct and indirect costs to producers*).

It is also relevant that the ACV advises that in 2014 the average number of tests conducted by PREgCHECK veterinarians was more than 16,000 each (Consultation RIS, 4.3 - *General demand*).

³⁹ Australian Bureau of Agricultural and Resource Economics and Sciences, Farm survey data for the beef, slaughter lambs and sheep industries, ABARES, Canberra

⁴⁰ MLA, Farm survey data for the beef, slaughter lambs and sheep industries, retrieved 15 January 2019 from <http://apps.agriculture.gov.au/mla/>

Appendix Q Layperson expressed interest

Answers provided by laypersons indicate that at least 38 laypersons are frequently doing pregnancy testing for people without fee or reward. Another 58 are doing pregnancy testing for people less frequently.

Lay testers were not requested to supply statistics about the number of tests they have conducted, as this group could have a disincentive to respond due to fear of reprisal. However the appetite of laypersons to enter the paid market was asked:

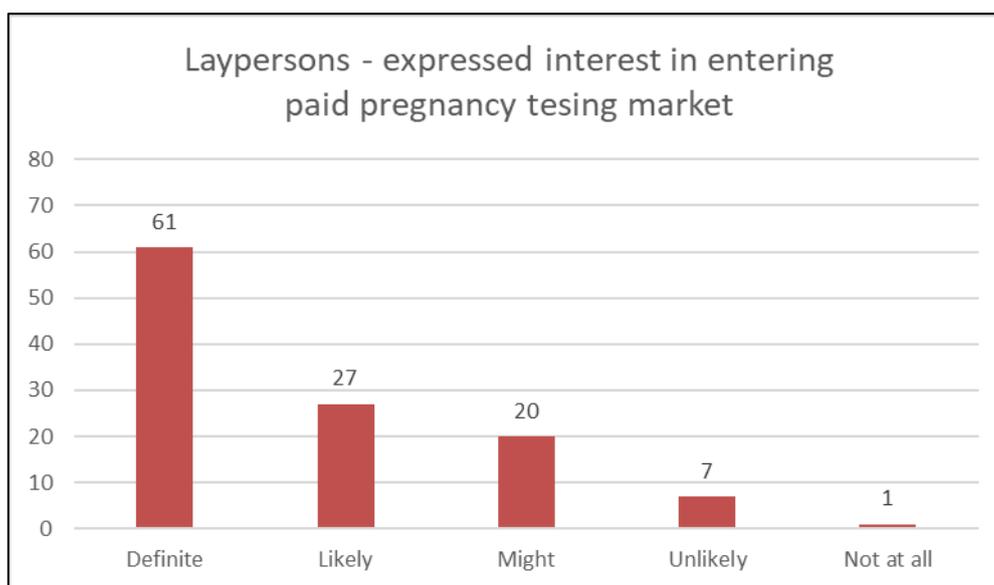


Figure 27 - Layperson interest in entering paid market

In all, 61 respondents indicated they would definitely like to legally enter a paid market, with another 27 indicating that it is likely they would. A further 20 considered they might.

Appendix R Location of providers

The location of existing producers, veterinary surgeons and possible lay entrants to the market is of interest in terms of the market new entrants might redirect from veterinary surgeons, whether the new entrants would necessarily be located in areas where producers are experiencing the greatest shortfall in providers and ultimately the impact of veterinary presence in regions.

The question asked was:

“If you are a producer, veterinarian or layperson, please select the Queensland local government areas in which you are based eg lot feed, surgery, home base or trucking yard locations”.

Respondents were given the opportunity to populate up to 10 locations on the basis that some veterinary practices and some large producers could operate from multiple bases.

Part of the purpose of the question was to assess the impact of travel costs and accessibility to providers. It is recognised that a number of veterinary practices may have several points of presence and/or be willing to service a wide area. However, a large number of veterinary surgeons and laypersons chose to populate all ten available fields, presumably to reinforce the message that they are willing to service all areas and/or they conduct circuits/runs of producers. By taking this approach, data relevant to travel distances and travel time has been obscured.

As there is no efficient/effective way to verify location selections, the following data on the locations of veterinary surgeons, interested laypersons and producers uses:

- The first nominated location for large animal and PREgCHECK veterinary surgeons
- The first nominated location for laypersons who expressed a 50/50 or above likelihood of entering a paid market if it was made legal
- All locations nominated by producers

Again, the data gathered here is skewed by self-selection by respondents who are motivated by the belief they may be affected, either positively or negatively, by any change.

		Producers	Veterinary Surgeons	Laypersons	Prima facie Increase in supply %
	Central Queensland	143	9	15	167%
	Central West Queensland	94	8	14	175%
	Darling Downs	88	10	7	70%
	Far North Queensland	28	8	1	13%
	North Queensland	55	10	3	30%

		Producers	Veterinary Surgeons	Laypersons	Prima facie Increase in supply %
	North West Queensland	134	14	11	79%
	South East Queensland	44	12	5	42%
	South West Queensland	106	8	9	113%
	Wide Bay Burnett	155	15	21	140%
	TOTAL	847	94	86 ⁴¹	91%

Figure 28 - Location of providers

Across the State, if all persons expressing an interest followed through, this data suggests that establishment of an accreditation scheme would boost supply of pregnancy testing providers by 91%. Central Queensland, Central West Queensland, South West Queensland and Wide Bay Burnett are regions where the *prima facie* supply of laypersons could outweigh veterinary surgeons (as expressed by those responding).

However, there will be a significant number of issues that will influence use of an accreditation scheme, even when interest is expressed as “I definitely would”. These include:

- ASEL is still expected to require veterinary surgeons for the breeder/productive segment of the market⁴² (refer Consultation RIS, 2.2.4 – *Queensland providers and market served*, Table 1). Given Indonesia’s “5+1” policy⁴³ on farm attendance by veterinarians will be required to some extent. Over the last three calendar years, live export out of Darwin and northern Queensland ports have averaged in excess of 70% of animals being destined for Indonesia⁴⁴. Noting however, recent reports suggest that only 8-10% of Indonesian lot feeders are requiring the ratio to be met⁴⁵.
- some producers will continue to prefer veterinary attendance or may not feel the availability of choice is relevant enough to them to participate in the survey.
- there is no guarantee that laypersons in these regions will choose to seek accreditation if they consider the parameters for approval too onerous.

⁴¹ Note that while 108 laypersons indicated a 50/50 or more interest in entering the paid market, only 86 completed the survey through to the location data. This may of itself be an indicator that inclusion of 50/50 interest overstates likely supply.

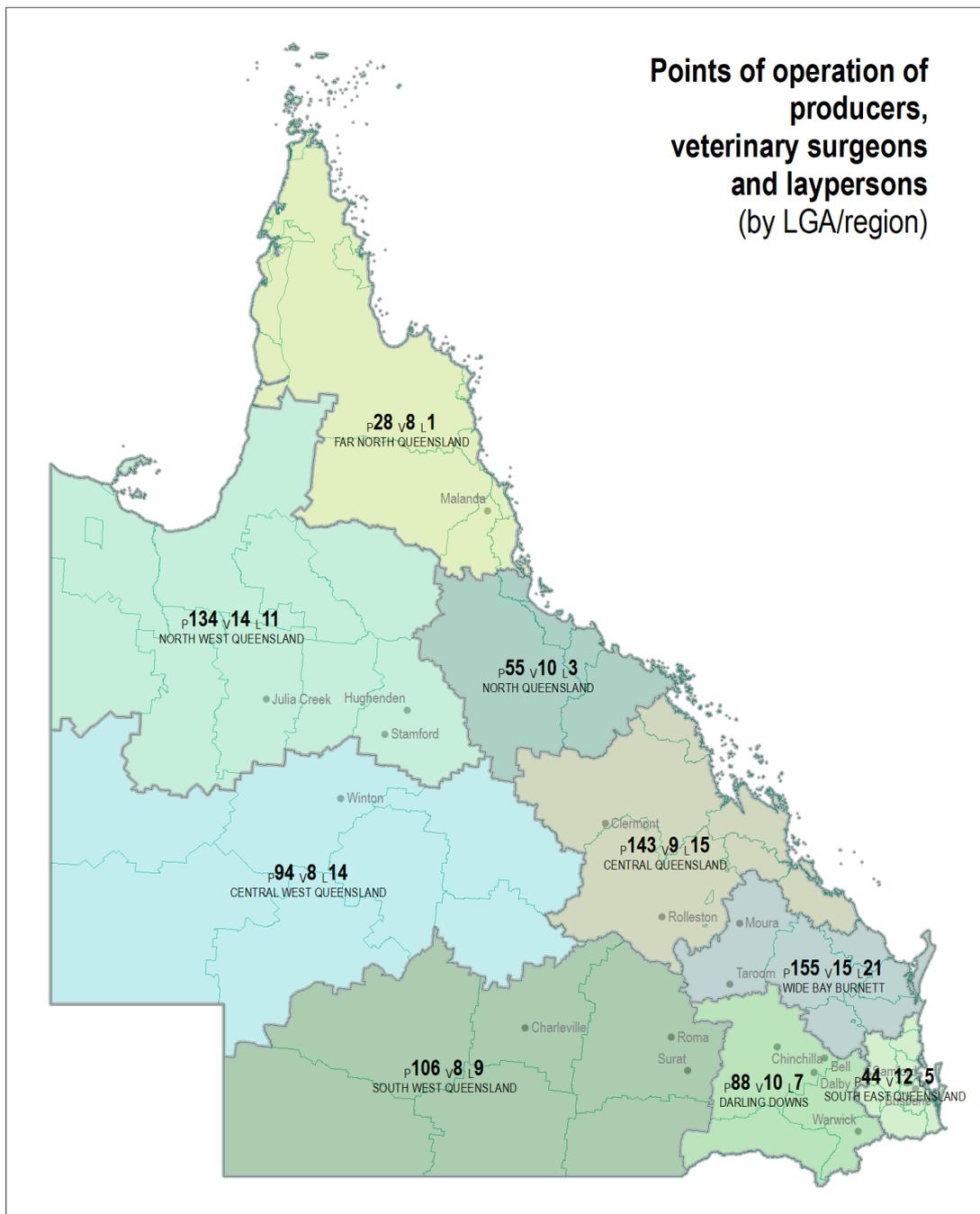
⁴² Under ASEL, veterinary surgeons are required to test productive/breeder cattle

⁴³ <https://www.mla.com.au/globalassets/mla-corporate/prices--markets/documents/os-markets/red-meat-market-snapshots/mla-indonesia-beef-snapshot-2017.pdf> Accessed 22 January 2019

⁴⁴ <http://www.agriculture.gov.au/export/controlled-goods/live-animals/live-animal-export-statistics/livestock-exports-by-market> Accessed 22 January 2019

⁴⁵ <https://www.northqueenslandregister.com.au/story/5874200/indonesian-live-exports-looking-positive/?cs=5197>, Accessed 31 January 2019

Appendix S Map – location of providers Queensland



- P** Number of locations provided by producers responding to the survey
- V** Number of primary locations provided by veterinary surgeons responding to the survey
- L** Number of primary locations provided by interested laypersons responding to the survey

Appendix T Frequency of use by purpose

Producers were asked about their use of veterinarians. Producers report that they seek veterinary on-farm attendance for both pregnancy testing and other purposes.

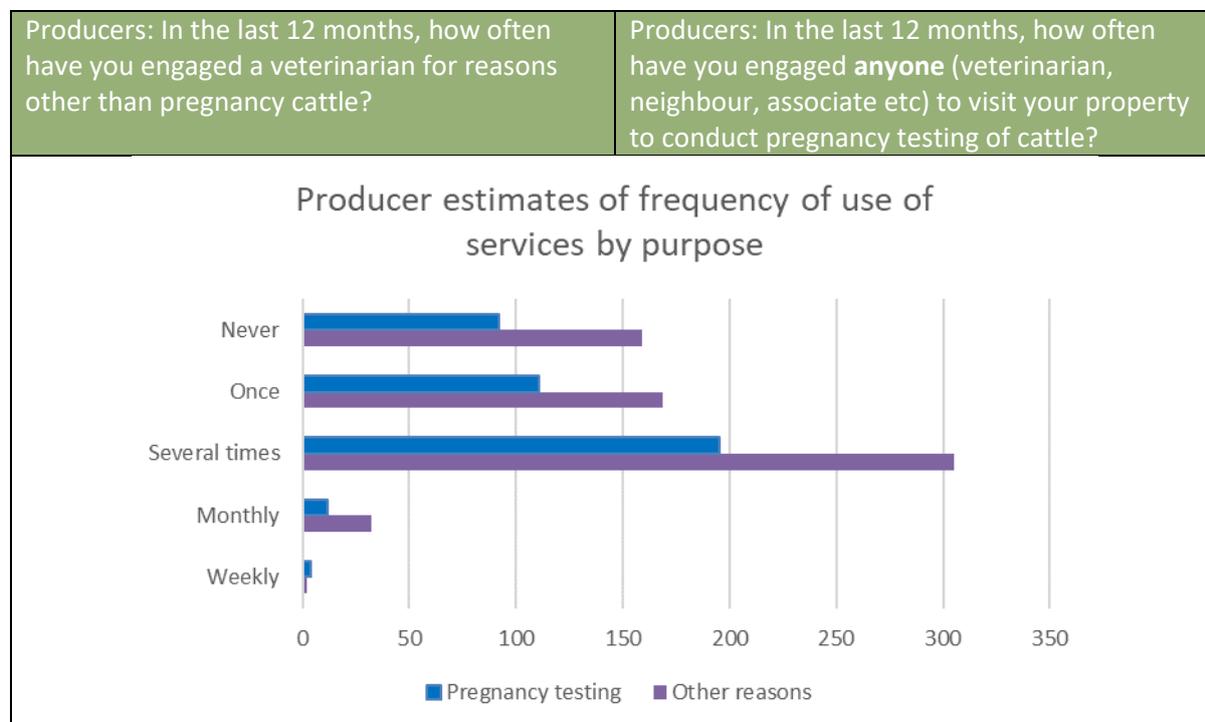


Figure 29 - Producer estimates of veterinary visits by purpose

Estimates provided by responding producers suggest that attendance on farm is higher for purposes other than pregnancy testing of cattle in the “once”, “several times” and “monthly” (last 12 months) groupings. Only 2 producers advise there is “weekly” attendance for other purposes and 4 advise there is “weekly” attendance for pregnancy testing purposes.

A small number of the “never” group have not had anyone attend for pregnancy testing, due either to conducting all their own testing or not testing at all. However, the substantial number of producers in the “never for other veterinary services” grouping suggests a material number of producers have not seen a reason for arranging veterinary attendance for other purposes.⁴⁶

The location of producers was also extracted to examine veterinary concerns that without pregnancy testing visits, veterinary surgeons would lose the opportunity to go on farms, particularly in remote areas.

The figure below looks at producer reports on the number of locations visited⁴⁷ by a veterinarian, at least once in the previous year, by region and purpose of the visit:

⁴⁶ Data in relation to respondents who had never been visited was collated, however is of little value given that this group did not have any real incentive to participate in the survey. For the whole of Queensland, respondents only identified a few producers spanning 39 locations that had not received a veterinary visit in the 12 months.

⁴⁷ Given that producers can have multiple properties, the totals can be higher than the number of producers.



Figure 30 - Producer estimates of veterinary visits by purpose by region

For all regions, visits for other purposes exceed visits for pregnancy testing purposes.

Veterinary surgeons were also asked about the extent of their presence on farm.



Figure 31 - Veterinary estimates of veterinary visits by purpose

Veterinary surgeons report that attendance for other than pregnancy testing reasons is more frequent in the 20 plus visits range, while attendance for pregnancy testing is more frequent in the 20 or less range.

PREgCHECK veterinary surgeons account for 34 of the 41 “50 plus time visits pregnancy testing group” and 22 of the 29 “21-50 times visits pregnancy testing group”. PREgCHECK veterinarians also

⁴⁸ Any range of use was counted once

indicated that they attended 33 of the 58 “50 plus times other visits group” and 15 of the 29 “21-50 times other visits group”.

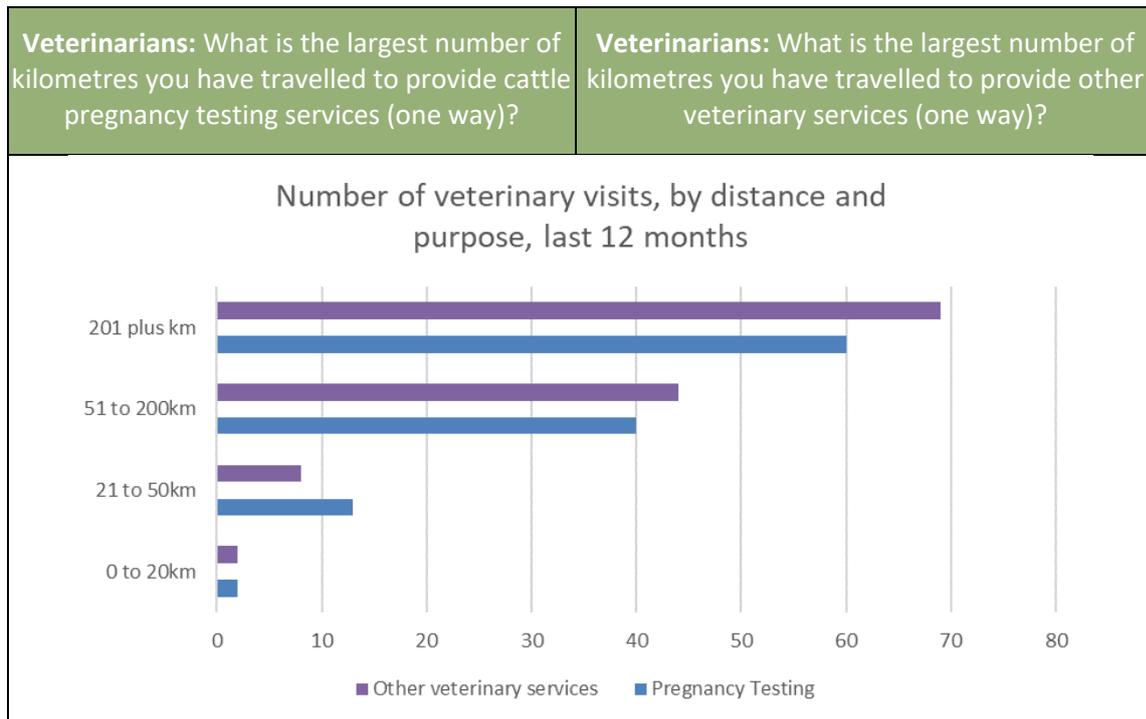


Figure 32 - Veterinary estimates of veterinary distances travelled by purpose

PREgCHECK veterinary surgeons account for 41 of the 60 “201 plus km visits pregnancy testing group” and 17 of the 40 “51-200km pregnancy testing group”. PREgCHECK veterinarians also indicated that they attended 41 of the 69 “201 plus km other visits group” and 18 of the 44 “51-200km other visits group”.

Appendix U Influence of export testing

Producer reports of attendance on farms by veterinary surgeons (by location visited) were used to examine the relationship between ASEL veterinary surgeon requirements (as they apply in Queensland) and visits for other purposes.

Region	Ratio of "other" visits to pregnancy testing visits	Percentage of respondents advising they export female cattle
 Central Queensland	2.7	29% of 75 respondents
 Wide Bay Burnett	2.5	14% of 71 respondents
 South West Queensland	2.4	5% of 60 respondents
 Darling Downs	2.1	6% of 48 respondents
 South East Queensland	2.1	8% of 24 respondents
 Far North Queensland	2.0	50% of 20 respondents
 North Queensland	1.9	68% of 31 respondents
 Central West Queensland	1.8	37% of 57 respondents
 North West Queensland	1.3	79% of 84 respondents

Figure 33 - Influence of export testing

Six of the nine regions have a ratio in excess of two "other" visits to one pregnancy testing visit, while the other three have ratios less than two. The ratio of "other visits" to pregnancy testing visits

is lowest in North West Queensland, North Queensland, Central West Queensland and Far North Queensland.

The theory that the number of export producers in a region influenced this outcome was also explored. In the following graph, the ratio of “other visits” is compared to the percentage of respondents reporting they export female cattle:

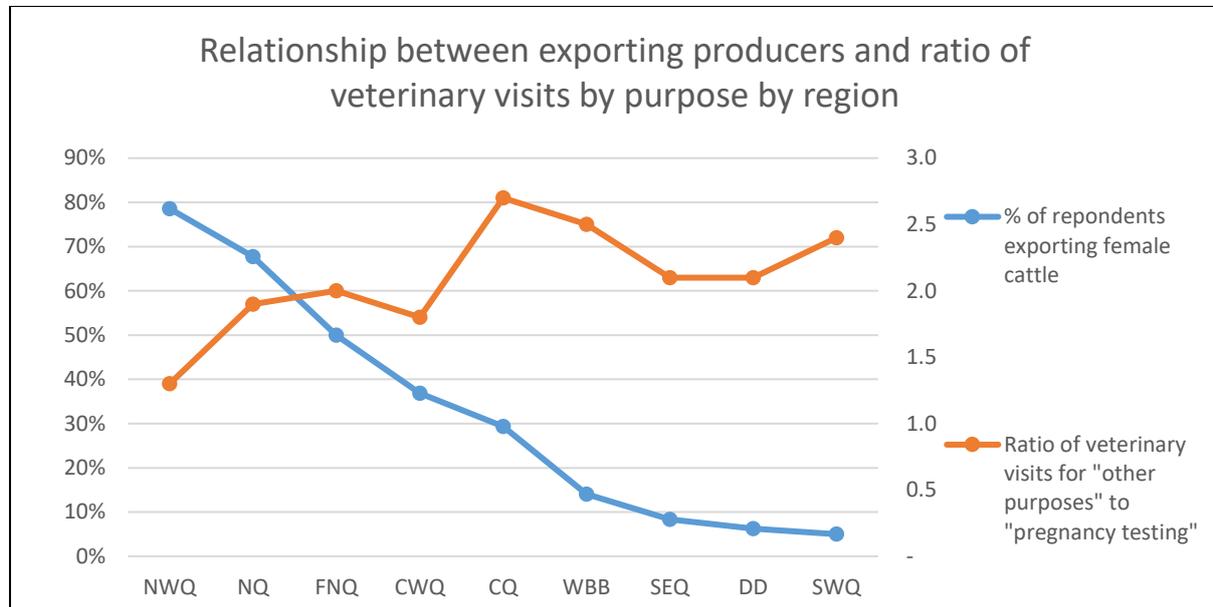


Figure 34 - Ratio of veterinary tests and export concentration

There is a negative relationship of around 0.7 that suggests that engagement of veterinarians for the purpose of certifying export cattle is a material driver of veterinary presence in some regions and particularly North West Queensland. Conversely, Central Queensland and Wide Bay Burnett are securing a relatively high rate of opportunities to be on farm compared to the concentration of export producers.

Appendix V Impact on on-farm presence

There is a degree of overlap in properties visited for both pregnancy testing and other reasons. These overlaps are identified in the table below:

Producer property locations visited by a veterinarian at least once in the last 12 months ⁴⁹								
	Preg testing	Other than preg testing	Total	Prima facie frequency loss if no preg testing	Purpose - Both	Net no. instances of surveillance for region.	Net coverage loss if no preg testing	Prima facie % surveil coverage loss if no preg testing
Central Queensland	41	111	152	27%	39	113	2	1.8%
Central West Queensland	38	70	108	35%	33	75	5	6.7%
Darling Downs	33	70	103	32%	30	73	3	4.1%
Far North Queensland	14	24	38	37%	13	25	1	4.0%
North Queensland	21	38	59	36%	17	42	4	9.5%
North West Queensland	77	97	174	44%	57	117	20	17.1%
South East Queensland	17	36	53	32%	16	37	1	2.7%
South West Queensland	37	89	126	29%	33	93	4	4.3%
Wide Bay Burnett	50	127	177	28%	46	131	4	3.1%
QUEENSLAND	328	662	990	33%	284	706	44	6.2%

Figure 35 - Impact on on-farm presence

It is important to keep in context, that these figures represent the number of properties in a region visited in the last 12 months, but not how many times a particular property within a region may have been visited. Nonetheless, there are clear indications that some regions will incur a relatively small loss of surveillance coverage (Central Queensland, South East Queensland and Wide Bay Burnett) while greater reductions will occur in North Queensland, South West Queensland and North West Queensland.

If ASEL is changed to accept indirect accreditation for the feeder/slaughter market then, in high export areas such as the north of Queensland, the frequency of pregnancy testing visits and therefore overall attendance on properties could reduce. If so, the significance of value of that surveillance may warrant the development of mitigation measures.

However for Central Queensland, South East Queensland and Wide Bay Burnett the potential reduction in geographical spread of surveillance is relatively insignificant.

⁴⁹ Assumes all pregnancy testing is conducted by laypersons. Figures only capture if there was "one or more visits" to a producer's property per locality, in the previous 12 months. Multiple visits are not captured for either pregnancy testing nor other purposes and the data should be relied upon accordingly

Appendix W Animal welfare

A number of veterinary surgeons making submissions argue that the entry of paid laypersons to the pregnancy testing market would compromise animal welfare because:

- Veterinary surgeons are equipped to recognise and give authoritative advice about welfare when on farm
- Laypersons may compromise animal welfare by poor technique or incorrectly diagnosing pregnancy status
- Veterinary surgeons have a level of accountability through registration that includes an ethical commitment to animal welfare.

