Procedure

Biosecurity - Anthrax

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Management of the biosecurity risk

Anthrax is a disease caused by the bacterium *Bacillus anthracis*. It occurs world-wide and can infect a wide range of domestic and wild animal species as well as humans.

The purpose of this procedure is to set out how suspected or confirmed anthrax incidents in NSW animals or animal products should be managed.

The aim in managing these cases is to minimise risks to human and animal health, livestock industries, and trade associated with anthrax.

Scope

The *Biosecurity Act 2015* (the Act) promotes biosecurity as a shared responsibility between government, industry and the community. This procedure is a State Priority for NSW and applies to the NSW Department of Primary Industries (NSW DPI), an office within the Department of Regional NSW, and Local Land Services (LLS).

Managing the risk of anthrax is a priority activity under the NSW DPI/LLS policy, Prohibited Matter – 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 anthrax.

Biosecurity legislation summary

Anthrax is listed as prohibited matter in Schedule 2 of the Act. The prohibited matter listing requires:

- people to immediately notify any suspect or known cases of anthrax to Local Land Services on 1300 795 299 or to the Animal Disease Hotline on 1800 675 888, and
- a person not 'deal with' prohibited matter, for example, a person must not sell or move stock if it is less than 20 days since the last death from anthrax without a permit.

Any person, such as a stock owner or manager, agent or veterinarian, who deals with potential anthrax carriers such as grazing livestock, or other associated carriers (e.g. soil, equipment) and who knows or ought to know of the biosecurity risks associated with anthrax 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 this biosecurity duty include:

- actions to minimise stock becoming infected e.g. vaccination of livestock for at least three years after anthrax is diagnosed
- regular monitoring of animals for signs of disease
- immediate notification of suspected disease
- isolation of a potentially infected animal, carrier or premises
- disinfection of potentially infected items

- making and maintaining records to assist in disease tracing
- appropriate disposal of potentially infected things e.g. infected carcass.

See the Primefact Anthrax for more information on suggested anthrax risk mitigation measures.

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.

Staff conducting field work on properties that are potentially infected/contaminated with anthrax must:

1. Be trained and assessed as competent in risk assessment, entry and exit procedures and the selection, use, storage and maintenance of personal protective equipment (PPE),
2. Identify, assess and control risks (by elimination or through minimisation) (see the 'Guide – Risk management for emergencies' (which includes a link to a task risk assessment template).
3. Follow protocols in the:
   a. Procedure for Reporting Prohibited Matter, Notifiable Pests and Diseases of Animals, and Other Biosecurity Events
   b. Procedure for Prohibited Matter Pests and Diseases of Animals – Investigation and Alert Phase
   c. Procedure - Decontamination kit for personnel (v4) & use for property visits
   d. Work Instruction Correct use of PPE for infectious animal disease investigations
   e. Publication Biosecurity property visits (SWMS)
4. Promptly report to the local Public Health Unit and a supervisor any incidents such as:
   a. Exposure to body fluids or discharges from anthrax cases,
   b. Exposure of open wounds or mucous membranes to anthrax vaccine, or
   c. Self-injection of anthrax vaccine.
5. Ensure that appropriate personal protective equipment (PPE) is used by all people who could potentially be exposed to anthrax through activities directed by this procedure.

ANTHRAX MAY **INFECT HUMANS AND MAY CAUSE FATALITIES**. The Infectious Disease Factsheet on Anthrax, published by NSW Health, provides details on anthrax symptoms and risk in humans.

Anthrax should be considered in all cases of sudden death in livestock.

Carcasses of animals which have died from, or are suspected to have died from, anthrax must not be opened as this increases the likelihood of human exposure to bacteria, and increases the level of contamination of the environment with bacterial spores.

People handling carcasses, tissues or body fluids of animals known to be, or suspected of being, infected with anthrax should work in a manner that reduces the likelihood of creating aerosols or dust.

While handling potentially contaminated matter, appropriate PPE must be used (gloves and clothing), and protect skin breaks from exposure to potential contamination (WHO 2008). Additional PPE can be used which could include safety glasses (protects from splashes) and respiratory protection (protects where possibility of inhalation exists). Despite extensive exposure to anthrax carcasses, cases amongst wildlife workers are exceedingly rare (WHO 2008).

Medical advice should be sought if any of the following occur:

- a person feels unwell following handling carcasses known or suspected to be infected, or
- a person has had any exposure without appropriate PPE, or
- a person has had exposure to vaccine or infection through wounds, or
- a person has self-inoculated while animals are being vaccinated.

