

Biosecurity - Tick fever

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Management of the biosecurity risk

Tick fever or “redwater” is an economically important tick-borne disease of cattle, particularly in Northern Australia. It causes significant economic losses through mortalities, abortions, ill thrift and lost milk production.

Tick Fever is spread by cattle ticks and can cause significant mortalities in cattle. Both Tick fever and cattle tick are notifiable in NSW herds. When tick fever is diagnosed the herd is subject to regulation to enable eradication of tick fever and the vector cattle tick.

This procedure outlines the NSW government response to tick fever outbreaks.

Tick fever refers to both Babesiosis and Anaplasmosis and results from infection by the red blood cell parasites *Babesia bovis*, *Babesia bigemina* and *Anaplasma marginale*. These organisms are spread by cattle tick (*Rhipicephalus (Boophilus) microplus*). Outbreaks of tick fever parallel the distribution of cattle tick which is endemic in higher rainfall areas of Northern Australia. If unrestricted by regulation cattle ticks would be endemic in much of NSW.

Scope

The *Biosecurity Act 2015* (the Act) promotes biosecurity as a shared responsibility between government, industry and communities. This procedure is a State Priority for NSW and should be read in conjunction with the Endemic Pests and Diseases of Animals policy. The procedure applies to NSW Department of Primary Industry (NSW DPI), an office within the NSW Department of Industry, and Local Land Services (LLS) in their role as authorised officers under the Act.

Biosecurity legislation summary

Tick Fever due to any of the three etiological agents *Babesia bovis*, *Babesia bigemina* and *Anaplasma marginale* is notifiable in NSW under the Act and any person who suspects an animal is infested with tick fever must notify a NSW DPI or LLS authorised officer within 1 working day of first suspecting or becoming aware of tick fever.

Any person (e.g. stock owner or manager, agent, veterinarian, veterinary laboratory, saleyard managers and stock transporter etc.) who deals with potential tick fever animal hosts and who knows or ought to know of the biosecurity risks associated with tick fever has a general biosecurity duty to take measures to prevent, eliminate or minimise the risk as far as is reasonably practicable.

Potential ways to discharge the general biosecurity duty will include:

- regularly monitoring animals for signs of of tick fever.
- notification of suspected/confirmed disease.
- vaccination of at risk animals.

- maintaining stock proof fences to prevent stock straying.
- presenting all stock in an affected herd for inspection and treatment for cattle ticks by an authorised officer.
- making and maintaining records of stock movements.

See the [Primefact - Tick fever](#) for more information on how to reduce the risk of spread of tick fever.

The collection, use and disclosure of information in accordance with this procedure, including any internal or external discussion or distribution of information, must be in compliance with the *Privacy and Personal Information Protection Act 1998* or be exempted by the operation of section 387 of the Act.

Section 387 (2) of the Act provides authority for the disclosure of information about a person, without the consent of the person: to a public sector agency or to any other person, but only if the disclosure is reasonably necessary for the purpose of exercising a biosecurity risk function.

Work health and safety

The *Work Health and Safety Act 2011* places an obligation on the agency (NSW DPI and LLS) as a person conducting a business or Undertaking and workers to provide a safe and healthy workplace. Safe Work Method Statements that support activities included in this procedure must be used in identifying, assessing and controlling risks.

NSW DPI and LLS will work together to create a safe and supportive work environment when undertaking any activities for this procedure.

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Tick Fever

1. Roles and responsibilities

1.1 Animal owners and managers

- notify suspicion of tick fever.

1.2 Private veterinarians

- notify and suspect cases of tick fever
- collect appropriate samples for tick fever diagnosis
- provide advice to clients on use of tick fever vaccination.

1.3 NSW Laboratory Services

- undertake Tick fever testing on requested submissions
- provide assistance with sampling guidelines.

1.4 Authorised officers

- investigate reports of suspect tick fever
- undertake tracing
- use regulatory instruments to restrict the movements of cattle tick hosts that are confirmed or suspected to be infested with cattle ticks
- undertake inspections of stock for cattle tick
- supervise cattle tick eradication programs.

