

Biosecurity - Virulent footrot in sheep and goats

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Management of the biosecurity risk

Footrot is a disease caused by the bacterium *Dichelobacter nodosus*. It is a significant threat to the productivity and welfare of sheep flocks worldwide. Virulent footrot of sheep and goats has been the subject of an eradication program in NSW since 1988, and the prevalence of virulent footrot has been maintained at less than 1% of sheep flocks in NSW since August 2009.

Virulent footrot is an endemic disease which is subject to a regulatory program managed by government at the request of, and in association with the NSW sheep industry. The *Biosecurity Act 2015* (the Act) delivers a new approach to implementing biosecurity risk management in NSW. Under the Act, the Program delivery is outcome focussed. The general biosecurity duty is an additional tool for biosecurity risk management.

The purpose of the NSW Footrot Program (the Program) is to minimise the negative impact of virulent footrot on:

- animal welfare standards,
- sheep and goat enterprise productivity, and
- social wellbeing of NSW sheep and goat producers.

The benefits of the Program to the NSW sheep and goat industries are:

- the biosecurity risks posed by virulent footrot are being actively managed through a shared responsibility between the NSW sheep and goat industries and the NSW government
- people can purchase sheep and goats produced in NSW with confidence that there is a low likelihood, sheep will have virulent footrot.

The outcomes of the Program are:

- stakeholders in the NSW sheep and goat industries are aware of their general biosecurity in relation to virulent footrot and accept their shared responsibility to manage the biosecurity risks
- Local Land Services (LLS) are trained and resourced to respond effectively to notifications and detections of virulent footrot
- the status of the Program is actively monitored and reported to stakeholders
- flexibility in the application of regulation to manage biosecurity risks and also minimise the negative impacts of the Program on individual sheep producers' businesses.

The performance measure for the Program is to maintain the number of sheep flocks infected with virulent footrot at below 1% of the total number of sheep flocks greater than 50 head in each animal health region (as reported in annual land and stock return data).

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 policies 'Surveillance for Animal Pests and Diseases', and 'Endemic Pests and Diseases of Animals'. The procedure applies to the NSW Department of Primary Industry (NSW DPI), an office within the Department of Regional NSW, and Local Land Services (LLS) in their role as authorised officers under the Act.

Investigation and management of footrot cases is a priority activity under the NSW DPI policy – Endemic Pests and Diseases of Animals. This procedure has been jointly developed by NSW DPI and LLS and is based on an assessment of the risks associated with uncontrolled virulent footrot.

This procedure refers to **virulent footrot** only. Diagnosis of virulent footrot is described in the [Footrot manual](#).

Biosecurity legislation summary

Footrot is listed as notifiable in Schedule 1 of the Biosecurity Regulation 2017 (the Regulation). The notifiable listing requires people to notify any suspect or known cases of footrot to Local Land Services (www.lls.nsw.gov.au) or to NSW DPI, within 1 working day of first suspecting or becoming aware of footrot in sheep or goats.

Footrot is subject to two mandatory measures under clause 15 of the Regulation. These are:

- a person must not vaccinate, or attempt to vaccinate, a sheep or a goat against footrot unless approved to do so by the Chief Veterinary Officer
- a person must not import a sheep or a goat into the State unless they comply with the requirements in the Biosecurity Order (Permitted Activities) 2017.

Any person (e.g. animal owner or manager, agent, veterinarian etc) who deals with potential footrot carriers such as grazing animals, or other associated carriers (e.g. vehicles) and who knows or ought to know of the biosecurity risks associated with footrot has a general biosecurity duty to take measures to prevent, eliminate or minimise the risk as far as is reasonably practicable.

Examples of potential ways a person could discharge their general biosecurity duty include:

- regularly monitoring of animals for signs of disease
- immediate notification of suspected disease
- isolation of potentially infected animals, carriers or premises
- making and maintaining records to assist in disease tracing.

For more information on the general biosecurity duty see the [Overview of the General Biosecurity Duty pages](#) on the NSW DPI web site and [Primefact 1527: The general biosecurity duty and sheep producers](#). See the [Primefact 1533: Footrot in sheep and goats](#) for more information on how to reduce the risk of footrot infection.

