



SA Johnes Disease Dairy Score program

The former Dairy ManaJD Program

The South Australian cattle industry, dairy processors and PIRSA developed the Dairy ManaJD program in 2004 based on a National Dairy Assurance Scoring system for Johnes's disease in Australian dairy herds.

This program was funded by the SA Cattle Industry Fund, administered through the SA Cattle Advisory Group that has representatives of both the beef and dairy industries. The program was designed in partnership with dairy food processors, SA dairy veterinary practitioners, the Dairy Authority of SA, and PIRSA.

The vision for Dairy ManaJD was to implement effective management of Johnes's disease in the South Australian dairy industry to improve on farm productivity, trade access and product quality through a quality management approach.

In South Australia, all Dairy Assurance Scores have been based on:

- *Full herd blood tests of individual cattle over 2 years of age, with follow-up of any reactors*
- *Improved calf rearing (3 step plan) and calf credits, Annual audits*
- *Biennial maintenance or Check Tests of the herd using the HEC (Herd Environmental Culture) test.*
- *Individual Certificates issued to producers.*

In 2018, most SA dairies were enrolled in the program, with over 70% of herds testing negative and maintaining this status. The SA program had significant differences to some interstate programs but is now consistent with published scoring systems by Dairy Australia.

Program Management

SADA is managing the SA JD Dairy Score program, inherited from PIRSA in 2024. This means that Certificates and risk ratings already applied in many cases for over 15 years will be maintained in cooperation with private Veterinary practitioners, as previously.

SADA will issue certificates to producers who have enrolled with them and will provide reminders for herd tests to Vets and producers as needed.

Private Veterinarians will provide advice to their clients on testing requirements, collect and process samples and inform SADA of test results when completed. Private vets will also enroll new herds and manage Infected herds through specifically designed programs to achieve a higher Dairy Score.

Dairy Safe will assist SADA in promoting the program to producers and directing enquiries to the appropriate people.

PIRSA can assist with technical questions from vets or SADA, and occasionally from producers.

Producers enrolled in the program agree to adhere to testing and Biosecurity requirements of the program and maintain contact with their veterinarians in day-to-day management of it, especially purchasing or agisting decisions of other cattle.

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Johne's disease

Johne's disease is caused by the bacterium *Mycobacterium paratuberculosis* (*MpTB*). There are many strains of (*MpTB*) in Australia and around the world but historically c-strain is more commonly detected in cattle and s-strain more commonly detected in sheep. It is recognized that both strains can infect multiple species - i.e. be passed from cattle to sheep and vice versa. Johne's disease has also been detected in goats and red deer in SA, and world wide the disease has been reported in a very wide range of species. JD has not been detected in feral deer or goat populations in SA, despite regular and ongoing surveillance for this.

Symptoms in cattle

- Fall in milk yield and infertility in milking animals
- Diarrhoea / scours - this can be chronic, acute, or intermittent
- Weight loss
- Emaciation

The disease can have a long period between infection and development of clinical signs. This period appears is related to the initial amount of exposure and may be years in most cases with cattle – typically 5 to 7 years on SA dairy farms. However, cases of clinical disease in cattle have been recorded in 3 year old cattle in rare circumstances.

Under extensive farming conditions in South Australia the rate of clinical cases occurring in a herd can be very low with only 1 or 2 cases being reported every couple of years. Many infected animals will be culled for poor production prior to developing clinical disease.

Spread between animals

The bacteria that causes Johne's disease is spread from infected adult cattle through:

- Faeces (most common route)
- Colostrum
- Milk

Mostly cattle are infected as calves, and develop the disease later, but there have been cases of adult cattle being infected in highly infected environments.

The disease can spread in infected environments such as calving pads. Bacteria can survive for over 12 months in cool, wet conditions, particularly in water or sediment, however it may survive for less than 3 months in soil and faecal material in dry conditions when exposed to light and heat.

For the purposes of Johne's disease management destocking of all susceptible species for a minimum period of 12 months is recommended to decontaminate infected land and pasture.