1.5 District Veterinarians

- investigate reports of suspect tick fever
- enter Tick fever investigations into LHMS
- follow up on disease investigations by private veterinarians where tick fever testing has not been requested.

1.6 Cattle tick technical adviser

- coordinate Investigation of suspect tick fever reports
- prepare technical information for advisory use
- provide briefs to Executive and Minister's Office on tick fever
- prepare media responses.

1.7 Leader Cattle Tick Operations

- investigate reports of suspect tick fever
- undertake tracing
- use regulatory instruments as required.

2. Notification and reporting

Tick Fever due to any of the three etiological agents *Babesia bovis*, *Babesia bigemina* and *Anaplasma marginale* is notifiable in NSW under the Act and any person who suspects an animal is infested with tick fever must notify a NSW DPI or LLS authorised officer **within 1 working day** of first suspecting or becoming aware of tick fever. Notifications of suspected tick fever may be made by ringing the local [LLS](#) or [NSW DPI office](#).

Notifications of suspected tick fever must be reported and assessed as per the Procedure on Reporting Prohibited Matter, Notifiable Pests and Diseases and other Biosecurity Events.

3. Investigating suspect cases

Whenever tick fever is suspected or notified in stock, a veterinary investigation is to be commenced immediately to either confirm the suspicion or to establish that the stock are unlikely to be infected with tick fever. The [Primefact 1550 Tick Fever technical guidelines for veterinarians](#) contains technical and epidemiological information on Tick Fever to assist investigating officers.

Most cases of tick fever have concurrent cattle tick infestations and the [Procedure Cattle Tick](#) provides details on the regulatory action required whenever cattle tick are detected.

The investigation should take into account:

- the locality
- clinical signs in the affected stock, the duration of these signs and time of onset
- visual observation of affected stock or carcasses
- history of the stock, recent stock movements or stock introductions
- previous history of cattle tick or tick fever on the property/land
- previous vaccination against tick fever
- trace contact with stock that are from tick infested areas, or that are known or suspected to have had contact with cattle tick infested livestock, or with land known or suspected to be infested with cattle tick.

NOTE: Tick fever can cause major mortalities and elicits a degree of public concern, so disease investigation should be given high priority.

4. Sampling for laboratory examination

Tick fever can be detected in appropriate samples from both live and dead animals. From live animals both thick and thin blood smears are required while for dead animal tissue samples especially brain smears are required. If more than one animal is suspected to be infected collect a range of samples from several suspect animals.

Technical advice on sampling for tick fever diagnosis can be found in document [Primefact 1550 Tick Fever technical guidelines for veterinarians](#), the [NSW laboratory Services Tick Fever webpage](#) and in the Qld government publication "[Making smears for tick fever diagnosis](#)".

5. Regulatory action once tick fever is confirmed.

5.1 Movement restrictions

After tick fever is confirmed movement restrictions are applied on both primary and secondary cattle tick hosts using a biosecurity direction or a biosecurity undertaking even if cattle tick has not yet been detected.

The biosecurity undertaking or direction must include:

- restrictions on cattle tick hosts moving onto or off the property
- requirements to monitor and maintain stock proof boundary fences
- requirements to provide information on stock movements on and off the property in the preceding 12 months
- requirements to present a full muster of all cattle tick hosts for regular inspection and treatment by an authorised officer at a suitable time for both parties.

If ticks are not detected, cattle tick host movements restrictions must remain in place until two herd manual examinations six weeks apart have not found any evidence of cattle tick.

If cattle tick is detected at any stage, the management of the response is as detailed in [Procedure Cattle Tick](#).

5.2 Tracing to identify potential cattle tick infestation

On holdings where Tick fever has been confirmed, all movements of cattle tick hosts to or from the holding in the previous 12 months must be assessed for the risk of cattle tick infestation starting with

the most recent movements. Tracing should be done using National Livestock Identification System (NLIS) records in conjunction with agent and owner records.

