



New South Wales



ANIMAL HEALTH SURVEILLANCE

April - June 1999

Number 99/2

STAFF

Congratulations to Ian Links on his appointment as Program Leader (Ovine Johne's Disease). Ian will remain in Wagga Wagga, and his previous position of SFVO Wagga Wagga will be refilled.

Veterinary Pathologists, Graham Bailey and Patrick Staples from RVL Orange, and Russell Graydon from RVL Menangle attended an Exotic Disease Training Course at AAHL in Geelong.

During June and July, Russell Graydon will be in the Zrygzstan Republic consulting for an Australian Sheep development project. This includes disease diagnosis, laboratory services development and the enhancement of self sufficiency. In his absence his position has been back filled by Steve Love from Armidale.

Stephen Jagoe, District Veterinarian, Bega is leaving to join a private veterinary practice in the western districts of Victoria after 12 years of excellent service to the Bega dairy industry. We wish him well with his future career.

During the quarter two new District Veterinarians have commenced work, Joffrid Mackett at Tenterfield and Nigel Brown at Bombala.

Joffrid graduated from Sydney University in 1993 and started in mixed practice in Wales. He

remained there for 3 years where he was also a licensed veterinary investigator with the MAFF, undertaking TB & Brucellosis testing & investigating BSE cases. He then returned to Australia where he locumed in Mackay before taking up a position as Veterinary Officer with the DPIF in Alice Springs for 1 ½ years, before moving to Tenterfield as the District Veterinarian.

Nigel graduated from Liverpool University in 1975 and worked initially in general practice in the UK. He then attended Edinburgh University where he completed a Masters on Tropical Animal Health and Production. From there he went to North Yemen (Middle East) on a British Government Aid Project for 4 years where he gained experience with exotic diseases. Then back to the UK for general mixed practice in Cornwall (including meat hygiene & BSE), then to Saudi Arabia with the Zoological Society of London with a captive breeding & release program with Oryx and Gazelles. From there he was involved with the "Oil - bird project" after the Gulf War, establishing a mobile wildlife unit. Then, he led an expedition to Northern Mongolia with a team of scientists on horseback to investigate a new national park for wildlife and domestic interaction. He then travelled to Ethiopia to work on camel disease and production before moving to Bombala as the District Veterinarian.

LIVESTOCK AND PASTORAL CONDITIONS

Seasonal Conditions

Rainfall has been above average for the coastal areas of NSW especially on the far north coast. For the rest of the state, average or below average rainfall has predominated. The far western areas of the state including Wentworth and parts of the Broken Hill, Balranald, Riverina, Hay, Hillston and Wilcannia Rural Lands Protection Boards remain drought affected.

The Monaro area received some rainfall during June, though water supplies are well below average and pasture response has been limited by heavy frosts. The area of the State suffering drought conditions has increased during the quarter from 11% in March to 14% in June.

Contact: John Bowler, Orange on (02) 6391 3680.

QUARTERLY HIGHLIGHTS

Newcastle disease update

Newcastle disease was confirmed in chickens in the Mangrove Mountain area, near Sydney on 1 April 1999. This report updates the previous description of the outbreak, which was published in the last issue of Animal Health Surveillance.

Between 1 April and 10 May 1999, virulent Newcastle disease was confirmed on 11 commercial chicken farms in the Mangrove Mountain area. Response to the outbreak has been in accordance with the national strategy, as described in AUSVETPLAN, with NSW Agriculture coordinating operations. A Restricted Area was established around the Mangrove Mountain area with movements of birds in and out of the area prohibited. A larger Control Area was also established to encompass the rest of the poultry industry in that area.

All commercial and backyard flocks in the Mangrove Mountain area were slaughtered and disposed of by burial or burning. All commercial broiler flocks in the adjoining Peats Ridge, Somersby and Kulnura areas were processed off for slaughter, with restocking of the area delayed until all farms were empty, and preliminary disinfection of all infected premises had been completed. A total of about 1.9 million birds were destroyed, and about 2.5 million were sent for processing during the outbreak.