As discussed in the Consultation RIS (*Section 3.1 - Rationale for Queensland Regulation*), the position of veterinary surgeons needs to be weighed against a black market, where the ability of regulators to influence animal welfare outcomes is compromised. Indeed, the desire of laypersons to remain hidden from authorities is a disincentive for laypersons to act upon animal welfare concerns which they do recognise.

The question also remains, that why the unaccredited owner of the animals is any better equipped in relation to welfare, technique or accuracy than an accredited layperson. Further, unless an owner comes to the attention of authorities, they are only accountable to themselves.

Appendix X Surveillance sampling

Veterinarians were asked the following question about surveillance sampling:

When you visited properties to do pregnancy testing of cattle, have you reported or submitted any samples in relation to emergency animal or other reportable diseases? If yes, please provide details.

A free form answer on this topic carried risks in interpretation. A rigid structure for responses (in terms of types of testing, number of tests and specific outcomes of tests) carried risk of survey fatigue and failures to complete. The free form approach, along with the risk, was chosen.

While the question was directed specifically, to emergency and reportable diseases, respondents input can be broadly placed into three categories:

1. emergency animal diseases of significance for which we expect an urgent response (e.g. foot and mouth disease, anthrax) or for which exclusionary surveillance is important (e.g. transmissible spongiform encephalopathies)
2. other notifiable diseases for which a measured, non-urgent producer response is appropriate (e.g. Johne's disease, enzootic bovine leucosis, cattle tick in the free zone)
3. other enzootic conditions which are not notifiable but may have a productivity impact (e.g. vibriosis, leptospirosis, pestivirus).

Most of the cited examples refer to the third group.

Appendix Y Developments under ASEL

Since release of the Consultation RIS, DAWR released a working draft of the Review of the Australian Standards for the Export of Livestock on December 2018. The following extracts are relevant.

Definitions

Competent pregnancy tester

A person permitted under a relevant state or territory law to conduct pregnancy tests in livestock.

Competent pregnancy testers may only diagnose pregnancy for feeder/slaughter cattle or buffalo by manual palpation and are not approved to use ultrasound diagnoses or the IDEXX pregnancy test. They cannot complete pregnancy testing of breeder or buffalo consignments for any market.

Appendix B

Pregnancy test for feeder or slaughter cattle and buffalo

A valid pregnancy test for feeder or slaughter cattle or buffalo must:

- (a) have been carried out during the 30 day period before export, unless otherwise agreed by the relevant Australian Government agency, with that agreement to be provided only where necessitated by circumstances outside the control of the exporter and where the exporter can demonstrate it will not impact on *animal welfare*
- (b) be carried out by a *registered veterinarian* if exported by air, or if exported by sea by a *registered veterinarian* or a *competent pregnancy tester*
- (c) be evidenced by written certification by the person carrying out the test, that the animal is not detectably pregnant.

Overarching requirements

1B Animals have appropriate traceability

1B.1 Animals meet traceability requirements

All animals must be:

- (a) identified to the property of origin in accordance with the National Livestock Identification System (*NLIS*)
- (b) accompanied by a correctly completed and signed declaration as to the identification of the livestock and property of origin
- (c) individually identified where any testing (including spay or pregnancy testing) is required during export preparation, and
- (d) if they are cattle or buffalo, individually identified by ear tag, *NLIS* number and property identification code (*PIC*) on both the submission to laboratory for testing of samples, and linked with the laboratory results, where any testing is required during export preparation.

Appendix Z Draft considerations- Lay pregnancy testing accreditation schemes

1 Introduction

A Regulatory Impact Statement (RIS) considering allowing lay technicians to provide cattle pregnancy testing services for fee or reward was released for public comment in the latter half of 2018.

Consultation in preparation of the RIS has highlighted a number of important areas that need to be considered in the establishment of an appropriate scheme.

2 Objective

The objective of this document is to outline the matters relevant to the implementation process for any lay pregnancy testing accreditation scheme.

3 Scope

This paper applies to lay technician pregnancy testing services for herd management, land transport and sale verification of pregnancy status.

The paper also considers the potential for an industry-based accreditation scheme to be acceptable to the Australian Government under the Australian Standards for the Export of Livestock.

4 Issues

4.1.1 Tiers

Given that pregnancy testing is conducted for different purposes, it follows that different standards and components might be addressed to make the scheme fit for purpose. For example, if a scheme is proposed for Commonwealth recognition for the export slaughter market, traceability capability needs to extend to individual animals and certification would be necessary.

Further work with stakeholders to standardise these expectations may be required.

4.1.2 Permissible diagnostic techniques

Manual palpation and B-mode ultrasound scanning are the diagnostic methods for available for accreditation.

4.1.3 Technique accreditation

Applicants may be accredited in manual palpation alone or in both manual palpation and ultrasound methods. For the sake of clarity, expertise in manual palpation skills is a prerequisite for training and accreditation in ultrasound.

4.1.4 Equipment specifications

The scheme might consider the minimum specifications for ultrasound equipment that are considered to be fit for purpose e.g. B-mode, frequencies, piezoelectric crystals.

4.1.5 Initial recognition

Initial Applicants seeking to be accredited under the scheme will need to demonstrate a level of competence either by satisfactory completion and assessment under a suitable training regime, or where recognition of prior learning is formally assessed.

4.1.6 Training components

At the current time, it is not clear that the current nationally recognised qualification “Pregnancy Test Animals” (AHCLSK408) provides adequate guidance on the following desirable elements (some of which are dependent on technique being taught or purposes of testing):

- Why do it
- Palpation skills
- Good handling of cattle
- Handling facilities (crush, herringbone dairies etc)
- Anatomy
- Physiology
- Methods of diagnosis and alternatives
- Precautions: trauma (cow & tester), sources of error (fatigue, inexperience, single criteria, difficult cows, poor facilities), relaxing for entry, recent calving, indicators of pathology, workplace health and safety
- When to recommend veterinary assistance
- Recording, animal identification and risk of recording errors
- Techniques and handling precautions for ultrasound
- When not to use a particular technique and explain limitations to producer
- Locating anatomical markers and stage of pregnancy
- Ultrasound technology and importance of equipment specifications
- Best window for using ultrasound
- Benefits and risks of introducers
- If using ultrasound and diagnosed empty or unsure, resort to palpation
- Ongoing education
- Herd biosecurity (in farm)
- General biosecurity awareness (between farm and recognising priority diseases)
- Animal welfare awareness
- Benefits of controlled insemination
- Dealing with on farm pressures
- Impact of reliability of producer systems on reputation
- Professional expectations, consumer recourse and desirability of insurance
- Legislation
- Export market.

4.1.7 Delivery of training

The scheme should address standards for:

- The accreditation of trainers
- Accreditation of registered training organisations (as appropriate)
- Length and structure of course
- Both theory and practical components
- Use of training aids and live animals
- Protection and welfare of cows used for training and assessment purposes.

Note: Provision for students to use live animals would need to be made in the legislation

4.1.8 Recognition of prior learning

If recognition of prior learning is to be considered, the scheme must make provision to ensure that the candidate is conversant with the content of all the relevant training components above and expertise in the diagnostic technique for which recognition is sought.

4.1.9 Transition from training to accreditation

- Appropriateness of traineeship/internship
- Accreditation testing standards
- Number of cows to test
- Selection of cows to test – varying stages of pregnancy, breeds, types of pathology
- Accuracy rates for different accreditation purposes
- Protection of cows used for testing
- Requirements for insurance?
- Initial application and fee regime

Note: Provision for trainees/interns to use live animals will need to be made in the legislation

4.1.10 Maintaining accreditation

- Rolling average minimum
- Maintaining records
- Submit to audit
- Audit rate
- Audit frequency
- Audit selection
- Audit scheme delivery
- Fee regime and documentation
- Term of accreditation
- Maintenance of professional indemnity insurance?

4.1.11 Governance

- Up front assessment and ongoing audit of the proposed system by the department
- Governance of the scheme – expertise/interest represented/confidentiality/conflict of interest
- Scheme operator – suitable person
- Arrangements, procedures and controls including supporting documentation
- Tester data collection and MIS capability
- Property data collection and MIS capability
- Privacy regime and agreement for data sharing
- MIS exception reporting capability to operator and department
- Traceability of animals
- Complaints
- Investigation capacity
- Show cause processes, sanctions and review processes
- Initial application and fee regime
- Term of approval.

Appendix AA Online survey question flow

Background

Information

You are invited to have your say about pregnancy testing of cattle by laypersons and ovarian ultrasound scanning by lay research technicians.

Key issues raised in this Regulatory Impact Statement include whether changes authorising lay persons to conduct these procedures would:

- support the agricultural sector's viability in an increasingly international and domestic market;
- support the integrity of cattle pregnancy testing and scientific research results;
- be administered in a way that supports positive animal welfare outcomes;
- be achieved in a way that imposes the lowest possible regulatory burden.

We have prepared a short survey to help us understand your views. It should take no longer than 10 minutes to complete.

Privacy

The information you provide about yourself will be used to help analyse responses to this survey. Information, particularly about your general location, is important to our analysis. Your responses may be used to record issues of importance that you identify. If you choose to provide contact details at the end of this survey, staff from Biosecurity Queensland may contact you to discuss the issues you have raised. The Department will not use the personal information you provide for any other purpose. It will not be disclosed to any other party unless authorised or required by law.

* 1. Are you responding as an individual or in another capacity?

- Individual → P3Q4
- Owner-operator → P3Q4
- Company representative → P3Q4
- Peak body representative eg AVA, AgForce, RSPCA → P2Q2

Page 1

This survey is not ideal for collecting feedback from peak bodies.

It is recommended that you email written submissions to
bioseclegislation@daf.qld.gov.au.

* 2. Would you like to leave the survey?

Yes → End of Survey

No → P3Q4

3. If you choose to complete the survey, please enter the peak body name here:

Optional No logic applied

Your role

* 4. Which **best** describes your interest or role in this issue? **Your answer will direct you to a set of questions that are relevant to you.**

- Academic →P28Q48
- Concerned citizen →P28Q48
- Livestock Exporter (that buys from Producers) →P4Q5
- Layperson - testing cattle for others (not self) **without fee or reward** →P5Q8
- Layperson - wishing to provide pregnancy testing services for fee or reward →P5Q8
- Peak representative body →P28Q48
- Producer - lot feed →P16Q26
- Other (please specify) →P28Q48
- Producer - beef grazing →P16Q26
- Producer - dairy →P16Q26
- Researcher/research technician →P28Q48
- Veterinarian - mixed practice (but **not** PREgCHECK accredited) →P11Q14
- Veterinarian - PREgCHECK accredited →P11Q14
- Veterinarian - small animals →P11Q14

Livestock Exporters

* 5. Have you ever avoided buying Queensland cattle due to pregnancy testing requirements?

- Yes **Q6**
- No - it's never caused a problem **Q6**
- No - Queensland is actually a preferred jurisdiction, because the testing results are more reliable **Q6**

* 6. Have you ever been unable to fully fill an order, due to a delay in pregnancy testing clearance of Queensland cattle?

- Yes **Q7**
- No **Q7**

* 7. Do you find the differences in pregnancy testing requirements between Queensland, Western Australia and the Northern Territory cause confusion?

- Yes **→P28Q48**
- Sometimes **→P28Q48**
- No **→P28Q48**

Laypersons

* 8. Do you perform pregnancy testing for people (other than yourself) without fee or reward?

- Yes, often →P6Q9
- Yes, rarely →P6Q9
- Yes, sometimes →P6Q9
- No →P8Q11
- Yes, occasionally →P6Q9

* 9. To conduct pregnancy testing, do you use transrectal ultrasound, rectal palpation or both?

- Ultrasound (transrectal) → P7Q10
- Rectal palpation → P8Q11
- Both → P7Q10
- Other → P8Q11

* 10. If you use transrectal ultrasound, what kind of equipment do you use? Check all that apply.

- A mode → P8Q11
- B mode → P8Q11
- Don't know whether it is A mode or B mode → P8Q11
- Introducer → P8Q11
- I don't understand this question → P8Q11

* 11. If you were able to charge for pregnancy testing services, how likely are you to consider entering the market to provide paid testing services?

- I definitely would →P9Q12
- It is likely that I would →P9Q12
- I might (50/50) →P9Q12
- It is unlikely that I would →P9Q12
- I definitely would not →P28Q48

Laypersons - interest in paid testing

* 12. To conduct paid pregnancy testing, would you use transrectal ultrasound, rectal palpation or both?

- Ultrasound (transrectal) - might be worth the investment if I am paid → P10Q13
- Rectal palpation → P27Q47
- Both - might be worth investing in ultrasound if I am paid → P10Q13
- Don't know yet → P27Q47

* 13. If you would use transrectal ultrasound, what sort of equipment would you use? Check all that apply.

- A mode → P27Q47
- B mode → P27Q47
- I don't know which mode → P27Q47
- Introducer → P27Q47
- I don't understand this question → P27Q47

Veterinarians - pregnancy tests conducted

* 14. In the last 12 months, how many cattle pregnancy tests have you conducted?

- Nil →P12Q15
- 1 to 100 →P12Q15
- 101 to 500 →P12Q15
- 501 to 5,000 →P12Q15
- 5,001 plus →P12Q15

Veterinarians - diagnostic technique

* 15. Do you use transrectal ultrasound, rectal palpation or both?

- Ultrasound (transrectal) → P13Q16
- Rectal palpation → P14Q17
- Both → P13Q16
- Other → P14Q17
- I don't ever do pregnancy testing of cattle → P15Q24

* 16. If you use transrectal ultrasound, what type of equipment do you use? Check all that apply.

- A mode →P14Q17
- B mode →P14Q17
- Don't know which mode →P14Q17
- Introducer →P14Q17
- I don't understand this question →P14Q17

Veterinarians - on farm activity

- * 17. In the last 12 months, have you conducted more or less pregnancy tests on cattle than usual
- More → Q18
 - Average → Q18
 - Less → Q18
- * 18. In the last 12 months, how many times have you visited properties primarily for the purpose of pregnancy testing cattle?
- 1 to 5 → Q19
 - 6 to 20 → Q19
 - 21 – 50 → Q19
 - 50 plus → Q19
- * 19. In the last 12 months, how often were you able to meet producer timelines for attendance for pregnancy testing of cattle?
- Always → Q20
 - Most of the time → Q20
 - Sometimes → Q20
 - Never → Q20
- * 20. What is the largest number of kilometers you have traveled to provide cattle pregnancy testing services (one way)?
- 1 to 20 → Q21
 - 21 to 50 → Q21
 - 51 to 200 → Q21
 - 201 plus → Q21
- * 21. In the last 12 months, how often have you administered pain relief or infection control medication due to pregnancy testing of cattle?
- Sometimes → Q22
 - Rarely → Q22
 - Never → Q22

* 22. When you visited properties to do pregnancy testing of cattle, how often have you raised concerns or made suggestions to producers about ill-thrift, animal welfare or productivity strategies?

Always → Q23

Rarely → Q23

Usually → Q23

Never → Q23

Sometimes → Q23

* 23. When you visited properties to do pregnancy testing do cattle, have you reported or submitted any samples in relation to emergency animal or other reportable diseases?

Yes → P15Q24

No → P15Q24

If yes, please provide details.

Page 14 continued

Veterinarians - non-pregnancy testing visits

* 24. In the last 12 months, how many times have you visited properties for reasons **other than** pregnancy testing of cattle?

- Nil → P27Q47
- 1 to 5 → Q25
- 6 to 20 → Q25
- 21 to 50 → Q25
- 51 plus → Q25

* 25. What is the largest number of kilometers you have traveled to provide **other** veterinary services (one way)?

- 1 to 20 → P27Q47
- 21 to 50 → P27Q47
- 51 to 200 → P27Q47
- 201 plus → P27Q47

Producers - General

* 26. Would you describe the last 12 months as a good year, an average year, or a bad year for business?

- Good year → Q27
- Average year → Q27
- Bad year → Q27

* 27. In the last 12 months, how often have you engaged a veterinarian for reasons other than pregnancy testing of cattle?

- Weekly → Q28
- Monthly → Q28
- Several times → Q28
- Once → Q28
- Never → Q28

* 28. If you export cattle, you have no choice but to use a veterinarian.

When you have had a choice has the travel cost, associated with distance to veterinary practices, ever influenced your decision about using pregnancy testing? Check all that apply.

- No - there is a veterinary practice quite close → P17Q29
- No - I do it all myself anyway → P25Q42
- No - veterinary advice while testing supports meaningful productivity gains and better profits → P17Q29
- No - we employ our own veterinarians → P17Q29
- Yes - I might get a veterinarian to do it more often if it was cheaper → P17Q29
- No - I don't see the point in pregnancy testing → P27Q47

Producers - General

* 29. If it was legal for laypersons to provide testing for fee or reward, please rank the importance of each of the following in deciding who to buy pregnancy testing services from. You can sort your choices by dragging on the left of the item or using the drop down box. →Leads to Q30 no matter how sorted

<input type="text"/>	Cost – degree to which you are price conscious
<input type="text"/>	Biosecurity skills - the ability of the provider to recognise signs and symptoms of disease at the same time
<input type="text"/>	Satisfaction – based on previous service provided
<input type="text"/>	Timing – the need for the service to be provided at a specific/critical time
<input type="text"/>	Habit – I don't really think about it.
<input type="text"/>	Other benefits

30. If you chose "Other benefits" in the previous question, could you please tell us what they are?

→Q31

* 31. In the last 12 months, how often have you had anyone (veterinarian, neighbour, associate etc) visit your property to conduct cattle pregnancy testing?

- | | |
|---|---|
| <input type="radio"/> Weekly →P18Q32 | <input type="radio"/> Once →P18Q32 |
| <input type="radio"/> Monthly →P18Q32 | <input type="radio"/> Never - nothing in the last 12 months →P24Q41 |
| <input type="radio"/> Several times →P18Q32 | <input type="radio"/> Never - we have enough veterinarians on staff →P18Q32 |

* 32. Do you ever sell female cattle for live export?

Yes → P19Q31

No → P20Q36

Producers - Export Cattle

* 33. Do you think that Livestock Exporters give enough notice to Producers to prepare for live export opportunities?

- Yes → Q34
- Sometimes → Q34
- No → Q34

* 34. As you need to use a veterinarian for export purposes, how often did the veterinarian attend later than you would have preferred?

- Many times → Q35
- More than a few times → Q35
- A few times → Q35
- Once → Q35
- Never → P20Q36

* 35. If there was an undesirable delay in attendance, how often did it result in the loss of an immediate opportunity for sale of cattle?

- Many times → P20Q36
- More than → P20Q36
- A few times → P20Q36
- Once → P20Q36
- Never → P20Q36

Producers - testing by veterinarians

* 36. In the last 12 months, what proportion of your cattle pregnancy testing was performed by visiting Veterinarians?

- All →P21Q37
- More than half →P21Q37
- About half →P21Q37
- Less than half →P21Q37
- None →P22Q39

Producers - use of Veterinarians

* 37. If you used a veterinarian, did you consider the accuracy rate was satisfactory?

- Satisfactory → Q38
- Neutral → Q38
- Unsatisfactory → Q38
- No idea → Q38

* 38. In the last 12 months, when a veterinarian was on premises for pregnancy testing, did you receive productivity advice or attendance on other animals?

- Many times → P22Q39
- More than a few times → P22Q39
- A few times → P22Q39
- Once → P22Q39
- Never → P22Q39

Producers - testing by laypersons

* 39. In the last 12 months, what proportion of your cattle pregnancy testing was performed by visiting laypersons

- All → P23Q40
- More than half → P23Q40
- About half → P23Q40
- Less than half → P23Q40
- None → P24Q41

* 40. If a layperson did any of the testing, did you consider the accuracy rate was satisfactory?

- Satisfactory → P24Q41
- Neutral → P24Q41
- Unsatisfactory → P24Q41
- No idea → P24Q41

Producer - any own testing

* 41. Do you perform any cattle pregnancy testing yourself?

- Yes - my own cattle → P25Q42
- Yes - for family and associates → P25Q42
- No → P27Q47
- No - responding as a representative → P27Q47

Producers - who do some own testing

* 42. How do you rate your accuracy?

- Satisfactory → Q43
- Neutral → Q43
- Could be better → Q43

* 43. In the last 12 months, how many pregnancy tests did you conduct?

- Nil → Q44
- 1 to 200 → Q44
- 201 to 1,000 → Q44
- 1,001 to 5,000 → Q44
- 5,001 plus → Q44

* 44. In the last 12 months, what proportion of pregnancy testing on your own herd did you do yourself?

- All → Q45
- More than half → Q45
- About half → Q45
- Less than half → Q45
- None → Q45
- Not applicable → Q45

* 45. If you do pregnancy testing, what diagnostic technique do you use?

- Ultrasound (transrectal) → P26Q46
- Rectal palpation → P27Q47
- Both → P26Q46
- Other → P27Q47

Producer - ultrasound equipment

* 46. If you use transrectal ultrasound, what equipment do you use? (check all that apply)

- A mode → P27Q47
- B mode → P27Q47
- I don't know whether it is A mode or B mode → P27Q47
- An introducer → P27Q47
- I don't understand this question → P27Q47

Location of operations

* 47. If you are a producer, veterinarian or layperson, please select the Queensland local government areas in which you are based eg lot feed, surgery, home base or trucking yard locations.

Up to 10 locations may be selected.

Local Government Area

1.	<input type="text"/>
2.	<input type="text"/>
3.	<input type="text"/>
4.	<input type="text"/>
5.	<input type="text"/>
6.	<input type="text"/>
7.	<input type="text"/>
8.	<input type="text"/>
9.	<input type="text"/>
10.	<input type="text"/>

→P28Q48 (no logic)

Preferences

* 48. Do you think laypersons should be able to conduct ovarian ultrasound scanning if they are supervised by an animal ethics committee?

- Yes → Q49
 No → Q49
 Not sure → Q49

* 49. Do you think laypersons should be able to pregnancy test cattle for fee or reward?

- | | |
|--|--|
| <input type="radio"/> Yes, it's not that complicated → Q50 | <input type="radio"/> Yes, by any method but only with suitable controls → Q50 |
| <input type="radio"/> Yes, but only by rectal palpation → Q50 | <input type="radio"/> No, only veterinarians have the right qualifications → Q50 |
| <input type="radio"/> Yes, but only by external ultrasound → Q50 | <input type="radio"/> Not sure → Q50 |

* 50. Do you think laypersons should be able to pregnancy test cattle at all?

- Yes → P29Q51
 No → P29Q51
 Not sure → P29Q51

Preferred option

The Regulatory Impact Statement considers three options:

1. Status Quo – continue to restrict performance of pregnancy testing and use of transrectal ultrasonography to veterinary surgeons.
2. Remove the practice restriction – include pregnancy testing in the list of acts that are not veterinary science in Section 3 of the Veterinary Surgeons Regulation 2016 and enable conduct of transrectal ultrasound ovarian scanning under supervision of an Animal Ethics Committee.
3. Authorise laypersons to:
 - conduct pregnancy testing of cattle under an approved industry administered accreditation scheme; and
 - perform transrectal ovarian scanning under an Animal Ethics Committee approval.

* 51. Which is your preferred option?

- Option 1. Status Quo →Q52
- Option 2. Removing the practice restriction →Q52
- Option 3. Authorising laypersons →Q52
- Other (please specify) →Q52

* 52. When choosing from the above options, which of the below did you consider most important? Select those that apply.

- | | |
|--|--|
| <input type="checkbox"/> Accuracy of service →Q53 | <input type="checkbox"/> Employment opportunities →Q53 |
| <input type="checkbox"/> Animal welfare →Q53 | <input type="checkbox"/> Access to more testers for producers →Q53 |
| <input type="checkbox"/> Viability of veterinary practices →Q53 | <input type="checkbox"/> Cost of service →Q53 |
| <input type="checkbox"/> Keeping veterinarians available in the regions →Q53 | <input type="checkbox"/> Timeliness of service →Q53 |
| <input type="checkbox"/> Other (please specify) →Q53 | |

53. Please share any other comments you have below: →Q54

54. As advised at the start, we might contact you in relation to any issues you raise. If you are comfortable providing your details, please provide them here: → **End of Survey**

Name

Email Address

Page 29 continued

Thank you

That's the end of the survey. We value your input.

If you are a peak body or we have not given you enough space or options, please email bioseclegislation@daf.qld.gov.au with any extra comments.

Thanks for your participation.

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Appendix BB Consultation RIS

Cattle pregnancy testing and ovarian scanning

for commercial purposes and
scientific research, by laypersons

Consultation Regulatory Impact Statement



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Summary

Pregnancy testing of cattle plays an important role in protecting animal welfare in the Queensland cattle industry and enabling international market access for live exports. It considerably assists in herd management and so, along with scientific research into animal productivity and implementation of practices that improve performance, can contribute significantly to the productivity of beef and dairy herds.

In 2016-17 cattle and calf production in Queensland was worth \$5,246 million to the State including \$264 million from live exports, while milk production was worth \$251 million at the farm gate. Off-farm processing adds considerably to these figures.

Under the Veterinary Surgeons Act 1936 (VS Act) performance of an “act of veterinary science” is restricted to registered veterinary surgeons. This restriction is generally known as the practice restriction.