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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Virulent footrot in sheep and goats procedure

1. Roles and responsibilities

1.1 NSW Department of Primary Industries (Animal Biosecurity)

- develop footrot policy in conjunction with LLS and Footrot Steering Committee
- coordinate and represent the NSW footrot program at the state and national level
- provide policy and technical support to LLS team leaders
- provide access to technical resources for staff and producers via the NSW DPI footrot web page
- monitor footrot program activities in the Livestock Health Management System (LHMS) database
- produce official reports on the footrot program using the Biosecurity Information Systems (BIS) reports system annually or as required
- provide executive officer support to the NSW Footrot Steering Committee
- maintain an industry network to promote awareness of the Program and monitor support for the Program.

1.2 Local Land Services

- coordinate and deliver the Program at the regional level
- ensure authorised officers and other field staff are trained and resourced to undertake activities under the footrot procedure
- promptly investigate reports of suspect footrot cases or high risk traces
- maintain stakeholder awareness of footrot by including it in biosecurity extension activities
- assess national sheep health declarations provided to the LLS office by producers introducing sheep into NSW and promptly investigate any mobs assessed as high risk for footrot.

1.3 Shared NSW Department of Primary Industries and Local Land Services responsibilities

- identify and treat risks to the Program
- monitor footrot prevalence in each LLS district and take appropriate investigative and control action where prevalence is found to be increasing.

2. General biosecurity duty

Under the Act, the general biosecurity duty places a responsibility on everyone involved in the livestock industries to be aware of potential biosecurity risks for their industry and take all reasonable and practical measures to prevent and manage biosecurity risks.

This means that everyone needs to consider how their actions or in some cases lack of action could have a negative impact on another person, business enterprise, animal or the environment; and take all reasonable and practical measures to prevent or minimise the impact.

For example, in the context of footrot this would mean sheep owners could discharge their general biosecurity duty by taking steps including:

- regularly monitoring their sheep for lameness and reporting cases to an authorised officer for investigation and veterinary diagnosis
- being cautious when introducing sheep to their farm - using health declarations, inspections and quarantine on arrival to minimise the risk of introducing footrot
- inspecting stray sheep found in their flock to assess the risk that they may be carrying footrot.

On infected farms additional measures that sheep owners could take to discharge their general biosecurity duty include:

- securing and regularly checking boundary fences
- advising neighbours with sheep of the footrot diagnosis and risk
- keeping high risk sheep away from boundary paddocks if possible
- promptly developing and implementing a footrot eradication program with the LLS district veterinarian.

Application of the general biosecurity duty will vary according to a risk assessment of individual circumstances. The authorised officer must consider the individual situation and decide how the biosecurity risks to others can be managed to deliver the program outcome of eradication of footrot from infected flocks with the least negative impact on the infected farm.

The above list of examples is not exhaustive. See [Primefact 1528: Virulent Footrot: Your general biosecurity duty when disease is suspected or confirmed](#) for more information.

Once a person has been made aware of their general biosecurity duty in relation to footrot, any failure to exercise their general biosecurity duty is a breach of the Act.

3. Stakeholder engagement

3.1 LLS biosecurity and animal health staff will:

- promote awareness of footrot to the sheep industries in the context of sheep health and production as part of their normal activities.

3.2 NSW DPI will:

- maintain footrot resources for producers and authorised officers on the NSW DPI public web pages and the staff Intranet/extranet
- contribute to state and national working groups related to footrot
- provide executive officer support to the NSW Footrot Steering Committee.

4. Requirement to notify

Virulent footrot is a notifiable disease in sheep and goats under Schedule 1 of the Regulation. The notifiable listing requires anyone dealing with livestock to report suspicion of footrot to an authorised officer within 1 working day.

Footrot should be suspected when lame sheep are observed and other causes have not been ruled out at the time the observation is made.

Diagnosis of footrot can only be made by a registered veterinarian, but an authorised officer who is not a veterinarian make take action under the Act on suspicion of virulent footrot, for example at a public saleyard.