By early July, all commercial operations have been destocked and all infected properties have been disinfected. Properties in the area are now eligible to restock, although movement controls and surveillance will be maintained for several months to ensure that the eradication program has been successful

Contact: Stuart King, on (02) 6391 3719

Anthrax

Anthrax was excluded as the cause of death of three cattle and one sheep during the quarter. There have been no confirmed cases of Anthrax in NSW so far this year.

Rabies Exclusion

Rabies was excluded as the cause of the neurological signs in a cat.

DISEASE TRENDS AND PREDICTIONS

Ross River Virus in Horses

During the quarter there have been six horses which have seroconverted to Ross River Virus, using the Ross River VNT.

In April, a paretic 16 year old Anglo-Arab gelding and a stiff arthralgic stockhorse mare on separate properties at Dorrigo both had strong seroconversions to Ross River virus. Cases of Ross River fever were diagnosed in people near Dorrigo at approximately the same time.

During May a Thoroughbred horse at Peak Hill had a titre of 1:5,120, a horse from Parkes had a titre of 1:10,240 and a horse from Warren had a titre of $\geq 20,480$. It was also suspected in June when a 3 year old Thoroughbred from Wyong yielded a titre of 1:10,240 in the Ross River VNT.

Internal Parasites - Barber's Pole strikes back

In general the first two quarters of this year were very favourable for internal parasites of ruminants. This is probably due to good rainfall over much of the state, a mild autumn and the ever-worsening problem of anthelmintic resistance.

The year so far in the north of the state is generally regarded as the worst Barber's Pole Worm season since the introduction of the highly successful WormKill program in 1984. Armidale-based Veterinary consultant Bruce Chick observed that graziers, particularly in the western portion of the

New England region, were still seeing the effects of haemonchosis in all classes of sheep as late as June. Reasons for this include widespread resistance to closantel, a particularly mild autumn with egg hatch continuing into the normal dormant period, favourable conditions for infective larvae due to dense pasture swards and good moisture levels, and the use of inappropriate drenches.

Counts of other worm species, notably *Trichostrongylus*, have been surprisingly high in other areas of NSW, with mobs in areas such as the central slopes occasionally having worm egg counts well in excess of 1000 eggs per gram. Again this is due to favourable conditions perhaps exacerbated by sub-optimal worm management.

Conditions over summer and autumn were also good for liver fluke and its intermediate snail host. There have been recent reports of fasciolosis in sheep, and doubtless there would have been many more had we had a dry autumn with stock grazing more on greener "flukey" pasture. Farmers in fluke-endemic areas that did not use a highly efficient flukicide (triclabendazole) in April-May as is recommended could well have significant liver fluke problems next season due to the carry over effect. For similar reasons it is thought that *Haemonchus* will be a significant problem again next season in the summer rainfall areas.

Contact: Steve Love on (02) 6773 7249

Winter Dysentery

For many years winter outbreaks of diarrhoea, milk drop and malaise in dairy cattle have occurred. Some of the outbreaks have been associated with yersiniosis or salmonellosis, but in general the aetiological agent has remained a mystery. Typically, many cows in the herd are affected over a two week period with individuals remaining ill for a few days before returning to health and production.

During May, electron microscopy demonstrated **coronavirus** in faeces of affected cows from two such outbreaks. In Europe and North America there is strong epidemiological evidence linking winter dysentery to coronavirus infection. In case control studies, coronavirus antibody or virus has been strongly associated with clinical disease. Survival of the virus is favoured by cool weather and in North America, at least, crowding

favours transmission. Pregnancy may exert some protective effect.

Recent improvements in electron microscopy at EMAI may be allowing demonstration of coronavirus infections which previously went undetected. When investigating outbreaks of diarrhoea in cattle be sure to submit up to five faeces for electron microscopy as well as microbiology and parasitology.

Contact: Graeme Fraser on (02) 6626 1261

DISEASE CONTROL AND ADVISORY PROGRAMS

Bovine Johne's Disease Market Assurance Program

A recent audit of some herds and Vets involved in the MAP went off well. The full report did not reveal any critical defects but did point out the general lack of written programs to keep disease out of the herds. Approved practitioners should ensure that there **is** such a written plan for each of their clients.