This Regulatory Impact Statement (RIS) examines the appropriateness of the practice restriction as it relates to:

- pregnancy testing of cattle by laypersons, by both rectal palpation and transrectal ultrasonography, for fee or reward (Section 4 VS Act); and
- ovarian ultrasound scanning performed by laypersons, where the activity has been approved by an Animal Ethics Committee under the Scientific Use Code, pursuant to Section 6 of the Animal Care and Protection Act 2001 (ACP Act).

AgForce, on behalf of the Queensland cattle industry, has sought the removal of the practice restriction in order to allow cattle producers a greater choice of service providers. The driver for this request is not necessarily to introduction of competition in pricing charged by veterinary surgeons. Rather, AgForce anticipates:

- more timely access to pregnancy testing services;
- avoidance of logistical challenges, and associated opportunity costs, as producers await the availability of a veterinarian to conduct pregnancy testing; and
- some reduction in travel costs charged by where long distances are covered by testers.

Anecdotal evidence is that these costs may be of the order of \$5 per head for pregnancy testing for the live export trade and less than this, but still significant, for pregnancy testing for herd management purposes. Illustratively, if removal of the practice restriction could reduce the cost by an average of \$1 per test for half of the PREGCHECK™ tests currently conducted, in a year this would save producers more than \$1.58 million per annum.

The costs of removing the practice restriction (or, equally, the benefits of retaining the practice restriction) are more difficult to quantify. The concerns centre around potential loss of testing quality and any adverse animal welfare or productivity consequences. Productivity consequences would largely be borne by producers, who could respond by continuing to use services perceived to be of higher quality, including professional veterinary services.

Animal welfare is of broader concern to society. The AVA contends that lay testing is of noticeably lower quality than professional testing. They have concerns about significant consequences for animal welfare, both in terms of pain and suffering imposed by the test itself and by inappropriate treatment of animals wrongly tested as not being pregnant. This may be true for relatively

inexperienced lay testers, which would include producers currently allowed to test their own cattle under the exemption in the practice restriction where tests are not conducted for fee or reward. It would be less true for experienced people attracted into lay testing commercially if the practice restriction was removed.

The extent of any animal welfare consequences, and society's valuation of those consequences, is impossible to quantify.

The AVA contends that the practice restriction has a range of incidental benefits derived from the greater exposure of cattle to veterinarians. These include a greater likelihood of identification of other animal health, welfare and biosecurity issues. Again, these impacts are impossible to quantify. For these reasons, it is not possible to conduct a meaningful cost-benefit analysis of the issue.

AgForce has further proposed the development of an accreditation scheme for lay pregnancy testers in one of the following forms:

1. The Department directly accredits laypersons along the lines of schemes operating in Western Australia and the Northern Territory; or
2. The Government approves an industry delivered accreditation scheme, where an industry body accredits individual testers.

This would maintain testing quality – and possibly even increase testing quality compared with tests conducted non-commercially by cattle owners themselves. The first option above falls within current Commonwealth guidelines for acceptance of lay pregnancy testers for live export. The second option would require industry to seek recognition of the arrangement directly from the Commonwealth.

The RIS also considers the impact of the practice restriction on ovarian scanning (currently an act of veterinary science) conducted in relation to scientific research conducted under an Animal Ethics Committee approval under the *Animal Care and Protection Act 2001*. The AVA suggests that local veterinary surgeons are readily available to conduct the procedure. Researchers contend that the use of consistently available lay technicians provides more consistent diagnostic interpretation of ovarian scanning and promotes greater progress in productivity research.

The RIS nominates four policy objectives for consideration of this issue:

- Support for the agricultural sector's viability in an increasingly competitive international and domestic market;
- Support for the integrity of pregnancy testing and scientific research results;
- Incorporation of the importance of animal welfare as part of the social licence of providers of pregnancy testing services, to operate; and
- Imposing the lowest responsible regulatory burden, including costs to Government and compliance costs to the private sector.

Three options are proposed for consideration:

4. Status Quo – continue to restrict performance of pregnancy testing and use of transrectal ultrasonography to veterinary surgeons.
5. Remove the practice restriction – include pregnancy testing in the list of acts that are not veterinary science in Section 3 of the Veterinary Surgeons Regulation 2016 and enable conduct of transrectal ultrasound ovarian scanning under supervision of an Animal Ethics Committee.
6. Authorise laypersons to:
 - conduct pregnancy testing of cattle under an approved industry administered accreditation scheme; and

- perform transrectal ovarian scanning under an AEC approval.

Option 3 is preferred because it provides a balanced solution in relation to availability of reliable testers in remote areas, animal welfare and veterinary practice viability. While it does not provide an immediate solution for testing of cattle destined for live export, it provides industry with a platform to seek endorsement of a scheme for lay testing from the Australian Government if desirable.

While a more detailed assessment can be found at Appendix D, the key issues are summarised in the following table:

	Option 1	Option 2	Option 3
Extra providers for remote areas for herd management	No gain in provider numbers	New entrants (legal) – unclear if increase would reflect or exceed black market	New entrants (legal) – estimated at 20-30 providers.
Extra providers for remote areas for export market	No gain in provider numbers	No gain in provider numbers	No immediate gain in provider numbers. However provides platform for industry to progress recognition of an accreditation scheme to the Commonwealth
Accuracy of diagnosis	Recognised training skill set	Variable skill set, due to mix in veterinary and lay testers of varying quality	Recognised specific training and skill set
Animal welfare	Recognised skill set plus additional services	Variable skill set and recognition, however previously black market testers may be willing to report animal welfare concerns	Recognised skill set, but limited to pregnancy diagnosis. Previously black market testers may be willing to report animal welfare concerns
Consistent research observations	Compromised by lack of continuity of personnel	Supported by consistency of personnel	Supported by consistency of personnel
Regulatory burden	Heaviest burden, but compromised on ability to conduct effective compliance	Lowest burden under the VS Act. Compliance under ACP Act conflicted.	Accredited persons have additional responsibilities, but barriers lower than veterinary surgeons
Availability of veterinary surgeons for other purpose	Preserved, with no right of election by consumers	Compromised as may threaten viability of more veterinary practices. Consumers can still elect to engage a veterinary surgeon.	Compromised, but with a more limited number of new entrants. Consumers can still elect to engage a veterinary surgeon.

Nonetheless, adoption of the final option will depend on the outcome of the public consultation process.

Send us your feedback

Consultation on the RIS is open until close of business on Friday, 14 December 2018. Please send feedback to bioseclegislation@daf.qld.gov.au.

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1 Background

1.1 Purpose of this Regulatory Impact Statement

Pregnancy testing of cattle plays an important role in protecting animal welfare⁵⁰ and enabling international market access. Along with scientific research into animal productivity, and implementation of practices that improve performance, it can contribute significantly to the productivity of beef and dairy herds.

Under the *Veterinary Surgeons Act 1936* (VS Act) it is currently not an offence within Queensland for a layperson to perform an “act of veterinary science” where they do not receive fee or reward⁵¹. However, where the act is performed on a commercial basis, or provided pursuant to a remuneration arrangement, then performance of such an act is restricted to registered veterinary surgeons as “an act of veterinary science”. This restriction is generally known as the practice restriction.

This regulatory impact statement (RIS) will examine the appropriateness of the practice restriction as it applies to:

- pregnancy testing of cattle by laypersons, by both rectal palpation and transrectal ultrasonography, for fee or reward (Section 4 VS Act); and
- ovarian ultrasound scanning performed by laypersons, where the activity has been approved by an Animal Ethics Committee under the Scientific Use Code, pursuant to Section 6 of the *Animal Care and Protection Act 2001* (ACP Act).

1.2 Status of the review of the Veterinary Surgeons Act

In January 2013 a review committee consisting of five veterinarians was established to conduct a review of the VS Act. This committee released an information paper for public comment in September 2013, and presented its draft report to Government in May 2014.

The review highlighted the competing interests in regulation of the profession. In particular the practice restriction and the approval of a premises where veterinary science is practised were highly contentious. Given the difficulty in reconciling the competing positions of stakeholders in relation to the 2014 review report, it has been closed.

The Palaszczuk Government has determined to address the issue of lay pregnancy testing, and ultrasound ovarian scanning by laypersons under the Scientific Use Code, on a standalone basis.

1.3 What is a Regulatory Impact Statement

A crucial element in developing best practice regulation is effective regulatory impact analysis. This is a systematic approach to assessing the impacts of proposed regulatory policy options and is an integral part of good policy making processes. It is designed to improve the quality of regulatory policy by providing relevant and timely information to government decision makers about the expected impacts of different policy options for addressing a particular issue.

A key element of regulatory impact analysis is the Regulatory Impact Statement (RIS), which provides government decision makers with useful information on which to base their policy

⁵⁰ Refer discussion at 2.1.1 in relation to role of pregnancy testing in animal welfare.

⁵¹ Advice from Crown Law dated 23 June 2009, indicates that while “fee” indicates payment for a particular service, reward implies return or remuneration for service more generally, such as a salary or wage.

decisions and informs stakeholders of the reasons why a particular option is preferred. It also allows stakeholders to comment and provide new evidence in support of various policy options.

One of the most important steps in a RIS is the assessment of impacts likely to result from implementing a proposal. A comprehensive RIS should consider all significant costs and benefits that a proposal is likely to impose on the community.⁵²

2 Pregnancy Testing

2.1 Why pregnancy status matters

The pregnancy status of animals is important in a number of aspects including live export market access protocols, herd fertility, pasture management, business risk assessments, on farm productivity and animal welfare.

2.1.1 Animal welfare

Pregnancy status has animal welfare implications for managing stock during drought, stock density in transit, stress and deaths of cows during land and sea shipment, stress and deaths of calves born in transit or in feedlots, heat stress at destination and the stage of development of foetuses at the point of slaughter.

The Independent Review of Australia's Livestock Export Trade commissioned by Senator Joe Ludwig, the then Minister for Agriculture, Fisheries and Forestry, and undertaken by Bill Farmer AO in 2011, observes "pregnancy testing is not foolproof in early pregnancy, but for breeding livestock early-pregnant (first third of pregnancy) animals should not be at greater risk than non-pregnant animals. However, as the pregnancy progresses so the risks increase."

The Animal Welfare Standards and Guidelines for the Land Transport of Livestock⁵³ also come into play for land transport of cattle more than 6 months pregnant and particularly within 4 weeks of delivery. Standards and guidelines in relation to spelling and watering of pregnant animals during transport were adopted under the ACP Act in January 2014.

In addition to the welfare risk to export animals posed by incorrect diagnosis of pregnancy status in animals beyond the third trimester⁵⁴, welfare risks can also arise in a herd management context. For example, turning out animals incorrectly diagnosed as empty (not pregnant) into unmonitored paddocks that will not sustain the cow and calf, can result in pregnancy toxemia, animal suffering and deaths⁵⁵. The Australian Animal Welfare Standards and Guidelines recognise the need to ensure adequate food supply for pregnant animals in Guidelines G2.1, G7.2 and G7.4⁵⁶.

⁵² Queensland Treasury, *The Queensland Government Guide to Better Regulation*, August 2016, <https://s3.treasury.qld.gov.au/files/guide-to-better-regulation.pdf>

⁵³ <http://www.animalwelfarestandards.net.au/files/2015/12/Land-transport-of-livestock-Standards-and-Guidelines-Version-1.-1-21-September-2012.pdf>

⁵⁴ Independent Review of Australian Livestock retrieved 25 September 2017 http://www.agriculture.gov.au/Style%20Library/Images/DAFF/_data/assets/pdffile/0007/2401693/indep-review-aust-livestock-export-trade.pdf, page 61.

⁵⁵ <https://www.mla.com.au/research-and-development/animal-health-welfare-and-biosecurity/diseases/nutritional/pregnancy-toxaemia/>

⁵⁶ <http://www.animalwelfarestandards.net.au/files/2016/02/Cattle-Standards-and-Guidelines-Endorsed-Jan-2016-250116.pdf>

2.1.2 Market access

Pregnant heifers are not desirable in importing country feedlots as pregnancy status affects commercial return on the animal. This is because:

- heifers are purchased on a live-weight basis, and so importers are paying for weight which cannot be recuperated as saleable product; and
- for pregnant animals extra feed is diverted to the growing foetus rather than being used for maintenance and growth of the animal carrying the calf.

In Indonesia, the slaughter of pregnant animals is also resisted on religious grounds. Animals that are visually pregnant are fed until calving and incur significant extra holding costs for the importer.

2.1.3 Herd management

According to the Australian Veterinary Association (AVA) PREgCHECK™ Accreditation Scheme, inaccurately diagnosed pregnancy can cost producers on average at least \$300 per animal.⁵⁷

For producers who breed either dairy or beef cattle, identifying the presence of infertile or empty cows can significantly affect farm economics by impacting fodder availability; pasture management outlays; expenditure on nutritional supplements, vaccinations and treatment for parasites; and time and expenditure on control, prevention and treatment of reproductive diseases⁵⁸. The fertility status of cattle will influence decisions around herd culling, growing out and sale planning and will also impact sale price and market reputation of the producer.

Like any business, Northern beef producer profits are influenced by productivity and input costs. In the case of beef operations, some key drivers of productivity are reducing mortality, increasing sale weight and optimising reproductive rates. For example, the production of one extra weaner per 100 females is equal to an additional 1.5 kilograms per adult equivalent and offers the producer the additional income associated with the additional weight⁵⁹.

1.4 The beneficiaries of pregnancy testing

Beyond the welfare of the animals, the beneficiaries of accurate pregnancy testing are:

- dairy operators for the purpose of herd management and calving intervals;
- cattle breeders and finishers, for purposes of herd management and final yields;
- feed lot operators and other finishers of beef herds, for purposes of yield of each animal;
- exporters of live animals wishing to protect market access, where animal welfare or pregnancy status can affect the desirability of Australian product;
- the general public, by protecting animals from adverse animal welfare outcomes due to either poor pregnancy testing technique or adverse events associated with inappropriate pregnancy status for transport;
- providers of pregnancy testing services, including laypersons, veterinary surgeons and NCPD/PREgCHECK™ veterinarians; and
- manufacturers and distributors of diagnostic tests and equipment used for pregnancy testing.

⁵⁷ http://www.ava.com.au/sites/default/files/ACV_website/ACV_A4FACT-PREG.pdf

⁵⁸ <http://www.bvvet.com.au/resources/Pregnancy%20Testing%20Cows.pdf>,

http://www.ava.com.au/sites/default/files/ACV_website/Dairy%20Case%20study_Final.pdf

⁵⁹ <https://futurebeef.com.au/wp-content/uploads/Improving-the-performance-of-northern-beef-enterprises.pdf>

Market access has national significance. While this RIS is in relation to pregnancy testing of cattle within Queensland, the integrity of pregnancy testing outcomes in Queensland contributes to the international reputation of Australia as a whole. In turn, Queensland is exposed to reputational risk associated with the outcomes of other Australian jurisdictions.

1.5 Types of pregnancy testing

There are a number of different methods for pregnancy testing in cattle including rectal palpation, rectal ultrasonography, flank ultrasonography, milk tests and blood tests. These different methods vary in their suitability for early testing, foetal aging and for anatomical variations between animals. There are also varying levels of accuracy, costs, time involved and risks associated with performance of each method, for the animal and the tester.

This RIS will only consider whether the most reliable methods of pregnancy testing. A discussion of pregnancy testing techniques can be found at Appendix A.

Risks of invasive techniques include injury, or infection, to both the calf and cow and associated complications.

Risks to the tester of invasive techniques can include repetitive strain injuries and traumatic injuries to limbs.

2.2 Types of pregnancy testing providers

2.2.1 Laypersons

While Queensland legislation provides that acts of veterinary science cannot be practised by other than veterinarians, for fee or reward, lay pregnancy testing training is provided at various Queensland training facilities to “Gain the necessary skills to conduct pregnancy testing on your own livestock”⁶⁰. The training does not cover ultrasound testing techniques.

Current training for pregnancy testing for laypersons is relatively short and specific⁶¹. Some courses run for two days⁶² while training through Queensland Agricultural Training Colleges last three days (QATC)⁶⁴. QATC describes the content as covering “draft animals and source information on joining to assist in pregnancy testing; restrain each animal for pregnancy testing using humane methods and facilities; detect pregnancy through several manually determined key indicators; maintain records of pregnancy testing; monitor animals after pregnancy testing”.

⁶⁰ For example see [http://www.qatc.edu.au/courses/FactSheets/2017%20Short%20-%20Cattle%20\(Preg%20testing\)%20-%20EAC-Emerald-2019-12-31.pdf#search=pregnancy%20testing](http://www.qatc.edu.au/courses/FactSheets/2017%20Short%20-%20Cattle%20(Preg%20testing)%20-%20EAC-Emerald-2019-12-31.pdf#search=pregnancy%20testing).

⁶¹ <https://training.gov.au/Training/Details/AHCLSK408> retrieved 29 January 2018.

⁶² <http://www.allstateag.com.au/eventschedule/cattle-pregnancy-testing-course/> retrieved 29 January 2018.

⁶³ <http://sulcoradvisory.com.au/> retrieved 29 January 2018.

⁶⁴ <https://www.qatc.edu.au/courses/course-finder/preg-testing-cattle/> retrieved 29 January 2018.

Competency elements, performance criteria and assessment parameters are detailed in the Commonwealth accredited training pages⁶⁵. For the “Pregnancy Test Animals” qualification (AHCLSK408), there are six registered training providers (RTO) operating in Queensland⁶⁶.

2.2.2 Veterinarians

In essence, Part 4 of the VS Act provides that a person is entitled to be registered as a veterinary surgeon if the person is the holder of a degree or diploma in veterinary science of a university or other body or a member of a college or other body of veterinary surgeons recognised under the Regulation.

A veterinary science degree takes five to six years of study⁶⁷ and is a prerequisite to gaining registration as a veterinary surgeon in Queensland. The course includes units on cell biology and biochemistry, chemistry, animal structure and function, transition to disease, clinical sciences and clinical practice⁶⁸ and addresses a wide range of animal types.

Pregnancy diagnosis of cattle is taught as a component of a veterinary degree and includes instruction in anatomy, physiology and theriogenology, followed by competencies in manipulation of the reproductive tract of cattle. Competencies are intended to ensure students can identify a distressed animal and distinguish structures such as the bladder, rumen and kidney.

2.2.3 PREgCHECK™ Accreditation Scheme

Under Export Advisory Notice 2016-22 PREgCHECK™ accredited testers are the only authorised providers of pregnancy testing services for export breeder and productive cattle to be transported by air or sea journeys of 10 days or more.

The PREgCHECK™ scheme was originally established by the AVA as certification system for cattle pregnancy diagnosis by ACV⁶⁹. Accredited testers under the NCPD Scheme have their own unique NCPD registration number and are the only people authorised to use the NCPD Scheme Certification Mark on cattle tail tags, which are used to identify the pregnancy status of the animal.

Accreditation under the scheme is only available to registered veterinarians who are ACV members⁷⁰. Experience in testing 2,000 head of cattle using manual palpation is required plus completion of a practical exam. The exam requires a total of 100 animals to be tested and the age of each foetus determined with a certain accuracy.

Once a pregnancy test is conducted, a certificate is issued by the veterinarian detailing the owner, veterinarian’s name and registration number, testing date, total cattle tested and the number series of the pregnancy status identification tags applied⁷¹.

⁶⁵ <https://training.gov.au/Training/Details/AHCLSK408#>

⁶⁶ Search <https://training.gov.au/Search/SearchOrganisation> on 18 August 2017 - RTO numbers 31503, 50898, 31788, 70207, 31258 and 1511.

⁶⁷ <http://www.ava.com.au/node/1114> retrieved 25 January 2018.

⁶⁸ <https://www.jcu.edu.au/courses-and-study/courses/bachelor-of-veterinary-science> retrieved 25 January 2018.

⁶⁹ <http://www.ava.com.au/cattle/pregcheck-public>

⁷⁰ <http://www.ava.com.au/newsarticle/new-cattle-tags-protect-buyers-and-sellers>

⁷¹ <http://www.ava.com.au/cattle/pregcheck-public>

PREgCHECK™ includes the power to deal with unsatisfactory levels of performance. It includes details of criteria for application, admission and the complaints, investigation and sanctions system that operates under the scheme.

PREgCHECK™ training also includes modules on interpreting the results of pregnancy testing in herds to enable productivity comparisons against like enterprises and provide insights on retention of animals, desirable herd age profiles, nutrition, patterns of foetal age and economic performance.

Currently rectal palpation and B-mode ultrasonography are the only pregnancy diagnosis techniques approved for use under the PREgCHECK™ Accreditation Scheme.

2.2.4 Queensland providers and market served

A discussion of the different markets created by Queensland and Australian Government legislation can be found at Appendix B. The following table summarises the outcomes of the legislation in terms of types of providers available and the types of markets/testing services they serve:

Table 1 - Queensland pregnancy testing provider segments

QUEENSLAND MARKET FOR PREGNANCY TESTING OF CATTLE	Export Productive with sea	Export Productive with	Export Feeder/slaughter	Herd Management	Own herd/ neighbour/ friend	Illegal or questionable markets	
	journey > 9 days or air	journey < 10 days				Grey Market	Black market
Relevant control	ASEL & VS Act	ASEL & VS Act	ASEL & VS Act	VS Act & ACP Act	VS Act & ACP Act	Market driven	Market driven
PREgHECK	✓	✓	✓	✓	✓	n/a	n/a
Vet who can demonstrable experience	✗	✓	✓	✓	✓	n/a	n/a
Veterinarian	✗	✗	✓	✓	✓	n/a	n/a
Unpaid layperson	✗	✗	✗	✓	✓	n/a	n/a
Paid layperson	✗	✗	✗	✗	✗	?	✗
Accredited layperson	✗	✗	✗	✗	✗	n/a	n/a

Unlike the Northern Territory and Western Australia, it is currently not possible to accredit laypersons to conduct pregnancy testing for fee or reward. Queensland's current requirements are out of step with most other Australian jurisdictions:

Table 2 - Pregnancy testing legal requirements by jurisdiction

Jurisdiction	Requirements
Northern Territory:	Veterinarians and accredited lay persons permitted
Western Australia:	Veterinarians and accredited laypersons permitted
South Australia:	Veterinarians and laypersons by transrectal ultrasound permitted
Tasmania:	Veterinarians and laypersons by external ultrasound permitted
Victoria:	Veterinarians and laypersons by manual palpation permitted

Jurisdiction	Requirements
New South Wales:	Veterinarians and laypersons by manual palpation permitted

A brief outline of the requirements of other jurisdictions can be found at Appendix B.

3 The Problem in relation to pregnancy testing services

3.1 Pregnancy testing of cattle as an act of veterinary science

In 1990, a majority of the Queensland Supreme Court held that pregnancy testing, in itself, was an act of veterinary science⁷². The majority's reasoning was that a person performs an act of veterinary science if they use skill and knowledge of the same kind (but not necessarily the same quality) as that used by a veterinarian. All judges considered it was irrelevant whether or not the act is commonly performed by non-veterinarians.

Pregnancy testing has not been prescribed "to not be veterinary science" under the Veterinary Surgeons Regulation 2016 (the Regulation). Therefore, regardless of the diagnostic tool used, it is an offence for a layperson to undertake pregnancy testing for fee or reward.

⁷² Muggleton v. Hall; ex parte Hall [1990] 1 Qd R 26.

example, the Western Australian scheme requires a rolling three year average of 500 per year⁷⁴, as does the Northern Territory⁷⁵. The PREgCHECK™ scheme stipulates at least 1,000 tests per year⁷⁶.

False results have adverse consequences for herd management and therefore industry productivity; incorrect diagnosis can adversely affect market access and returns and have severe consequences for animal welfare.

These adverse consequences extend beyond cattle owners. Productivity impacts affect the broader supply chain and the communities depending on it, while animal welfare is a concern for the community as a whole.

While high standards of animal welfare have a productivity benefit for cattle owners, owners do not necessarily have a financial incentive to achieve the standards of animal welfare demanded by the community. In the absence of regulation, some cattle owners may not choose a standard of service that meets this broader societal interest.

The issue is not necessarily regulation *per se*, but rather the extent of regulation – whether a full veterinary degree is required or whether a narrower standard of qualification is required. There are costs and benefits that must be assessed:

- The more restrictive the regulation, the greater difficulty cattle producers may have in accessing testing services and the higher the direct travel cost and holding costs could be;
- The less restrictive the regulation, there is a *prima facie* risk that the quality of service will deteriorate in terms of accuracy and resultant animal welfare issues or productivity outcomes.

Regulation may also have some incidental consequences, both positively and negatively:

- On the positive side, if producers are required to engage veterinary surgeons, incidental benefits may accrue in terms of disease diagnosis and identification of other health issues that may adversely impact on herd productivity.
- Conversely, regulation may create a disincentive for lay testers operating illegally to report other animal health and welfare concerns.

3.3 AgForce concerns

AgForce has suggested that the requirement to use veterinary surgeons is sometimes resulting in circumstances where primary diagnosis is being verified by a second practitioner e.g. inexperienced veterinary surgeons or accredited laypersons being checked by ACV veterinary surgeons prior to export. This can result in unnecessary stress being placed on those animals being retested⁷⁷. The AVA has argued to the Department that double testing, with consequential risks to animal welfare, is more likely to occur to check pregnancy tests undertaken by lay testers.

An additional consideration applying to any regulation is its acceptance by the target community. If a regulation is not accepted, resulting in widespread avoidance or non-compliance, this has adverse implications for the community as a whole.

