

Tablelands Farming Systems and Graham Centre Partnership project: Supporting livestock producers managing animal health and biosecurity Regional Report

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This project is supported by Meat & Livestock Australia (MLA), through funding from the Australian Government Department of Agriculture as part of its Rural R&D for Profit program, and by producer levies from Australian FMD-susceptible livestock (cattle, sheep, goats and pigs) industries and Charles Sturt University (CSU), leveraging significant in-kind support from the research partners.

The research partners for this project are the Commonwealth Science and Industrial Research Organisation (CSIRO), CSU through the Graham Centre for Agricultural Innovation, the Bureau of Meteorology (BOM) and the Australian Department of Agriculture, supported by Animal Health Australia (AHA). The project commenced in July 2016 and will conclude in June 2020.

The Tablelands Farming Systems Group and Graham Centre for Agricultural Innovation have been working together on a partnership project that aims to provide benefits to both organisations. As part of this, the Graham Centre researchers have created a summary from their farm visits and surveys that give a regional perspective on biosecurity and identify common areas of concern identified by TFS producers visited.

Thank you to those producers who completed the survey and who allowed us to visit them on farm. Your generosity and openness is very much appreciated.

This report includes anonymous information about the members of TFS who completed the survey. It also provides general information on regional factors that we consider to be important in terms of understanding the potential risk of Foot and Mouth Disease (FMD) and the best biosecurity recommendations to reduce these risks.

Who completed the survey?

The first table provides information about the members of TFS who completed the survey. This table highlights the breadth of experience with the majority of producers being from farming families with many years' experience.

Table 1: Information about the TFS members who completed the biosecurity survey

Demographics		Beef Producers % (number of responses)	Sheep producers % (number of responses)
Generation farming	1st	29 % (2)	0
	2nd	0	11% (1)
	3rd	71% (5)	89% (8)
Years farming	less than 5	14% (1)	0
	5-10	0	0
	11-20	14% (1)	0
	More than 20	71% (5)	100% (9)
Age	36-50	14% (1)	56% (5)
	51-65	29% (2)	22% (2)
	66-80	57% (4)	22% (2)
Property size (ha)	1-99	29% (2)	0
	100-499	29% (2)	0
	500-2999	43% (3)	88% (7)
	3000 or more	0	12% (1)
Production system	Mixed	14% (1)	67% (6)
	Single species	86% (6)	11% (1)
	+ cropping	0	22% (2)

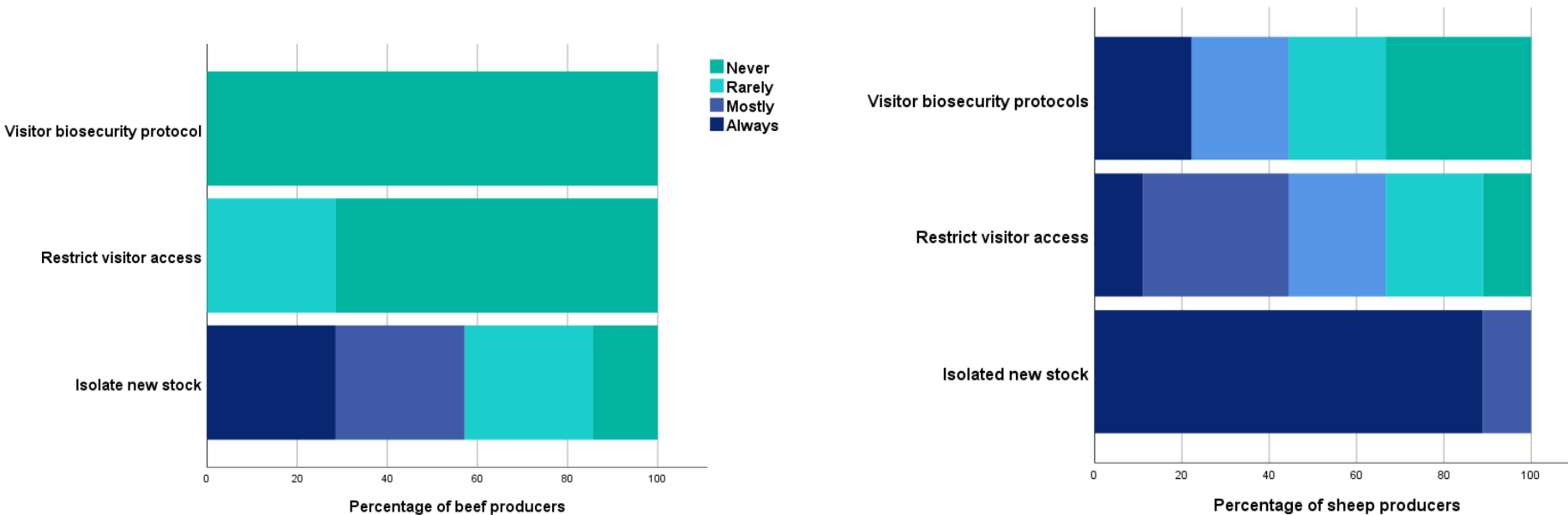
Who is doing what?

