

Risk management for Johne’s Disease

The first step in managing the risk of Johne’s Disease (JD) is to determine what risk the disease may pose to your business and/or what level of assurance you wish/need to provide your markets.

Below is a table of risk factors that may help you decide what sort of risk JD may pose to your business. It is recommended that you discuss your individual situation with a private veterinarian or PIRSA Animal Health Officer as risk assessment for JD can be complex.

Property risk factors for JD risk assessment		
	Lower Risk	Higher Risk
Environmental	Low Rainfall: lower rainfall does not eliminate the risk of introducing disease, however the environment itself discourages the persistence of the Johne’s bacterium as it is sensitive to UV light and dry conditions. Stocking rates are usually lower as well leading to lower pasture contamination levels. No high risk neighbours.	High Rainfall: The risk of introducing Johne’s and it persisting in higher rainfall regions is greater than for producers who introduce sheep to lower rainfall regions, purely because of environmental conditions in which the Johne’s bacterium thrive. Stocking rates are usually higher as well, leading to higher pasture contamination levels. Neighbours of unknown risk or undertaking high risk activities.
Farm management practices	Minimal straying of neighbours sheep. Low stocking rate - lower pasture contamination. Pastured spelled with pasture or crop production for long periods every year. Closed flock Only stock animals <18 months age (terminal lambs) or for short time periods ie. stubble munchers.	Regular straying of neighbours sheep. High stocking rate - greater pasture contamination. Rotational grazing is often associated with higher levels of disease. Primarily an animal grazing business. Long periods of spelling pasture is not achievable. Introducing animals Stock adult breeder animals and on an on-going basis.
Market access	Prime lamb production - all animals produced are sold to abattoirs or feedlots.	International market access - consider all species including cattle. JD in sheep may impact on your eligibility to export cattle and other species. Vaccinated animals may not be acceptable to some export markets as well. Studs or other breeders wishing to produce animals assured to have low disease levels. Wanting to sell breeding animals intended to be raised in high risk environments.

JD risk management

Should your property assessment indicate that you do have higher risk factors then the next step is to determine what practices you are willing to undertake to reduce the risk posed by JD. The National

Sheep Health Declaration (NSHD) contains this information and is required for all sheep movements in South Australia.

Vaccination

The first step is to determine if you are willing/able to undertake Gudair vaccination or not. In most cases, if you are in a high rainfall area then pre-emptive vaccination is recommended. Do not wait until disease is detected.

If you wish to access international markets where live sheep with Gudair vaccination are not eligible for entry, it may be possible to delay vaccination until sheep are determined not to be destined for international markets and vaccinate the remaining flock.

For properties that export live cattle but not sheep, it is recommended to vaccinate the sheep for Gudair to minimise the risk of cross species transmission and loss of cattle export market eligibility due to the disease occurring in sheep on your property.

Producers in low rainfall areas that want to provide animals suitable for high rainfall areas of the state should also consider undertaking vaccination.

Disease monitoring

Disease monitoring may be required to assure market access or can be utilised by producers to support early detection, if disease should occur.

When monitoring for disease there are two main considerations; whether you wish to determine if the bacterium or disease has reached a detectable level. Bacterium is usually present at a detectable level in a flock before disease is noticeable.

Monitoring for bacterium:

- pooled faecal testing from a representative sample of all animals in the flock ie. SheepMAP level testing - PF350 by either culture or PCR.

Monitoring for disease:

- abattoir surveillance – sub-clinical disease
- post mortems on possibly diseased animals
- faecal testing of possibly diseased animals ie. pooled faecal testing of 50 -100 animals showing signs of weight loss or increased mortality.

Biosecurity practices

Other than vaccination and monitoring for disease you will rely on biosecurity and farm management practices to protect your business. This includes minimising the risk of entry of JD to your property through straying livestock and risk assessment of any introductions. Grazing strategies can also help keep pasture contamination levels low which will lead to lower disease levels.

Further information on risk of introducing sheep is provided in the table below. You should aim to introduce sheep of the same risk level or better than your property.

Risk Assessment for Introducing sheep to your property		
Very Low Risk of being affected with disease	Low risk of being affected with disease	Higher Risk of being affected with disease
SheepMAP accredited: faecal tested negative. The longer the property has been in the assurance program the lower the risk.	Low rainfall area - if homebred. Most Regional Biosecurity Areas are in low rainfall areas.	High rainfall area (unvaccinated)
	Abattoir surveillance - negative for Abattoir 150 or 500	Known infected or not tested (unvaccinated)
	Approved vaccinates and approved vaccinate flocks. The longer vaccination has been undertaken the lower the risk.	
	On-farm testing of animals with wasting or mortality.	

To be accredited with the Livestock Production Assurance Program all properties should have a farm biosecurity plan.

PIRSA's One Biosecurity program provides a valuable tool to assist producers with managing Johne's disease, and others disease, into the future. For more information or to sign up to One Biosecurity, visit onebiosecurity.pir.sa.gov.au