⁷⁴ <http://www.vsbwa.org.au/wp-content/uploads/2013/07/Form-3.7-Pregnancy-Testing-of-Cattle-Authorised-Person-01112016.pdf>

⁷⁵ https://nt.gov.au/_data/assets/pdf_file/0003/373629/guidelines-accreditation-non-veterinary-preg-testing-cattle-export.pdf

⁷⁶ Pregnancy Diagnosis in Cattle, 3rd ed., Australian Cattle Veterinarians, 2014 pp. 75-76.

⁷⁷ AgForce, Lay pregnancy testing of cattle for live exports Meeting Brief: Tuesday October 11 2016

3.4 AVA Support for the current regulatory environment

The AVA contends that Delivery of pregnancy testing services by laypersons could threaten the financial viability of regional veterinary practices. It suggests that producers could therefore lose access to the full range of veterinary services they require and that the presence of veterinary surgeons in rural areas plays a role in passive biosecurity surveillance, emergency response and identification of animal health and welfare concerns in general.

It also argues that inexpert delivery of pregnancy testing that results in either injury to animals, or unreliable diagnostic outcomes, has the potential to discourage producer adoption of pregnancy testing and thereby deprive industry of a valid herd productivity advantage.

Finally, the AVA notes that veterinary presence can act as a reminder for disease prevention such as vaccinations, trace element advice, drought management as well as the benefit of passive biosecurity surveillance on farm.

3.5 Issues with current Queensland legislation

There are some anomalies in our legislative environment that are discussed below.

3.5.1 Lay testing without fee or reward

In considering any change to Queensland legislation, protecting the welfare of animals must also be considered in light of section 25M of the VS Act which provides that it is not an offence to practice veterinary science other than for fee or reward. In addition, section 3(1)(h) of the Regulation provides that teaching techniques about pregnancy testing of cattle by a veterinary surgeon to an owner of cattle is not considered to be an act of veterinary science.

The exception under S25M may accommodate those circumstances where cattle producers are themselves capable of testing to a standard that is adequate for their purposes. In those circumstances, regulation to the contrary may be unenforceable.

However, the issue that must be addressed in this case, is the apparent acceptability of animal welfare risk where lay owners pregnancy test cattle, yet animal welfare risk is argued to be heightened where lay testers are being paid.

3.5.2 Conflicting influence of ownership

Within Australia, the Livestock Production Assurance (LPA) Scheme provides an on-farm assurance program covering food safety, animal welfare and biosecurity⁷⁸ and is discussed in more detail at 7.4.2.

⁷⁸ <https://www.mla.com.au/meat-safety-and-traceability/red-meat-integrity-system/about-the-livestock-production-assurance-program/>

It is arguable that even without the existence of the LPA, the owner of cattle has a vested interest in the continued welfare of their livestock and that might be regarded as a significant driver for good welfare practices.

Despite both this vested and LPA interest, there may be owners that lack clarity about animal welfare and may, at times, be less than diligent about when:

- an animal should be excluded from testing; or
- the risk to welfare from false negatives (the animal is tested empty but is actually pregnant) is relevant.

The pressure of opinions, formed by owners, also has potential to be passed to both veterinary and lay practitioners engaged by the owner. A pregnancy testing provider must be able to deal with discretionary pressure that may come from owners and have the support of a professional body for those incidents where they feel obliged to depart with an owner's wishes.

3.5.3 Reputational risk of providers of testing services

It is arguable, that for both veterinary and lay providers, the ongoing welfare of animals being tested will reflect on the reputation of the operator and the likelihood of return or referral business. A provider with a reputation for inflicting injury or stock loss does not present an attractive choice to producers and poses a threat to the social licence of other providers operating in the same class. Therefore, in the absence of the discretion of ownership, there is a meaningful incentive on pregnancy testing service providers to protect the welfare of any animal intended to be tested.

3.5.4 Illegal Operators

It appears likely that a "black market" exists in Queensland, where laypersons are unlawfully providing pregnancy testing services, for fee or reward. Motivations for this could include:

- the incorrect belief (due to common practice, incorrect advice or the lack of restrictions in human health care) that it is lawful for a non-veterinarian to perform such acts
- perceptions surrounding the impracticality, or cost, for veterinarians to perform the acts
- the opinion that the restriction is not justified.

Compliance efforts in relation to unauthorised operators are hindered by the reluctance of users to provide evidence that would extinguish access to the service. With the exception of any welfare issues that may arise under the ACP Act, both the harms and benefits that are associated with use of illegal operations is private.

In the absence of willing witnesses, the capacity to undertake active compliance activity is limited, and in the absence of major animal welfare concerns, it is difficult to justify expending the significant public resources that would be required to establish the evidence needed for a successful prosecution.

In addition to a "black market", there is also likely to be a "grey market" for some acts of veterinary science, including pregnancy testing. An example might be where a contractor provides a number of herd management services to a producer such as mustering and branding. Pregnancy testing services may be included, but not separately charged for, and so not obviously provided for fee or reward.

The extent of “black” or “grey” market activity is unknown. Advice from the AVA is that veterinary surgeons conduct an estimated 79% of pregnancy testing undertaken in Queensland⁷⁹. The remaining 21% would be tested on a non-commercial basis or in the “black” or “grey” markets for non-professional testing services.

The continued use and protection of illegal providers suggests that users value the service. The *prima facie* inference here is that both accuracy rates and losses due to poor animal welfare practices are being self-regulated via market forces, although this does not necessarily indicate that accuracy could not be improved or that higher animal welfare outcomes are not warranted.

3.5.5 Other invasive procedures

Other invasive, and therefore risky, activities that can be legally conducted by laypersons (with or without fee or reward) in Queensland include semen collection, artificial insemination and embryo transfer (where no surgical element is involved) are at odds with the current restriction on pregnancy testing. The Willis dropped ovary technique is a case in point⁸⁰.

Case Study: Willis dropped ovary technique

Section 3(1)(c) of the Regulation provides that the Willis dropped-ovary technique (WDOT) is not considered to be an act of veterinary science. WDOT is used for spaying cattle by dropping ovaries into the abdomen using a prescribed instrument. It involves piercing the wall of the vagina with the instrument, placing each of the ovaries into a hole in the instrument via rectal manipulation, severing the ovaries with a sharp edge and dropping the ovaries into the abdomen.

In a 2003 study article Jubb *et al* observed that:

The WDOT, when used by the more experienced operator in this study at Site 3, achieved a high processing rate, low morbidity and minor temporary effects on growth of animals. The ... one death that occurred at Site 3 show that the technique ... is not free of risk. The difficulties and complications encountered by the less experienced operator at Sites 1 and 2 show that the technique can be difficult to master, even by someone experienced in palpation of the reproductive tract.

The observation that experience in palpation of the reproductive tract might be an advantage in conducting WDOT indicates that WDOT is the more risky procedure.

3.6 Understanding the points of vulnerability in the supply chain

To fully consider the development of options to address the problem, it is also necessary to identify other points of vulnerability in the supply chain.

3.6.1 Adverse export events

The Australian Department of Agriculture and Water Resources (DAWR) undertakes investigation of adverse events as a result of industry, animal welfare groups and general public complaints as well as self-reporting by exporters and departmental audits. An examination of the investigations noted at 21 March 2017 on the DAWR website⁸¹ reveals that of the 134 investigations noted, only six specifically note ASEL as the relevant standard.⁸² Of those, only two relate to pregnancy status: one

⁷⁹ AVA, *Pregnancy diagnosis of cattle for live export*, Submission from the Australian Veterinary Association and Australian Cattle Veterinarians to Queensland Department of Agriculture and Fisheries, February 2016

⁸⁰ TF Jubb, G Fordyce, MJ Bolam, DJ Hadden, NJ Cooper, TR Whyte, LA Fitzpatrick, F Hill & MJ D’Occhio, *Australian Veterinary Journal*, Vol 81, Nos 1 & 2, January, February 2003

⁸¹ <http://www.agriculture.gov.au/export/controlled-goods/live-animals/livestock/regulatory-framework/compliance-investigations/investigations-regulatory-compliance>

⁸² There are a possible 5 or 6 other matters that may relate to animal head counts, unloading or on board conditions.

relates to the pregnancy status of breeder cattle to Qatar by air; and the other slaughter cattle bound for Mauritius by ship.

While the vulnerabilities identified in these investigations have since been addressed, the lessons learned serve to highlight the issues that must be addressed in any proposal for lay pregnancy testing.

3.6.2 Breeder cattle sent to Qatar by air

In this case the complainant was concerned that full term calves were born, earlier than would be expected if they had been 250 days (or less) pregnant at the time of export.

As the export was for breeder purposes, a PREgCHECK™ veterinarian was required to undertake foetal aging. When the complaint was made, the department referred the matter to the National Cattle Pregnancy Diagnosis Scheme. NCPD advised that there is a two week margin of error acceptable for cattle up to approximately four months of gestation and that after four months, the margin for error increases to 30 days.

As normal gestation ranges from 272 to 293 days, it is possible that a cow diagnosed as 250 days pregnant before departure was already at 280 days and therefore within the parameters for a full term birth.

Consequently, no breach of ASEL was established in relation to the pregnancy testing.⁸³

3.6.3 Slaughter cattle sent to Mauritius by sea

On 4 October 2012, 2061 slaughter cattle were exported from Geraldton, Western Australia to Mauritius. In November 2012 the importer advised the exporter, that while in the feedlot in Mauritius, two heifers had given birth and four others aborted pregnancies.

The exporter sent a veterinarian to Mauritius in November 2012 to determine if there were any more pregnant animals. Out of 260 animals tested, 15 were found to be pregnant and nine of those pregnancies should have been detectable before export. The investigation also uncovered information that two calves were born aboard ship.

There were a number of possible issues identified as contributors to this incident:

- while the exporter produced a pregnancy declaration from a registered veterinarian that the animals were not pregnant, the certificate was found to be out of date;
- inadequate animal identification and record keeping on the part of the exporter; and
- inaccurate pregnancy testing by some of the testers.

Remedial actions have since been put in place by the exporter and Export Advisory Notices issued by DAWR.⁸⁴

3.6.4 Supporting data for welfare concerns

Apart from these two incidents investigated by the Commonwealth, securing any reliable empirical data in relation to failures by providers of pregnancy testing providers is problematic.

⁸³ <http://www.agriculture.gov.au/export/controlled-goods/live-animals/livestock/regulatory-framework/compliance-investigations/investigations-regulatory-compliance/qatar-breach-allegations>

⁸⁴ http://www.agriculture.gov.au/export/controlled-goods/live-animals/livestock/regulatory-framework/compliance-investigations/investigations-regulatory-compliance/mauritius_-_january_2014

Supply chain players are reluctant to alienate other players within the supply chain. There also appears to be a fear that disclosure of any failings in the system would promote an adverse reaction from regulators at a state, territory, national and international level.

3.6.5 Identifying the points of vulnerability

Nonetheless, there are a number of factors that need to be taken into consideration.

For example, an alleged 2015 incident out of Darwin, is cited as an example of where lay pregnancy testing providers are failing to deliver reliable outcomes. It is alleged that an exporter arranged for a secondary scan by a PREgCHECK™ veterinarian, of cattle originally certified by a lay practitioner. Of the 1,360 cattle subject to secondary testing, the NCPD is alleged to have determined that 95 (7%) would have been detectably pregnant at the time the lay certification was provided. While around half of the pregnancies were said to be between 2-3 months, it is alleged that 30% were 4-5 months and 20% were 6-7 months pregnant⁸⁵.

The presence of pregnancies, particularly those that are advanced, is *prima facie* damning whether the tester is a veterinary surgeon or a layperson. The AVA suggests there is other anecdotal evidence that Northern Territory exporters, who have their cattle re-tested, consistently find false negatives of around 5% in heifers tested by laypersons and that the error rate for veterinary surgeons is consistently lower. The skill set of any tester is a clear point of vulnerability⁸⁶.

While not necessarily present in the above example, the ACV has also identified a number of additional points of vulnerability in the supply chain that could allow detectably pregnant animals to enter a consignment whether the tester is a veterinary surgeon or layperson:

- Out of date certificates presented by exporters
- Provision of the wrong certificate by exporters
- Scanning the incorrect animal
- Failure to reliably tag or identify pregnant and non-pregnant animals
- Errors in drafting according to pregnancy status (on occasion extending to a mob)
- Incorrect recording of status by the note keeper assisting the tester/s
- Poor management of stock between testing on farm and time to loading at the dock
- The temptation to use the sale opportunity to remove pregnant cows with poor temperaments from the herd
- Producer commitment to compliance and a lack of care in management.

Generally, the causes of non-compliance in any regulatory environment can range from a lack of awareness or understanding, difficulty of compliance, perceptions about the chances of non-compliance being detected, to deliberate flouting of “the rules” for personal gain.

Observations about producer compliance commitment can apply equally to the providers of pregnancy testing services. That is, it is conceivable that some providers of testing services could be tempted to provide certificates for testing that is not undertaken or that is at odds with actual pregnancy detections.

Confounding factors need to be eliminated in order to isolate the integrity and competency of the pregnancy testing provider, no matter whether the tester is a registered veterinarian, a

⁸⁵ Submission of the AVA, received by email dated 2 February 2016

⁸⁶ Ibid

PREgCHECK™ veterinarian or a layperson. Without open and cooperative participation of all players in the supply chain unequivocal identification of the point in the supply chain, responsible for the presence of animals without the desired pregnancy status, is problematic.

In Queensland, the accuracy of pregnancy testing by veterinary surgeons is not the subject of discrete investigation by the Veterinary Surgeons Board. Many veterinarians, particularly those in an urban environment, would not be maintaining cattle pregnancy skills learnt during their degree. Maintenance of skills would be an essential element of any accreditation scheme.

4 The market for pregnancy testing of cattle

4.1 Size of market

Table 1 shows total cattle numbers by Queensland region.

Table 3 - Cattle numbers by Queensland regions 2016

Region	Cows & Heifers >1 yo	Total	Region	Cows & Heifers >1yo	Total
Border Rivers Maranoa-Balonne	523,117	1,206,058	Mackay Whitsunday	63,242	115,607
Burdekin	648,744	1,300,370	Northern Gulf	518,972	833,925
Burnett Mary	424,984	799,859	Southern Gulf	660,866	1,068,859
Cape York	46,186	68,272	South-East Queensland	166,311	298,660
Condamine	179,284	440,685	South West Queensland	258,825	495,936
Desert Channels	557,442	1,111,362	Wet Tropics	84,868	161,799
Fitzroy	1,234,371	2,643,572	TOTAL	5,367,211	10,544,965

Source: ABS Cat 7121.0, *Agricultural Commodities, Australia, 2015-16*, <http://www.abs.gov.au/ausstats/abs@.nsf/mf/7121.0>

4.2 Live export statistics

In 2014/15, Queensland was estimated to have 41% of the cattle population of Australia. A total of 218,087 cattle were exported out of Queensland in the 2017 calendar year. Of those 215,444 were exported as feeders or for slaughter, with only 2,643 intended for productive or breeder purposes. The vast majority of export occurred through Townsville, including 201,219 feeder/slaughter cattle and 2,643 productive/breeder cattle. A total of 1,850 cattle passed through Karumba and another 12,735 passed through Brisbane. Of the total exported 63,328 were destined for Vietnam, 3,116 for the Philippines and 12,375 for Japan. Indonesia accounted for 139,268 head, with only 2,430 classified as being for productive purposes⁸⁷.

It is important to note that ASEL only requires the services of PREgCHECK™ providers for the breeder/productive market for air or sea journeys over 10 days. In Queensland, testing of breeder/productive cattle for transport by air, or sea journeys under 10 days, only a veterinary surgeon with demonstrable experience and the feeder/slaughter only requires a registered

⁸⁷ <http://www.agriculture.gov.au/export/controlled-goods/live-animals/live-animal-export-statistics/livestock-exports-by-market> - accessed 6 March 2018

veterinary surgeon. Travel times to Indonesia, which is our largest market, generally range from seven to nine days.

Indonesia has introduced a requirement that 20% of live cattle imports be productive. Logically this will cement a portion of demand for pregnancy testing services by either PREgCHECK™ accredited providers or veterinary surgeons with demonstrable experience. In theory this amounts to at least 27,000 PREgCHECK™ or “demonstrable experience” pregnancy tests each year.⁸⁸

Some additional demand for PREgCHECK™ or “demonstrable experience” testing will also arise from export of breeders to other markets.

Further demand for pregnancy testing arises for female feeder/slaughter cattle, which must be tested as empty in the 30 days before departure. Hard data on the ratio of male to female feeder/slaughter cattle is not available. However as a rough guide, industry sources suggest that for export purposes, an average ratio close to one female to every male is appropriate. In order to satisfy ASEL requirements, in Queensland, this means that on average 50% of the export herd (less testing required for breeder/productive cattle) will require pregnancy testing by a veterinary surgeon.

Even if we assume that the sea journeys out of Queensland are all longer than 10 days, then the legislative demand for PREgCHECK™ provider services in the last four calendar years has ranged from only 213 to 10,374 export breeders⁸⁹ per year. Nonetheless it is likely that in many cases, if a PREgCHECK™ provider has travelled to a property for breeder/productive checking purposes for journeys by air or sea of over 10 days, they will also complete any testing necessary on females intended for slaughter/feeding.

4.3 General demand

In September 2017 the AVA advised that there are 156 accredited PREgCHECK™ providers in Queensland. Despite the low rate of legislative demand, the AVA estimates that for Queensland in 2014, PREgCHECK™ providers performed 16,064 pregnancy diagnoses each on average or 2.5 million tests for the year. The AVA further estimates that 79.3% of pregnancy testing in Queensland is provided by veterinary surgeons though the percentage performed by non-PREgCHECK™ providers is unclear. For veterinary surgeons specialising in cattle work, it is estimated that 43.3% of their time is spent doing pregnancy testing. Practices range from one to eight full time equivalent veterinarians, each supported by 1.5 staff.

If the average number of tests undertaken by PREgCHECK™ providers is extrapolated, then at least 2.5 million pregnancy tests were performed in 2014. Based on Australian Bureau of Statistics for 2014, this suggests that, if each animal was tested once in the year, around at least 38% of all female cattle were tested for some purpose within the year.

⁸⁸ However, current indications are that the 20% quota will not be achieved this year or in the near future. See <http://www.abc.net.au/news/rural/2018-05-22/indonesian-cattle-importers-unlikely-to-comply-with-breeder-rule/9782172>

⁸⁹ <http://www.agriculture.gov.au/export/controlled-goods/live-animals/live-animal-export-statistics/livestock-exports-by-market> - accessed 6 March 2018

Using data from the DAWR⁹⁰, data gathered during the Department’s contingency planning for foot and mouth and a count of postcodes for registered veterinary surgeons in Queensland, the availability of veterinary surgeons to conduct testing is:

Table 4 - Potential demand for pregnancy testing services

Potential demand in short term	Legislative requirement	No. of cattle	No. of providers Qld	Tests per provider
Export breeders/ productive by air or sea greater than 10 days	PREgCHECK™ accredited only	Say 15,000	156	96
Export breeders/ productive by sea less than 10 days	Registered veterinarian surgeons with demonstrable experience	Say 15,000	743*	20
Export feeder/ slaughter by air	Registered veterinarian surgeon	Say 2	3,064	n/a
Export feeder/ slaughter by sea	Registered veterinarian surgeon (or accredited layperson elsewhere)	Say 80,000	3,064 or 743	26 per vet or 108 per large animal vet
Potential herd management/other	Registered veterinarian surgeon (or accredited layperson elsewhere)	5,367,211	3,064 or 743	1,751 per vet or 7,224 per large animal vet

* Note: This figure is based on those veterinarians identifying themselves as large animal practitioners for the purpose of foot and mouth disease contingency planning. It may well overstate the number of practitioners who can “attest to demonstrable current experience” in cattle pregnancy testing and include equine specialists.

These figures suggest that there are ample veterinary surgeons available to meet the majority of demand. The AVA advice that PREgCHECK™ providers are conducting in excess of 16,000 tests each a year suggests that PREgCHECK™ providers are capturing the bulk of the market. This may be because:

- these practitioners generally make themselves available in the highest demand regions;
- purchasers of pregnancy testing services value the PREgCHECK™ scheme as a premium service;
- testing of other animals may be undertaken by PREgCHECK™ providers while they are on premises for the purpose of export breeders or productive cattle to be transported by air or sea greater than 10 days; or
- any combination of these and other factors.

Despite the apparent availability of providers, the availability of PREgCHECK™ providers, large animal veterinary providers and general veterinary providers, the data above becomes more telling when broken into natural resource management areas⁹¹:

Table 5 Indicative number of veterinary providers by natural resource management region

Region	Square km (000s)	Human Pop.	Head of Female	PREg CHECK vets	Large animal vets	Vets	Large vets per	Tests req’d per large vet
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⁹⁰ <http://www.agriculture.gov.au/export/controlled-goods/live-animals/live-animal-export-statistics/livestock-exports-by-market> - accessed 6 March 2018

⁹¹ Like the map included at Paragraph 15, the data contained is indicative and will not accurately reconcile to the previous table e.g. visually location is at centre of postcode, postcodes can span more than one NRM area, overlapping NRM management arrangements and veterinary practices operating out of multiple postcodes to name a few.

	Cattle > 1 year (2016)					1000 km ²		
Desert Channels	499	10,653	557,442	3	3	16	0.01	185,814
Southern Gulf	206	27,000	660,866	9	9	10	0.04	66,086
Northern Gulf ⁹²	160	7,200	518,972	8	8	22	0.05	64,871
South-West Queensland	191	7,524	258,825	5	5	9	0.03	51,765
Burdekin	295	239,695	648,744	16	18	222	0.06	36,041
Fitzroy	158	235,513	1,234,371	28	54	143	0.34	22,859
Border Rivers Maranoa-Balonne	107	43,943	523,117	22	39	57	0.36	13,413
Burnett Mary	56	316,812	424,984	20	73	264	1.30	5,822
Condamine	24	196,257	179,284	17	51	84	2.13	3,515
Mackay Whitsunday	9	136,654	63,242	0	24	49	2.67	2,635
Wet Tropics	21	253,256	84,868	5	40	158	1.90	2,122
South-East Queensland	23	3,197,730	166,311	18	397	2,168	17.26	419
Cape York	102	15,416	46,186	0	0	2	0	-

Generally, veterinary services are available near Brisbane and Townsville however the ports at both Karumba and Weipa (where small numbers of livestock are exported from) are poorly serviced. Certainly, veterinary services are not necessarily located near properties requiring the service. Testing on farm is usually preferred, rather than risking the transport of animals later found to be pregnant.

The AVA reports that it is not aware of any claims that producers have had specific difficulties in accessing pregnancy testing services. They further advise that veterinary surgeons numbers have been increasing by around 5% per annum in Queensland. The distribution of the new registrants is not known.

The number of people involved in non-commercial testing, or the “black” or “grey” markets for testing services is unknown. Based on the AVA assertions that 21% of testing is conducted by laypersons, and the minimum number of tests conducted each year by PREgCHECK™ providers is 2.5 million, the AVA estimate there may be over 650,000 non-professional tests annually. The split between paid tests and those performed without reward is unknown. However, it appears likely a small number of lay testers are performing testing for a large proportion of their time and that significant numbers of people are involved.

AgForce have asserted that as many as 100 additional pregnancy testers may be available to the market if lay pregnancy testing was no longer an offence, although it estimates that uptake of a formal accreditation scheme would likely limit uptake to perhaps 20 or 30 pregnancy testing

⁹² It appears reasonable that a number of veterinary surgeons from the Wet Tropics and Burdekin might serve this area to some extent.

technicians⁹³. This would represent a resource to industry of additional skilled laypersons who do not wish to operate illegally for herd management, yield, reproductive status verification and scientific research purposes.

4.4 Direct and indirect cost to producers

In relation to pricing for professional pregnancy testing services, AVA advises:

While some practices charge in \$4.50 plus travel, an indicative average cost of \$3 per head is likely to be accurate for some areas of Queensland, however the price varies considerably depending on locality, herd size and other factors.

The AVA has further advised that, in south-west Western Australia, lay testers charge \$3.40 per animal compared with \$3.20 by veterinary surgeons. This supports anecdotal evidence (see below) that there is little difference between the direct fee charged by a veterinary surgeon to that charged by a lay tester.

However, as noted above, layperson testing can often come bundled with other services, and there are also indirect costs.

The pregnancy test for export is undertaken before the cattle are consigned from the property of origin, which may be remote, to the export holding. The following scenario was provided by Mr Markus Curr of Yelvertoft Station in north Queensland:

"..... there are often times when 10 000 to 20 000 head ship out of both Townsville and Darwin in the same week, often with a percentage of the Darwin shipment being sourced from Queensland, with the Qld cattle requiring pregnancy testing by a vet and the NT cattle by an accredited person. It is at these times that many properties in Northern Queensland, over a large geographical area require a vet in the same week. It is at these peak times that there are not enough vets to cover the area, which in turn leads to production cost and welfare issues.

The increase in production costs does not come from the pregnancy testing cost but the travel cost. Along with cattle having to be held in yards or holding paddocks until a Vet is available. An example of my own personal situation is the following:

To send 6 decks on a boat from Wensley at Julia Creek both the lay pregnancy tester and vet will charge the same amount, but the lay pregnancy testers is based within 40km and does not charge travel. The vet if I am extremely lucky will need to come from Cloncurry 200km away, charging a minimum of \$2 per Km each way or an additional \$800. And I may or may not be able to get someone out of Cloncurry so will need to use a vet from Mt Isa adding an additional 260km or \$520. Adding an additional cost of between \$3.70 to \$6.00 per head. Often this travel amount is equal to the trucking bill. This is just an example of travel cost not the additional weight loss of cattle having to be yarded twice or held in holding paddocks, to meet both vet availability and the pregnancy testing timeframe of 30 days, with boat dates often changing".

