



Department of
Primary Industries

NSW Porcine Brucellosis Herd Accreditation Program Guidelines



BIOSECURITY & FOOD SAFETY
VERSION 1

Title: NSW Porcine Brucellosis Herd Accreditation Program Guidelines
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Version 1

More information

www.dpi.nsw.gov.au

Acknowledgments

NSW Farmers Pork Committee
Australian Pig Veterinarians
Australian Pork Limited

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (October 2017). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the Department of Primary Industries or the user's independent adviser.

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Purpose

The purpose of the NSW Porcine Brucellosis Herd Accreditation Program (the Program) is to reduce red tape and facilitate interstate pig movements.

The Program will provide a *Brucella suis* biosecurity risk management option for the NSW pig industry.

Information

The Program is an initiative of NSW Department of Primary Industries (DPI).

The guidelines and conditions set the minimum standards of the Program.

Herd owners/managers should read the guidelines and conditions carefully before deciding to apply for accreditation.

Approved veterinarians should be familiar with the guidelines and conditions, and be able to advise herd owners/managers on their implementation.

Background

Brucellosis is a disease caused by infection with a type of bacteria (*Brucella*). This disease is common in many parts of the world, but it is rare in Australia. *Brucella* bacteria infect a range of animals. *Brucella suis* usually infects pigs and causes the disease porcine brucellosis. *Brucella suis* infection is widespread in Queensland's feral pig population and it has also been detected in the feral pig population in NSW. *Brucella suis* can be transmitted to humans and other animals, including dogs.

Brucellosis (*Brucella suis*) is a notifiable disease in NSW.

The most likely method of entry of *Brucella suis* infection into a domestic pig herd is through direct or indirect contact with feral pigs. Infection is generally transmitted to pigs after ingestion of contaminated reproductive material – usually birth and/or abortion products and uterine discharges. Infection can also spread through natural mating or artificial insemination with infected semen. *Brucella suis* can circulate in the bloodstream of infected pigs for up to 90 days. Some pigs recover from infection, while others remain permanently infected. Boars developing infections of the reproductive tract seldom recover.

Responsibilities of participating parties

Herd owners/managers

Herd owners/managers work with an approved veterinarian of their choice to achieve accreditation status in the Program.

Herd owners/managers are required to demonstrate to the satisfaction of their approved veterinarian their ability to maintain good herd management and biosecurity to prevent the introduction of *Brucella suis* infection into the pig herd.

In particular, they must:

- maintain stock-proof fences, particularly boundary fences
- provide a herd management plan
- provide adequate facilities for isolation and the safe examination and testing of breeding stock (i.e. gilts/sows/boars)
- keep adequate herd reproductive records
- keep a register of pig introductions and approved veterinarian property visits
- ensure protocols are in place to deal with stray pigs found on the property, including returned pigs from the accredited herd
- ensure that all breeding stock serologically tested are individually permanently identified

Herd owners/managers must also:

- promptly notify their approved veterinarian of any changes or alterations to herd management that might affect herd accreditation status

- promptly notify their approved veterinarian of any stray pigs that come into contact with the accredited herd, including returned pigs from the accredited herd
- notify herd owners/managers of recently purchased breeder pigs of the possibility that the purchased breeders are infected with *Brucella suis* (after discussion with their approved veterinarian) in the event of a confirmed breakdown

Approved veterinarians

Registered private veterinarians with pig health knowledge and expertise may apply to the NSW Market Assurance Program (MAP) Administrator to become an approved veterinarian in the Program. In a multi-veterinarian practice, each veterinarian needs to be individually approved. Only approved veterinarians may undertake work in the Program.

Approved veterinarians are responsible for making a recommendation to the NSW MAP Administrator that a herd meets the minimum standards for accreditation. To do this, the approved veterinarian will assess whether the herd owner/manager has met, and will continue to adopt, all the requirements of the guidelines and conditions.

