



National Johne's Disease Control Program

National Technical Advisers' Quarterly Report

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Prepared by

David Kennedy and Evan Sergeant

For more information and lists of assessed MAP herds and flocks
see the Animal Health Australia website

<http://www.animalhealthaustralia.com.au/programs/jd>

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CATTLE

National BJD Strategic Plan

Dairy

Launched earlier this year, South Australia's voluntary Johne's control program for dairy herds, *Dairy ManaJD*, has been strongly adopted by SA dairy producers.

In April, Dairy Australia appointed Dr Andrew Padula as Project Manager for the dairy BJD education and communication program. Progress in developing and implementing a program has been delayed as the industry reconsiders the role of the Dairy Score and the 3 Step Calf Rearing program. It is expected that decisions on the future of the program in the dairy industry will be made later in 2005.

Financial and Non-Financial Assistance Package for beef herds

By the end of June, all managers of known infected herds had been contacted twice and the counsellors had contacted those who had responded. Producers who had not responded are likely to be beef producers who are operating a vealer enterprise and have significant dairy-cross cows in their herds.

The counsellors had received 54 expressions of interest and 27 producers who have met all the requirements of the Package had been allocated \$485,000 worth of assistance (14 in NSW, 10 in Victoria and three in South Australia).

Zoning

Animal Health Committee asked its BJDTAG to review the role of zoning in managing BJD nationally. A TAG meeting in June agreed to develop a discussion paper for stakeholders on the merits of zoning and other means of managing BJD on a regional basis.

Disease Situation

The numbers of known infected cattle herds reported by the States are presented in Table 1.

Table 1. Number of known infected cattle herds June 2005 (NAHIS, TAS DPIWE and PIRSA).

	June 05	June 04	June 03
NSW	127	132	136
VIC	1033	1119	1124
TAS	18	24	20
SA	44	53	50
Qld	1	0	0
	1223	1328	1330

No infected herds were reported in the NT or WA.

Market Assurance

The total number of herds in the CattleMAP again fell this quarter, by approximately 80 herds. No MAP herds were found to be infected.

Table 2. Numbers of assessed herds in CattleMAP, June 2005.

	MN1	MN2	MN3	
NSW	148	209	295	652
VIC	130	108	75	313
SA	109	121	52	282
TAS	47	47	12	106
QLD				0
	434	485	434	1353

SHEEP

The Board of Animal Health Australia contracted an independent consultant to conduct a review of the NOJDP, which concluded last year. The review particularly focused on operations and progress since the Mid-Term Review and is currently under consideration by the Board. The Board intends to release the recommendations from the report for circulation in the future.

National Approach to OJD

Reporting against key performance indicators of the NAOJD for the half year to December 2004 was undertaken on Animal Health Australia's National JD Information System. There have been some teething problems but the web-based system is being gradually improved.

In summary, nearly 9,300 lines, comprising \$1.6M sheep, were inspected at 13 abattoirs with 6.3% of lines found to be infected, with over half of these lines coming from the NSW High Prevalence Area. No infected lines were reported for Queensland (323 lines inspected), Tasmania's Low Prevalence Area (37) and Western Australia (495).

In NSW, 826 flocks satisfied the Abattoir 200 assurance criteria and 71 satisfied the Abattoir 700 criteria. A total of 2.2M doses of vaccine were sold to 1,045 flocks (of which just over half were flocks classified as either infected or at-risk). No reports were received of auditing of Animal Health Statements.

The full report, *Six Monthly Abattoir Surveillance Report, June – December 2004, Revised August 2005*, is available at www.animalhealthaustralia.com.au.

Disease Situation

The reported number of known infected flocks increased again this quarter in all infected States except WA. This is a reflection of continued interest among producers in determining the true status of their flocks for ovine Johne's disease and accessing the vaccine and other assistance available to manage the disease.

Table 3. Number of known infected sheep flocks June 2005 (NAHIS).

	June 05	June 04	June 03
NSW	1286	335*	1150
VIC	377	204	98
TAS	53	45	40
SA	66	57	55
WA	18	18	0
	1800	659	1343

* When comparing NSW data at June 2004 with other data, please note that the reported number of infected flocks excluded flocks in the former NSW Residual Zone /Management Area.

No infected flocks have been reported in Queensland.

Market Assurance

The fall in number of flocks reported to have a status in the SheepMAP was largely due to a drop of 30 in the quarter in NSW and an administrative review of the status of 5 Queensland flocks.

Table 4. Numbers of assessed flocks in SheepMAP, June 2005.

	MN1	MN2	MN3	
NSW	91	131	251	473
VIC	8	25	45	78
SA	41	66	129	236
TAS	9	11	11	31
QLD*				*
	149	233	436	818

*Note: The status of SheepMAP flocks in Queensland is currently under an administrative review.

Infection was reported in one NSW SheepMAP flock during the quarter. The 36th NSW breakdown was detected in an MN2 flock in the Medium Prevalence Area that had been enrolled since 2002. The annual veterinary audit detected two infected sheep that were serologically and histologically positive. The source is being investigated.

Review and Rewriting SheepMAP

Following a technical revision of the SheepMAP to include recent improvements, Animal Health Australia has contracted writers to reformat the manual and simplify the language and layout. A more farmer-friendly manual will be released in late 2005.

GOATS

Disease Situation

Table 5. Number of known infected goat herds, June 2005 (NAHIS).

	June 05	June 04	June 03
NSW	11	10	10
VIC	9	7	6
TAS	0	6	6
SA	1	3	6
QLD	1	0	0
WA	0	0	0
	22	26	28

Market Assurance

The first known MAP breakdown in a goat herd was reported in South Australia during the period. The MN1 herd had enrolled in the MAP in 2003 and was undergoing its Sample Test for progression. BJD and OJD were reported respectively in groups of dairy and non-dairy goats in the herd.