⁹³ J. Nason, *National review of cattle preg testing could lead to Australia-wide standard*, Beef Central, <https://www.beefcentral.com/news/national-review-of-cattle-pregnancy-testing-could-lead-to-australia-wide-standard/>, accessed 27 October 2017

Retesting may be required before loading if the land portion of transit is delayed, with consequential costs and animal welfare risks.

4.5 AgForce proposal

AgForce Queensland is a peak organisation representing the interests of Queensland's rural producers. It is leading industry's contribution to development of a scheme to underpin pregnancy testing services provided by lay practitioners.

Assisted by forums chaired by the Department, AgForce is working on behalf of, or with, industry groups such as the Queensland Live Export Association, the Cattle Council of Australia (CCA), Australian Lot Feeders Association (ALFA) and the ACV.

There is general consensus that, no matter the professional status of the provider, there is a need for an accreditation system to ensure pregnancy testing activities meet animal welfare standards and competency.

AgForce has proposed an industry delivered accreditation scheme. The accreditation scheme has been modelled on the PREgCHECK scheme and has three key steps:

1. Completion of a unit of competency/certificate of attainment
2. Access to the accreditation tool to record a period of practice and repetition to develop reliable testing skills
3. Examination and certification.

Named *TestRight* the scheme aims to provide transparency of practice and skills through a data capture tool. Customers will be able to see the level of experience and accuracy of participants in the scheme.

The proposal includes a process for acquiring skills through repetition and maintains an active log of these activities in the data capture tool. The proposal is also supported by provision for other aspects such as examiner qualifications, maintenance of ongoing skills, reporting, trace forward and back of tested animals, certification of animals, an independent oversight committee, independent manager of the scheme, complaints, appeals and investigation capacity, and proportionate sanctions.

5 Acts performed by Laypersons undertaking ovarian scanning for scientific research

Generally, research can include government initiated, or industry commissioned, research conducted by academic bodies, government departments, industry research arms or agents appointed by any of these bodies to assist with the research.

Non-veterinarians have an important role in the conduct of academic research and bring a complimentary set of skills that are essential to the full spectrum of scientific knowledge. A part of the research process, acts that are considered to be acts of veterinary science can become required. Under the current legislative environment, conduct of these acts must be referred to veterinary surgeons.

6 The Problem in relation to laypersons undertaking ovarian scanning for scientific research purposes

The VS Regulation does not provide for research activities to be exempted from acts of veterinary science. Therefore any institution undertaking animal research must comply with the provisions of both the VS Act and the ACP Act.

Due to the location of research facilities, availability of veterinarians can be problematic and, in addition to timing, the use of multiple providers can produce inconsistency in interpretive results.

Researchers consider it is highly desirable to have the same tester, or cadre of testers, conduct all testing so that the results are as timely, consistent and reliable as possible. To achieve this, it is argued there is merit in having competently trained laypersons conduct the scanning under an AEC approved arrangement.

6.1 Legislation

The *Animal Care and Protection Act 2001* (ACP Act) requires a person using animals for scientific purposes to register as a scientific user, comply with the scientific use code and conduct the activities with the approval and under the supervision of an animal ethics committee (AEC) established by the research institution.

AECs must include a veterinarian who is generally not an employee of the research institution. AECs are constituted in accordance with the requirements of the Australian code for the care and use of animals for scientific purposes (known as the scientific use code) and must:

- ethically review and decide on applications and other activities associated with the use and care of animals for scientific purposes, including research and teaching
- monitor the care and use of animals for scientific purposes
- conduct follow-up review of approved projects and activities
- approve guidelines for the care and use of animals
- take actions regarding unexpected adverse events and non-compliance
- report to the relevant institution
- provide advice and recommendations to the relevant institution.

Institutions that use animals for scientific purposes must implement processes so that the governing body of the institution or its delegate (a senior member of the institution) is assured of compliance with the code and any relevant legislation. These processes must at least include establishing one or more AECs directly responsible to the governing body of the institution or its delegate.

Where there is minimal use of animals for scientific purposes, institutions may access another institution's AEC (external AEC) or jointly establish an AEC with another institution.

Before using animals, each investigator or teacher must ensure they or their institution are registered with Biosecurity Queensland and have AEC approval for the particular activity/project.

6.2 Reproduction genomics - *Repronomics*TM

Established in 2013, the *Repronomics* project is a five year collaborative project looking to improve genetic fertility traits in Brahman dominated herds in northern Australia. Co-funded by Meat & Livestock Australia, it is co-delivered by the Department of Agriculture and Fisheries' Agri-Science Queensland, University of New England's Animal Genetics and Breeding Unit (AGBU) and the Northern Territory Department of Primary Industry and Fisheries (NTDPIF).

Agri-Science Queensland's research contribution is conducted at its Brian Pastures (Gayndah) and Spyglass (Charters Towers) research facilities. Part of the project requires ultrasound scanning to visualise ovaries in beef cattle to ascertain the reproductive phases of cows and heifers. Consistency of measurement is critical in the context of controlled scientific study.

6.3 AVA Position

The AVA contends that there are enough veterinary surgeons located within a suitable distance of research facilities to meet ovarian scanning needs of the *Repronomics* Project.

6.4 Application of the practice restriction to scientific users in other jurisdictions

Veterinarian legislation in most other Australian jurisdictions exempts procedures performed during research from the practice restriction. For example:

- In New South Wales, veterinary legislation exempts from the practice restriction a person who holds an authority to carry out animal research under the Animal Research Act 1985 (NSW) and acts in accordance with that authority.
- In the Australian Capital Territory, the practice restriction does not apply to a procedure for which animal ethics approval has been given.
- In South Australia, the practice restriction does not apply to the treatment of an animal pursuant to a licence to carry out research under the Animal Welfare Act 1995 (SA).
- In Western Australia, veterinary legislation allows any person to perform vivisection and other experiments or operations on animals (including giving any necessary anaesthetic) if authorised under, and acting in accordance with, the Animal Welfare Act 2002 (WA).
- In Tasmania, since December 2012, non-veterinarians have been able to render a veterinary service in teaching or research (approved by an animal ethics committee) if the non-veterinarian has either been assessed as competent in that technique in the last 12 months by a veterinarian nominated by the institution and is acting under the veterinarian's authority or, is being supervised by and is in the presence of the veterinarian.
- In Victoria, there is no practice restriction in veterinary registration legislation.

In New Zealand, significant surgical procedures are restricted to veterinarians under the Animal Welfare Act 1999 (NZ) and there is no specific exemption for scientific users. Because 'significant surgical procedures' is not expressly defined, it is uncertain which procedures are restricted. It appears that at least some non-veterinarians are performing surgical procedures as part of their research. Each animal ethics committee in New Zealand has a role in ensuring all reasonable steps are taken to alleviate unreasonable or unnecessary pain or distress.

In Canada, the practice restriction does not apply to acts performed in the course of scientific research.

In the United Kingdom, establishments, persons and projects are licensed to undertake research under the Animals (Scientific Procedures) Act 1986 (UK). A licensed establishment is required to employ an animal care and welfare officer, veterinary surgeon, and training and competency officer to assist in the management of the use, and care, of animals. Assessment of the competency of personal licence holders is the responsibility of the named training and competency officer. A researcher with a non-veterinary background can obtain categories of personal licence that may allow them to administer anaesthetics, sedation and analgesia and perform surgical procedures on anaesthetised animals, provided they have completed the necessary formal training modules (developed and accessed through the Home Office—a ministerial department of the Government of the United Kingdom) and have been deemed competent to perform the procedures they wish to be licensed for. They also require a project licence for their program of work.

In the United States of America, there is no restriction on who can perform procedures involving surgery and the administration of anaesthetics in a research situation under the Animal Welfare Act 1966. However, the research facility must ensure personnel are appropriately qualified and trained. Each research facility is also required to have an attending veterinarian whose role is to ensure adequate veterinary care is provided to the facility's animals. They are also required to provide guidance to the principal investigator and other personnel who are involved in the care and use of animals, specifically with regard to handling, immobilisation, anaesthesia, analgesia, tranquillisation and euthanasia.

6.5 Supervision of laypersons in Queensland

Some large, scientific users of animals are concerned that requiring veterinary oversight of all procedures would be costly and impractical to administer, impede progress in delivering socially and economically important research outcomes, and be at odds with the ACP Act.

In 2013, the National Health and Medical Research Council (NHMRC) released the 8th edition of the Australian code for the care and use of animals for scientific purposes. Clause 1.29 of the revised code provides that:

People who care for and use animals must ensure that procedures are performed competently, and

(i) be competent for the procedure they perform, or

(ii) be under the direct supervision of a person who is competent to perform the procedure.

It does not require direct veterinary involvement in the performance of all procedures.

6.6 Department proposal

It is proposed that laypersons be authorised to perform ovarian scanning under an AEC approval.

7 Regulatory Assessment Context

7.1 Better regulation - Queensland

The Queensland Government recognises that small business are likely to feel the burden of regulation more than other businesses, and is committed to reducing unnecessary regulation that hinders business growth.

In 2016 the Red Tape Reduction Advisory Council (RTRAC) released its first report which reviewed the regulatory environment of the agriculture (fruit growing), manufacturing (light metals) and

hospitality (cafes and restaurants) industries. While the report was industry specific, its recommendations also applied more broadly to general business activities across all industry sectors.

A key finding of the report was that government needs to reduce regulatory creep and the regulatory burden on businesses, particularly for low-risk activities. Specifically, it should adopt regulatory strategies based on risk management and responsive regulation, which will reduce the impact of small business regulation, as well as benefit regulators.

7.2 Australian Productivity Commission Report

In March 2017, the Australian Government released the Productivity Commission's final report into Regulation of Agriculture in Australia. The report observes:

There are three main areas where farm animal welfare regulations could be improved (nationally):

- *The objective of the national standards and guidelines needs to be clearer.*
- *Standards and guidelines should be more evidence-based, drawing on the existing body of evidence on animal welfare science and research on community views of animal welfare. Such evidence should also be used in RIA processes.*
- *There should be more independence in the standards development process so that outcomes are not overly influenced by the views of any one group, either industry or animal welfare groups. Judgments made to balance conflicting views should be transparent and apply rigorous scientific principles. Surveys of community values for animal welfare should be statistically robust and transparent⁹⁴.*

The report goes on to make a number of recommendations including:

- *To facilitate greater rigour in the process for developing national farm animal welfare standards, the Australian Government should take responsibility for ensuring that scientific principles guide the development of farm animal welfare standards.*
- *State and territory governments should (also) consider recognising industry quality assurance schemes as a means of demonstrating compliance with farm animal welfare standards, provided that the scheme complies (at a minimum) with standards in law, and involves independent and transparent auditing arrangements.*
- *The Australian Government should appoint an independent expert or committee to publicly inquire and report on the efficiency and effectiveness of the livestock export regulatory system. The review should include an assessment and make recommendations for reform on industry-developed initiatives, such as quality assurance programs, as a means of compliance with livestock export regulations.....⁹⁵.*

7.3 Economic considerations

Using the mid-point of the cost range estimated by Mr Curr, of additional costs of approximately \$5 per head, across 80,000 feeder/slaughter tests for live export purposes per year this implies a maximum cost to the industry of \$400,000 per year from using veterinary surgeons rather than lay testers. This represents around 0.15% of the total value of live cattle exports from Queensland.

⁹⁴ <http://www.pc.gov.au/inquiries/completed/agriculture/report/agriculture-overview.pdf> page 21

⁹⁵ Ibid, pp 38-39.

Pregnancy testing for herd management purposes may not face the same peak demand problem as that for live export identified by Mr Curr. Illustratively, if the cost differential of using a veterinary surgeon was \$1 per head, and removal of the practice restriction resulted in half of the AVA estimate of at least 3.16 million tests per year moving to lay testers, then the saving to industry from removal of the practice restriction would be \$1.58 million per year. This represents around 0.03% of the total value of cattle production in Queensland.

This “guesstimate” of \$1 per head is a small fraction of the AVA PREGCHECK™ Accreditation Scheme estimate that inaccurately diagnosed pregnancy can cost producers on average at least \$300 per animal.⁹⁶ At that rate, a reduction in accuracy of testing of less than one percentage point would eliminate all the cost reduction benefit. These figures would however vary from property to property and over time. As these costs and benefits are incurred privately by cattle owners this is legitimately a matter for individuals to decide.

Any net cost impact, while not large, would represent:

- input cost advantage for graziers in those jurisdictions with lay testing providers (such as the Northern Territory and Western Australia);
- mileage charges by veterinarians, estimated by AgForce at between \$2 to \$4 a kilometre;
- diminishing returns on mileage cost, when the number of animals to be tested is small;
- operational inefficiencies when stock movements are delayed pending veterinary availability, such as mustering time frames, contract staff and holding costs in yards;
- inefficiency/inconsistency of requirements for producers and exporters, where cattle are sourced from multiple jurisdictions for a single consignment.

From a societal point of view, the practice restriction is worthwhile if any net cost to producers is exceeded by benefits from:

- any (net) beneficial impact on animal welfare; and/or
- any (net) indirect benefits from increased exposure to veterinary services.

The reality of whether animal welfare effects (relating to pregnancy status) actually eventuate, depends on whether testing by veterinary surgeons actually results in fewer incorrect diagnoses (particularly fewer false negatives) than testing by laypersons. The AVA claims that Northern Territory experience shows that lay testers have typical false negative rates of around 5% of tests conducted, which they claim is significantly higher than error rates by veterinary surgeons.

Unfortunately, it is not possible to quantify the resulting animal welfare benefit nor the value society places on this benefit. Similarly, it is not possible to meaningfully quantify the reduction in biosecurity or other animal health risks that may be derived from increasing exposure to professional veterinary services. So it is not possible to provide a meaningful cost-benefit analysis.

The licence restriction undoubtedly contributes to employment levels in veterinary practices around the State, although to what extent is unclear. Equally, it detracts from employment levels in other potential service providers. The net employment effect is unclear and unlikely to be significant; on balance any restriction which reduces the availability of a service must reduce demand for that service and therefore employment in its provision.

⁹⁶ http://www.ava.com.au/sites/default/files/ACV_website/ACV_A4FACT-PREG.pdf

7.4 Social Licence

The term social licence, or social licence to operate, refers to the privilege of operating with minimal formalised restrictions based on maintaining public trust by doing what is right⁹⁷. The SLO is seen as a flexible, responsive and self-regulated tool for industry to use to achieve the social expectations, ethics and values upheld by stakeholders, consumers and the wider community.

7.4.1 Exporter Supply Chain Assurance System

The live export industry has had a recent and public dissection of its social licence^{98 99}. The industry has been seen to be failing community and government expectations on animal welfare. In 2011, the fallout was a 5 week suspension of live exports to Indonesia by the then Federal Government.

Industry's response to the live export ban provides an example of industry taking steps to establish or renew its SLO. In this case, industry and government initiated the Exporter Supply Chain Assurance System (ESCAS) which was rolled out to all Australian export markets in 2012. ESCAS was designed to ensure that Australian livestock exported for feeder and slaughter purposes are handled in accordance with international animal welfare standards, providing a mechanism to deal with any animal welfare issues when they occur¹⁰⁰. ESCAS is an assurance system based on four main principles:

1. Animal welfare: animal handling and slaughter in the importing country conforms to World Organisation for Animal Health (OIE) animal welfare recommendations;
2. Control through the supply chain: the exporter has control of all supply chain arrangements for livestock transport, management and slaughter. All livestock remain in the supply chain;
3. Traceability through the supply chain: the exporter can trace all livestock through the supply chain;
4. Independent audit: the supply chain in the importing country is independently audited¹⁰¹.

ESCAS is unique to Australia, with no other country with live export providing the same level of animal welfare protection beyond country limits. It does this by requiring exporters to account for how livestock are treated upon arrival in the importing country.

7.4.2 Livestock Production Assurance

The LPA scheme seeks to underpin industry's social licence, by a system of rules and standards, training, accreditation, audits, record keeping, quality assurance and vendor declarations¹⁰². There are approximately 220,000 LPA accredited producers in Australia and approximately 3,000 producers are audited each year at random by qualified auditors from AUS-MEAT.

⁹⁷ Center for food integrity- Charlie Arnot presentation, 2011

⁹⁸ See "A Bloody Business"- ABC 4 Corners program, 2011

⁹⁹ <https://www.theaustralian.com.au/national-affairs/foreign-affairs/sheep-deaths-spark-probe-into-live-exports-in-hot-months/news-story/d20633fb992b0e10dc4ac88834d76255>

¹⁰⁰ See Exporter Supply Chain Assurance System report, 2015 available

<http://www.agriculture.gov.au/SiteCollectionDocuments/biosecurity/export/live-animals/livestock/escas/escas-report.pdf>

¹⁰¹ <http://www.agriculture.gov.au/export/controlled-goods/live-animals/livestock/information-exporters-industry/escas>

¹⁰² <https://www.mla.com.au/meat-safety-and-traceability/red-meat-integrity-system/about-the-livestock-production-assurance-program/>

The training modules include property risk assessments, safe and responsible Agvet chemical usage, feed contaminants and residues, transport, livestock movements, biosecurity and animal welfare.

The animal welfare module¹⁰³ provides a checklist to producers¹⁰⁴ to assist them in managing animal welfare. The standard includes requirements that:

- A person performing artificial breeding procedures on cattle must have the relevant knowledge, experience and skills, or be under the direct supervision of a person who has the relevant knowledge, experience and skills.
- A person performing artificial breeding procedures on cattle must take reasonable actions to minimise pain, distress or injury¹⁰⁵.

No specific guidance is provided within the LPA in relation to pregnancy testing of cattle.

7.4.3 Willis dropped ovary technique

To underpin the social licence of lay administration of the Willis dropped ovary technique, with the cooperation of MLA, the ACV has produced a training guide for *The Dropped Ovary Technique for Spaying Cattle*¹⁰⁶. Within the foreword, the ACV states that it “has developed this training manual with the aim of recommending the Dropped Ovary Technique as the preferred surgical procedure for controlling fertility in beef cattle, and encouraging operators to be appropriately trained in the process”. Like pregnancy testing, there is a nationally recognised training course that is delivered through various registered training organisations and titled “Conduct dropped ovary technique procedures for spaying cattle”¹⁰⁷.

7.5 Social Licence and pregnancy testing

While ASEL and ESCAS deal with some aspects of export, any proposal to expand the authority to pregnancy test cattle to non-veterinarians must be developed with a view to establishing the social licence for laypersons to operate.

Whether the testing is provided to dairy operators, cattle breeders and finishers, feed lot operators or live exporters the same minimum elements of animal welfare, control throughout the supply chain, traceability and independent audit must be achievable and credible. And in the context of a newly established scheme, the criteria for entry, maintenance of authority, sanctions and the capacity to conduct investigations must also be addressed.

It is also in the best interest of industry that animal welfare is maintained as part of pregnancy testing because:

- stress levels of cattle is recognised as a factor in achieving the top Meat Standards Australia (MSA)¹⁰⁸ index bands;

¹⁰³ <https://www.mla.com.au/meat-safety-and-traceability/red-meat-integrity-system/about-the-livestock-production-assurance-program/seven-lpa-requirements/animal-welfare/>

¹⁰⁴ https://www.mla.com.au/globalassets/mla-corporate/meat-safety-and-traceability/documents/livestock-production-assurance/factsheets/22422-lpa-fact-sheet-7_animal-welfare_web.pdf

¹⁰⁵ Clauses S7.1 and S7.2 of the Australian Animal Welfare Standards and Guidelines for Cattle <http://www.animalwelfarestandards.net.au/files/2016/02/Cattle-Standards-and-Guidelines-Endorsed-Jan-2016-250116.pdf>

¹⁰⁶ <http://www.ava.com.au/sites/default/files/private/ACVDroppedOvary.pdf>

¹⁰⁷ <https://training.gov.au/Training/Details/AHCLSK335A#>

¹⁰⁸ <https://www.mla.com.au/research-and-development/feeding-finishing-nutrition/eating-quality/>

- while temperament is a contributor to stress behaviours, producers are increasingly recognising the impact of an animal's association with humans and the need to avoid adverse associations to maximise meat quality¹⁰⁹;
- while the production of one extra weaner per 100 females is equal to an additional 1.5 kilograms per adult equivalent, keeping mortality rates below one per 100 females offers an even higher productivity outcome, returning an additional 2.28 kilograms per adult equivalent¹¹⁰;
- events such as those leading up to the establishment of ESCAS mean industry needs to actively mitigate the potential for similar adverse outcomes.

7.6 Social Licence and ovarian scanning

Some community members argue that the number of procedures that constitute acts of veterinary science and the cost of compliance with the VS Act has been overstated and that animals used in research deserve the same protection from inexperienced providers as other animals.

The Scientific Use Code requires that provisions are made for the education, training and supervision of people nominated on a research approval application. The scientific use code also states that research institutions should consider appointing veterinary officers to oversee such projects.

The requirements under the scientific use code act as a demonstration of the social licence for laypersons to conduct ovarian scanning.

8 Consultation with peak stakeholders

Consultation with peak stakeholders was undertaken via a series of forums held between November 2016 and February 2018. Initial participants included AgForce, CCA, RSPCA, AVA, ACV, Australian Live Export Council, DAWS, the Veterinary Surgeons Board and DAF. Since that time participation has extended to the Australian Lot Feeders' Association, Queensland Live Export Association, AUSTREX and South East Asian Livestock Services.

8.1 Australian Veterinary Association

The AVA holds a number of concerns in relation to any change in the status quo:

- Any lay model established must ensure there are only competent lay testers, operating within an accountable, accurate system. They are of the view that unless testing is tied to a licensing system, where licences can be withdrawn, a compliance regime can have no "teeth".
- A code of practice under the Animal Care and Protection is considered less than ideal because it is a reactive activity where the animal has to suffer, rather than preventing injury by requiring standards for qualification first. If a code was adopted, the AVA considers that at a minimum it would need to be compulsory.
- If a particular training course is identified as necessary to practice, there still needs to be a mechanism to stop unsuitable testers from continuing to operate.

¹⁰⁹ <https://www.mla.com.au/news-and-events/industry-news/nutrition-and-temperament-key-to-msa-success/>

¹¹⁰ <https://futurebeef.com.au/wp-content/uploads/Improving-the-performance-of-northern-beef-enterprises.pdf>

- Without a feedback system, such as the trace forward/trace back proposal, being operational, there is not even any value in discussing lay pregnancy testing. To do otherwise could undermine the quality assurance provided to exporters;
- The existing PREGCHECK™ scheme provides accountability and accuracy which will ensure markets and animal welfare is optimised. If a vet does the wrong thing, they are answerable to the Veterinary Surgeon's Board and the ultimate sanction from this is to lose the legal right to practice. The system is funded entirely by practitioner fees.
- The PREGCHECK™ system also value adds by providing access to veterinarians in rural areas and passive biosecurity surveillance in remote areas.
- For some rural practices, pregnancy testing of cattle is a crucial source of income. Loss of that income could threaten the viability of these practices and could also result in the loss of other veterinary services in particular areas. Refer to Appendix E for a survey conducted by the AVA in that regard.
- A case for change, driven by market failure, has not been demonstrated.

8.2 Australian Cattle Veterinarians

The ACV is a subset of the AVA. It is the position of some practitioners that, if lay pregnancy testing is legalised at any point, they will not accept any model that makes a supervising veterinarian accountable for the accuracy of lay pregnancy testers. This concern is based on the premise that a supervising veterinary surgeon can only assume this responsibility by “double checking” and that this practice would be unacceptable on welfare grounds.

8.3 Royal Society for the Prevention of Cruelty to Animals Queensland

The RSPCA Queensland's position is that as long as the training of any lay pregnancy testers is sufficient to ensure pregnancy testing is carried out without compromising the welfare of the animals, and the results are accurate, they are not opposed to lay testers being permitted to undertake pregnancy testing.

8.4 No opinion

The Australian Live Export Council, CCA and ALFA have not expressed an opinion about the layperson or veterinary surgeon divide. While supportive of the standards set by PREGCHECK™ they are focused on the quality of outcomes in terms of both animal welfare, market access and productivity, regardless of the provider.

9 Policy Objectives

This RIS focuses on whether:

- pregnancy testing of cattle by laypersons for fee or reward should be made legal within Queensland and, if so, the selection of a regulatory model to achieve that; and
- laypersons working in animal research technical roles, where the activity has been approved by an Animal Ethics Committee under the Scientific Use Code, should be allowed to use transrectal ultrasound scanning to visualise ovaries in beef cattle.

The Queensland Government recognises that small business are likely to feel the burden of regulation more than other businesses, and is committed to reducing unnecessary regulation that hinders business growth.

In 2016 the Red Tape Reduction Advisory Council (RTRAC) released its first report which included a review of the regulatory environment of small business, including agriculture. A key finding of the report was that government needs to reduce regulatory creep and the regulatory burden on businesses, particularly for low-risk activities. Specifically, it should adopt regulatory strategies based on risk management and responsive regulation, which will reduce the impact of small business regulation, as well as benefit regulators.

This review's primary aims are to identify a solution that:

- supports the agricultural sector's viability in an increasingly competitive international and domestic market;
- supports the integrity of pregnancy testing and scientific research results;
- incorporates the importance of animal welfare as part of the social licence of providers, of pregnancy testing services, to operate; and
- imposes the lowest responsible regulatory burden.