There are presently 764 herds enrolled in the cattle MAP in NSW consisting of 90,244 head of cattle. Of these, 232 herds (28,142 cattle) have had 2 screening tests.

There have been 186 reactors from 112 herds during Round 1 testing and 49 reactors from 24 herds during Round 2 testing. This reactor rate is approximately 0.2% of animals tested. Of the 97 reactor herds which have been resolved, only five have been confirmed as infected.

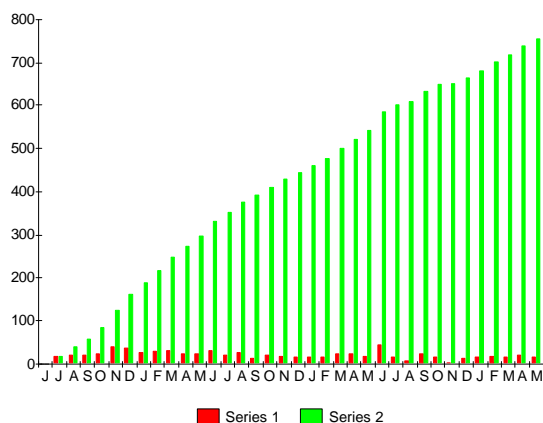
Within NSW there are the following numbers of herds with statuses under the Cattle/MAP:

TN1 - 174
MN1 - 202
TN2 - 79
MN2 - 134
NA - 61

Of these herds, about 67% are studs, 33% are commercial, and 70% are beef and 30% are dairy.

The scheme is regularly continuing to attract new producers as is shown in the graph below (Graph 1). Whilst some owners have withdrawn for various reasons there are now nearly 800 who have tested at least once. To date four herds have been detected as infected at the first test and one at the second.

Graph 1: New enrolments and total numbers in the Cattle MAP by month



The MAP lists are now available on the Internet. The address is

<http://www.brs.gov.au/aphb/aha/jdmap>

Contact: Tim Jessep on (02) 4823 0744

Australian Sheep Johne's Disease Market Assurance Program (Sheep MAP)

As of 30 June there are 277 certificates issued under the Sheep/MAP with 276 having a status of MN1 and 1 flock having a status of MN2. There have been 17 new flocks enter the program during the quarter, 15 from a status of non-assessed (NA) and 2 from a status of under-surveillance (US) as they are a neighbour to an infected property.

One MN1 flock during the quarter has been detected as infected (IN) while undergoing the sample test to progress to MN2. Another flock has returned to a status of non-assessed as they no longer wished to be involved in the program.

A review of the Sheep MAP program was held in April and recommendations from this meeting have been circulated for comment. A revised Sheep MAP will be available later in the year.

Australian Johne's Disease Market Assurance Program for Goats

This program has been approved and will be available from July, 1999. Any veterinarians who wish to be approved under the scheme please contact Catherine Taragel, NSW Goat/MAP Coordinator, Orange.

Contact: Catherine Taragel on (02) 6391 3924

Ovine Brucellosis

During the quarter there were a total of 2,516 sera from 100 submissions tested using the *Brucella ovis* CFT. Of these, 1,462 from 63 submissions were for accreditation testing with 31 positive reactors from 8 submissions.

Also 1,054 sera from 37 submissions were for diagnostic monitoring with 180 positive reactors in 25 submissions. These included a single submission from Coonamble RLPB where 99 out of 109 sera reacted in the *Brucella ovis* CFT.

Contact: Catherine Taragel on (02) 6391 3924

New South Wales Footrot Strategic Plan

Seasonally the quarter provided relatively mild weather and with good rainfall set the scene for a continuation of a spread period for footrot in a number of northern areas and a short spread period in some southern districts.

The auditing of Cooma and Bombala districts was completed with no stable isolates found and only three flocks with unstable isolates in the random audit protocol. This confirms the Protected area status these districts have enjoyed for some time. The survey of target flocks in Goulburn was also completed with 15 flocks out of 34 showing stable isolates.