The chemicals used to destroy anthrax spores are potentially dangerous and should only be used by trained personnel in accordance with appropriate instructions and while wearing appropriate PPE. Safety data sheets must be available and consulted, prior to use.

Formalin and glutaraldehyde should only be used when no alternatives exist, and then only by experienced personnel using appropriate safety equipment.

Contents

1. Reporting and notifying anthrax

A person, other than an authorised officer, who suspects an animal is infected with anthrax, must notify a NSW DPI or LLS authorised officer immediately. Notifications may be made by calling the local LLS office or the Animal Disease Hotline on 1800 675 888

Notifications of suspected Anthrax infection must be reported and assessed as per the Procedure Reporting notifiable pests and diseases of animals.

2. Technical information

Technical information about anthrax including clinical signs, epidemiology and sampling can be found at:

- NSW DPI anthrax laboratory page
- NSW DPI anthrax page
- Anthrax AUSVETPLAN response policy brief
- WHO 2008- Anthrax in humans and animals.

3. Preparedness

LLS District Vets (DV) must:

- regularly check local immunochromatographic test (ICT) supply – ensure kits are available and 'in-date'
- order new kits from State Veterinary Diagnostic Laboratory (SVDL) using the media request form

LLS team leaders and DVs:

- must ensure DVs and biosecurity officers who will conduct field investigations are trained in the use of the anthrax ICT kit
- may train local private practitioners in the use of ICT kits and subsequently provide these as appropriate
    - training should include:
        - Reporting requirements including the negative case report form
        - Anthrax ICT Standard Operating Procedure
        - Work Health and Safety considerations
        - Provision of a copy of this procedure

4. Investigation of suspect anthrax cases

Investigation of reports of livestock sudden death cases must be treated as a priority by LLS and conducted as per the Procedure for Prohibited Matter Animal Pest and Diseases Investigation and Alert Phase (except where a documented risk assessment supports variation). On receipt of a report of sudden death, the person in charge of the animals should be contacted by phone as soon as is practicable but no more than 12 hours after having received the report. If anthrax is suspected, relevant advice should be provided about removing stock from the paddocks, ensuring the carcass(es) is/are not predated and that people do not expose themselves to potential contamination. Enquiries regarding movements of stock in the last 20 days must be made.

If anthrax is suspected by the LLS veterinarian a field investigation must be undertaken as soon as possible, but no more than 24 hours following a report of sudden death. Field investigation may be conducted by an LLS veterinarian, a biosecurity officer under the supervision of an LLS veterinarian, or a private veterinarian under the supervision of an LLS veterinarian. An LLS veterinarian who is supervising an investigation by a biosecurity officer, or a private veterinarian, must ensure that the case is managed in accordance with the standards required by this procedure.

5. Diagnosis

Anthrax is often suspected based on the clinical history and appearance of a carcass. If the investigator suspects anthrax, the use of an Anthrax ICT test can rapidly provide valuable diagnostic information in the field.