When asked about how often they undertook biosecurity related actions on their property, the majority of sheep producers reported that they always isolated/quarantined new stock. Over half of the beef producers who did the survey reported always or mostly quarantining new animals. See Figure 1 for the results.

Quarantining new animals means that if they have a disease that they are not showing signs of yet, they can be checked and/or treated without necessarily infecting the rest of the animals on the property. This quarantine will also reduce the impact of diseases like foot and mouth disease because it will be picked up earlier and spread to other animals will be reduced.

The recommended quarantine period for foot and mouth disease is 21 days. This will also cover other diseases too, although footrot and lice in sheep may still not be picked up after this.

Figure 1: Biosecurity actions undertaken by TFS beef and sheep producers

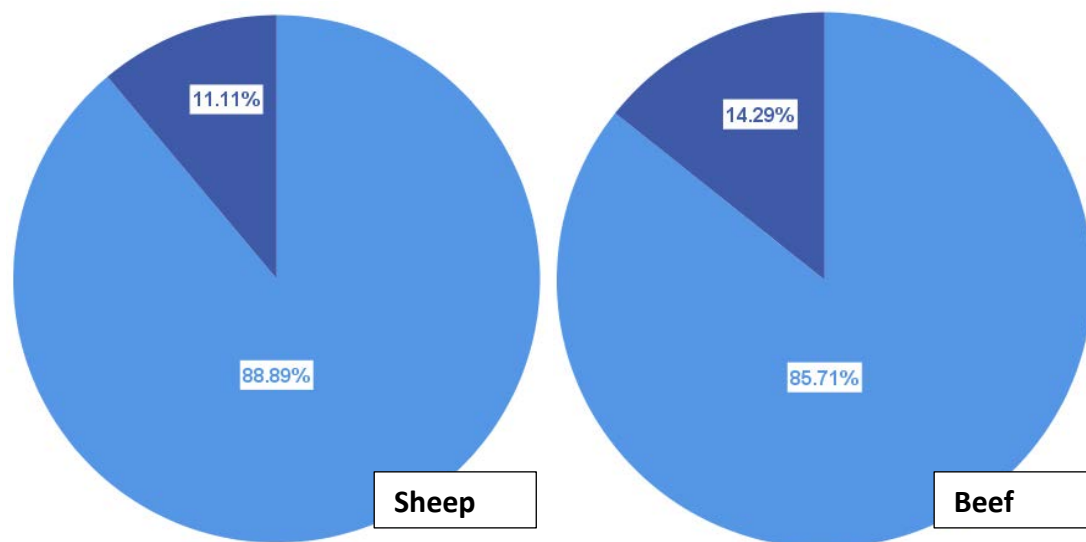


What about foot and mouth disease risks around us?

All beef producers and eight out of nine sheep producers who did the survey have neighbours with FMD susceptible species. This means that the actions you take on your property to reduce the risk of disease outbreak and spread benefits both you and your neighbours, and may encourage them to think about what they can do to reduce the risk.

When considering feral animals, the majority of sheep and beef producers that completed the survey said that they had feral animals that are susceptible to foot and mouth disease on their property. This includes pigs, goats and deer. This highlights the importance of considering how best to manage those type of feral animals and to reduce the contact they have with your livestock.