This quarter saw an almost identical pattern of laboratory submissions to the March quarter with the New England (4 districts) again contributing a significant proportion (65%) of investigations requiring laboratory support (113/173). RVL Orange adopted the Albany method for gelatin gel testing from April with a resultant increase in the level of equivocal results reported. Of 940 isolates recovered for the quarter 13.4% (126/940) gave equivocal reactions on test. NSW does not have the benefit of using the zymogram test (as in WA) in comparison to better define those isolates.

Gazettal of new Protected and Control areas in Gundagai, Hume, Murray and Young districts in May means that each RLP district has at least some area at a minimum of Control area status leaving only 3% of the total state area at Residual status.

A total of 321 flocks were in quarantine at the end of June which is 1.0% of the state's flocks. This figure has risen by 56 since March as more of the state came into regulatory action with updated Protected or Control status during May.

Contact: Rob Walker on (02) 6938 1993

Cattle Tick Control Program

The annual inspection program in the Cattle Tick Protected Area (CTPA) was completed at the end of June. A total of 88 properties were detected as infested, 58 of these were in the CTPA and 30 outside. All properties plus neighbours have been quarantined and eradication programs are scheduled to commence in spring.

Contact: Peter McGregor, on (02) 6626 1334

Enzootic Bovine Leucosis

After almost 6 years of the voluntary EBL Eradication Program, the number of EBL infected dairies in the State has been reduced from over 600 in 1993 to 83 in June 1999 with only 23 actively infected herds detected at the March 1999 BMT testing round. This is very timely as from 01 July 1999 any EBL infected dairy herd will be placed under quarantine and any dairy supplying milk contaminated with EBL virus will be subjected to a penalty price of 4 cents per litre.

Also, from 01 July 1999 a new more sensitive EBL bulk milk test (BMT) was introduced. The test is able to detect one infected animal in a group of 250 milkers - comparing to the previously used test detecting one in 50 milkers. The new BMT test will allow detection of any remaining dairy herds which may harbor a very low prevalence EBL infection.

Table 1: EBL status as at the end of June 1999:

EBL STATUS	Number (percent) of NSW Dairy herds
Accredited & Certified Free	5 (0.3%)
Tested Negative	442 (25.3%)
Monitored Negative	1038 (59.5%)
BMT	63 (3.6%)
Provisionally Clear	92 (5.3%)
Provisionally Clear New	7 (0.4%)
Infected	83 (4.8%)
Not Assessed	14 (0.8%)
Total	1744 (100%)

Contact: Richard Zelski on (02) 4930 2419

DISEASE SURVEILLANCE

Ovine Johne's Disease Surveillance

The current numbers of infected (IN), suspect (SU) and under-surveillance (US) properties for OJD as of 30 June, 1999 are listed below in Table 2.

Table 2: Number of properties within NSW with an OJD status of IN, SU or US

OJD Status	30 June, 1999	31 March, 1999	June, 1997
Infected (IN)	422	426	156
Suspect (SU)	569	515	89
Under-surveillance(US)	1329	1178	9
TOTAL	2320	2119	254

During the quarter 18 new properties were reported as infected, 15 infected properties completed Property Disease Eradication Plan's (PDEP's) and reverted to non-assessed (NA) status and 7 infected properties were found to be listed twice on the database and were removed.

There have been a total of 10 PDEP's approved during the quarter, bringing the total approved by NSW Agriculture to 116. There are currently 53 properties in Public Quarantine for OJD.

Contact: Maurie Ryan on (02) 6391 3728

National Transmissible Spongiform Encephalopathy Surveillance Program (NTSESP)

During 1999 there have already been 50 bovine and 66 ovine submissions for TSE exclusion,

which is a marked improvement on last year (Table 3). Given that NSW has to complete 100 cattle cases and 153 sheep cases for the calendar year we are on target for 1999.

Table 3: TSE testing for 1998 & 1999

TSE Program			
YEAR	BOVINE	OVINE	TOTAL
1998	49	54	103
1999	50	66	116

Table 4 outlines the distribution of samples submitted in 1999 by Rural Lands Protection Board.