Before making a recommendation, approved veterinarians must:

- discuss all aspects of porcine brucellosis and the biosecurity measures described in the guidelines and conditions with herd owners/managers
- conduct an assessment of the herd management and biosecurity
- personally check that all boars are permanently identified, and collect blood samples as required
- personally examine herd reproductive records
- interpret blood test results
- maintain adequate records of all laboratory testing, herd management and biosecurity assessments for each individual property participating in the Program
- provide records of all laboratory testing, herd management and biosecurity assessments in a timely manner on request by the NSW MAP Administrator

In addition, approved veterinarians must:

- in addition to normal notifiable disease reporting requirements, notify the NSW MAP Administrator immediately should any suspicion or confirmation of *Brucella suis* infection occur in an accredited herd
- provide written recommendations to the NSW MAP Administrator for suspension or cancellation of accreditation (and the reasons for the decision) if required
- investigate to determine the reasons for any breakdown in an accredited herd and advise the NSW MAP Administrator of those reasons as soon as practicable

NSW DPI

NSW DPI will:

- maintain overall supervision of, and administration of, the Program
- determine the fees that should be paid for initial accreditation and re-accreditation
- reserve the right to re-assess and modify the guidelines and fees at any time
- provide technical support to approved veterinarians

Approval of veterinarians

Registered private veterinarians can provide accreditation services (blood tests, herd management and biosecurity assessments and status recommendations) to herd owners/managers once approved veterinarian status has been achieved.

Government veterinarians cannot provide accreditation services to herd owners/managers unless they have the prior approval of their manager (or equivalent) and the NSW MAP Administrator, and there is a good reason as to why a registered private veterinarian cannot provide accreditation services.

Individual registered private veterinarians wishing to become approved veterinarians should read the guidelines and conditions and then apply in writing to the NSW MAP Administrator. The application must include a signed completed approved veterinarian form and a completed veterinarian assessment.

All forms and the veterinarian assessment questions are available from the NSW DPI Program web page.

Once granted, approved veterinarian status remains in force unless the veterinarian requests removal from the list, or there is evidence that the veterinarian is not fulfilling the requirements of the Program.

Avoiding potential conflict of interest

A veterinarian must not act as the approved veterinarian, or endorse an application for accreditation of a herd, that is wholly or partly owned or managed by the veterinarian or a family member. In this situation, he/she should avoid the risk of a perceived conflict of interest by engaging the services of another approved veterinarian.

Herd management and biosecurity

The approved veterinarian must be satisfied that there is no evidence of *Brucella suis* infection in the herd and that the level of herd management and biosecurity is adequate to attain, and maintain, herd accreditation. This will include assessment of:

- boundary fencing
- the herd management plan
- pig introductions
- reproductive performance of the herd in previous years
- reasons for disposal of boars in previous years
- reasons for any lowered fertility

Production records must be adequate to demonstrate the following reproductive parameters - farrowing %, stillborn %, weakborn % and pre-weaning mortality %.

Property location

Property location in relation to feral pig activity must be assessed to determine the potential risk of introduction of *Brucella suis* infection into the pig herd via exposure to feral pigs or their products.

Adjacent properties

The type of enterprise on adjacent properties together with any known disease status of adjacent herds needs to be considered. Any risks identified must be addressed in the herd management plan.

Handling facilities

Yards and other facilities must be adequate for the safe examination and testing of pigs, and to allow isolation of pigs from the main herd if required.

Stray pigs

The herd management plan must outline how stray pigs (feral pigs and returned pigs from the accredited herd) will be managed. The approved veterinarian should take action appropriate for the individual situation. This may include isolation of the exposed pigs and testing where necessary to maintain the accreditation status of the herd.

Artificial insemination

Breeders from an accredited herd may only be artificially inseminated with semen from boars that comply with Condition 9 a) or c).

Accreditation

Accreditation is achieved through a combination of risk assessment, herd management and biosecurity assessment and blood testing. Herds must have an acceptable pig herd health history. One element alone (e.g. blood testing) is not sufficient to provide a high level of assurance of *Brucella suis* freedom in a herd. Condition 2 outlines an acceptable pig herd health history.