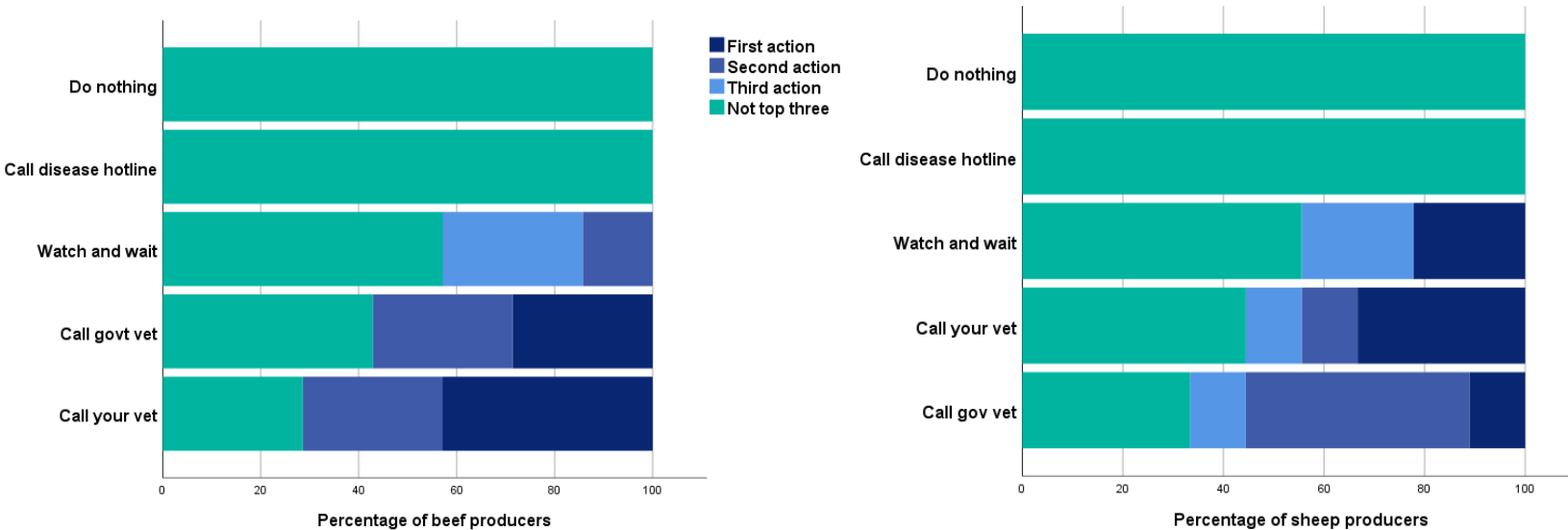
Figure 2: TFS producers with FMD susceptible feral animals



What do you do when you see something unusual?

Of the producers that completed the survey, the majority would call either their government or private veterinarian as one of their top three actions. Foot and mouth disease cannot be diagnosed by looking alone. Testing needs to be done to either rule it out or diagnose it. The sooner a vet is involved, the sooner testing can begin. In the case of a foot and mouth disease case being diagnosed, the sooner this happens, the faster a response can organised, reducing the severity and length of the outbreak. A shorter outbreak will be better for you and your animals, as well as the domestic and export markets. This is true, not just for foot and mouth disease but for all diseases.

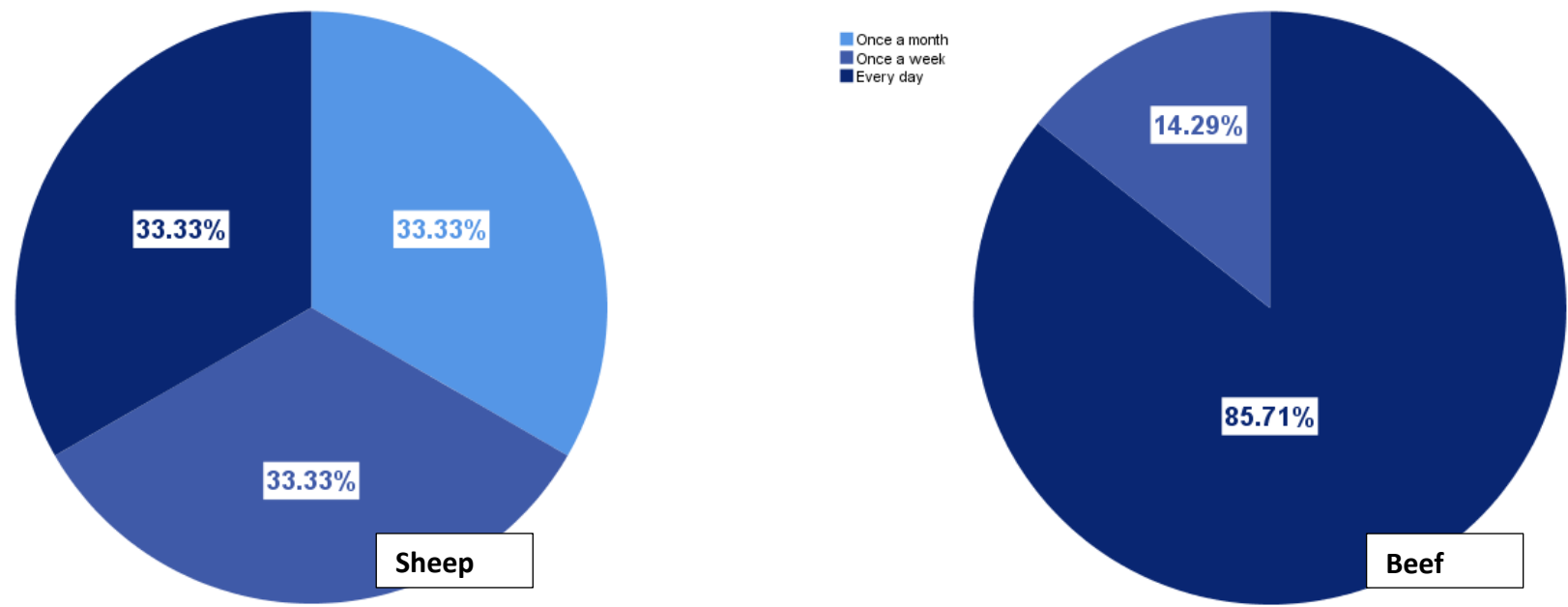
Figure 3: Top three actions of TFS beef and sheep producers when they see unusual signs of disease in their animals