5.1 Instructions for performing the anthrax ICT test

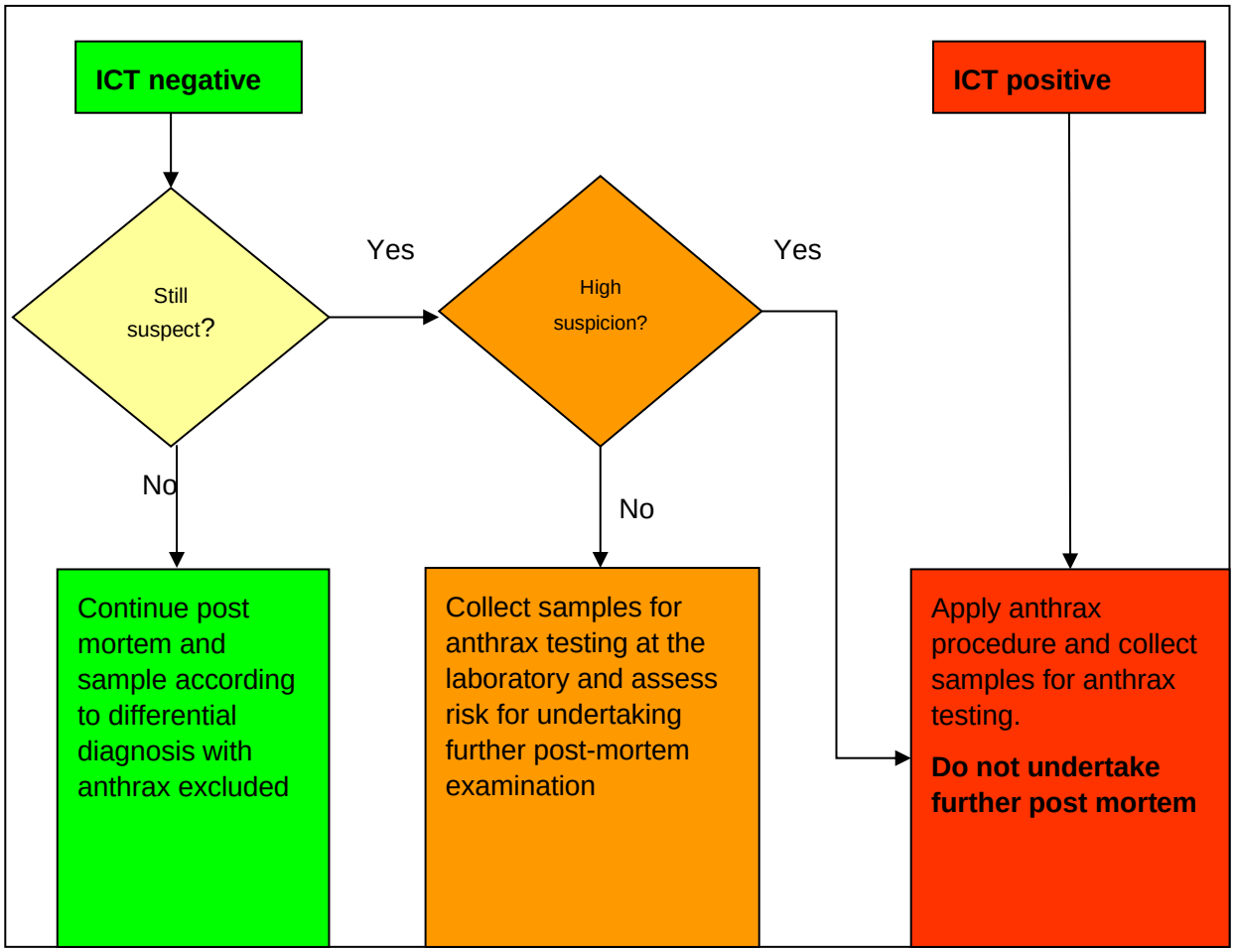
Perform the ICT as per the SOP for Anthrax ICT. A negative ICT test must not override the investigator's clinical judgement.

If the investigator strongly suspects anthrax but the ICT test is negative, they must collect further samples for submission to the SVDL and not proceed with a post mortem examination. The case should be treated as though positive for anthrax until proven otherwise.

Key points about the ICT test:

- most reliable if collect samples from carcasses less than 48 hours old
- best samples are peripheral blood or aspirate from the jugular vein
- do not overload diluent solution with sample fluid when performing the test
- test detects antigen, with high sensitivity for species such as cattle and sheep with high terminal bacteraemia. Sensitivity in species such as goats and horses has not been determined.
- wait 15 minutes before declaring a test negative. Positive results may be obvious in a shorter time
- photograph the test kit result immediately after reading. In rare instances where the ICT and laboratory test results differ, the photograph is used to assist with investigations about the cause. In addition, the GPS coordinates of tested animals should be recorded in Livestock Health Management System (LHMS) manual If location is enabled on your mobile device, the photograph will have the GPS coordinates recorded. Further details are available in the LHMS manual.
- when the ICT is conducted by a private veterinarian with a negative result, LLS staff must obtain the ICT negative report from the private veterinarians and enter the results as described in the LHMS manual
- ICT positive test results must be confirmed at the laboratory
- negative results from carcasses older than 48 hours or from species other than cattle or sheep must be confirmed by additional laboratory testing.

Figure 1: ACTIONS FOLLOWING ICT RESULT



5.2 Laboratory testing for anthrax

Samples should be submitted to the SVDL when:

- ICT result does not correlate with veterinarian's assessment, or
- samples are from carcasses more than 48 hours old, or
- ICT test is positive.

The NSW DPI laboratory services Anthrax page sets out the preferred sampling protocol for laboratory investigation of anthrax. The preferred sample for diagnosis of anthrax is blood.

When investigating suspect anthrax cases investigators do not always have access to ideal samples.

Where possible try to include as many as possible of the following. Contact the SVDL on 1800 675 623 for advice if necessary.

5.2.1 Blood

- collect from a large peripheral or safely accessible vein or haemorrhagic exudate from orifices particularly the nasal cavity. The blood can be collected with a syringe and needle or dry swab.
  - make thin smears and
  - use to perform the ICT test in the field
- in the laboratory blood is used for PCR and culture (approved laboratories). Samples for culture are sent to the National Anthrax Reference Laboratory (NARL) when there are discrepancies between the ICT results and test results from the SVDL. In addition, for

confirmed cases, samples for culture are sent to the NARL for ongoing research on strains present in Australia.