In most cases, risk assessments on movements will be undertaken by Authorised Officers in the cattle tick program in consultation with the Cattle Tick Technical Coordinator. Where tracing involves several LLS regions, the assistance of the District Veterinarian may also be required for tracing.

Movements to saleyards where dipping of sale stock is routine (north coast region), or to abattoirs are low risk. The impact of climate (time when the movement occurred and the temperatures recorded during winter) on cattle tick survival should be considered in the risk assessment. Even if cattle ticks could survive for only a short time in some areas, secondary high risk movements from those areas to other more favourable areas may occur.

Movements of primary hosts are highest risk, but movements of secondary hosts (horses, sheep, goats, and camelids) can be significant, especially if the infestation rate is high.

Traced at-risk stock must be detained and movement restrictions applied as per 5.1.

Tracing of stock product (meat, milk, fleeces and hides) is not required.

5.3 Revocation of regulatory instruments

The cattle tick hosts and infested land will remain under movement restrictions until a cattle tick eradication program is completed which can take 12-15 months.

Where cattle ticks are not detected on any stock at repeated examinations the decision to release the cattle tick hosts and infested land from restriction will be made by the Cattle Tick Technical Coordinator in consultation with the Leader Cattle Tick Operations (CTO).

If a biosecurity direction is in place, revocation can be by a new biosecurity direction revoking the previous one. If a biosecurity undertaking is in place revocation requires notification of withdrawal of the biosecurity undertaking in writing by an authorised officer to the person named on the biosecurity undertaking.

6. Treatment

The treatment of tick fever cases is the responsibility of private veterinarians as the drugs used for treatment are only available on prescription and have residue implications.

Concurrent tickicide application to remove cattle ticks from the animals is an essential component in controlling tick fever outbreaks. As *B. bovis* is spread by larval ticks, cattle tick eradication programs where tick fever has occurred may involve more frequent treatment or additional treatments in the early stages of the program. This decision will be made by the Cattle Tick Technical Coordinator in consultation with the Leader CTO. See [Procedure Cattle Tick](#).

7. Vaccination

Tick fever vaccination is unrestricted. Information on the vaccine can be found in the [Primefact Tick Fever technical Information for Veterinarians/](#).

8. Definitions and acronyms

Acaricide	A chemical which kills ticks
Biosecurity direction	a legally binding direction given by an authorised officer to manage Biosecurity Risks
Biosecurity undertaking	a voluntary agreement by the person named on the undertaking to carry out the requirements specified in the undertaking by an AO
CTTA	Cattle Tick Technical Advisor. An animal biosecurity officer responsible for technical advice on the cattle tick program.
Leader CTO	Leader Cattle Tick Operations within NSW DPI
LHMS	Livestock Health Management System a property; based disease recording system used in NSW
LLS	Local Land Services
NSW DPI	NSW Department of Primary Industries

9. Documentation

[Policy - Biosecurity collection, use and disclosure of information](#)

[Policy - Records Management \(IND-I-177\)](#)

[Policy - Information Security \(IND-I-197\)](#)

[Policy - Classified Information \(IND-I-196\)](#)

[Policy - Government Information \(Public Access\) \(IND-I-178\)](#)

[Procedure - Biosecurity collection, use and disclosure of information](#)

[Procedure - Cattle Tick](#)

[Procedure - Reporting notifiable pests and diseases of animals](#)

[Primefact - Tick Fever](#)

[NSW Laboratory Services Tick Fever](#)

[Biosecurity Act 2015](#)

10. Records

Documents and reports of tick fever investigations are to be recorded by the investigating officer in the property file in LHMS.

Records relating to properties placed under biosecurity restrictions must be maintained for at least ten years.

11. Revision history

Version	Date issued	Notes	By
1	01/07/2017	New procedure developed from old policy and procedure in response to the <i>Biosecurity Act 2015</i>	Animal Biosecurity and Welfare
2	24/04/2020	Scheduled review	Animal Biosecurity and Welfare

12. Contact

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