Checking your animals

Of the producers that completed the survey, the majority inspect their animals once a week or more frequently. Regular checking of animals and follow up on anything unusual that you see is important so that any diseases or production issues can be sorted out early. Keeping records is also an important part of this so that you have a record of what is normal or expected for your animals. Foot and mouth disease signs can be really subtle in sheep, with some cases in the UK outbreak only being diagnosed with testing.

Figure 6: Frequency of TFS producers’ visual checks on their animals



Other issues identified

The following issues are common issues identified by the producers that invited us onto their farm and talked with us about their enterprise. Our recommendations about how these issues might be managed:

- Straying stock: These were a very common problem and also highlighted other issues with fencing and the identification of livestock.
 - Stray stock can be considered in the same way as new stock. It is best to quarantine them as soon as possible and arrange for them to leave your property, either by contacting the owner if you can, or LLS.
- The presence of foot and mouth disease susceptible animals was also a common problem for producers.
 - It is possible that foot and mouth disease could enter the feral population of pigs, for example, and not be diagnosed until livestock are affected.
 - Reducing the contact between foot and mouth disease susceptible animals such as pigs, goats and deer with appropriate fencing will reduce the likelihood of these coming onto your property via this route.
- Duration of quarantine: In the case of foot and mouth disease, recommended quarantine of new/returning animals is 21 days. This gives a chance for the signs of disease to appear, before the animals have a chance to interact with your existing animals. It is recommended that agistment and breeding animals are treated in the same way.

Observations	Recommendations
GENERAL KNOWLEDGE OF Foot and Mouth Disease (FMD)	
Generally, knowledge of was good. There was some thoughts that “this will not happen to me”. Unfortunately, due to how the disease behaves, it can actually happen to anyone. There is will a time delay between the first infection and when the disease is actually diagnosed. Knowing more about the disease and how it might impact your farm, may speed up the time for diagnosis and reduce the overall impact of the outbreak.	FMD can survive well in meat products and can also be introduced on clothing and footwear. Care is needed when managing returnees from overseas travel, including self and family, staff and visitors. Please refer to the attached NSW DPI fact sheet for additional information on FMD.
UNDERSTANDING OF TERM BIOSECURITY	
There was a reasonable understanding of what biosecurity means. It is basically any practices that work towards keeping diseases and pest off your farm, or practices that can limit the spread of diseases and pest if they come onto your farm. These practices include quarantining new stock, regular animal checks and knowing who to call if you see anything unusual in your animals.	Consider reviewing your Biosecurity Plan to refresh your ideas about the main concepts of biosecurity in relation to diseases and pests. Biosecurity information and resources can also be found at: www.farmbiosecurity.com.au
LIVESTOCK INPUTS	
Health status of new stock: The majority producers reported inspected new stock and using the appropriate animal movement documentation – NVD and SHS/CHS.	Use of appropriate animal movement documents and keeping NLIS accounts up to date will allow for rapid tracing of animal movements in case of any problems, and checking in with your agent periodically to make sure this is being done is a good idea.
Quarantine period for introduced livestock: There was variation in how long introduced animals were kept separate from existing livestock – from no time to 4-6 weeks. Quarantining animals means that if they bring any new disease onto your property, you will have a chance to see it before the new animals mix with the others. This practice will minimise the impact of lots of diseases on your property, including FMD.	When considering FMD, the incubation period is 2 - 14 days. The general recommendation is to quarantine new stock for a period of 21 days. Rams and bulls introduced for breeding purposes should be quarantined as well, even if you know where they have come from and trust the owner.
Livestock identification: Use of the NLIS system was high.	Making sure that your animals are correctly tagged and that your NLIS account is as up to date as possible will make traceability in the event of disease outbreaks much easier and quicker.
PEOPLE, VEHICLES AND EQUIPMENT	