Table 4: Source of TSE Submissions for 1999 (to date).

RLPB	SPECIES		Total
	Bovine	Ovine	
Armidale	7	48	55
Bombala		1	1
Casino	1		1
Cooma	2	4	6
Gloucester	4		4
Goulburn		1	1
Grafton	1		1
Hunter	2		2
Molong	2		2
Mudgee-Merriwa		3	3
Murray	10		10
Narrabri	7	1	8
Narranderra		1	1
Nth New England	5	3	8
Riverina	6	1	7
Tweed/Lismore	2	2	4
Wagga		1	1
Walgett	1		1
Grand Total	50	66	116

The information provided does not include cases that have been submitted but are still awaiting finalisation of laboratory examinations. There

have been two cases referred to AAHL for final decisions - results still pending.

Some submitters have had their claims denied because insufficient brain material has been submitted to enable the laboratory to make a definitive finding. Please take care in ensuring all appropriate specimens are submitted. Failure to do so will result in non payment to the submitter and their client.

Contact: Steve Dunn on (02) 6742 9293

Bee Diseases

Table 5 presents the results of testing for American Foul Brood (AFB) for the current quarter and since July, 1998.

Table 5: AFB Testing Summary

	April - June, 1999	Since July, 1998
Positive	109	289
Negative	202	462
TOTAL	311	751

Of the positive results during this financial year, 157 have been individual notifications by beekeepers and 132 have been monitoring reports. Within the individual notifications, 96 of these have had positive results during the 1997/1998 financial year.

Contact: Mick Rankmore on (02) 6742 9274

Bat Viruses

There was no evidence of Lyssavirus in a male black flying fox which had bitten a carer, or seven microbats which were found dead during the quarter.

Hendra Virus

Hendra virus exclusion was undertaken on material submitted from a Thoroughbred at Cassilis. Histologically, there was severe pulmonary congestion and oedema, numerous intravascular fibrin thrombi and acute necrotising vasculitis. The material was negative for Hendra virus on the basis of immunoperoxidase examinations and virus isolation. Hendra virus was also excluded as the cause of death of two other horses during the quarter.

National Arbovirus Monitoring Program (NAMP)

During this quarter sampling was conducted at all coastal NAMP sites in NSW as scheduled. Most inland sites have also been sampled according to schedule. Results of sampling for viruses have been submitted directly through the Northern Cattle Export Enhancement Program website.

Akabane virus

Although there were early seroconversions on the far North Coast during December 1998, Akabane transmission was not as rapid during the season as may have been expected considering the wet seasonal conditions. Seroconversions were detected in all herds along the coast south to Camden and inland throughout the Hunter Valley as far as Merriwa. Most herds in the endemic area experienced normal rates of infection (with most animals seroconverting), but the time over which seroconversions occurred was longer than usual. There was little 'spill-over' beyond the endemic area, probably due to the slow rate of spread, but infection was detected on the eastern fall of the New England Tablelands east of Armidale, at Walcha and Wallangra.

Bluetongue virus.

During the season seroconversions were limited to 3 herds on the far North Coast, at Lismore, Casino and Coffs Harbour. In these herds seroconversion of 50-70% of animals was observed. A number of chicken embryo livers yielded positive BTACE results and several isolates have been obtained in cell culture. Virus identification and type-specific serology has yet to be completed.

Bovine Ephemeral Fever virus

There has been continuing Ephemeral Fever transmission with seroconversions detected on the far and mid-north coasts during January and February and continuing in the Hunter Valley during March to May, with a low incidence of infection west as far as Scone. There has been no evidence of infection elsewhere in the state. There have been occasional cases of EF-like disease

reported in the north and north-west of the state and south coast and metropolitan regions, but none have been confirmed as BEFV infection, despite collection of good paired sera.

Simbu Viruses

The pattern and incidence of seroconversions closely followed that detected in the Akabane-specific test. That is, there was very early seroconversions on the far North Coast during December, with subsequent spread along the coastal strip south as far as Camden where there was a low incidence of infection. Transmission was observed through the Hunter Valley west as far as Scone and also along the northern Tablelands east of Armidale, at Walcha and at Wallangra. Type specific VN tests are yet to be completed to determine whether Simbu viruses other than Akabane were transmitted.