A person who suspects an animal, flock or herd is infected with virulent footrot must notify a NSW DPI or LLS authorised officer within 1 working day. Notification can be done by:

- phoning Local Land Services 1300 795 299, or
- contacting a NSW Department of Primary Industries authorised officer
- notifying online

Notifications of suspected or confirmed virulent footrot infection must be reported as per the Procedure Reporting notifiable pests and diseases of animals

5. Diagnosis of footrot

Detailed technical information on the diagnosis of footrot can be found in the [Footrot manual](#). Key points are listed below.

5.1 Footrot is a clinical diagnosis

Diagnosis of footrot in NSW is based on:

- the clinical examination of a sufficient number of sheep from the flock, and
- assessing the lesions observed against the current environmental conditions which will directly affect the expression of disease in the sheep or goats.

Repeat examinations after conditions favourable to expression of footrot have occurred may be necessary to make a definitive diagnosis in the flock.

5.2 Footrot is a flock diagnosis

When footrot is detected in a sample of sheep or goats from a flock, all sheep and goats held on land described by that Property Identification Code (PIC) are considered infected until they are cleared by either:

- completing an approved footrot eradication program, or
- based on a risk assessment completed by a government veterinarian and documented in LHMS.

5.3 Laboratory testing

Testing may be used at the government veterinarian's discretion to assist in making the diagnosis. Laboratory testing must not be used as the sole method of making a diagnosis of virulent footrot.

Further information is available in the [Footrot manual](#).

5.4 Who can diagnose footrot?

Diagnosis of virulent footrot can only be made by a registered veterinarian in NSW.

An authorised officer who is not a veterinarian may suspect virulent footrot and take initial actions to manage the biosecurity risks, but they must then report this to a government veterinarian for investigation and diagnosis.

A private veterinarian may suspect and diagnose virulent footrot but they **MUST** report their findings to a government veterinarian within one working day as per the legal requirement to notify. Private veterinarians may assist sheep owners in developing and implementing footrot eradication plans but all infected flocks must be supervised by a government veterinarian.

The process for diagnosing virulent footrot in NSW is described in the [Footrot manual](#), which must be followed in all suspected cases of footrot.

6. Actions in suspect and infected flocks

6.1 Response to suspicion or notification

Notifications of lame sheep must be assessed by a government veterinarian within one working day of the information being received.

Investigations must be treated as high priority and should be commenced within five working days unless there are exceptional circumstances preventing a property visit. The reason for any delay must be recorded in LHMS.

6.2 Stock located on public land

Public land means areas such as public saleyards, travelling stock reserves, showgrounds, etc.

Authorised officers usually act under suspicion of footrot in these cases as there will be limitations on the ability to make a diagnosis due to factors such as: the number of sheep or goats available for examination, inadequate handling facilities, and time pressure to make a decision and take action to manage the biosecurity risk.

Footrot must be suspected in any case where there is evidence of underrunning of the sole of the hoof; **equivalent to score 3** or higher in the Egerton foot scoring system. See the [Primefact 1533: Footrot in sheep and goats](#)

6.2.1 Example - Actions when stock are on public land

The outcome required is to:

- contain the infected animals
- remove the infected animals from public land as soon as possible
- assess and manage the risk to neighbours and in contact animals
- prevent uninfected animals from accessing contaminated land/facilities until it is decontaminated and
- eradicate infection from the affected stock.

The authorised officer must decide on the most appropriate actions to achieve the outcomes based on a risk assessment of the situation.

A biosecurity direction must be used to ensure compliance with required actions.

6.2.2 Example - Saleyard detection

An authorised officer is notified of lame sheep in a pen and on inspection discovers any underrunning assessed as Score 3a or higher of any hoof.

