

INFORMATION FOR VETERINARIANS

Sample Collection from *Brucella suis* positive dogs for PCR

November 2015

Background

Brucella suis (*B. suis*) is a zoonotic disease found in feral pigs in Northern NSW. The infection is spread to dogs during pig hunting activities and feeding of raw feral pig meat and by-products. It is also suspected that young dogs which have not been pig hunting may have been infected around the time of birth.

At present, diagnosis in dogs is made using serological testing and the presence of a positive clinical history and signs. Serological testing involves a screening Rose Bengal Test (RBT). Positive samples and negative samples with a strong clinical history are then tested with a confirmatory complement fixation test (CFT). Inconclusive serology results occur in a small number of cases. Dogs which have not had time to develop an antibody response will test negative and pose an undetected zoonotic threat to humans. Retesting of inconclusive cases and negative cases (with a strong history) is recommended to confirm their result.

PCR Testing

The DPI is developing a Polymerase Chain Reaction Test (PCR) for improved *Brucella* diagnosis and is requesting that private veterinarians collect samples for validation of the test.

The PCR test detects DNA from the pathogen and is expected to give more accurate results. The PCR test is rapid and more sensitive and specific than the serological tests. The improved detection of positive cases will help to decrease the zoonotic risk for veterinarians, their staff and dog owners.

The DPI will cover the cost of transport and testing of samples at the SVDL.

Any additional costs (eg sample collection, surgical procedures etc) are the responsibility of the veterinarian/dog owner. Samples must be transported by the department's preferred couriers to qualify for subsidy. Information on couriers, packing and sending samples can be found under 'Laboratory Submissions' at: <http://www.dpi.nsw.gov.au/biosecurity/animal/info-vets> .

Samples needed

Seropositive dogs

Samples to be collected from serological (RBT & CFT) positive dogs include:

- Blood in EDTA
- Urine in sterile specimen jar
- Saliva swab in PBGS
- Genital fluid in sterile specimen jar
- Preputial /genitourinary swab in PBGS
- Fresh Tissue – testicles, uterus, foetus or foetal membranes
- Joint fluid in sterile specimen jar

Serologically inconclusive and negative dogs

Samples can also be submitted from serologically inconclusive and negative dogs but these samples must only include:

- Blood in EDTA
- Saliva swab in PBGS
- Preputial /genitourinary swab in PBGS

Obtaining PBGS

Practises who intend to participate should order PBGS media from the lab, if required. A Vet can request PBGS by calling the SVDL Customer Service Unit (1800 675 623 option 1) during business hours (8:30-5pm M-F).

PBGS can be stored in the freezer indefinitely and thaws quickly when taken out for use. There is no cost to the Vet in obtaining PBGS from SVDL.

Sample submission

Samples must be submitted fresh, double bagged/potted (with at least 1 hard container), with clear identification when the package is opened that it contains '*Brucella* Exclusion Tissue' (e.g. a piece of paper immediately visible on top of the specimens and ice brick). An ice brick should be included to keep sample chilled.

Managing WHS risks

Before collecting samples the Safe Work Method Statement (SWMS) at <http://www.dpi.nsw.gov.au/biosecurity/animal/humans/brucellosis-in-dogs> should be read and risks considered and addressed.

All people involved in sample collection, handling of the dog and clean up, must wear minimum PPE of:

- Eye protection
- P2 mask
- Disposable overalls
- Gloves
- Enclosed footwear

More information

Contact VO Orange on 02 63913752 or 0263913717

Phone the Customer Service Unit of SVDL at EMAI on (02) 46406325 or 1800 675 623

Brucellosis (*Brucella suis*) in dogs webpage:

<http://www.dpi.nsw.gov.au/biosecurity/animal/humans/brucellosis-in-dogs>

© State of New South Wales through the Department of Industry, Skills and Regional Development, 2015. You may copy, distribute and otherwise freely deal with this publication for any purpose, provided that you attribute the NSW Department of Primary Industries as the owner.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (November 2015). 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.

Published by the Department of Primary Industries.

15/99917