After consultation with peak industry bodies, the RIS seeks to engage with stakeholders and the broader community about the merits of enabling laypersons to conduct pregnancy testing of cattle and ultrasound scanning of ovaries under AEC approval.

The preferred option will be the option that best achieves the policy objectives and provides the greatest net benefit to the community.

10 Options to achieve the objectives

This section of the RIS discusses options to address the policy objectives.

Drawing on information provided during consultations with peak industry bodies, the department has developed options in relation to lay pregnancy testers and research technicians operating under AEC approval. The RIS considers three options:

- Option 1: Status Quo – continue to restrict performance of pregnancy testing and use of transrectal ultrasound scanning to veterinary surgeons.
- Option 2: Removal of the practice restriction – include pregnancy testing and use of transrectal ultrasound ovarian scanning in the list of acts that are not veterinary science in Section 3 of the Veterinary Surgeons Regulation 2016.
- Option 3: Authorise laypersons to:
 - conduct pregnancy testing of cattle under an approved accreditation scheme; and
 - perform transrectal ovarian scanning under an AEC approval.

While the following sections are based on a narrative of the features of the options, a table comparing each of the options can be found at Appendix D.

10.1 Option 1: Status Quo/Retaining the practice restriction

Under this option, no regulatory change would be made. It would continue to be an offence for laypersons to conduct either pregnancy testing of cattle or transrectal ovarian scanning for fee or reward.

Objective: Support the agricultural sector's viability

Pregnancy testing of cattle is beneficial to the agricultural sector for the purposes of herd management, managed calving intervals, yield of finished cattle and producers requiring certification of pregnancy status for the purposes of export cattle.

For the feeder export market, ASEL stipulates that testers must be either accredited or veterinary surgeons. Accreditation of laypersons is not available under the status quo. There is anecdotal evidence that at times there are difficulties in accessing pregnancy testers and that this creates material logistical problems, travel cost, holding cost and opportunity cost burdens affecting the efficiency in the whole export supply chain.

It may be physically feasible for owners of cattle herds to pregnancy test their own cattle for herd management purposes however laypersons cannot test for fee or reward.

Accreditation schemes recognise that the development and maintenance of reliable testing skills require repetition and consistent practice. For example, the Western Australian scheme requires a rolling three year average of 500 per year¹¹¹, as does the Northern Territory¹¹². The PREGCHECK™ scheme stipulates at least 1,000 tests per year¹¹³.

For those without the opportunity for repetition, where the herd is too large for the activity to be personally conducted or where a buyer (such as a feedlot or exporter) requires assurance that a cow or heifer is not pregnant, the services of a professional pregnancy tester are desirable.

There is anecdotal evidence that unauthorised laypersons are operating for herd management purposes and may be meeting demand for herd management testing in areas where veterinary surgeons are not readily available.

Retaining the practice restriction:

- would not provide additional support to the agriculture sector to access export markets during peak demand;
- would support the continued presence of expert veterinary services in regional areas, including passive animal welfare, biosecurity surveillance, locally deployable biosecurity emergency veterinarians and other veterinary services;
- may deprive industry of additional skilled laypersons who do not wish to operate illegally for herd management, yield, reproductive status verification and scientific research purposes.

Objective: Support the integrity of pregnancy testing and scientific research results

It is arguable that by continuing to restrict the delivery of pregnancy testing to veterinary surgeons, the integrity of pregnancy diagnostics will be better maintained due to the possession of a five to six year veterinary sciences degree. However, there are some factors that argue against this.

Firstly, it is characteristic of PREGCHECK™ and the Northern Territory and Western Australian accreditation schemes that the testing skill set be maintained by demonstrating ongoing use of the skill set. While veterinary students are required to complete both the theory and practice of

¹¹¹ <http://www.vsbwa.org.au/wp-content/uploads/2013/07/Form-3.7-Pregnancy-Testing-of-Cattle-Authorised-Person-01112016.pdf>.

¹¹² https://nt.gov.au/__data/assets/pdf_file/0003/373629/guidelines-accreditation-non-veterinary-preg-testing-cattle-export.pdf

¹¹³ Pregnancy Diagnosis in Cattle, 3rd ed., Australian Cattle Veterinarians, 2014 pp. 75-76.

pregnancy testing of cattle, it is a skill that is unlikely to be maintained in an urban setting and will not necessarily form a material component of regional practitioners' daily work.

Further as discussed earlier, the accuracy of testing can become irrelevant where cattle handling facilities are not secure, errors in certificates or animal identification are made, or where producers do not maintain effective segregation of tested, positive or negative animals. Regardless of the qualifications of the tester, anecdotally both lay testers and veterinarians have been the subject of investigation where the practices of the producer come into question.

In Queensland, the accuracy of pregnancy testing diagnosis by veterinary surgeons is not the subject of discrete investigation for the Veterinary Surgeons Board. The ACV has sought to meet market need in this regard by establishing PregCHECK™ and then maintaining a complaints management program for the accuracy of PREgCHECK™ providers which actively addresses the issue of producer practices.

In a research context, consistency of measurement is critical to the success of research into increasing the productivity of the northern beef herd. Where the same veterinarian cannot be relied upon to be available within critical research timeframes, consistency of interpretation can be lost.

Retaining the practice restriction will not necessarily provide assurance that the services of a veterinary surgeon are superior to the skills of an experienced layperson.

Objective: Animal welfare as part of the social licence to operate

There are different aspects to animal welfare:

- impact to the animal's welfare of handling prior to, and restraint during, testing
- poorly performed or inappropriate testing; and
- implications of pregnancy status on subsequent decisions such as transport or paddock allocation.

In addition, observation of herd health and on-farm welfare practices offer opportunities for veterinary surgeons to add value in the animal welfare arena.

Veterinary surgeons maintain that their more comprehensive training equips them to observe disease and welfare issues in a herd. Their qualifications and registration status underpin their social licence to operate. They are supported by a regulatory network that provides professional authenticity where they feel ethically bound to act upon concerns. Further, veterinary surgeons maintain that where injury or trauma is sustained by an animal, they are equipped with the skills and drugs to treat animals immediately.

Laypersons operating illegally have no such social licence, recognition. While it is arguable that laypersons may not have the same diagnostic skills it does not necessarily follow that they are unable recognise injury, ill thrift, signs of disease or inappropriate animal treatment. However, they have no capacity to provide immediate veterinary treatment.

However, in the absence of an authorising environment, illegal operators with concerns about animal welfare are compromised as they themselves become exposed if they report concerns to authorities.

Retaining the practice restriction:

- preserves more opportunities, for the more broadly based diagnostic skills of veterinary surgeons, to operate in passive animal health and welfare surveillance on farm;
- will support the ongoing viability of regional veterinary practices and therefore access to local veterinary services for other purposes;
- may discourage reporting of alternate sources of disease and welfare surveillance by laypersons, albeit against a less qualified yardstick.

Objective: Lowest responsible regulatory burden

The current regulatory model imposes legislatively based restrictions on the provision of pregnancy testing services and, unlike most other Australian jurisdictions, precludes lay pregnancy testing for or reward under any circumstances. Consequently, there no legislative mechanism for lay testers to operate in any part of the market. Industry maintains that this imposes an unnecessary restriction on laypersons wishing to enter the market and an unnecessary burden on producers wishing to use those low risk services.

In the research sphere, technicians assisting in ovarian scanning would be unable to conduct repetitive, comparative activity, despite the strict requirements of an AEC approval that ensure that ovarian scanning being undertaken is performed safely.

Queensland’s Red Tape Reduction Advisory Council recommends that government needs to reduce the regulatory burden on business, particularly for low risk activities. The Australian Productivity Commission suggests that governments should consider recognising industry quality assurance schemes to demonstrating compliance with animal welfare standards.

Retaining the practice restriction:

- would not reduce the burden imposed on producers that rely upon, at times, scarce veterinary surgeons for feeder cattle export testing services;
- excludes producers from access to additional competent (fee for service) technicians for herd management purposes; and
- excludes aspiring technicians willing to meet industry needs.

In summary Option 1:

- **would not support supply of more pregnancy testing services, and continue supply shortages perceived to be experienced by producers;**
- **would support ongoing veterinary practice viability and availability of veterinary surgeons for other purposes;**
- **may perpetuate existence of a black market, reducing intended productivity outcomes and risking adverse animal welfare outcomes;**
- **would not provide any mechanism to address supply concerns for the live export market.**

10.2 Option 2: Lifting of the practice restriction

Under this option:

- amendments would be made to the VS Act to lift the practice restriction in relation to pregnancy testing of cattle by laypersons
- an accreditation scheme for the purposes of meeting ASEL requirements would not be established; and
- amendments would be made to provide that it is not an offence to conduct ovarian scanning via transrectal ultrasound, where the activity complies with the scientific use code and conducts the activity with the approval and under supervision of an animal ethics committee.

Objective: Support the agricultural sector’s viability

Again, pregnancy testing of cattle can support cattle producers with herd management, calving intervals, yield of finished cattle and certification of pregnancy status for the purposes of export cattle. Ovarian scanning is a pivotal aspect of research into improving the productivity of northern beef herds.

For the feeder/slaughter export market, ASEL stipulates that testers must be either accredited or veterinary surgeons. Given that this option does not provide for accreditation, it would not support exporters and producers to meet uneven demand in live exports. Industry would remain reliant on the availability and proximity of veterinary surgeons.

However, lay pregnancy testers could legally operate in the area of herd management and may fill demand gaps and/or promote healthy competition of supply.

Lifting of the practice restriction alone:

- would not assist with industry’s original concerns in relation to the availability of pregnancy status certification for cattle intended for live export;
- may legitimise the entrance of an unclear number of lay pregnancy testers to assist industry with herd management objectives such as culling, calving intervals, safe transport and herd yields;
- may threaten the viability of some rural veterinary practices and in turn lead to loss of local veterinary surgeons for other veterinary purposes.

Objective: Support the integrity of pregnancy testing and scientific research results

In the absence of regulation, it is possible that lower quality providers of pregnancy testing services would enter the market, with adverse consequences for productivity and animal welfare. The extent of this decline is difficult to gauge. In the normal course, cattle owners may demand a level of quality service, with unreliable testing providers removed from the market.

Greater availability of commercial testing services, using experienced testers, may reduce the number of pregnancy tests conducted by owners who do not have a high level of skill and experience themselves.

The Northern Territory maintains a complaints management program for lay pregnancy testers that addresses concerns in relation to pregnancy status. The Western Australian accreditation scheme is administered under WA’s Veterinary Surgeons Board in the same way as veterinary surgeons.

As discussed under Option 1, in Queensland, the Veterinary Surgeons Board administers complaints about veterinary surgeons in a general sense however no specific compliance or complaints

mechanism is in place for the accuracy of pregnancy testing. In that regard, the ACV has sought to meet market requirements for accuracy by the establishment of PREgCHECK™.

It is conceivable that, in time, a similar initiative may evolve for lay pregnancy testers if the practice restriction was lifted. Similarly, word of mouth may already be seeing unreliable testing providers removed from the market. It is possible that in jurisdictions where lay pregnancy testing is not regulated, the market may be going some way to addressing this issue.

Nonetheless, feedback provided by the Australian Lot Feeders Association is that inaccurate pregnancy testing is of significant concern to the industry and that they would feel better supported by the establishment of a formal recognition mechanism.

The quality of pregnancy testing for the live export trade would be unaffected as, in the absence of an accreditation arrangement, testing for this purpose would remain restricted to veterinary surgeons.

For research, consistent access to technicians with task specific experience is essential. Removing the application of offence provisions will support consistency of scientific research observations.

Lifting of the practice restriction:

- would not, on its own, support the integrity of pregnancy testing diagnostic results;
- may, on its own, reduce the integrity of pregnancy testing diagnostic results;
- would support consistency of scientific research observations.

Objective: Animal welfare as part of the social licence to operate

If it is to be assumed that lifting the practice restriction would result in a reduction in the quality of testing services, there would be an adverse impact on animal welfare. This may be offset to some extent by a reduction in the current disincentive for lay pregnancy testers who are operating illegally to report animal health and welfare concerns. However, it would not address the issue of immediate veterinary attention where injuries occur due to the procedure.

Unrestricted authorisation to practise does little to demonstrate either lay testers' skills or commitment to animal welfare as part of the social licence to operate. Without visible professional backing, such as that derived from by veterinary surgeons via registration or lay testers via accreditation, their social licence to operate is obscure.

Lifting of the practice restriction:

- may increase reporting of possible animal welfare or disease concerns and provide valuable surveillance intelligence;
- decreases the options for immediate veterinary care for animals injured in the process of testing;
- would not, on its own, demonstrate that lay testers are competent and committed to animal welfare as part of the social licence to operate.

Objective: Lowest responsible regulatory burden

The benefits of pregnancy testing services primarily accrue to variety of private stakeholders including producers and their supply chain, testing service providers and testing equipment manufacturers and distributors.

While lifting of the practice restriction would reduce the regulatory burden, government's role in addressing public interest in relation to animal welfare is relevant. This does not necessarily require direct regulatory intervention by government. Rather it may take the form of creating standards to which veterinary acts must be performed, such as a code of practice or demonstration by private beneficiaries of how they intend to address animal welfare in circumstances where the practice restriction is lifted.

Lifting the practice restriction would reduce the regulatory burden but, on its own, may also reduce some the community benefits from the current regulations, particularly in relation to animal welfare.

In summary Option 2:

- **may support supply of more pregnancy testing services, particularly where veterinary surgeons are sparsely located;**
- **may reduce work undertaken by veterinary surgeons and thereby threaten practice viability and availability of veterinary surgeons for other purposes;**
- **may undermine the accuracy of pregnancy testing outcomes, reducing intended productivity outcomes and exacerbating the risk adverse animal welfare outcomes;**
- **would support consistency of observations in scientific research;**
- **would not provide any mechanism to address supply concerns for the live export market.**

10.3 Option 3: Laypersons authorised to performs acts under an accreditation scheme or Animal Ethics Committee approval

Under this option:

- amendments would be made to the VS Act to lift the practice restriction in relation to pregnancy testing of cattle by laypersons
- amendments would be made to make provision for accreditation schemes for particular acts
- amendments would provide that it is an offence for a layperson to conduct pregnancy testing of cattle unless they are accredited under an accreditation scheme; and
- amendments would provide that it is not an offence for a layperson to conduct transrectal ovarian ultrasound scanning provided the activity complies with the scientific use code and conducts the activity with the approval and under supervision of an animal ethics committee.

Objective: Support the agricultural sector's viability

This approach would support the entry of commercial lay pregnancy testers on a legal basis. Provided suitable standards and controls are in place via an accreditation scheme, this would provide additional herd management services to benefit producers and opportunities for legal employment for testers.

This option may, or may not, immediately meet ASEL requirements depending on the legislative model used for implementation of the accreditation scheme and the acceptability of the chosen method to the Australian Government. Currently, ASEL will permit testing of livestock intended for

slaughter to be undertaken by a “competent pregnancy tester”. It further states that such a person is accredited by the relevant agency of a jurisdiction to conduct pregnancy tests.

Lifting of the practice restriction and establishing an accreditation scheme:

- would legitimise the entrance of an unclear number of lay pregnancy testers to assist industry with herd management objectives such as culling, calving intervals, safe transport and herd yields;
- may threaten the viability of some rural veterinary practices and in turn lead to loss of local veterinary surgeons for other veterinary purposes.
- if government administered, would assist with industry’s original concerns in relation to the availability of pregnancy status certification for feeder cattle intended for live export; and
- if industry administered, may assist with industry’s original concerns in relation to the availability of pregnancy status certification for feeder cattle intended for live export.

Lifting the practice restriction and allowing for testing under AEC approval would support consistency of scientific research observations.

Objective: Support the integrity of pregnancy testing and scientific research results

The primary purpose of an accreditation scheme for pregnancy testers, whether veterinary surgeon or layperson, is to ensure the integrity of pregnancy diagnostics. The AVA’s observations in relation to apparent misdiagnosis by laypersons in the Northern Territory, suggests that an accreditation scheme must, as part of its integrity processes, address not just the skills of the tester but also the integrity of the entire supply chain.

An accreditation scheme would accredit people to issue pregnancy status certificates and provide for:

- the terms and conditions for accreditation
- auditing of accredited persons
- accountable levels of acceptable performance
- noncompliance procedures and sanctions
- reviewing decisions and resolving disputes
- operational procedures under the scheme
- investigation of, and data gathering for the purpose of animal tracing from the property of origin to loading.

The primary purpose of an AEC approval is animal welfare. Lifting of the practice restriction and establishing an accreditation scheme or requiring AEC approval:

- would provide a system to support the integrity of pregnancy testing diagnosis; and
- will support consistency of scientific research observations.

Objective: Animal welfare as part of the social licence to practice

A well-designed accreditation scheme should be able to maintain the quality of pregnancy testing and meet animal welfare concerns. As noted above, animal welfare, animal health and biosecurity responsiveness may be improved through the removal of the current disincentive for lay pregnancy testers who are operating illegally to report animal health and welfare concerns.

Establishment of an accreditation scheme would assist laypersons to demonstrate the legitimacy of their skills as it applies to welfare aspects of herd management and suitability for travel. Animal welfare considerations, including welfare issues such as handling and restraint for testing are issues that are clearly important aspects of initial training and accreditation.

An accreditation scheme and qualification could also formally incorporate units to assist identification of ill thrift, injury, signs of disease and good biosecurity practices.

With these components incorporated into the scheme, the commitment to animal welfare as part of the social licence to operate can be supported. Visible professional backing, such as that derived from by veterinary surgeons via registration, would be available to laypersons to legitimise their expectations of producers in relation to animal welfare.

Lifting of the practice restriction in combination with a mandatory accreditation scheme or AEC approval:

- may increase reporting of possible animal welfare or disease concerns and provide valuable surveillance intelligence;
- may assist to achieve optimal animal welfare outcomes during testing however, in the case of injury, will decrease the options for immediate veterinary care for animals injured in the process of testing;
- would assist lay testers to demonstrate they are competent and committed to animal welfare as part of the social licence to operate; and
- would allow lay technicians to responsibly assist with consistent scientific outcomes.

Objective: Lowest responsible regulatory burden

For lay pregnancy testers seeking to enter the market, there will be costs associated with compliance (such application costs and recording keeping) and initial training and testing. Dependent on the terms of approval for the accreditation scheme, the ongoing regulatory burden imposed on lay pregnancy testers would be similar to that voluntarily accepted by members of the ACV who have become accredited under the PREgCHECK™ scheme.

The PREgCHECK™ scheme is national, with more than 600 accredited veterinarians Australia-wide. Approximately 150 of these are in Queensland. With a national base, the scheme has the benefit of the economies of scale for the administrative and management information systems necessary to achieve cost effective registration, monitoring and enforcement of the standards of the scheme.

Queensland Treasury's Principles for Fees and Charges¹¹⁴ requires full cost recovery to be achieved where the activity the fee relates to is regulatory. Full cost recovery requires that labour, operating and indirect costs must all be recouped within the fee structure for the service. This means that wages, operating costs such as office supplies and a portion of indirect costs such as information and technology costs and IT support are eligible for inclusion.

AgForce has advised that within Queensland, they anticipate only 20 to 30 lay pregnancy testers will seek accreditation. In combination with Queensland Treasury's Principles for Fees and Charges, the small scale of the proposed accreditation scheme works against government's ability to establish a fee regime that will be palatable to potential lay testers. In other words, the small scale of such an

¹¹⁴ <http://treasury.govnet.qld.gov.au/office/knowledge/docs/fees-and-charges/principles-for-fees-and-charges.pdf>

accreditation scheme means that overhead costs, such as management information systems to handling and interpret tracing data, cannot be spread across a sufficient number of applicants to make the cost of entry to the market acceptable.

To date, the Commonwealth has not indicated any appetite for accepting responsibility for a national accreditation scheme for live export. This reluctance to accept this regulatory burden is consistent with the Australian Productivity Commission's (APC) recommendation that "the Australian Government should appoint an independent expert or committee to make recommendations for reform on industry-developed initiatives, such as quality assurance programs, as a means of compliance with livestock export regulations"

ASEL is currently under review. While the review is expected to be completed in a number of modules over two years, the concurrent review of lay pregnancy testing within Queensland offers a valuable opportunity to influence the outcomes of the ASEL review. Development of a new accreditation scheme, focussed on supporting both herd management and the live export market would offer an opportunity for lay pregnancy testers to enter the market and support agricultural viability.

The review of ASEL, APC's interest in industry-developed assurance programs and the small scale of a Queensland scheme are converging to make it more conducive to the long term success of any accreditation scheme to be delivered through a nationally administered industry scheme.

Enabling an industry accreditation scheme within Queensland would likely be achieved by amendments to the VS Act to enable testing by laypersons and amendments to the ACP Act to enable authorisation of suitable industry based accreditation schemes.

This model would require suitable entities to make application to the department for accreditation. The department would be responsible for assessing the suitability of the proposed scheme, including the entity proposed to administer the scheme. Auditing of the scheme would be required on a periodic basis. Both application assessment and auditing would be subject to full cost recovery fees. Therefore, from the point of view of use of public resources to oversee accreditation, the government's burden of administering the scheme is reduced to the assessment of a scheme, rather than each tester.

Day to day responsibility for supporting the accreditation of individuals, monitoring and compliance activities would vest in the scheme administrator. It is anticipated that the administrative onus placed on persons seeking accreditation under an industry based scheme would be similar to a government administered scheme. However, with the benefit of a national scheme, overhead costs to be absorbed into the cost of application and administration can be reduced to a more sustainable level.

Within the context of scientific research, activities carried out are all subject to AEC approval regardless of the person conducting the activity. No change in regulatory burden would eventuate by authorising lay technicians to use transrectal ultrasound scanning to visualise ovaries in beef cattle.

Lifting of the practice restriction and establishing an accreditation scheme or requiring AEC approval:

- would provide opportunity for new providers of pregnancy testing services in Queensland – currently estimated at 20 to 30 new entrants;

- if purely state based, is unlikely to be achievable at a price point that is acceptable to new entrants to the market;
- if nationally based, would require acceptance of an industry based scheme and therefore industry action to establish a scheme;
- if nationally based, may be more achievable at a price point that is not prohibitive to new entrants;
- would enable the entry of lay pregnancy testers at the lowest possible burden to government;
- may result changes in unit cost, associated with reduced travel times, reduced holding costs or incidental price competition;
- would, depending on the requirements of any accreditation scheme established, be likely to impose similar administrative burdens on lay testers whether the scheme is government or industry administered, but impose less application and monitoring costs if delivered under a national industry based scheme;
- may threaten the viability of some rural veterinary practices and lead to loss of local veterinary surgeons for other veterinary purposes
- alternatively, if the number of new entrants does not pose a threat to viability, access to lay providers could be regarded as introduction of choice to producers, in relation to their perception of value added by veterinary surgeons;
- would maintain animal welfare standards as they apply to the testing process, however noting that producers would be exercising choice in relation to the availability of veterinary intervention in the case adverse events.

In summary Option 3:

- **may support supply of more pregnancy testing services, particularly where veterinary surgeons are sparsely located – current estimates 20 to 30 new entrants;**
- **may reduce work undertaken by veterinary surgeons and thereby threaten practice viability and availability of veterinary surgeons for other purposes;**
- **provides points of influence over pregnancy testing integrity, supporting productivity outcomes and reducing the risk of adverse animal welfare outcomes;**
- **would support consistency of observations in scientific research;**
- **would provide a platform for industry to seek to address supply concerns for the live export market.**

11 Preferred option

The preferred option is Option 3 which entails:

- amendments to the ACP Act to make provision for third party accreditation schemes for particular acts
- amendments to the VS Act providing that it is not an offence for a layperson to conduct pregnancy testing of cattle where they are accredited under an accreditation scheme under the ACP Act; and

- amendments to the VS Act providing that it is not an offence for a layperson to conduct transrectal ovarian ultrasound scanning provided the activity complies with the scientific use code and conducts the activity with the approval and under supervision of an animal ethics committee.

Domestically, improved herd and pasture management is increasingly being recognised as essential to the future of the northern Australia beef herd. Optimising reproductive rates is seen as a key driver, with the production of one extra weaner per 100 females equalling an additional 1.5 kilogram per adult equivalent. Knowledge of pregnancy status and earlier breeding capacity are pivotal to achieving these goals.

A 2003 report by Peter Frawley notes that for rural veterinary practices¹¹⁵, 50% or more of income was generated from companion animals. It further notes ABARES advice that the average expenditure by farms on veterinary services at that time was \$200 a year. Even here, the highest users of veterinary services were dairy farms. As dairy farms are not located remotely, the demand for “other purposes” on remote beef operations must be very low indeed and so it difficult to accept that producers would suffer from the absence of veterinary surgeons for purposes for other than specialist reproductive services.

Testing rates by PREgCHECK™ veterinary surgeons demonstrates that they have penetrated a significant portion of the discretionary pregnancy testing market and are therefore highly competitive without legislative protectionism. Yet current coverage of remote beef herds by veterinary surgeons is sparse and there are grounds to believe that the gap in this market is currently being met by illegal operators.

While producers are the primary beneficiaries of improved productivity, the community retains an interest in the welfare of the animals being tested. Neither a regulatory environment that encourages protection of a black market, nor complete deregulation of the market, will demonstrate that animal welfare is protected. A degree of intervention is appropriate.