Spread between farms

Disease spread between farms can happen through movement of infected animals (this is the most common way) and movement of vehicles, manure spreading and water, although these are less common routes in SA.



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Components of the plan

1. Enrolling in the program(attached)

Contact SADA and provide details, contact private vet to arrange development of a Biosecurity plan, arrange testing , sign agreement with Vet discuss costs, timelines, goals.

2. Biosecurity Plan (link attached):

Your Biosecurity Plan is tailored to your property and business. A good Biosecurity Plan and staying with it will enable the greatest chances of success in advancing and maintaining your Score in this program. A template of a plan is attached and may be modified to suit your needs, or you could use an existing plan that you have- discuss with your Vet. (LPA)

3. [Testing the herd](#)

Initial and ongoing maintenance tests use the **HEC test**. However, your vet may require testing high risk groups of animals in the management plan for known Infected herds or introduced cattle of lower Score. These tests may be blood and individual faecal tests, or pooled faecal tests- the number, type, frequency and costs of these tests will be discussed at the time.

[Signed agreement](#) A template for an agreement between producers and the Veterinarian is attached. It is important that both parties are committed long term to the program for successful results.

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The Dairy JD Score – adapted from Australian Dairy Farmers [Johnes Disease Dairy Score](#)

Risk Profile	Score	Achieving the Score	Maintaining the Score
Highest Assurance	8 (previously MN2,3)	Long term tested negative herds Biosecurity plan in place	Negative HEC test every 2 years annual Vet audit of the plan
High Assurance , managed risk, tested negative herds	7 (previously MN1)	Long term tested negative herds. Must have achieved a minimum 6 negative HEC tests over a 3 year period. Biosecurity plan in place	Negative HEC test every 2 years Biosecurity plan in place
JD being managed in an Infected herd	6	Must have achieved a minimum 6 negative HEC tests over a 3 year period. Biosecurity plan in place No Clinical cases in past 5 years	Negative HEC test every 2 years Biosecurity plan in place
	5	Must have achieved a minimum 4 negative HEC tests over a 2 year period. Biosecurity plan in place No Clinical cases in past 4 years	Negative HEC test every 2 years Biosecurity plan in place
	4	Must have achieved 2 negative HEC tests in past year. Biosecurity plan in place No Clinical cases in past 4 years	Negative HEC test every 2 years Biosecurity plan in place
First steps, enrolling and progressing	3	No Clinical cases in past 4 years Biosecurity plan in place. 2 negative HEC tests in place in past 12 months.	Negative HEC test every 2 years Biosecurity plan in place
	2	Biosecurity plan in place, negative HEC test in past year. 3 years since last clinical case	
	1	Biosecurity plan in place	
Unmanaged risk	0		



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Consequences of Johne's disease in a dairy herd

The disease is hard to detect as most cattle do not show any outward clinical signs of the disease in early stages and will not give positive test results until the disease has advanced. The age at which clinical signs appear or cattle become test positive is related to the infective dose received and some form of stress, such as calving.

Internally, the bacteria causes a thickening of the intestine wall leading to poor absorption of food and nutrients resulting in scouring and loss of body weight by the animal and reduced resistance to other diseases, such as mastitis and parasites.

The loss of body weight leads to a reduction in production and cows are often unable to conceive, resulting in culling from the herd. In SA deaths of cattle from BJD are rare as many cattle are culled for production reasons prior to the development of advanced clinical signs.

There is no treatment for Johne's disease, but it is possible to manage spread with a well-designed program. Eradication of JD from infected dairy herds is difficult but has been achieved- in many cases the goal will be managing the disease at a low level, rather than eradication.

Advantages of managing Johne's disease in your dairy herd

- Manage the risk of loss of production and death from the disease, healthier livestock.
- There is no available treatment, so prevention and Biosecurity is the best approach.
- The disease can affect and be spread by other species (sheep, goats and deer) on your property or others.
- The organism can remain infectious on a property for long periods.
- Neighbours can be infected by straying stock or manure spreading.
- Providing a premium product (livestock or milk) from within an assurance program
- Market access – tested negative properties have more sale options including export opportunities, and achieve higher prices, whilst livestock from infected properties have less sale options.