- record findings for later entry into LHMS. Include photographs of the lesions and the ear tags of the sheep examined
- the outcome of the subsequent saleyard activities is to prevent sheep from the pen or the same vendor as the suspect pen being sold to another property that has a clear status on account of footrot.
 - advise agent or stock owner that sheep may be sold for slaughter or returned to the property of origin according to the movement documents (for example the National Vendor Declaration) and issue a biosecurity direction for the option chosen by the stock owner/agent.
 - direct agent to check if the vendor has any other lines of sheep in this sale, and if so to notify the authorised officer of the numbers and their pen locations. Advise agent or stock owner that sheep may be sold for slaughter or returned to the property of origin according to the movement documents (for example the National Vendor Declaration) and issue a biosecurity direction for the option chosen by the stock owner/agent
 - obtain copies of the movement documents for all sheep in the consignment and confirm their locations in the saleyard as advised above
 - explain the biosecurity risks due to footrot and provide a copy of the [Primefact 1528: Virulent Footrot - your general biosecurity duty](#) to agent and or owner of sheep. An individual biosecurity direction should be issued. A template is available (<https://intranet.regional.nsw.gov.au/business-units/primary-industries/dpi-biosecurity-food-safety/biosecurity-act-forms/biosecurity-forms/animal-biosecurity/virulent-footrot>). the direction can be issued verbally but must be followed up in writing within 7 days.
 - check that the biosecurity direction is complied with before leaving the saleyard and make a follow up check on the National Livestock Identification System database a few days later.
- inform the LLS district veterinarian of the incident and take actions as per 'Stock located on private land' (6.3 below) for the property of origin of the sheep.

6.3 Stock located on private land

The outcome required is to:

- contain the infected animals
- assess and manage the risk to neighbours and in contact animals and

- eradicate infection from the affected stock.

The authorised officer must decide on the most appropriate actions to achieve the outcomes based on a risk assessment of the situation.

In most cases, this will involve issuing an individual biosecurity direction to manage the immediate risk and a requirement for the owner to develop an eradication plan that is approved by the district veterinarian. An individual biosecurity template is available

(<https://intranet.regional.nsw.gov.au/business-units/primary-industries/dpi-biosecurity-food-safety/biosecurity-act-forms/biosecurity-forms/animal-biosecurity/virulent-footrot>)

6.3.1 Initial contact – managing the biosecurity risk

Receiving a diagnosis of footrot can be a shock to the stock owner, and it may take a few days for them to absorb the impact of this and be able to make reasonable decisions about the way forward. It is important to try to maintain a good working relationship with the owner as there will be a lot of interaction and cooperation required to develop and implement a footrot eradication plan.

At the initial visit where the diagnosis of footrot is explained, the authorised officer must explain the biosecurity risks and provide a copy of [the Primefact 1528: Virulent Footrot: Your general biosecurity duty when disease is suspected or confirmed](#) to the owner or person in charge of the stock. Once this is done the person is then considered to know and understand their general biosecurity in relation to the footrot infected sheep. A biosecurity direction is issued and includes measures to:

- restrict the movement of sheep and goats
- require boundary fences to be checked and maintained
- require information to be provided on sheep and goat movements on and off the property for the past two years
- present sheep and goats for inspection as required by the authorised officer
- eradicate virulent footrot from the flock.

6.3.2 Example - Actions when stock are on private land

- explain the general biosecurity duty to the owner or person in charge in relation to footrot and issue a copy of the [Primefact 1528: Virulent Footrot: Your general biosecurity duty when disease is suspected or confirmed](#)
- issue an individual biosecurity direction (template at <https://intranet.industry.nsw.gov.au/know-the-department/our-structure/primary-industries/dpi-biosecurity-food-safety/biosecurity-act-forms/biosecurity-forms/animal-biosecurity/virulent-footrot>)
- create a record in LHMS
- make a plan to confirm diagnosis (as per guideline on footrot diagnosis) if initially only suspect status
- investigate the source of footrot in the affected flock
- conduct forward and backward tracing as applicable and inform other relevant LLS district veterinarians
- assist the owner to develop and document an approved footrot eradication plan
- monitor the eradication program and audit the release inspection
- maintain the LHMS record so it is always up to date with eradication plan progress
- release the owner from the biosecurity direction on successful release inspection
- schedule a follow up inspection following a footrot spread period to confirm successful eradication.

7. Record keeping

All activities undertaken in a regulatory program such as the NSW Footrot Program must be recorded promptly in LHMS. The **Footrot – Guidelines for record keeping**

(<https://intranet.industry.nsw.gov.au/online-systems/biosecurity-toolset/bis>) must be strictly followed. These are accessed from the Biosecurity Information System home page on the Department of Industry intranet.