There are insufficient economies of scale for the establishment of a financially viable Queensland based scheme. With this in mind, and with broad industry interest in improving pregnancy testing services and animal welfare in general, AgForce is proposing to establish an industry based accreditation pilot. With a view to a national industry based accreditation scheme, it would adopt similar principles to that employed within the PREgCHECK™ scheme.

Such a solution is consistent with Queensland’s “Better Regulation” objectives and APC recommendations that State and territory governments should consider recognising industry quality assurance schemes as a means of demonstrating compliance with farm animal welfare standards.

An ancillary benefit of an industry based scheme, that removes incentives to operate on the black market, may also be better compliance intelligence in relation to illegal operators and animal welfare.

It should be noted that adoption of Option 3 will not meet ASEL requirements in relation to government based accreditation of laypersons for pregnancy testing of cattle for live export. The

¹¹⁵ Frawley P T, 2003 Review of Rural Veterinary Services Report. Available on line at: <https://www.ava.com.au/sites/default/files/documents/Other/Frawley%20report.pdf>

Australian government's appetite for a third party, industry based accreditation scheme is untested at this point.

The recommendations of APC and the review of ASEL are converging to provide industry with an unprecedented platform on which to pursue acceptance of such a scheme. It would be up to industry to progress recognition of a national industry scheme to the Australian government and potential accrediting state and territory governments.

Option 3 is recommended because it:

- **supports the agricultural sector's viability in an increasingly competitive international and domestic market by:**
 - enabling an increase in supply of herd management pregnancy testing services in sparsely serviced areas, while at the same time providing a level of intervention to support animal welfare and accuracy that is not present in Option 2;
 - providing a platform for industry to address supply of pregnancy testing services for export purposes in poorly serviced areas;
 - increasing the likelihood of success of herd productivity research.

- **supports the integrity of pregnancy testing and scientific research results by:**
 - providing points of influence in training and accuracy of laypersons;
 - enabling a monitoring and compliance regime to support maintenance of appropriate skills sets; and
 - enabling timely and consistent interpretation of scientific observations.

- **incorporates the importance of animal welfare as part of the social licence of providers, of pregnancy testing services, to operate by:**
 - maintaining animal welfare objectives while enabling a reduction in some barriers to entry;
 - influencing the achievement of the level of competency required to provide an accurate diagnosis; and

 - introducing a proactive opportunity to protect animal welfare, rather than relying on public reporting of harms already inflicted (unlike Option 2 which presents a higher risk).

- **imposes the lowest responsible regulatory burden by:**
 - acknowledging that a state based scheme could not be delivered at a viable price point;
 - enabling a platform administered by industry that avoids regulatory costs being subsidised by taxpayers; and
 - recognising that industry has a vested interest in the success of such a scheme.

12 Consistency with other policies and regulation

12.1 Competition principles agreement

The proposed Regulation is generally consistent with Clause 5 of the Competition Principles agreement.

12.2 Fundamental legislative principles

The fundamental legislative principles (FLPs) under the Legislative Standards Act 1992 have been considered in the policy development amendments and are consistent with the proposed approach.

12.3 Financial accountability

Section 18 of the Financial and Performance Management Standard 2009 (under the Financial Accountability Act 2009) provides that when setting charges for services, the full cost of providing the services must be considered. The proposed fees will reflect the cost to the government of accrediting and monitoring each scheme and are likely to align with similar fees imposed under the *Biosecurity Act 2014* and Biosecurity Regulation 2016 in relation to biosecurity accreditation schemes.

13 Implementation, evaluation and compliance strategy

As previously discussed, it is proposed that implementation of the preferred option would require amendments to the ACP Act and the VS Act. AgForce would drive the establishment of a pilot industry based accreditation scheme for the consideration of the Queensland Government.

Interjurisdictional negotiations for expansion of the scheme for national adoption and export purposes would be required to be driven by industry.

Legislative enablement of a Queensland scheme, industry establishment of the scheme and Australian Government acceptance of the scheme for export purposes would be a long term proposition. The consolidation of each player's position is unlikely to align at all stages.

The administrative burden associated with the scheme is expected to be minimal, with only one scheme proposed at this point. Accreditation schemes are already operating under the *Biosecurity Act 2014*. This provides the benefit of legislative, documentation and administrative precedents. Management information needs are simple and do not require bespoke solutions. Human resource requirements would be met from within existing resources.

Assessment guidelines would be developed for potential accreditation scheme operators for the purpose of establishing minimum requirements and managing expectations. Issues such as training, recognition of prior learning, acceptable diagnostic techniques, equipment standards, animal handling and welfare, tester and scheme reporting, complaints handling, sanctions, traceability and audit requirements would need to be addressed.

Scheme approvals are likely to be for three years with compliance audits conducted yearly. Approvals would attract an application fee and audits would be conducted on an hourly fee for service basis. Full cost recovery would apply.

Feedback from audits will assist in evaluating the integrity of diagnostic outcomes. Provision for show cause proceedings, internal and external review, will provide the opportunity to respond

where concerns arise and allow for discontinuation to be considered or systemic improvements to be made for future success.

Appendix A - Types of Pregnancy Testing

Rectal Palpation

For this method, the tester inserts the hand and forearm into the rectum of the cow feeling, through the thickness of the wall of the rectum, for anatomical structures of reproductive organs. Accuracy of diagnosis is particularly influenced by the skill of the tester, the adequacy of handling facilities for humanely restraining the animal and the management of cattle before testing.

Experienced testers, with well-developed skills, can detect a pregnancy as early as 28 to 35 days after fertilisation. Foetal aging is also possible via manual (rectal) palpation and is at its most reliable between 35 and 65 days. A reliable tester can be expected to diagnose the stage of pregnancy, between six and 16 weeks, to within plus or minus two weeks. In herds where insemination is managed, accuracy is further increased¹¹⁶.

It is a relatively cheap means of testing. While the Australian Cattle Veterinarians (ACV) make a number of practical recommendations for a pregnancy testing kit, including protective clothing measures, long armed gloves and lubricant are generally the only “must haves” in a manual palpation tester’s kit.

The Australian Cattle Veterinarians observe that rectal examination also carries risks to the tester, including exposure to zoonotic disease and repetitive strain injuries, particularly if inappropriate technique is used for a period of time¹¹⁷. The adequacy and lay out of the testing facilities have further implications for the wellbeing of both tester and animal. Facilities layout (e.g. Herringbone dairies and left or right crush) may influence the technique that the tester should use to protect both themselves and the animals being tested¹¹⁸.

There are concerns that rectal palpation can be associated with loss of the pregnancy, however there is considerable debate about the issue¹¹⁹. However repeated and/or inexpert performance of rectal palpation can cause severe straining, ballooning, bleeding or thickening of the rectum.

In a standard operating procedure produced by the Department of Primary Industries in New South Wales¹²⁰ for teaching of the technique, parameters are set on the maximum number of times a single animal should be examined by novices, with maximums also imposed for more experienced students. Other standards are set in terms of subsequent days, rest intervals and adverse indications requiring removal of an animal from the teaching program until veterinary clearance is given.

“B-mode” Ultrasound Scanning

Brightness mode (B-mode) ultrasonography is conducted via the rectum. The most commonly used scanners are sector scanners which are introduced via a rigid pole and linear scanners which are generally introduced via the hand.

The usefulness of ultrasound scanning is influenced by the number of crystals in the probe and the frequency of the scanner, with high frequency probes (5 to 10 MHz) able to visualise very small

¹¹⁶ Pregnancy Diagnosis in Cattle, 3rd ed., Australian Cattle Veterinarians, 2014

¹¹⁷ Ibid

¹¹⁸ Ibid

¹¹⁹ <http://articles.extension.org/pages/15689/when-to-pregnancy-check-dairy-cattle-and-why>

¹²⁰ <http://www.dpi.nsw.gov.au/animals-and-livestock/animal-welfare/general/general-welfare-of-livestock/sop/cattle/fertility/pregnancy-testing>

anatomical features. Unlike rectal palpation, fit for purpose ultrasound testing requires an upfront investment of \$6,000 and upwards^{121 122}.

The embryo can be seen in heifers as early as 20 days, though accuracy decreases in aging cows. Sexing of the foetus becomes possible between 55 and 80 days with a 7-10 MHz scanner and, 70 to 120 days with 5 MHz scanners. Scanning using an introducer is considered to be most accurate between 6 and 14 weeks. Beyond 16 weeks, visibility of the foetus becomes limited.

The ACV recognises that the use of B-mode real time ultrasonography has become “commonplace” and notes that “As with manual pregnancy diagnosis, the accuracy and efficiency of ultrasound depends on the experience of the operator, the stage of the pregnancy being examined and the available facilities. It must be understood that ultrasound has limitations and these should be explained to the client before pregnancy diagnosis is undertaken¹²³”. It suggests that if an animal is tested either empty or unknown, and an introducer was used, follow up diagnosis via manual palpation should be undertaken¹²⁴.

One risk associated with pregnancy testing via ultrasound is rectal perforation, possibly resulting in peritonitis and death. In particular, this can be related to the length of the introducer/probe, the tester failing to wait out rectal contractions if an animal defecates during testing, handling facilities that allow excessive movement of animals and over-conditioned cows which tempt the operator to push deeper past fat¹²⁵.

There has been speculation that that higher rates of pregnancy loss can be caused using ultrasound though inexpert skill of the operator has also been blamed rather than the technology itself¹²⁶. Merck Animal Health, through its Partners in Reproduction pages, argues that that this position could be mistakenly reached given that the foetus can be detected in the earlier stages of pregnancy and therefore fall within the most likely window for spontaneous abortion¹²⁷.

Overall the ACV considers that ultrasonography, in the hands of a competent operator, reduces the risk of injury to the foetus and tester, improves the reliability of diagnosis, assists identification of non-viable foetuses and also identification of disorders of the reproductive system such as infection.

Ultrasonography offers further workplace health and safety advantage to some testers when an introducer/probe is used.

There are some arguments that ultrasound has a time advantage over palpation, however whether that advantage can be realised depends of factors such as facilities, cow condition, rates of pregnancy and term of pregnancy¹²⁸.

¹²¹ <http://www.catagra.com/repro-scan/return-investment.aspx> retrieved 14/9/2017

¹²² Email exchange 17/8/17 M. Ricardo, Department of Agriculture and Fisheries and Q. Demont, Australian Medical Systems

¹²³ Pregnancy Diagnosis in Cattle, 3rd ed., Australian Cattle Veterinarians, 2014 p. 40.

¹²⁴ Ibid p. 42

¹²⁵ <http://www.sciquest.org.nz/node/108224>

¹²⁶ <http://articles.extension.org/pages/15689/when-to-pregnancy-check-dairy-cattle-and-why>

¹²⁷ <http://www.partners-in-reproduction.com/reproduction-cattle/pregnancy-diagnosis.asp#ultrasound> retrieved 27 September 2017

¹²⁸ <http://www.tablelandvet.com.au/Services/CattleServices/PregnancyDiagnosis/tabid/28115/Default.aspx> retrieved 25 September 2017

“A-mode” Ultrasound Scanning

Unlike B-mode ultrasound, which allows movement to be seen, A-mode ultrasonography (depth analyser) is one dimensional. Sales and marketing of these devices is generally targeted at the lay sector. It allows diagnosis from 40 days on, however sensitivity at this time is estimated at between 85-90%. The ACV does not consider this technology as adequate to meet the need for accurate diagnosis in modern dairy and beef management.

Doppler Ultrasonography

Doppler ultrasonography is used to detect heartbeat of the foetus or blood flow in the vessels of the placenta. While it can be 85% accurate in detecting pregnant animals it is only 63% accurate in detecting non-pregnant animals. This failure rate is not considered economically tolerable.

Other methods

The ACV observes that while rectal palpation and B-mode are the most commonly used diagnostic techniques, sometimes other techniques are required. Drivers for using other techniques can include testing of miniature breeds, poor facilities and animals that are too wild to safely restrain. Each technique has its own limitations that need to be understood by the tester and shared with the entity commissioning the testing:

Return to Oestrus: A return to oestrus is a broad indicator that the animal is not pregnant. Where animals can be observed twice daily for behavioural signs of oestrus, accuracy can be improved but it is not generally considered sufficiently accurate. This is partly because some cattle do not show signs of oestrus when cycling while some others show signs while pregnant.

Udder Development: Udder development can occur in heifers from 4 months into the pregnancy. However in cows, previous development of the udder obscures any signs of a new pregnancy. It is also common for non-pregnant heifers exported by sea to show udder development.

Ballottement of the Abdomen: Generally ballottement only becomes feasible five months into the pregnancy, when palpation via the right flank makes it possible to detect the foetus. Generally it is only appropriate in mature, thin animals.

Blood and Milk Testing: Various factors can be tested for in either or both blood or milk. The complexity of sampling, reliability of results, windows of opportunity, rates of adoption and sometimes cost mean that rectal palpation and B-mode ultrasound remain preferred.

Faeces and urine: Reliable testing has been achieved in bison, with 100% accuracy achieved with two testing techniques.

Elimination of dry cows: For the purposes of herd management, elimination of dry cows after a controlled mating window, can also contribute to increased reproductive capacity.

Appendix B - National Regulation of Pregnancy Testing of Cattle

National legislation

National animal welfare standards for cattle¹²⁹ require that pregnancy testing must be performed by a person with relevant knowledge, experience and skills or a person who is under the direct supervision of someone with relevant knowledge, experience and skills.

While the national standards do not require the person to be a veterinary surgeon, nor to be accredited, in Queensland the requirement to be a veterinarian or a student supervised by a veterinary surgeon remains under the VS Act.

Live export

The Australian Government regulates the export of livestock under the *Export Control Act 1982*, the *Australian Meat and Livestock Industry Act 1997* and associated orders, regulations and standards. This includes the 'Australian Standards for the Export of Livestock (ASEL)'.

Exporters of livestock must show how they will comply with both the Australian Government's regulations and the importing country requirements. For cattle exported for slaughter or fattening the Exporter Supply Chain Assurance System (ESCAS) also operates once cattle have arrived at their destination.

The Australian Standard for the Export of Livestock generally

ASEL captures the live export process through a number of phases including:

- Planning the consignment
- Sourcing and on farm preparation of livestock
- Land transport
- Pre-embarkation and assembly
- Vessel preparation and loading
- Type of voyage (sea/air)
- Disembarkation
- Post disembarkation.

Pregnancy testing comes into play during the sourcing and farm preparation of livestock along with matters such as body condition score, injury status, health status, food safety requirements, identification and nursing status¹³⁰.

Pregnancy testing under ASEL

ASEL s1.9, s1.10 and s6.6 require that cattle must be pregnancy tested during the 30-day period prior to export. The pregnancy testing standards applicable under ASEL from the Department of Agriculture and Water Resources state:¹³¹

¹²⁹ Despite the current requirements of the *Veterinary Surgeons Act*, the national standards were recently adopted under Queensland's *Animal Care and Protection Act 2001*. Both veterinarians and persons conducting pregnancy testing without fee or reward must comply with these standards.

¹³⁰ <http://www.agriculture.gov.au/SiteCollectionDocuments/animal-plant/animal-welfare/standards/version2-3/australian-standards-v2.3.pdf>

¹³¹ <http://www.agriculture.gov.au/export/controlled-goods/live-animals/advisory-notice/2016/2016-22>

For feeder/slaughter cattle

ASEL standard s1.9 requires that pregnancy tests for feeder/slaughter cattle to be exported by sea can only be completed by a registered veterinarian or competent pregnancy tester.

Competent pregnancy testers may only be used in Northern Territory and Western Australia and must be accredited by the relevant agencies. Competent pregnancy testers may only diagnose pregnancy for feeder/slaughter cattle by manual palpation and are not approved to use ultrasound diagnoses or the IDEXX (blood) pregnancy test.

ASEL standard s6.6A requires that pregnancy tests for feeder/slaughter cattle to be exported by air can only be completed by a registered veterinarian”.

For breeder/productive cattle

“ASEL standard s1.10 requires that pregnancy tests for breeder/productive cattle can only be completed by:

- *For sea journeys of less than 10 days: a registered veterinarian who can attest to demonstrable current experience.*
- *For sea journeys of 10 days or more: a veterinarian who is both a member of the Australian Cattle Veterinarians and an accredited tester under the National Cattle Pregnancy Diagnosis (NCPD) Scheme.*
- *For air journeys: a veterinarian who is both a member of the Australian Cattle Veterinarians and an accredited tester under the National Cattle Pregnancy Diagnosis (NCPD) Scheme.*

For consignments where an accredited NCPD tester is required, the exporter must ensure the name of the accredited tester, their accreditation number and a statement of their accreditation is provided on the pregnancy declaration for the consignment.

Competent pregnancy testers (approved in Western Australia and Northern Territory) cannot complete pregnancy testing of breeder or productive cattle consignments for any market.”

Standards required under ASEL to accredit a lay pregnancy tester

ASEL does not provide specific guidance in relation to accreditation for lay pregnancy testing.

However the Australian Position Statement on the Export of Livestock (APSEL), which is co-published with the ASEL, states that its purpose is to provide:

- an Australian Government statement of guiding principles and minimum recommended animal health and welfare outcomes for animals in the livestock export industry
- a basis for the development of the Australian Standards for the Export of Livestock
- an Australian approach that is consistent with that taken by international bodies, such as the World Organisation for Animal Health (OIE), involved in determining criteria for the health and welfare of livestock.

Therefore by implication, the purpose of state and territory based accreditation schemes is to ensure that harmful or inaccurate diagnosis does not result in adverse animal welfare outcomes.

Review of ASEL

In January 2018, the Department of Agriculture and Water Resources (DAWR) appointed a Technical Advisory Committee to review ASEL¹³². With public consultation expected to commence in early 2018, the review will not necessarily see immediate outcomes in the area of pregnancy testing of cattle.

The Technical Advisory Committee has been appointed for a period of two years and progression of the review is anticipated to be undertaken, with public consultation, on a modular basis. The number of modules and the order in which they will be addressed order is not yet known. However, it is the intention that the modules be reviewed in priority order in alignment with projected research outcomes¹³³.

States and Territories

The power to legislate in relation to the authority to conduct acts of veterinary science vests in the states and territories.

Section 51(i) of the Australian Constitution gives the Australian Government power to make laws for the peace, order, and good government of the Commonwealth with respect to trade and commerce with other countries. While the Australian government has exercised these powers in relation to export standards, it relies upon the states and territories to regulate the veterinary profession in general and has developed export standards that rely on this jurisdictional split.

It is generally understood that the Commonwealth has no appetite for becoming the recognising body for either veterinary or lay practitioners and has elected to accept qualification or accreditation given by states and territories at face value.

¹³² <http://www.agriculture.gov.au/about/media-centre/media-releases/committee-appointed-lead-asel-review>

¹³³ <http://www.agriculture.gov.au/animal/welfare/export-trade/review-asel>

Appendix C - Regulatory arrangements in other jurisdictions

Western Australia

Pregnancy testing by laypersons is permitted in Western Australia.

Initial training of lay pregnancy testers involves a pregnancy testing unit delivered via a university or registered training organisation. Applicants must provide evidence that they are able to detect pregnancies of eight weeks or more in 100% of 20 animals and achieve 80% in a theory based exam¹³⁴.

For state government accreditation purposes, applicants must pay a \$400 initial application fee and an annual renewal fee of \$200. Authorisation lasts for one year. To remain accredited, they must provide evidence that they have tested an average of 500 cattle or more over a rolling three year period. Authorisation is granted for a period of no more than 1 year at a time. Records must be kept of all animals they have tested¹³⁵.

Western Australia's lay pregnancy testing scheme includes a requirement that lay testers operate under the direct supervision of a veterinarian.

There are unconfirmed reports that only three lay testers operate in WA (down from 6 in 2011).

Northern Territory

Pregnancy testing by laypersons is permitted in the Northern Territory. The initial qualifications required in the Northern Territory are understood to be similar to Western Australia.

While testing of 500 animals on a three year rolling average basis is also required to retain accreditation, accreditation lasts for a period of three years in the Northern Territory. Testing summary activity reports are required to be submitted to the Department of Primary Industry and Fisheries by 31 December each year. Detailed records must be retained by the tester¹³⁶. Compliance investigations are required to be initiated upon exporter complaint.¹³⁷

Lay pregnancy testers in the NT are not under the supervision of a veterinarian. Provision for non-vets to pregnancy test for export commenced 10 years ago on the basis that property owners, in remote areas, could pregnancy test small numbers of their own cattle or cattle on adjoining properties for export. It is understood there are 76 accredited testers in the NT with only two offering contract pregnancy testing for exporters.¹³⁸

A review of live export cattle pregnancy testing rules for non-veterinarians has been underway since at least September 2015 but remains on foot pending the outcome of the review of the Australian Standards for the Export of Livestock.¹³⁹

Other Australian Jurisdictions

¹³⁴ <http://www.vsbwa.org.au/wp-content/uploads/2013/07/Pregnancy-testing-rectal-Jan2014.pdf> and <http://www.vsbwa.org.au/wp-content/uploads/2013/07/Pregnancy-testing-Ultrasound-rectal-probe-Jan2014.pdf>

¹³⁵ <http://www.vsbwa.org.au/wp-content/uploads/2013/07/Form-3.7-Pregnancy-Testing-of-Cattle-Authorised-Person-01112016.pdf>.

¹³⁶ https://nt.gov.au/__data/assets/pdf_file/0003/373629/guidelines-accreditation-non-veterinary-pregnancy-testing-cattle-export.pdf

¹³⁷ https://nt.gov.au/__data/assets/pdf_file/0010/238618/process-of-investigation-accredited-pregnancy-tester-non-compliance-fact-sheet.pdf

¹³⁸ Personal correspondence 17 August 2017, Dept. of Primary Industries and Resources (NT) and Dept. of Agriculture and Fisheries (Qld)

¹³⁹ <http://www.abc.net.au/news/2015-09-28/pregnancy-testing-review-cattle-live-exports/6809232>

There are no practice restrictions in relation to pregnancy testing by manual palpation in Victoria and New South Wales though each of these jurisdictions is in the process of progressing to adoption of national animal welfare standards.

Non-veterinary testing is permitted by ultrasound in South Australia.

As recently as 2011, Tasmania amended the definition of veterinary services to include pregnancy testing¹⁴⁰, with an exception permitted only for examination for pregnancy by the external ultrasound scanning¹⁴¹.

¹⁴⁰ *Veterinary Surgeons Amendment Act 2011*

¹⁴¹ *Veterinary Surgeons Regulations 2012*

Appendix D - Comparison of Options under consideration

Supports the agricultural sector's viability in an increasingly competitive international and domestic market			
Assessment criteria	Option 1 – status quo	Option 2 – deregulate entirely	Option 3 – accreditation arrangement
Export market testing	<ul style="list-style-type: none"> Producers would not gain any greater access to testers for export services 	<ul style="list-style-type: none"> Producers would not gain any greater access to testers for export services 	<ul style="list-style-type: none"> Producers would not gain any greater access to testers for export services, unless industry moves to secure accreditation from the scheme under ASEL
Productivity testing	<ul style="list-style-type: none"> Producers would not gain any greater access to testers for herd management purposes 	<ul style="list-style-type: none"> Producers would gain legal access to testers for herd management purposes The number of lay testers entering the market may increase. 	<ul style="list-style-type: none"> Producers would gain legal access to testers for herd management purposes The number of lay testers entering the market may increase
Unit cost	<ul style="list-style-type: none"> Unit cost (per head tested) is unlikely to change. An indicative price in WA for vets is \$3.20. 	<ul style="list-style-type: none"> Unit cost (per head tested) may reduce, partly due to lower overheads of lay testers. An indicative price in WA for laypersons is \$3.40. 	<ul style="list-style-type: none"> Unit cost (per head tested) may reduce, partly due to lower overheads of lay testers. An indicative price in WA for laypersons is \$3.40.
Travel cost	<ul style="list-style-type: none"> Travel distances, and related costs, would remain a significant contributor to costs in remote areas 	<ul style="list-style-type: none"> Travel distances, and related costs, may reduce due to the presence of testers that are more geographically dispersed or who don't charge travel fees (or include them in the unit cost). 	<ul style="list-style-type: none"> Travel distances, and related costs, may reduce due to the presence of testers that are more geographically dispersed or who don't charge travel fees (or include them in the unit cost).
Timeliness/opportunity cost	<ul style="list-style-type: none"> There are times where the availability of testers does not align with need and result in missed opportunities or increased holding or handling costs to align with availability. 	<ul style="list-style-type: none"> There would be no change for export consignments. There may be gains in timeliness in relation to domestic purposes, say for sales to feed lots. 	<ul style="list-style-type: none"> There would be no change for export consignments unless industry secures ASEL endorsement There may be gains in timeliness in relation to domestic purposes, say for sales to feed lots.