5.2.2 Slides/smears

- **Note: one end & one side of the slide must be clear**
- Ruminants: Submit 2 labelled, thin, air dried blood smears from peripheral blood (eg. ear, leg or eye socket) from each animal
- Pigs: submit impression smears from affected tissues such as swollen pharyngeal lymph nodes obtained by aspirating fluid. If no fluid is obtained by aspiration, make an incision over the affected area and make smears of the surrounding fluid. As terminal bacteraemia in pigs is relatively low, blood smears are likely to be negative.
- Horses: Submit smears made from fluid present in oedematous fluids.
- Results will be available shortly after receiving smears from freshly dead animals at the laboratory. If significant putrefaction is noted on smears, PCR is routinely performed with results generally available late on the day samples were received.

5.2.3 Other samples

If the animal has been dead for some time, it may not be possible to obtain blood. Any of the following may be used for Polymerase Chain Reaction (PCR) testing:

- tissue or body fluids – liquid or on a swab
- small piece of tissue eg 2cm X 2cm piece of ear from a carcass.

PCR testing can be done on samples from aged carcasses. In practise the laboratory cannot test tissue samples that are dried. It is unlikely that samples from animals that have been dead for more than 2 weeks will be suitable for testing. If anthrax was the cause of death, it is likely there will be additional deaths and samples should be collected from recently dead animals.

5.2.3 ICT kit samples

Submit:

- ICT kits that have been used to test animals (labelled so it can be correlated with other samples)
- sample buffer (labelled so it can be correlated with other samples).

These samples will be used to investigate the causes of any discrepancy between the ICT and laboratory test results.

5.3 Gross pathology

In the event that a carcass is opened the following signs may be seen in an anthrax case:

- tarry, unclotted blood
- absence of rigor mortis
- swollen, haemorrhagic spleen (in cattle and sheep)
- oedematous mesentery with excess fluid in the peritoneal and pleural cavities and in the pericardial sac
- ecchymotic haemorrhages in organs
- dark red, oedematous and/or necrotic intestinal mucosa, with possible haemorrhage into the lumen.

Splenic smears may assist diagnosis.

5.4 Packaging and submission of samples

Information on packaging of specimens is available in the NSW DPI (Laboratory Services) customer services. Additional information on submitting samples to government laboratories and prioritisation of testing is found in Appendix 1: Submitting laboratory samples in the Procedure Prohibited matter animal pests and diseases – investigation and alert phase.

6. Notification of laboratory results

Reporting of laboratory results will be in accordance with the Procedure Reporting notifiable pests and diseases of animals.

7. Managing anthrax biosecurity risks

7.1 Managing risks on properties

Authorised officers should immediately implement control measures where:

- a screening test (such as the ICT) for anthrax is positive, or
- anthrax is confirmed by laboratory testing (smear, PCR or culture), or
- there is a strong suspicion of anthrax infection i.e. highly suggestive history and clinical examination.

If you are unsure how to proceed in a specific case, contact your LLS supervisor, or a NSW DPI Veterinary Program and Policy Officer for advice.

Actions should include:

- immediate notification of LLS supervisor and initial case report to NSW DPI
- an epidemiological assessment to promptly identify:
  - the date of the first death
  - the likely source of infection, and
  - the number and location of at risk stock and stock product on the property.
- assess the likelihood of contamination of people, land, feed, facilities, and equipment etc.
- immediate steps to accept a written biosecurity undertaking or issue a written biosecurity direction to:
  - restrict the movement of potentially infected livestock and products,
  - direct protocols for decontamination of contaminated land or things
  - direct protocols for carcass disposal
  - monitor and report deaths in stock
  - require vaccination of at risk ruminants (cattle and sheep)
  - note advice given to the owner, or person in charge of stock, on health and safety, PPE, personal disinfection and notification of neighbours.
- facilitate ordering of anthrax vaccine
- tracing of livestock and product for 20 days prior to the first suspected death from anthrax
- prompt notification of traces, including animals or products to NSW DPI and other LLS
- an email to request NSW DPI Biosecurity Intelligence Support or other qualified staff to apply an Anthrax Quarantine (AQ) status on the property identification code of the affected property in the National Livestock Identification System (NLIS)
- a site visit post destruction of carcasses to ensure compliance with the biosecurity direction. If destruction of carcasses delayed, a visit(s) should be scheduled to ensure the owners have secured carcasses to prevent predation. Appropriate records such as photographs should be made and entered as per the LHMS manual.