Clinical records for footrot cases must meet the standards described in part 15 of the [Veterinary Practitioners Code of Professional Conduct](#), located in the Veterinary Practice Regulation 2013 (schedule 2). In addition, copies of all legal instruments must be attached in full to the LHMS record.

A sample of the records made for activities conducted under the NSW Footrot program will be randomly audited each quarter by the NSW DPI footrot program coordinator and or NSW DPI Biosecurity and Food Safety Compliance staff to ensure the required standards are being maintained. If records are found which do not meet the required standard, a corrective action request will be placed with the LLS Team Leader for the region responsible.

8. Surveillance and Monitoring

8.1 District surveillance

The aim of the NSW footrot program is to maintain the prevalence of virulent footrot at below 1% of sheep flocks of greater than 50 head, in each LLS district.

LLS biosecurity managers and the NSW DPI footrot program coordinator can monitor the footrot prevalence in a district using BIS reports at any time. This should be done at least quarterly to ensure any increase in prevalence is detected promptly.

Targeted LLS regional surveillance for footrot is important in regions where background reports of virulent footrot are low – to ensure that any footrot cases present are being detected and provide assurance to industry that the footrot program is performing. Regional surveillance approaches are described in the footrot manual.

In LLS regions where there are active footrot investigations underway there is less need for extra surveillance as each new infected flock generates surveillance data from neighbour inspections and tracing investigations.

Surveillance activity requirements for saleyards should be determined by LLS biosecurity managers depending on local conditions and documented in individual LLS business plans. It is important that the presence of authorised officers at a store sale does not give buyers the incorrect impression that the stock offered are inspected and 'footrot free', but authorised officers must respond to reports of lame sheep at a saleyard as a priority.

8.2 Monitoring infected flocks

Infected flocks should complete their approved footrot eradication plan within two years of commencement. LHMS records for infected flocks should be regularly reviewed to ensure they are meeting the targets set out in their approved eradication plans, and corrective action taken if they are not.

Owners of flocks which are not meeting the date milestones in their approved eradication plans must be contacted by the district veterinarian to determine the cause of the problem and to review and modify the approved eradication plan.

9. Reporting

Routine reports on the NSW footrot program will be generated from data held in LHMS using the BIS framework. The BIS reports framework (<https://intranet.industry.nsw.gov.au/online-systems/biosecurity-toolset/bis-reporting>) is available to the NSW DPI Sheep Health Coordinator and LLS supervisors, and customised reports can be run on demand.

An annual NSW footrot program report is produced in the first quarter of the calendar year and is published on the NSW DPI web site [Sheep Health page](#).

The NSW DPI Sheep Health Coordinator may request further information directly from LLS veterinarians about high risk cases, such as those which are failing to meet targets on their compulsory eradication programs or have remained on biosecurity undertakings for greater than three years.

10. Definitions and acronyms

BIS	Biosecurity Information Systems
LHMS	Livestock Health Management System
LLS	Local Land Services
NSW DPI	NSW Department of Primary Industries
PIC	Property Identification Code
PPE	Personal Protective Equipment

11. Documentation

Policy - Endemic pests and diseases of animals
 Procedure - Reporting notifiable pests and diseases of animals
 Footrot manual
 Laboratory manual
 Primefact - Footrot your general biosecurity duty
 Form - Footrot biosecurity undertaking template
 Form - Footrot biosecurity direction template
 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

12. Records

Records created as a result of this procedure are stored in the Livestock Health Management System (LHMS).

These include records of:

- diagnostic event, clinical records, record of all advice given
- copy of approved footrot eradication plan
- copies of all regulatory instruments
- copies of all inspection reports from the approved footrot eradication plan
- tracing information.

13. Revision History

Version	Date issued	Notes	By
1	01/07/2017	Substantially revised procedure in response to the <i>Biosecurity Act 2015</i> .	Animal Biosecurity and Welfare
2	05/10/2021	Minor revision to include links to Footrot manual and changes to use of regulatory tools.	Animal Biosecurity

14. Contact

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