Recording and movement: Some producers reported having a biosecurity sign in place and some did not. Some kept a record of farm visitors and some did not. A common problem was visitors/contractors visiting the farm unannounced. This included electricity contractors, tourists etc.	A biosecurity sign may help as a prompt to those visiting your farm to limit their access and to request permission, reminding them of the risks of moving on and off farms. Keeping track of visitors where possible would help with traceability in the event of a disease outbreak.
Movement and management of equipment: The risk of vehicle and equipment movement between farms was identified by many producers to be of concern.	It is worth considering what barriers are in place to protect from disease spread between properties from shared machinery, e.g., cleaning and disinfection protocols of vehicles and machinery. Keeping animals away from areas where contractors have entered provides an excellent barrier to possible infectious material.
PRODUCTION PRACTICES	
Livestock monitoring: There was variation in the reported frequency of animal inspections, from daily checks to every few months where animals are in difficult to access paddocks.	When considering FMD, the incubation period is 2 - 14 days. Checking animal once a week on average or more frequently will mean that any signs of FMD will be picked up early.
Practices to protect your livestock from endemic diseases: Main endemic diseases of concern are lice, footrot, worms, fluke resistance, Johnes disease. Practices included vaccination, worm counts, lice treatments.	Continue to monitor animal health in your animals and to be informed on changes of endemic diseases in the area through consultation with the Local Land Services and your private vet.
Contact with private and government veterinarians: Producers reported a mixture of contact between private and government veterinarians	Strong information sharing networks can be a barrier to introduction and spread of disease. Having access to veterinary advice that you trust can help with production issues, as well as a rapid response to emergency disease situations.
Actions in the event of a disease outbreak: Most producers reported having the capacity to separate sick animals and that they would contact a vet for advice.	Contacting the private or government veterinarian as early as possible in the event of unusual signs of disease will minimise the potential impact of a disease in your property and others. Even reducing the time between infraction and diagnosis of FMD by a few hours or a day can dramatically reduce the impact of the disease

OUTPUTS	
Most producers operated with a no returns principle. – whatever leaves the property does not come back	No returns is a good solid practice for reducing the likelihood of diseases being brought on to the farm. Animals returning from saleyards, shows, agistment etc., need to be treated as new animals will full quarantine. This includes stray animals (see below)
CARCASE, MANURE AND WASTE MANAGEMENT	
Variable practices were reported for carcase management, from using a dogger, burial, dumping etc.	To avoid environmental and infectious contamination, see attached DPI advice in regards to options for safe disposal of animal carcasses. Recommended options include burial, composting, rendering, licenced landfill and burning.
FENCES	
Inspection and maintenance: This was a very common problem for producers, managing strays, feral animals and containing livestock.	Continue monitoring and repairing fences to minimise risk of wildlife and strays. You could discuss with neighbours this risk and how to minimise it. As soon as strays are identified, remove them from your mob and quarantine them until they can be removed from your property.
PESTS AND WEEDS	
Management: The main species of concern reported were pigs, deer, wombats and kangaroos	FMD can be carried by any two toed animals, including goats, pigs and deer. There is a risk that FMD may enter the feral population first, through feral pig access to food scraps. This would place all herds with contact with feral animals at risk.
TRAIN – PLAN – RECORD	
Training: Most producers kept up to date with information and training via the Tablelands Farming Systems group, as well as other workshops and programs	Keeping up to date with appropriate research and requirements to buy and sell animals is important. Having a strong network, such as the TFS will greatly help with this.
Documentation and record keeping	
Animal health records: Producers reported using software to manage their records, including Agriwebb and Stockbook, as well as diaries	Managing endemic diseases and identifying exotic diseases is helped by good record keeping so that the value of treatments/ preventatives can be assessed, and the impact

	of diseases identified, based on changes in production. Using software to manage records might mean that you can use the data you record in different ways.
Farm biosecurity plan: Most producers reported having a biosecurity plan that they completed a while ago and did not use or review.	Biosecurity plans can be used as a prompt to consider your specific enterprise and how you might reduce the introduction and spread of disease. An annual review of your plan may be of use to track management and production systems changes and increase your understanding of other concepts related to biosecurity. A biosecurity plan can also greatly assist in the event of a farm audit. Biosecurity information and resources can also be found at: www.farmbiosecurity.com.au
Zoonotic disease: Most producers were not vaccinated for Q fever, although some had been tested and most were keen to consider it.	Information about Q fever and the vaccination process can be found at www.qfever.org .