EHDV

EHDV seroconversions were noted along the coast south to the Hunter Valley and up through the Hunter as far inland as Scone.

Vector monitoring.

C. wadai was found during the autumn at the southern-most point observed to date, with small numbers of midges identified at Coffs Harbour.

Contact: Peter Kirkland, on (02) 4640 6331

Laboratory submissions

The table and graph below show the throughput of laboratory submissions and the number of samples processed. Over the last years, accession numbers have remained fairly stable, while total sample numbers have increased. The dramatic increase in sample numbers during the 3rd quarter of 1998 was mainly due to the increased testing undertaken under the ovine Johne's disease interim surveillance program, with testing declining again in the last three quarters.

Graph 2: Laboratory throughput, 1 April - 30 June 1999

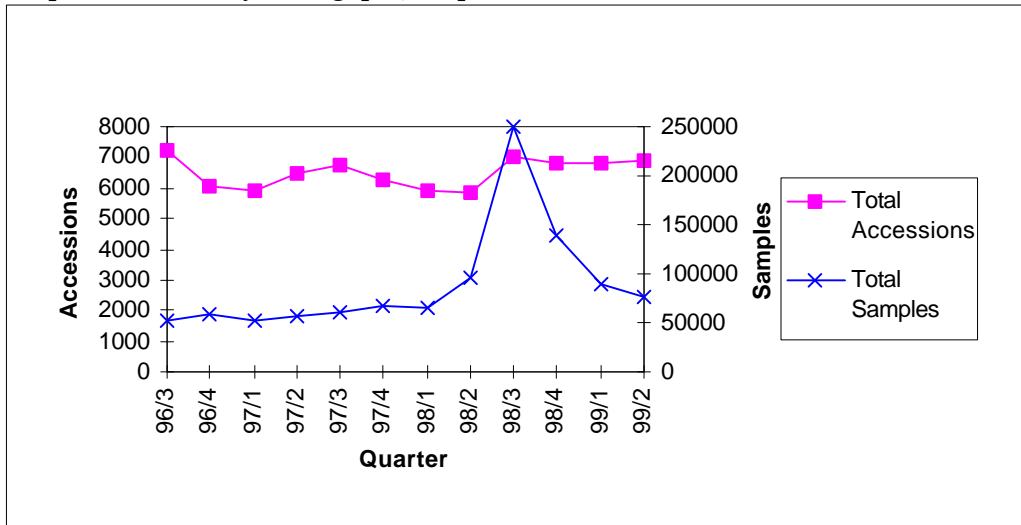


Table 6: Number of laboratory accessions by species, for the period 1 April - 30 June 1999

	SHP	CTL	PIG	GTS	AVN	HRS	FSH	BEE	D/C	O.SP	Total
Menangle	1009	1556	53	74	768	213	2	218	100	541	4534
Orange	712	233	14	22	26	17	1	3	12	79	1119
Wollongbar	126	850	40	38	31	24	11	38	3	49	1210
All labs	1847	2639	107	134	825	254	14	259	115	669	6863

Contact: Evan Sergeant, Orange on (02) 6391 3687

Getting Information on the Occurrence of Animal Diseases

This surveillance report can only convey a very limited amount of information about the occurrence and distribution of livestock diseases in New South Wales. If you would like more specific information about diseases occurring in your part of the State, contact your local Rural Lands Protection Board district veterinarian; Departmental senior field veterinary officer; or Regional Veterinary Laboratory.

For statewide information, contact NSW Agriculture's Quality Assurance Program in Orange on (02) 6391 3237 or fax (02) 6361 9976.

For more information on national disease status check out the National Animal Health Information System (NAHIS) via the the Internet at:

<http://www.brs.gov.au/aphb/aha>

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Copies of NSW Animal Health Surveillance reports are available on the Internet at

<http://www.agric.nsw.gov.au/QA/Newsletter/>



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