Table 6. Numbers of assessed herds in GoatMAP, June 2005.

	MN1	MN2	MN3	
NSW	20	25	10	55
VIC	1			1
SA	6	10	1	17
TAS	1			1
QLD				0
	28	35	11	74

CAMELIDS

Disease Situation

There are no known infected alpaca herds in Australia.

Table 7. Number of known infected alpaca herds, June 2005 (NAHIS).

	June 05	June 04	June 03
NSW	0	0	0
VIC	0	2	2
TAS	0	0	0
SA	0	0	0
	0	2	2

Market Assurance

The AlpacaMAP was revised and published taking into account the *QAlpaca* program that was described in the December 2004 quarterly report. *Q-Alpaca* herds that satisfy the criteria about lack of contact with high risk animals are considered equivalent to MN1 and receive a status credit in the AlpacaMAP.

Table 8. Numbers of assessed herds in AlpacaMAP, March 2005.

	MN1	MN2	MN3	
NSW	9	26	64	99
VIC	3	8	10	21
SA	8	4	27	39
TAS			1	1
QLD				0
	20	38	102	160

DEER

Diagnostic Tests

The control and assurance of JD in deer herds is currently limited by a lack of approved diagnostic tests. RIRDC has supported research on tests and the writing of draft DeerMAP but, for technical reasons, the deer-adapted ELISA and Pooled Faecal Culture tests have not yet been approved.

Another option for obtaining a useful ELISA is being pursued with New Zealand workers who are claiming high sensitivity for a new *ParaELISA* based on deer's apparently greater antibody response to *Mptb* infection. Victorian DPI Attwood has provided the University of Otago laboratory with a serum panel against which to assess the new test.

Disease Situation

Table 9. Number of known infected deer herds, June 2005 (NAHIS).

	Mar 05	June 04	June 03
NSW	1	1	1
VIC	7	7	8
TAS	0	0	0
SA	3	2	2
Qld	0	0	0
	11	10	11

RESEARCH UPDATE

Sheep

The major research effort that took place under the NOJDP has now been completed, except for two continuing projects that are not due for completion for several more years.

Recently completed projects include:

- The 3-farm vaccine trial, which demonstrated that vaccination of young lambs, resulted in a delay in the onset of shedding and of clinical cases and a reduction in the level of shedding by infected animals. The early results of this trial were used to support registration of the vaccine to assist in the control of OJD in infected flocks.
- An investigation of whole-flock vaccination in a heavily infected flock experiencing high levels of mortality due to OJD. This investigation found no apparent effect (either beneficial or harmful) of vaccination of previously exposed adults on their subsequent mortality rate. Vaccination at up to 8 months of age appeared to reduce the level of subsequent shedding, whereas vaccination at 2 years of age had no apparent effect on subsequent shedding levels. The results also suggested that the proportion of infected sheep with multibacillary lesions among vaccinates (as adults) may be lower than among non-vaccinates.
- A major study to identify potential factors affecting the level of disease in infected flocks has just been completed. The main risk factors identified were related to some farming practices such as fertiliser application, as well as to flock management and soil type.
- Final reports are also due in the next three months for a study evaluating the gamma-interferon test for detection of OJD and for the development of an economic model for OJD, based on an intensive study of 12 known infected flocks.

Ongoing projects include:

- A major lab-based study of the basic pathogenesis of Johne's disease in sheep. It is hoped that this research will lead to opportunities for an early diagnostic test and/or vaccine candidate
- A longitudinal study of the long-term effect of vaccination in high, medium and low-prevalence flocks. This study will run for another 4 years and will provide a detailed evaluation of the effect of long-term vaccination on the prevalence and level of shedding in vaccinated flocks.

Other species

Projects are also currently underway for the evaluation of pooled faecal culture options in goats and for the evaluation of pooled faecal culture for low-level shedders in cattle.

INTERNATIONAL DEVELOPMENTS

United States Johnes's Integrated Program (JDIP)

AHA's Technical adviser David Kennedy is a member of the External Advisory Board of the JDIP and participated in the first meeting at the University of Minnesota in April. The program is funded by the USDA and the member organisations and institutions to facilitate a collaborative integrated research and development program for JD in all species.

The strategic objectives for the JDIP consortium are to:

1. Organize JDIP as a dynamic research and development consortium with the aim of supporting and facilitating investigator-directed research on JD;
2. Create and maintain comprehensive scientific core facilities to support JD research and training activities;
3. Help develop translational research capacity for developing and validating diagnostic tests, vaccines, and disease management concepts for JD;
4. Serve as a resource for qualified investigators from academia, regulatory agencies, and industry so as to enable basic and applied research for testing and evaluating diagnostics, vaccines, and disease management concepts for JD;
5. Help create a mechanism to provide developmental support to JD investigators; and
6. Provide information and scientific support for the development of a strong education and extension program for JD prevention and control.

The project areas are:

- 1 - Epidemiology & Transmission
- 2 - Diagnostics & Strain Differentiation
- 3 - Basic Biology & Pathogenesis
- 4 - Immunology & Vaccine Development

There are also complementary cores that support the projects:

- Epidemiology and Biostatistics Consulting
- Diagnostics and Strain Differentiation
- Genomics, Antibodies and Proteomics
- Animal Models and Facilities
- Extension, Education and Communications
- Administrative.

It is expected that some products from the program will have direct application to Australian JD control programs.

David Kennedy
Evan Sergeant

AHA's National Technical Advisers

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