LLS staff must supply NSW DPI with an initial case report as soon as possible to allow state and national reporting obligations to be fulfilled. In most instances this will be done by phone, however, if possible enter in LHMS and NSW DPI can be supplied with the diagnostic event number. A full epidemiological report must be completed in LHMS once the initial situation is under control and updated as further information becomes available. As the state and national reporting requirements for anthrax are extensive, the anthrax specific section of the LHMS manual must be followed.

Key information for the initial case report includes:

- property identification code (PIC) of affected property
- date of report of suspect anthrax case
- number of stock dead
- the known, or likely date of the first death
- species affected
- number in affected mob
- total number of each species on property
- initial tracing information
- location and grazing history of animals in the last 20 days.

Other information collected for later records should include the GIS coordinates of contaminated sites.

7.2 Managing risks on aggregation sites such as feedlots, abattoirs and saleyards

Planning for aggregation site emergencies should include biosecurity emergencies. In respect to anthrax, plans should be in place to deal with a suspicion of anthrax, presumptive diagnosis of anthrax and a confirmed case of anthrax. Owners/managers of aggregation sites are responsible for developing their own emergency plans. Stakeholders may be able to assist with planning.

Suspicion of anthrax may arise where an animal such as a sheep or cow dies suddenly. Plans should include a strategy on how to exclude the possibility of anthrax promptly and how to manage normal operations till such time as anthrax can be excluded. While LLS make investigation of reports of livestock sudden death a priority, it may take up to 24 hours for a visit to occur.

If a presumptive diagnosis of anthrax is made (eg sudden death of a sheep which tests positive in the anthrax ICT) and/or anthrax is confirmed, an authorised officer will place regulatory controls on the site. In the absence of information about the incident, no movement of livestock or product off the site can occur. However, in practice, there will be varied levels of risk. An emergency plan should document how the varied risks will be assessed and could mean some movement of animals and/or product.

Authorised officers managing risks on aggregation sites should follow procedures as per 7.1 Managing the risk on properties. Additional information around the dead animal(s) and cohorts of the dead animal(s) including movements within the site is required. This information can be used to inform a risk assessment for animals and product.

7.3 Issuing of regulatory instruments

Legal authority for disease control activities is derived from the Act. See the Biosecurity directions procedure and Biosecurity undertakings procedure.

Specific templates for an anthrax biosecurity direction or undertaking to manage anthrax incidents can be found on the anthrax forms on the intranet.

When giving and writing biosecurity directions, or accepting biosecurity undertakings:

- ensure the spelling of names is correct and addresses are current
- ensure the holding is correctly identified and/or described, including the DP/Lot number
- specify the relevant SOP or directions relating to any requirement for disinfection
- issue the direction to the person in apparent control of the premises (owner, occupier or a person who is leasing or managing the premises) and provide a copy to all other relevant parties e.g. other occupiers where multiple residences. If there are situations where multiple parties must take actions, issue relevant directions to each party.
- fully brief the persons in charge and other relevant parties listed above on the conditions of any legal instruments.

The individual biosecurity direction or biosecurity undertaking must:

- specify the animal species to which the direction applies

- specify the animal products, equipment, fittings and vehicles which the biosecurity direction applies
- restrict the movement of all susceptible animals off a holding until either 20 days after the last death or 42 days after vaccination, whichever is the later
- require the vaccination of all “at risk” stock within 48 hours (unless this is impossible to achieve) or 10 days after completing any antibiotic treatment
- require all anthrax carcasses to be burnt to ash (preferably without moving them) as per Primefact Anthrax Response to Infection (or specify an alternative NSW DPI Chief Veterinary Officer (CVO) approved protocol if burning is not possible)
- require people to minimise the leakage of body fluids from carcasses that must be moved for burning protocols, as per Primefact Anthrax Response to Infection, when anthrax is detected
- require the decontamination of any contaminated sites, facilities, heavy equipment, clothing and equipment as specified
- require monitoring of at risk stock for ongoing deaths and reporting to an authorised officer
- require any other specified measures identified to minimise the risk of anthrax transmission e.g. fencing to prevent predation or straying, spraying of carcasses for carrion insects,
- note that:
    - people handling carcasses, tissues or body fluids of animals known or suspected to infected with anthrax, must use appropriate hygiene and PPE as per the Primefact Anthrax response to infection
    - vaccinated stock may not be slaughtered until 42 days after vaccination.
    - anyone who has potentially been exposed to anthrax infection should seek prompt medical advice
    - neighbours will be notified by phone and subsequently in writing (Email, Fax or post) of the anthrax infection by LLS within three days. The authorised officer has the power to notify neighbours pursuant to section 387 of the Act.
    - copies of any advice provided e.g. Primefact Anthrax Response to Infection

