

# Footrot and specific strain vaccine

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Animal Biosecurity and Welfare, NSW DPI

## What are specific strain footrot vaccines?

Specific strain footrot vaccine is a relatively new treatment for virulent footrot. Once footrot is diagnosed in a flock by a veterinarian, the specific strains of the footrot bacteria that are present in that flock of sheep can be identified using further testing. Once all of the individual strains present are known, a vaccine covering just those strains can be produced for use on that farm. More than one round of vaccination may be required if more than two footrot bacteria strains are found.

The initial results achieved using the new vaccine appear to be better than the old multivalent footrot vaccine when eradication of footrot is the objective.

## Development of the specific strain vaccine

In 2007 the University of Sydney began an industry funded research project to investigate the effectiveness of treating sheep for footrot using a custom made vaccine that targeted the exact strains of footrot bacteria identified in individual flocks.

Prior to this Australian sheep producers had been using an 'off the shelf' commercial multivalent vaccine for footrot control, but this product had been withdrawn from sale.

Initial trial results with the custom vaccines were promising and this led to commercialisation of the vaccine by an Australian company - [Trepidia BioVet](#).

In 2015 the vaccine was approved for use in sheep under permit by the Australian Pesticides and Veterinary Medicines Authority (APVMA) as Custom Footrot R-Pilus Vaccine. The permit is in force until 30 July 2018. (Permit No. 14835)

## How should specific strain footrot vaccines be used?

In a footrot infected flock, specific strain footrot vaccine is protective against footrot infection in uninfected sheep, and assists in cure of infected sheep in the flock. It can be a very useful tool in an eradication program, but without implementing other measures it cannot achieve eradication of footrot in the flock.

In NSW, footrot is a notifiable disease and infected flocks must complete a disease eradication program approved by a government veterinarian. Sheep producers are free to choose how they will go about eradicating footrot from their flock, and advice on developing an eradication program for approval is provided by their [Local Land Services](#) district veterinarian. Further information on footrot can be found on the [NSW DPI website](#).

## Using specific strain vaccine in a footrot eradication program

Footrot vaccine may be useful in an eradication program as a method of controlling and reducing the prevalence of footrot lesions in sheep. The vaccine can be used at any time of year, under any seasonal conditions and provides protection for at least 16 weeks.

Each round of vaccination can treat one or two serogroups of footrot bacteria at a time. If a flock has more than two serogroups identified on initial testing, extra rounds of vaccination will be required. (Up to seven serogroups have been isolated from a single sheep flock in Australia.)

Eradication of footrot relies on identification and removal of all infected sheep from the flock. This is done during the time of year when environmental conditions prevent footrot spreading from sheep to sheep (non-spread period). See the [Primefact: Footrot in sheep and goats](#) for more information.

Use of vaccine or other treatments such as paring, foot bathing or antibiotic treatment aims to reduce the number of infected sheep in the flock to a minimum at the beginning of the non-spread period. This is when the series of whole flock inspections are undertaken and all infected sheep are culled from the flock.

Once eradication is achieved, vaccination and other treatments are no longer required. Strict biosecurity measures must be put in place to prevent reintroduction of infected sheep.

## Accessing specific strain footrot vaccine in NSW

As a condition of the APVMA Permit: 14833, to access the Custom Footrot R-Pilus Vaccine for use in their sheep flock, NSW sheep producers must:

- Use the vaccine in conjunction with a property management plan and
- Apply to the NSW Chief Veterinary Officer (CVO) for authorisation to use the vaccine.

Sheep producers thinking of using the vaccine must make the application to the CVO through their LLS district veterinarian, and it must be used as part of an approved footrot eradication plan.

All costs associated with vaccine use must be met by the sheep owner.

### More information

SheepConnect Tasmania has published a factsheet which describes the steps taken in a footrot eradication program using specific strain footrot vaccine. It can be accessed [here](#).

For updates go to [www.dpi.nsw.gov.au/factsheets](http://www.dpi.nsw.gov.au/factsheets)

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