Enrolling a new herd

- firstly, have a discussion with your veterinarian and develop your farm Biosecurity Plan, discuss testing and sign agreements.
- herds with no history of testing or cases will need 3 negative HEC tests annually over 3 years, and if these are all negative they progress to Dairy Score 7. If a test is positive it means the herd is infected and will reduce to Dairy Score 4
- Certificates will be issued from SADA on advice from Vets that all tests are negative

Maintaining a current herd status and Score

- Continue as before with your vet, SADA will advise Vets of herds that need to test to maintain their Score.
- When vets advise SADA of negative test results, SADA will issue copies of the Certificate and test results to the producer.



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Testing for Johne's disease

A *Herd Environmental Culture (HEC)* involves scaping manure into a central pile in the dairy yard after milking and sampling 100gms of the manure. This sample is sent by Vets to Gribbles laboratory for testing – a process that takes approximately 3 months for culture or 3 weeks for an HT-J (DNA) test. Both tests are similarly priced. The HEC test will become the main monitoring and progression test for most herds, but Veterinarians may recommend additional testing in some risk groups from time to time.

Note that all laboratory testing is to be arranged between the producer and their private veterinarian, with prices as determined by the laboratory and the private veterinarian

Management of Infected herds

Herds that are known to be infected, discovered to be infected during the course of maintenance testing, or find a clinical case in the herd will reduce to Dairy Score 4 initially. This can be a disappointing experience for many producers but there is a way forward.

Since Johne's Disease has a long incubation, testing over a period of time is needed to ensure the disease is at a very low level- typically this will be 3- 4 years minimum.

Initially there needs to be some effort to determine the source of the infection, if possible, then there should be a discussion about the various options for management and herd progression over a timeline. If a producer does not wish to remain a closed herd, there is little point in testing to regain Dairy Score 7, as infection may well be reintroduced. However, the producer may wish to monitor the herd using HEC tests for a period of time. The herd Veterinarian will work with you to document a plan that meets your business goals, and discuss additional testing, and consequences of testing if appropriate.

There are a range of options open to producers, and Vets may wish to obtain further advice about these from PIRSA .

Vaccination

Silirum is an inactivated (killed) vaccine available to assist with the management of Johne's disease in cattle. Note that cattle vaccinated with Silirum may not be eligible for live export to some countries. There are restrictions on the use of Silirum vaccine in several jurisdictions including South Australia. Producers and veterinarians need to contact PIRSA for the latest requirements before using Silirum. Silirum vaccine is currently only used by infected herds as a management strategy to reduce the level of clinical disease and bacterial shedding.