7.4 Advice to owner/manager of stock

The authorised officer, who is also a LLS veterinarian must give both verbal and written (Primefacts: *Anthrax, Anthrax Vaccination in NSW* and *Anthrax response to Infection*) advice including:

- human health risks – the officer should recommend that the person/s seek medical advice
- epidemiology of the disease – the implications for other stock, stock products such as meat, wool and hides, and the implications for the land on which the stock are or have been located
- control measures – including movement controls, tracing, disposal, decontamination and vaccination.

7.5 Movement permits

7.5.1 Permits for vaccinated stock

An authorised officer may issue a permit for vaccinated stock to move in less than 42 days following vaccination provided:

1. the stock are not being moved to slaughter and
2. it is more than 20 days since the last death and
3. the stock are identified in accordance with NLIS requirements, including any available device-based anthrax vaccination status eg cattle-AV1 and
4. the stock have no evidence of anthrax, up to and including the day of transport, and

5. the person to whom the permit is issued is also given a copy of section 40A of the *Stock Medicines Act 1989*, that details the person's responsibilities in regard to offering for sale, or selling, any stock that are subject to a slaughter withholding period.

An authorised officer may also issue a permit to move stock ≤ 20 days since the last death on animal welfare grounds such as fire or flood or in circumstances approved by the NSW DPI CVO providing conditions 1, 3, 4 and 5 above are also met.

7.5.2 Permits for skins, hides and wool

An authorised officer may issue a permit for skins, hides and wool that are harvested during an outbreak if the permit requires them to be treated as per AUSVETPLAN Anthrax Manual Section 3.7.

7.6 Tracing stock and animal products

The DV must:

- trace all stock and stock products that have moved to, or from, an infected premise in the period from 20 days prior to the likely index case until movement controls were implemented,
- liaise with NSW DPI to assess trace information for risk of anthrax infection. NSW DPI will provide state coordination of anthrax incidents as per section 8 of this procedure. During business hours contact the relevant species coordinator. After hours contact the Animal Biosecurity Emergency Hotline on 1800 675 888,
- take action to mitigate risk by detaining potentially infected animals or contaminated products, directing treatment or destruction of potentially contaminated products.

Milk, meat, wool, hair, hides and skin from animals without clinical signs pose no risk of anthrax and are considered safe for domestic consumption.

Milk, meat, wool and hair from live animals showing clinical signs are to be disposed of by burning to ash or as determined by the CVO. Wool, hair and hides must not be removed from carcasses. Note: Orders to destroy items of commercial value must only be made after consultation with an LLS manager or Senior Veterinary Officer.

7.7 Advice to neighbours

All neighbours to land on which anthrax has been confirmed must be advised in writing by an authorised officer within three days using the Anthrax Neighbour Letter template.

The occupier of the infected land should be given the option of initially contacting his/her neighbours.

7.8 Vaccination

7.8.1 Vaccination following suspected or confirmed anthrax

- all "at risk" stock (cattle/ sheep/ pigs) must be vaccinated, see the Primefact: *Anthrax Vaccination in NSW*
- stock treated with antibiotics that may interfere with vaccine efficacy should be vaccinated/revaccinated 10 days after the antibiotic treatment has finished
- horses are not normally vaccinated due to the risk of vaccine reactions. Written approval of the CVO is required for vaccination of horses and alpaca. Vaccine should be administered at the normal dose rate.
- for other species seek advice

7.8.2 Vaccination in other situations

Vaccination on properties where anthrax has occurred previously should be encouraged. Ongoing vaccination will prevent new cases of anthrax. Without new cases of anthrax, there will be a gradual reduction of spores in the environment.

If anthrax occurs on a property, the person in apparent control of the premises (owner, occupier or manager) has a general biosecurity duty to take extra steps for three years to prevent stock from being infected with anthrax. Annual vaccination of grazing stock for three consecutive years is one of the measures that could be taken to discharge this duty. DVs should be in contact 1 and 2 years after anthrax is detected to provide advice on meeting the general biosecurity duty. If a DV forms the opinion that the owner/manager is not complying with the general biosecurity duty, an individual biosecurity direction should be issued.