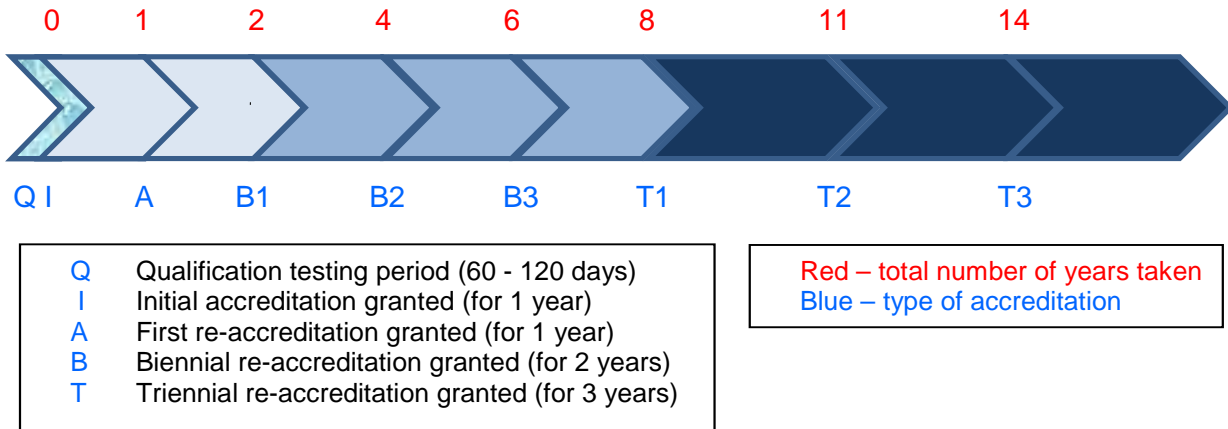
[Appendix 1](#) outlines the eligibility criteria for the Program. The biosecurity requirements are the same for all herds. The blood sampling requirements and intervals change as a herd progresses through the Program.

Herds can be accredited even though there may be no boars available to blood test. Herds using 100% artificial insemination may become accredited if semen is sourced from an accredited herd or equivalent Program in another jurisdiction.

In small herds there may be periods of the year when no boars are present. For these cases, timing of accreditation assessment must occur when boars are available for blood testing.

Accredited herds move through the Program starting from initial accreditation, then annual, biennial and finally triennial re-accreditation.

Accreditation timeline



Initial accreditation

In consultation with the herd owner/manager, the approved veterinarian should determine the most convenient time of year for blood testing to occur. This is important because future testing will be required in the same month.

The approved veterinarian can recommend herds assessed as a low or acceptable risk based on the eligibility criteria.

The results of the initial herd management and biosecurity assessment must be recorded by the approved veterinarian on the 'Veterinarian report and recommendation for initial accreditation' form. A 'Herd owner/manager agreement' form must also be completed and signed.

Administrative requirements

All the required documents must be submitted to the NSW MAP Administrator or your application may be delayed. The required documents include:

- completed and signed 'Veterinarian report and recommendation for initial accreditation' form
- completed and signed 'Herd owner/manager agreement' form
- copies of all laboratory blood testing results
- herd management plan
- payment of initial accreditation fee

The NSW MAP Administrator will assess the information to confirm that it is complete and in accordance with the guidelines and conditions. If all of the requirements have been met, the NSW MAP Administrator will advise the herd owner/manager and the approved veterinarian that the herd is now accredited.

First re-accreditation

The first re-accreditation for the herd occurs 1 year after the initial accreditation. If successful, the herd will progress to biennial re-accreditation at the expiration of the first re-accreditation.

It is important for approved veterinarians to remind herd owners/managers at each re-accreditation of their obligation to notify them of all pig introductions.

The approved veterinarian must re-assess the herd management and biosecurity. He/she must be satisfied that pig introductions have been sourced from accredited herds or, if not, introduced in compliance with Condition 9.

Testing protocol

All boars from the herd must be accounted for, including those sold or deceased. Any boars with testicular lesions must be isolated on detection. All breeder boars with palpable abnormalities of the reproductive tract must be blood tested with negative results before use in the herd.

Administrative requirements

All the required documents must be submitted to the NSW MAP Administrator before the initial accreditation expiry date. The required documents include:

- completed and signed 'Veterinarian report and recommendation for re-accreditation' form
- completed and signed 'Herd owner/manager agreement' form
- copies of all laboratory blood testing results
- payment of re-accreditation fee

The NSW MAP Administrator will assess the information to confirm that it is complete and in accordance with the guidelines and conditions. If all of the requirements have been met, the NSW MAP Administrator will advise the herd owner/manager and the approved veterinarian that the herd remains accredited.

Biennial re-accreditation

Herds that have completed the initial and first re-accreditation years may progress to biennial re-accreditation (testing every 2 years) if they have maintained the requirements of the guidelines and conditions.

Triennial re-accreditation

After the third biennial re-accreditation certificate expires herds may progress to triennial re-accreditation (testing every 3 years) if they have maintained the requirements of the guidelines and conditions. This process will normally take 8 years after the initial qualification testing period.