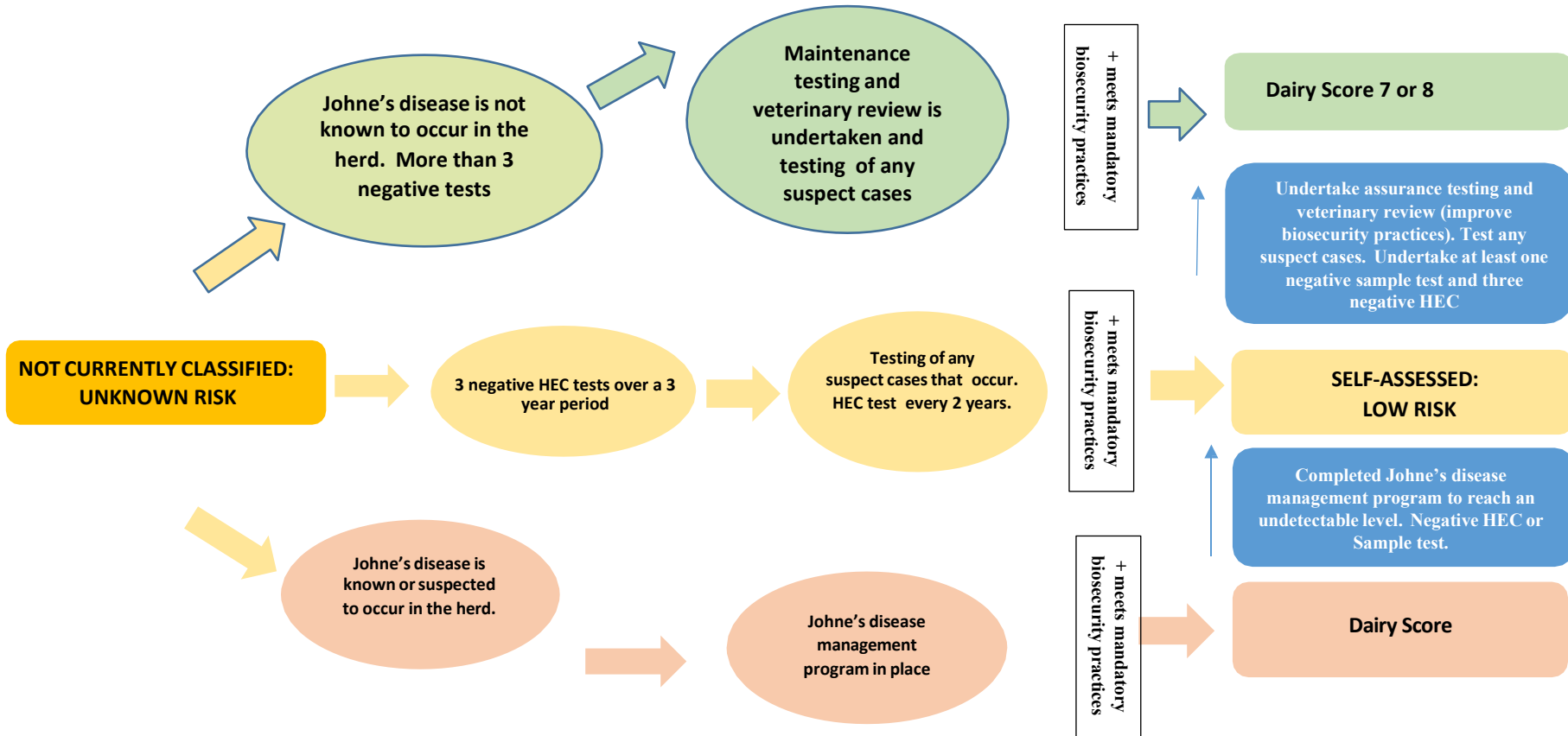
Hygienic calf rearing

Calf rearing credits are no longer required, but producers are encouraged to continue with best practice calf rearing. Recommended Calf Rearing to improve calf health and minimise risks of Johne's disease infection includes:

1. Calves should be taken off the cow within 12 hours of birth.
2. Management of the calf rearing area should ensure no effluent from adult cattle comes into contact with the calves.
3. Do not feed milk containing antibiotics to calves.
4. A colostrum pasteurizer may be considered in herds with higher incidence of Johne's disease. Pasteurizing colostrum and calf milk can also assist with reducing infection with a number of other diseases.
5. Calves up to 12 months old should not be reared on pastures that have had adult cattle or stock that may be infected with JD, during the past 12 months. Off farm rearing of heifers is recommended.

Progressing through the categories

This diagram that shows how you can progress through the disease risk ratings. How far a producer wishes to progress through the categories will be determined by their individual business situation



Frequently asked Questions

What do I need to do as a Score 4 herd to advance my Score to 7- what advantage is there for me to do this?

- Refer to the table above- the process to do this will take some years, and some cost, but JD is a long term disease. Discuss costs and timelines with your Vet, develop a Biosecurity plan, enroll with SADA (link) and get started
- Implementing a Biosecurity Plan and sticking to it should have health benefits long term for your herd
- At the end you will have a Certificate based on scientifically designed and validated long-term experience in SA, that is well recognized in SA and elsewhere.
- Testing your herd gives real information about what is happening in your herd, enabling you to make management decisions accordingly. Better to know what is in your herd than to guess
- Herd and land values may improve as a result of an improved score
- There is a real mental health benefit to “doing something” rather than ignoring an issue.