7.8.3 Authorisation of use of vaccine

- an LLS veterinarian may authorise the preventive use of anthrax vaccine in cattle, sheep or pigs
- a producer must apply to NSW DPI CVO (or delegated officers – NSW DPI DCVO, Senior Veterinary Officer, Veterinary Officer or LLS veterinarian) to use the Anthrax vaccine using the 'Application and Authority to use anthrax Vaccine (Living Spore Sterne Strain) in NSW' form
- CVO or delegate records the vaccination approval in LHMS- see LHMS manual.

7.9 Treatment of infected stock

In an anthrax outbreak an LLS veterinarian or private veterinarian may recommend antimicrobials to prevent ongoing deaths from anthrax. Following discussion with the owner/manager, if this option is chosen, the LLS veterinarian may provide a written prescription for antimicrobial treatment or a private veterinarian may provide antimicrobials for at risk animals.

7.10 Disposal of carcasses

- all anthrax carcasses should be burnt to ash (preferably without moving them) if carcasses must be moved for burning, body fluids should be contained see Primefact Anthrax response to infection of livestock
- alternative methods of disposal need approval from a NSW DPI CVO convened working group
- the stock/land owner must adhere to the *Rural Fires Act 1997* and seek permission to burn from the officer at the nearest fire station or through the Local Emergency Operations Committee
- the NSW Rural Fire Service has developed a Fire Permit (Deceased Livestock) to allow the timely destruction of deceased livestock with less conditions and requirements than otherwise would apply to normal S89 Fire Permits.
- an authorised officer must conduct an inspection post destruction to ensure that destruction has been completed as per the biosecurity direction.

7.11 Decontamination

- WHS risks must be considered and managed in any decontamination activity, see page 2 Worker Health and Safety
- known high risks sites may be fenced off to prevent stock access
- where possible equipment or vehicles etc. should be cleaned prior to disinfection
- equipment and facilities (eg. stables/shed) can be decontaminated using:
  - 3% peracetic acid for 30 minutes, or
  - 10% caustic soda (sodium hydroxide) solution or 15% basic calcium hypochlorite applied at 10 L/m2
  - 4% formaldehyde (10% formalin) for 8 hours (equipment).
  - 4% formaldehyde (10% formalin) at a rate that saturates the soil surface (5 L/m2),
  - 2% glutaraldehyde for 2 hours,

  or as directed by the NSW DPI CVO or anthrax working group.

7.12 Removal of Anthrax Quarantine status in the National Livestock Identification System

When 20 days has elapsed since the last death from anthrax, the authorised officer should request the Biosecurity Intelligence Support, or other qualified staff, to revoke the AQ status on the PIC of the affected property in the National Livestock Identification System. The email request must specify the date of last death and this information must be recorded in LHMS.

7.13 Failure to comply

Authorised officers are responsible for monitoring compliance with the regulatory instruments and recording in LHMS. The authorised officer must investigate any suspected failure to comply with the Act requirements to control anthrax, e.g. failure to notify, breach of a prohibited matter or mandatory measure requirement, failure to comply with a biosecurity direction etc. and report the suspected breach to their supervisor, Senior Veterinary Officer and NSW DPI Biosecurity and Food Safety Compliance staff for prompt action.

7.14 Revocation of instruments

The NSW DPI Team Leader Animal Biosecurity and Welfare should arrange for regulatory instruments to be revoked by an authorised officer when satisfied that all the conditions required by the undertaking of biosecurity direction have been met.

7.15 Monitoring and follow up of previously infected properties

An authorised officer must monitor LHMS records of previously infected properties for three years to ensure they are meeting their general biosecurity duty to minimise the risk of new anthrax cases. Sufficient vaccine should be ordered to treat the at risk stock. If sufficient vaccine is not being ordered the owner should be contacted to ensure they understand their general biosecurity duty and options to discharge it. A biosecurity direction requiring vaccination may be issued if steps are not taken to mitigate the risk of new anthrax infections.

8. State coordination of anthrax incidents by NSW DPI

When the NSW DPI CVO/DCVO receives notification of an anthrax incident, a NSW DPI (Veterinary Officer) will be requested to:

- ensure immediate notifications as per Procedure Reporting Prohibited Matter and Other Notifiable Animal Pests and Diseases
- notify NSW Health, NSW Biosecurity and Food Safety, advise NSW DPI (media unit)
- prepare a Ministerial Briefing and update or create House Folder
- provide an incident summary for forwarding to the Australian CVO
- assist LLS with case management
- provide advice of tracing to:
  - the Food Authority (domestic product traces within NSW)
  - the Commonwealth re tracing to export facilities
  - the NSW DPI CVO of any states or territory of received traces.
- may request the NSW DPI CVO to convene an anthrax working group to provide assistance with case management including providing advice on vaccination of other species
- may request the NSW DPI CVO to approve implementation of a vaccination area to manage trade risks where five or more cases occur within a short period in a geographical area.