Reproductive issues in accredited herds

If reproductive issues occur above a 'trigger' % for the herd (agreed with the approved veterinarian), the approved veterinarian must be notified as soon as practicable. Sows that abort must be isolated and the cause investigated. If fresh foetuses and afterbirth are available these should be submitted to the State Veterinary Diagnostic Laboratory (SVDL), Elizabeth Macarthur Agricultural Institute (EMAI), Woodbridge Road, Menangle NSW 2568 or another National Association of Testing Authorities (NATA) accredited laboratory with PC3 facilities for *Brucella suis* exclusion testing. The contaminated area must be thoroughly cleaned and disinfected. Decomposed foetuses and afterbirth must be burned immediately.

Laboratory testing

Laboratory costs for the Program are the responsibility of the herd owner or sample submitter.

There is no direct serological test currently available for *Brucella suis*. However, *Brucella abortus* is exotic to Australia and this bacterium can be used as an antigen to detect *Brucella suis*. The Rose Bengal test (RBT) is the screening test. Positive and inconclusive results are subsequently tested with the complement fixation test (CFT).

The RBT is a more sensitive serological test compared to the CFT. The CFT is a more specific serological test compared to the RBT. Neither test is 100% accurate. A diagnosis of porcine brucellosis will not rely solely on laboratory serological tests. The clinical picture and history will also be important considerations.

All samples for *Brucella suis* testing must be submitted to the SVDL or another NATA accredited laboratory with PC3 facilities.

Serum samples (not blood) should be submitted chilled for serology (RBT and CFT). A specimen submission form must accompany all specimens submitted to the SVDL. Forms are available at <http://www.dpi.nsw.gov.au/about-us/services/laboratory-services/sample-submission>.

The SVDL can be contacted on 1800 675 623 and laboratory.services@dpi.nsw.gov.au for further information.

All samples must be correlated with individual pigs and recorded on a specimen key list, which should be submitted with the samples and specimen submission form.

Blood testing requirements

For initial accreditation:

- herds from an equivalent Program in another jurisdiction – nil
- test all breeding stock if < 60 breeders, repeat 60-120 days later
- test 60* if > 60 breeders, ideally including all boars, repeat 60-120 days later

* Random sample to cover all ages

This testing protocol is only valid if the first blood testing occurs at least 60 days after the requirements of the guidelines and conditions have been adopted, particularly secure boundary fencing.

For first re-accreditation:

- herds from an equivalent Program in another jurisdiction – nil
- herds with initial accreditation status – repeat as per initial accreditation

Interpretation of laboratory test results

The approved veterinarian is responsible for interpreting all laboratory test results and providing reports and advice to herd owners/managers. Any serological test result other than negative requires further investigation. See [Appendix 2](#) for further information.

Serological reactors must not be disposed of until their status is resolved.

Anti-complementary reactions

Anti-complementary (a/c) reactions to serological tests are a poorly understood phenomenon. Sometimes problems occur with samples during collection or transport to the laboratory that leads to the reporting of a/c reactions.

To minimise the risk of an a/c reaction, collect samples carefully to avoid haemolysis, let samples stand at room temperature for 3-4 hours, then, once the clot has formed properly, decant 1-2 ml of sera (which should look very clear) into another sample tube without spinning down.

Note: sampling is only one factor that may cause an a/c reaction; other causes are believed to be due to the presence of some compound in the blood that prevents the test reagent from working.

Action with inconclusive reactors

It must be emphasised to herd owners/managers that under no circumstances should inconclusive reactors (including a/c reactions) be disposed of without further investigation. If reactors are slaughtered without further examination for evidence of infection, the herd will be presumed infected and cannot be recommended for accreditation or re-accreditation without further investigation.

In the absence of other evidence of infection in the herd, inconclusive reactors must be re-tested while in isolation. In some special cases, supplementary test procedures may be required.

If the approved veterinarian considers that there is a disease risk, he/she must recommend that accreditation be suspended immediately until the status of any reactor is clarified.

If pigs react positively to the serological tests for *Brucella suis*, or the pigs are determined to be infected, the approved veterinarian must advise the NSW MAP Administrator as soon as practicable in addition to normal notifiable disease reporting requirements.

Accreditation status will be cancelled if porcine brucellosis is confirmed in a herd.

Application for temporary extension of expiry date

On rare occasions it may be necessary to apply for a time extension to complete herd accreditation testing e.g. disruptions due to floods, bushfires and medical emergencies.