What if I start testing and get positive results?

- At worst this means that your Score will drop to the appropriate level, and you will need to start the process again.
- At best at least you know and should then take steps under advice from your vet to identify and remove Infected cattle and reduce the risk of exposing others.

Can I purchase herd replacements of a lower (or unknown) Score?

- Yes you can! BUT- this represents a risk of introducing JD into the herd in those animals (and some other diseases).
- Your herd Score will drop to the Score of those animals, and that group of cattle will need to be tested as described in the Table. As the negative (pooled faecal) results come in the whole herd Score will rise with them. The calculation then becomes- is the value of those animals greater than the costs. Obviously if you wish to frequently bring in lower score cattle, this program may not be for you and your Vet can advise on monitoring and managing the disease.

Do bulls count as introduced cattle?

- Bulls do represent a risk, but probably a lower one, and they have not been included in Dairy Score calculations in the past (in SA). However, you should attempt to only introduce low risk animals- make sure that you consult your vet about how to do this.

Who knows about my Score?

- Information about your herd and business belongs to you, SADA will not be publishing details.
- Buyers may (and should) ask for competed cattle Health Declarations- your Score should be accurately declared on that.

Will enrolling in the program – and finding JD in the herd affect Export opportunities?

- In some cases , yes, but in other cases not necessarily- this depends on the importing country.
- Having a good Biosecurity plan and managing JD in your herd should mean that JD will not appear in your herd.

Can I leave the program if it does not work for me?

- This is a voluntary program, you can leave at any time, but you should declare your Dairy Score accurately if asked .

SA Dairy JD Score

Agreement between Herd Owner and Approved Veterinarian

I,

Of

Description of herd (herd name, breed,)

.....
.....

Registered PIC (Taitag Number) ...**SA**.....

Property name & address

.....
.....

I agree to enroll the herd in the SA Dairy Score program and comply with requirements of that program as described in the Biosecurity Plan, and :

1. retain you as my veterinarian for this program until either of us revokes this agreement.
2. present cattle for testing and inspection as required
3. advise you within 7 days of my becoming aware of any cases or suspected cases of Johne's Disease:
4. keep accurate records of all herd introductions and provide these details as needed to my veterinarian.

I understand that, the Approved veterinarian (as below) will charge for testing costs and supervision of the program and that these will be described to me and an estimate given prior to the commencement of work, if possible.

.....
Signature of owner / manager

..... Date

....., (Practice name).....
Signature of Approved veterinarian

..... Date

SA DAIRY Score enrolment audit / checklist

Approved Vet.....

Previous Certificate	Yes	No	COMMENTS
Current certificate sighted	<input type="checkbox"/>	<input type="checkbox"/>	
Testing up to date?	<input type="checkbox"/>	<input type="checkbox"/>	

ANIMALS	Yes	No	COMMENTS
Calf rearing/management complies with vet recommendations - 3 step calf rearing - young cattle separated from older	<input type="checkbox"/>	<input type="checkbox"/>	
Any suspect cases tested and checked by vet	<input type="checkbox"/>	<input type="checkbox"/>	
All cattle individually identified	<input type="checkbox"/>	<input type="checkbox"/>	

BIOSECURITY	Yes	No	COMMENTS
Land purchase or agistment	<input type="checkbox"/>	<input type="checkbox"/>	
Stock Purchases Dairy Score 7 or more	<input type="checkbox"/>	<input type="checkbox"/>	
Cattle Health Statement provided for purchase including bulls?	<input type="checkbox"/>	<input type="checkbox"/>	
Fences adequate to keep out straying cattle	<input type="checkbox"/>	<input type="checkbox"/>	
Manure spreading only on cropping land	<input type="checkbox"/>	<input type="checkbox"/>	

Comments

Dairy Farmer

signature.....

Vet signature.....