Supports the agricultural sector's viability in an increasingly competitive international and domestic market

Assessment criteria	Option 1 – status quo	Option 2 – deregulate entirely	Option 3 – accreditation arrangement
Research consistency	<ul style="list-style-type: none"> Research projects would need to rely on access to local veterinarians who may not be available for critical timeframes or have repetitive interpretive skills. 	<ul style="list-style-type: none"> Consistency of productivity research interpretation for would be supported. 	<ul style="list-style-type: none"> Consistency of research interpretation would be supported.
Veterinary practice viability	<ul style="list-style-type: none"> The influences of veterinary practice viability would remain partially at risk from black market operators. 	<p>Veterinary practices may come under threat due to a flood of new entrants if:</p> <ul style="list-style-type: none"> laypersons establish a credible market reputation; and/or veterinary surgeons may not fully promote the value they add. 	<ul style="list-style-type: none"> Veterinary practices may come under threat due a number of demonstrably qualified entrants; veterinary surgeons may not fully promote the value they add.
Biosecurity	<ul style="list-style-type: none"> Veterinary presence in rural and remote areas should remain constant in the event of a response and incidental surveillance of biosecurity risks may occur. 	<ul style="list-style-type: none"> If veterinary surgeons have reduced opportunities to go on farm, there will be less passive surveillance If practitioners leave the area, there will be less local vets to assist with responses. 	<ul style="list-style-type: none"> If veterinary surgeons have reduced opportunities to go on farm, there will be less passive surveillance If practitioners leave the area, there will be less local vets to assist with responses.
Incidental services	<ul style="list-style-type: none"> Advice regarding recommended treatments and management, including for other animals on farm while present for testing. 	<ul style="list-style-type: none"> Practitioners will not get the benefit of the full range of veterinary skills and observations on an incidental basis. However, it is arguable producers may still receive these benefits if they choose to continue to use veterinary surgeons for pregnancy testing of cattle. 	<ul style="list-style-type: none"> Practitioners will not get the benefit of the full range of veterinary skills and observations on an incidental basis. However, it is arguable producers may still receive these benefits if they choose to continue to use veterinary surgeons for pregnancy testing of cattle.
Other veterinary services	<ul style="list-style-type: none"> If pregnancy testing revenue is not diminished, they are more able to remain in the area served and provide services for other purposes. 	<ul style="list-style-type: none"> If veterinary surgeons no longer practice in the area, other production and companion animal services will also leave the area. 	<ul style="list-style-type: none"> If veterinary surgeons no longer practice in the area, other production and companion animal services will also leave the area.

Supports the integrity of pregnancy testing and scientific research results

Assessment criteria	Option 1 – status quo	Option 2 – deregulate entirely	Option 3 – accreditation arrangement
Accuracy of both pregnancy testing and ovarian scanning	<ul style="list-style-type: none"> will not necessarily provide assurance that the services of a veterinary surgeon are superior to the skills of an experienced layperson. 	<ul style="list-style-type: none"> would not, on its own, support the integrity of pregnancy testing diagnostic results; may, on its own, reduce the integrity of pregnancy testing diagnostic results; 	<ul style="list-style-type: none"> would provide a system to support the integrity of pregnancy testing diagnosis; and will support consistency of scientific research observations.
Demonstrated skill set	<ul style="list-style-type: none"> No formal qualification or RPO necessarily required to conduct testing. No demonstration that skill set maintained. 	<ul style="list-style-type: none"> No formal qualification or RPO necessarily required to conduct testing. No demonstration that skill set maintained. 	<ul style="list-style-type: none"> Formal qualification and accreditation system. Monitoring system to confirm currency of testing skill set Opportunity to regulate methods and equipment standards.
Traceability of tester results	<ul style="list-style-type: none"> No requirement that animals be traceable in order to identify vulnerable points in supply chain. 	<ul style="list-style-type: none"> No requirement that animals be traceable in order to identify vulnerable points in supply chain. 	<ul style="list-style-type: none"> Requirement that animals be traceable in order to identify vulnerable points in supply chain and assist with compliance activity and opportunities for improvement.
Complaints management of testers	<ul style="list-style-type: none"> Only veterinarians have the support of a professional body to demonstrate accountability in the way they perform their roles. 	<ul style="list-style-type: none"> Laypersons have no formal way to demonstrate their skills or accountabilities. 	<ul style="list-style-type: none"> Laypersons would have the support of a professional body to demonstrate accountability in the way they perform their roles.
Consistency of research interpretation	<ul style="list-style-type: none"> Would not support the consistency of scientific research observations 	<ul style="list-style-type: none"> would support consistency of scientific research observations. 	<ul style="list-style-type: none"> would support consistency of scientific research observations.

Incorporates the importance of animal welfare as part of the social licence of providers, of pregnancy testing services or ovarian scanning, to operate

Assessment criteria	Option 1 – status quo	Option 2 – deregulate entirely	Option 3 – accreditation arrangement
Immediate treatment	<ul style="list-style-type: none"> Vets can administer medication without further referral or delay 	<ul style="list-style-type: none"> Laypersons cannot administer medication without referral and delay 	<ul style="list-style-type: none"> Laypersons cannot administer medication without referral and delay
Recognition of illness	<ul style="list-style-type: none"> While on farm, vets can recognise advise on illness and treatment and animal welfare issues 	<ul style="list-style-type: none"> Vets will not be on farm to incidentally identify illness and advise on treatment 	<ul style="list-style-type: none"> Vets will not be on farm to incidentally identify illness and advise on treatment
Reporting of animal welfare	<ul style="list-style-type: none"> Illegal operators may feel unable to report animal welfare concerns 	<ul style="list-style-type: none"> Laypersons may feel there is less risk in reporting animal welfare 	<ul style="list-style-type: none"> Laypersons may feel there is less risk in reporting animal welfare
Risk of handling	<ul style="list-style-type: none"> It is presumed veterinarians are all skilled and committed to animal welfare. 	<ul style="list-style-type: none"> Poorly trained laypersons may risk injury to self and animals by poor technique. 	<ul style="list-style-type: none"> It would be a requirement of accreditation that testers are skilled and committed to animal welfare.
Risk of procedure	<ul style="list-style-type: none"> It is presumed veterinarians are all skilled and committed to animal welfare. 	<ul style="list-style-type: none"> Poorly trained laypersons may risk injury to self and animals by poor technique. 	<ul style="list-style-type: none"> It would be a requirement of accreditation that testers are skilled and committed to animal welfare.
Risk of transport	<ul style="list-style-type: none"> Provided the veterinarian maintains testing skills, risk of road or sea transport should be minimised. 	<ul style="list-style-type: none"> Provided the layperson holds and maintains testing skills, risk of road transport should be diminished. 	<ul style="list-style-type: none"> Laypersons will be required to demonstrate maintenance of testing skills, therefore reducing the risk of road transport.
Poor management decision	<ul style="list-style-type: none"> Provided the veterinarian maintains testing skills, risk of ill-informed management decisions reduced. VSB underpins professional integrity. 	<ul style="list-style-type: none"> Provided the layperson holds and maintains testing skills, risk of ill-informed management decisions reduced, but no system to monitor. 	<ul style="list-style-type: none"> Layperson will be required to demonstrate maintenance of testing skills, therefore reducing the risk of ill-informed management decisions.
Professional support	<ul style="list-style-type: none"> Veterinarians have the support of a professional body to demonstrate accountability in the way they perform their roles. 	<ul style="list-style-type: none"> Laypersons have no formal way to demonstrate their skills or accountabilities. 	<ul style="list-style-type: none"> Laypersons would have the support of a professional body to demonstrate accountability in the way they perform their roles.

Incorporates the importance of animal welfare as part of the social licence of providers, of pregnancy testing services or ovarian scanning, to operate

Assessment criteria	Option 1 – status quo	Option 2 – deregulate entirely	Option 3 – accreditation arrangement
Presence of veterinarians	<ul style="list-style-type: none"> will support the ongoing viability of regional veterinary practices and therefore access to local veterinary services for other purposes. 	<ul style="list-style-type: none"> May undermine the ongoing viability of veterinary practices and therefore access to veterinary services for other purposes. 	<ul style="list-style-type: none"> May undermine the ongoing viability of veterinary practices and therefore access to veterinary services for other purposes.
Education	<ul style="list-style-type: none"> Animal welfare component of existing training is largely targeted at handling and process. No broader animal welfare aspects are included. 	<ul style="list-style-type: none"> Animal welfare component of existing training is largely targeted at handling and process. No broader animal welfare aspects are included. 	<ul style="list-style-type: none"> Animal welfare training component could be expanded to include some preliminary sign for testers to observe. Responsibilities for reporting of animal welfare concerns would also be incorporated.

Imposes the lowest responsible regulatory burden

Assessment criteria	Option 1 – status quo	Option 2 – deregulate entirely	Option 3 – accreditation arrangement
Export market	<ul style="list-style-type: none"> would not reduce the burden imposed on producers that rely upon, at times, scarce veterinary surgeons for feeder cattle export testing services. 	<ul style="list-style-type: none"> would not reduce the burden imposed on producers that rely upon, at times, scarce veterinary surgeons for feeder cattle export testing services. 	<ul style="list-style-type: none"> would not reduce the burden imposed on producers that rely upon, at times, scarce veterinary surgeons for feeder cattle export testing services.
Herd Management	<ul style="list-style-type: none"> excludes producers from access to additional competent (fee for service) technicians for herd management purposes 	<ul style="list-style-type: none"> gives producers from access some additional (fee for service) technicians for herd management purposes 	<ul style="list-style-type: none"> gives producers from access some additional recognised (fee for service) technicians for herd management purposes
Laypersons	<ul style="list-style-type: none"> excludes recognition of aspiring technicians willing to meet industry needs. 	<ul style="list-style-type: none"> Removes all barriers to entry for aspiring technicians. 	<ul style="list-style-type: none"> Creates some barriers to entry for aspiring pregnancy testing technicians, though does not require a degree.
Entry requirements	<ul style="list-style-type: none"> Illegal operators continue to operate, with no formal qualifications or recognition of prior learning required. 	<ul style="list-style-type: none"> Operators continue to operate with no formal qualifications or recognition of prior learning required. 	<ul style="list-style-type: none"> Higher standards of initial training and/or traineeships could be introduced. Longer courses would attract more costs and initial accreditation testing likely to attract application costs and annual fees.
Compliance costs for entrants	<ul style="list-style-type: none"> No change – new entrants may or may not undertake existing 2 day training course at costs of around \$450. 	<ul style="list-style-type: none"> No change – new entrants may or may not undertake existing 2 day training course at costs of around \$450. 	<ul style="list-style-type: none"> Cost for accredited testers unlikely to be at an acceptable level if operating only at a state level. If pilot expands to national scheme, economies of scale available. Annual fees and reporting burden will be influenced by the monitoring mechanism established under the industry scheme.
Burden to government	<ul style="list-style-type: none"> Burden to government of compliance with VS Act is thwarted by industry protection culture, coupled with poor 	<ul style="list-style-type: none"> Lower burden to government as no regulation under the VS Act. 	<ul style="list-style-type: none"> Low burden to government as no regulation under the VS Act and regulation under ACP Act targeted at

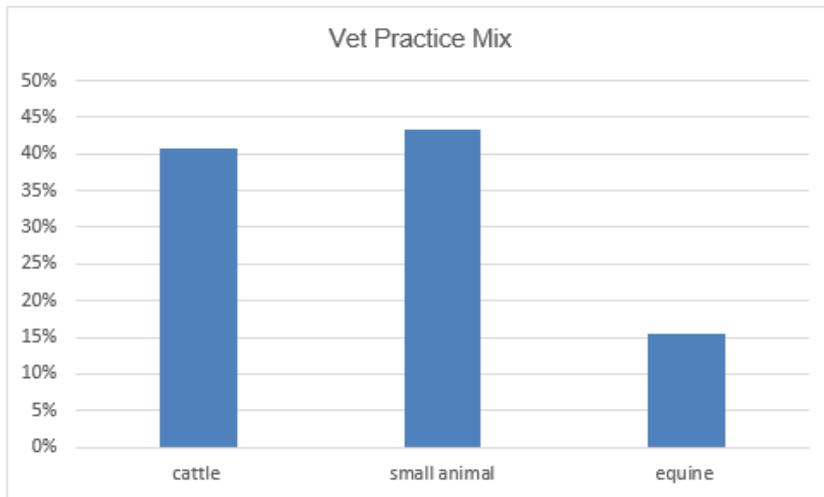
Imposes the lowest responsible regulatory burden

Assessment criteria	Option 1 – status quo	Option 2 – deregulate entirely	Option 3 – accreditation arrangement
	return on investment of compliance alternatives.		scheme level rather than individual operator level. <ul style="list-style-type: none"> • Number of schemes operating may be as low as one.

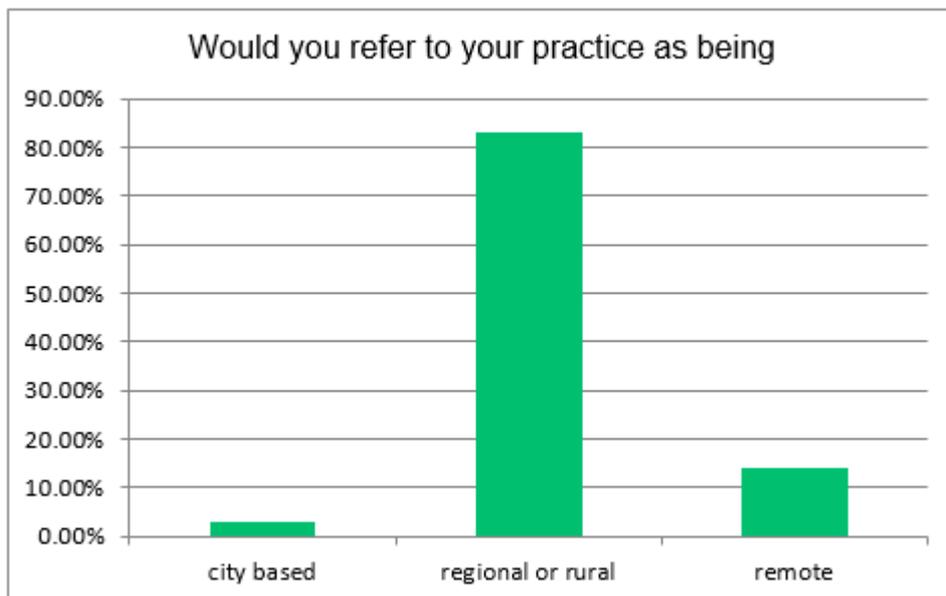
Appendix E - Australian Cattle Veterinarians survey

ACV Survey of Qld members – provided by email from AVA on 23 March 2018

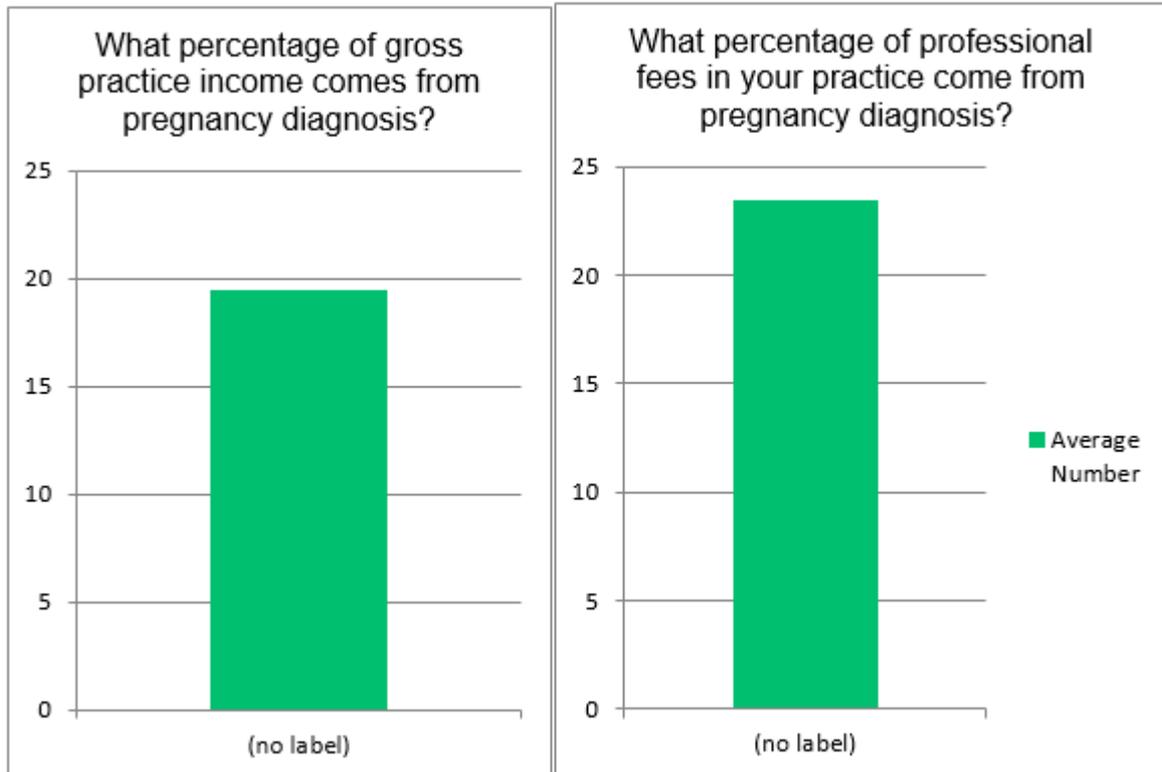
The ACV in March 2018 has undertaken a survey of Queensland Cattle Vet members. Currently vet practices surveyed (n=72 as of March 22) are just over 40% cattle, with 43% small animals. The results are discussed in more detail below, however in summary there will be large changes to practices, and practice incomes with the introduction of lay pregnancy testing, and practices will have to reduce their vet workforce. The total vet numbers from the practices who responded to the survey is 332 vets, with additional supporting clinic staff of 462.



These vets rated how they categorized their practice locality and over 90% were regional, rural or remote practices.

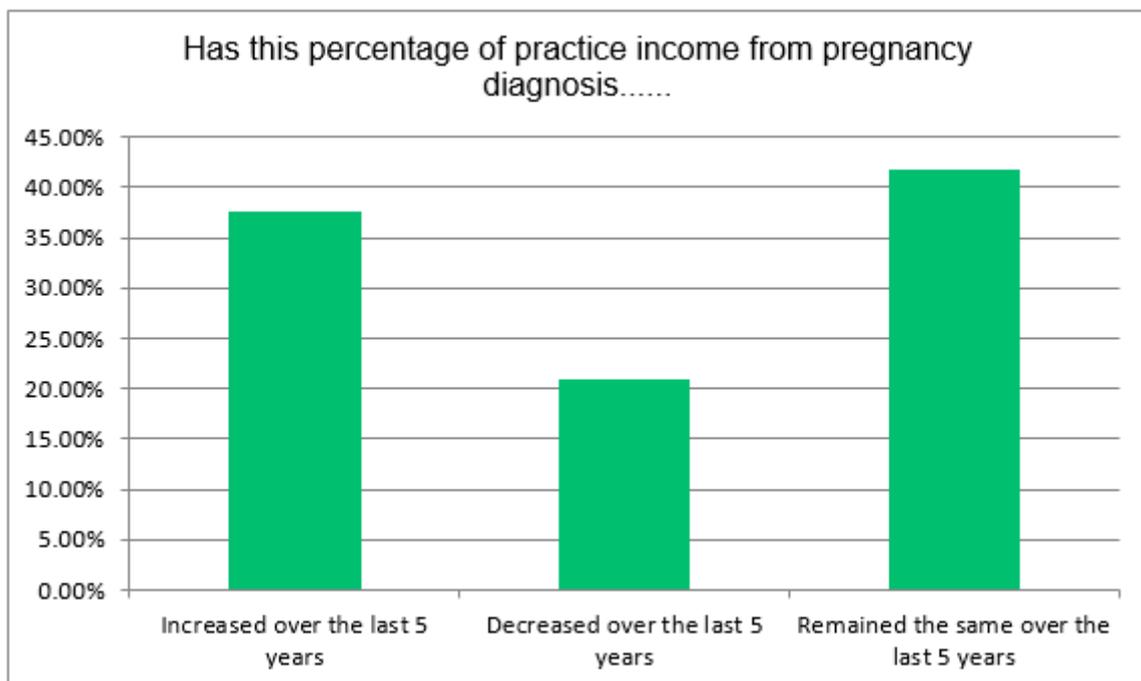


The percentage of gross practice income from pregnancy diagnosis is just under 20%, and the percentage of professional fees are 23.5%. There was a wide variation on these figures though from individual practices, ranging from 1% to 75% of professional fees.

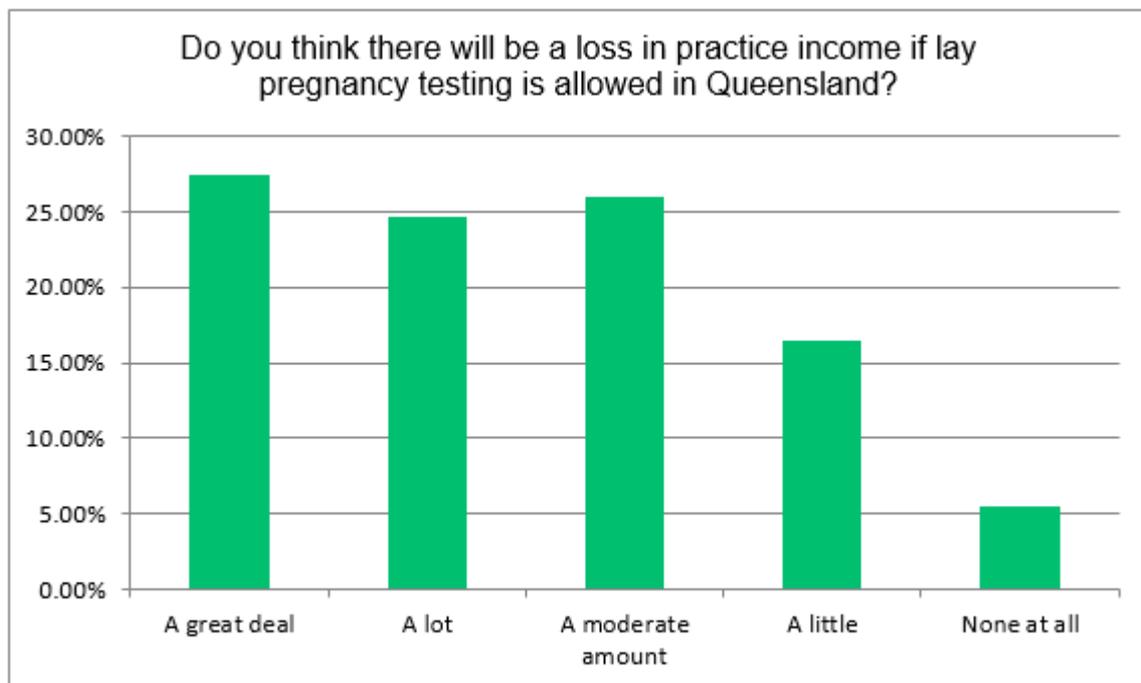


Trends

Over 35% of practices reported an increase in practice income from pregnancy diagnosis over the last 5 years, just over 40% said it remained the same, with 20% reporting a decline in that period.



Importantly, for practice sustainability, when asked the question do you think there will be a loss in practice income if lay pregnancy testing is allowed, 94% of vets said there would be an impact, and 50% of these said a great deal or a lot.



A selection of other comments from vets were:

"I believe it would be a detriment to the efficiency and progression of the Qld beef industry to allow lay pretesting."

"As animal welfare and biosecurity concerns become more of a focus for consumers I fail to see how it is a remotely good idea to shut out the people who the general public see as experts and advocates in these areas. It is a backwards step and very disappointing considering the awesome job Agforce does advocating for the ag sector"

"Pregnancy testing often forms the basis for many other conversations while on farm ranging from the "while your here" to the conversation around reduced pregnancy rates etc. There would be a significant loss in expertise, not just in pregnancy testing skill, but the knowledge that comes from being a vet"

"I believe PD for trade/export still needs to be done by veterinarians. Can understand lay PD will enable farmers to process cattle quicker and prob cheaper and perhaps that's fair enough as long as they understand that pathologies (endometritis/COD/etc) won't necessarily be diagnosed and treated appropriately, potential disease investigations won't be initiated/pre-empted based on obs at PD, and the instinctive on-farm Biosecurity screening vets do secondary to the primary call-out job just won't occur".

"Biosecurity surveillance, optimizing production and herd health are key components to have a vet preg test. Reducing vets preg testing will come at a major cost to the cattle industry".

"I have previously been in mixed practice with significant amounts of cattle preg testing. One concern is misinformation that can arise when preg test rates are abnormally low. Lay preg testers may assume they know the causes and therefore diseases, including zoonosis such as leptospirosis, may not be

accurately identified or addressed. Further economic losses and work place health and safety issues may continue without further investigation”.

“Yes, there are certainly major animal welfare concerns associated with lay pregnancy testing. I have witnessed cattle having been preg tested by layman that have been deemed empty only to calve in saleyards, feedlots and abattoirs. In addition to this, occasional rectal tears too (in particular when I worked in the NT on Cattle stations). Lay man preg testers have no accountability whereas us Vets know there will be consequences with the public and VSB if something goes wrong. Additionally, from a biosecurity and herd health point of view, layman don’t necessarily have the knowledge or communication skills to be able to help producers which will long term be costing them. We work hard to build our clients trust in us and strengthen our relationships with them, but if lay man preg testers become ‘available’ it will seem as though us ACVs credibility may be lost? Long term, Cattle Vets might be extinct!”

“Loss of farm access, no biosecurity surveillance, loss of communication with producers, We will have to put off 2 vets”

“Preg testing is just a away for us to get on Farm. The onflow effects from discussions while preg testing are really important. Discussions about herd health, bull selection, and even working dogs are all had at this time and are important sources of info for the property owners and are important in generating income for the practice that is not directly related to preg testing”.