The approved veterinarian must apply to the NSW MAP Administrator in advance of the expiry date with full details of why the extension is necessary. The length of time granted will be determined by the NSW MAP Administrator up to a maximum of 3 months.

A temporary extension of expiry date must not be requested if the approved veterinarian has any suspicion that herd management or biosecurity standards are inadequate.

Application for permanent variation of expiry date

A herd owner/manager may request a permanent change to the accreditation expiry date to align with other management practices. The approved veterinarian must send a request to the NSW MAP Administrator at julie.rose@dpi.nsw.gov.au.

Herds that fail to meet re-accreditation requirements

Approved veterinarians must not recommend a herd for re-accreditation unless they are confident that the minimum standards of the guidelines and conditions are being upheld. Approved veterinarians are encouraged to discuss difficult cases with the NSW MAP Administrator prior to making a recommendation for or against re-accreditation.

When re-accreditation cannot be recommended for a herd, the approved veterinarian must advise the NSW MAP Administrator in writing, including reasons why the decision was made. This will allow the NSW MAP Administrator to assist in resolving any dispute that may arise.

Suspension of accreditation

The approved veterinarian must recommend suspension of accreditation if:

- porcine brucellosis is suspected in any pig in the herd
- there is evidence that stray pigs (feral pigs and returned pigs from the accredited herd) have been in contact with the herd and the approved veterinarian has not been advised
- other breaches of the guidelines and/or conditions are detected, pending further investigation

Accreditation status of a herd will be suspended by the NSW MAP Administrator if:

- a valid 'Veterinarian report and recommendation for re-accreditation' form with payment is not received before the expiry date unless an extension has been approved
- the 'Veterinarian report and recommendation for re-accreditation' form contains insufficient or invalid information, or provides information that indicates that the minimum standards of the guidelines and/or conditions are not being upheld, pending clarification and provision of further information
- the approved veterinarian recommends suspension pending further investigation
- the herd owner/manager requests voluntary suspension

Cancellation of accreditation

The approved veterinarian must recommend cancellation of accreditation if:

- porcine brucellosis is confirmed in any pig in the herd
- the herd owner/manager does not demonstrate the ability to comply with the guidelines and/or conditions
- the herd owner/manager declines to sign a new 'Herd owner/manager agreement' form

Accreditation status of a herd will be cancelled by the NSW MAP Administrator if:

- a valid 'Veterinarian report and recommendation for re-accreditation' form with payment is not received within 2 months of the expiry date
- the 'Veterinarian report and recommendation for re-accreditation' form (or other information) confirms non-compliance with the guidelines and/or conditions
- the approved veterinarian recommends cancellation of accreditation

- suspension has exceeded 12 months
- the herd owner/manager wishes to withdraw from the Program

Withdrawal from the Program

When properties are sold and/or herds dispersed, the herd owner/manager must advise their approved veterinarian who should subsequently advise the NSW MAP Administrator. The NSW MAP Administrator will then remove the herd from the register of accredited herds.

Fees

Fees will be charged on a cost-recovery basis.

The following initial accreditation fees apply:

- \$176
- \$240 (late accreditation fee)

The following annual re-accreditation fees apply:

- \$176
- \$240 (late accreditation fee)

All costs, as part of obtaining and maintaining accreditation in the Program (including sampling, testing and biosecurity assessments), are the responsibility of the herd owner.

Contact

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Appendix 1: Eligibility criteria

Minimal Risk	Acceptable Risk	Unacceptable Risk
<ul style="list-style-type: none"> • Acceptable pig herd health history • Closed herd • All pigs housed in high security accommodation that excludes feral pigs • Register of introduced pigs and genetic material 	<ul style="list-style-type: none"> • Acceptable pig herd health history • Closed herd • All pigs housed (except breeders) in high security accommodation that excludes feral pigs • Register of introduced pigs and genetic material 	<ul style="list-style-type: none"> • Open herd • Extensive herd • Low biosecurity e.g. wire netting, electric fences <p>NOT ELIGIBLE</p>

Definitions

<i>Closed herd</i>	A herd in which no live pigs, semen, ova or embryos are introduced, except in compliance with Condition 9
<i>Open herd</i>	A herd in which replacements are sourced from non-accredited herds or through sale yards or genetic material is introduced from source/s not recognised as a closed herd
<i>Extensive herd</i>	A herd in which all pigs have access to outdoors and there is insufficient fencing to prevent the interaction between domestic and feral pigs

Appendix 2: Action with serological reactors