8.1 Vaccination area

A vaccination area may be implemented through a general biosecurity direction that restricts the movement of all susceptible stock off any premises in the region and requires all stock owners to actively monitor stock for signs of anthrax. Samples for laboratory testing should be submitted from all suspect carcasses within a vaccination area.

9. Education

NSW DPI and LLS animal biosecurity staff will liaise with the NSW DPI communications team to develop and maintain a state anthrax community engagement plan to assist in educating stakeholders about anthrax risks. The plan will assist LLS staff to:

- educate producers in regions with previous known historical cases about the risks of Anthrax
- encourage producers to promptly report all sudden stock deaths to LLS
- identify and engage with new producers in high risk/ historical anthrax regions to educate them as soon as possible about anthrax
- encourage vaccination for anthrax in high risk/ historical anthrax regions
- provide advice to farmers about their general biosecurity duty in relation to anthrax. There is a general biosecurity duty to vaccinate for 3 years (including the initial vaccination post diagnosis)
- provide information about Cooperative Biosecurity Plan Guidelines for landholders who are interested in enhancing their biosecurity credentials.

10. Definitions and acronyms

Authorised officer	This may include LLS Biosecurity Officers, LLS Team Leaders, LLS District Vets, NSW DPI Veterinary Officers, NSW DPI Regulatory Inspectors
AQ	Anthrax Quarantine
CVO	NSW DPI Chief Veterinary Officer
DCVO	NSW DPI Deputy Chief Veterinary Officer
NSW DPI	NSW Department of Primary Industries
DV	District Veterinarian
ICT	Immunochromatographic test
IP	Infected premises (IP) A premises on which animals infected with anthrax have been identified and the property has not met the criteria for release of movement restrictions.
LHMS	Livestock Health Management System
LLS	NSW Local Land Services
PIC	Property identification code
PPE	Personal Protective Equipment
SVDL	State Veterinary Diagnostic Laboratory
SVO	NSW DPI Senior Veterinary Policy and Program Officer
TL	LLS Team Leader, Animal Biosecurity and Welfare
Species Coordinator	The NSW DPI Veterinary Officer designated as the species coordinator. For details see the extranet

11. Documentation

Primefact: *Anthrax*

Primefact : *Anthrax Vaccination in NSW*

Primefact: Anthrax information for private veterinarians- field test, treatment and vaccination*)*

Primefact Anthrax response to infection

Emergency Animal Disease Response Agreement (EADRA)

Anthrax Neighbour Letter

AUSVETPLAN

Procedure Reporting notifiable pests and diseases of animals

SOP for Anthrax ICT

ICT negative Report for Private veterinarians

How to Package Samples for the lab

Anthrax laboratory page

Risk Assessment template

Cooperative Biosecurity Plan Guidelines

Media request form

LHMS Manual- Available to authorised officers at: https://intranet.industry.nsw.gov.au/online-systems/biosecurity-toolset/bis

Form - Biosecurity direction

Form – Biosecurity undertaking

Form Application and authority to use anthrax vaccine (Living spore Sterne strain) in NSW

Form – Biosecurity Permit

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)

Policy - Biosecurity collection, use and disclosure of information

Procedure - Biosecurity collection, use and disclosure of information

Procedure - Biosecurity directions

Procedure - Biosecurity undertakings

Procedure - Reporting notifiable pests and diseases of animals

12. Records

All events must be entered into LHMS, see the LHMS manual for details. As the state and national reporting requirements for anthrax are extensive, the anthrax specific section of the LHMS manual must be consulted. This includes

- ICT test results, Case report for positive and negative cases and photos of ICT test results
- Field investigations
- laboratory reports
- vaccine authorisations
- regulatory instruments
- risk assessments
- advice
- discussions with private veterinarians about the case.

Records relating to properties placed under biosecurity restrictions are maintained indefinitely in LHMS. Hand written records must be retained as per the Policy-Record management.

13. Revision history

Version	Date issued	Notes	By
1.0	01/07/2017	New procedure developed from amalgamation and complete revision of old policy and procedure in response to the *Biosecurity Act 2015*	Animal Biosecurity and Welfare

2.0	19/06/2020	Revision includes after action review recommendations from an incident where anthrax was suspected and later ruled out at an abattoir. Also includes variation to samples to be submitted to the laboratory	Animal Biosecurity

14. Contact

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