
April-June 2001

Number 2001/2

Barbara Moloney commenced as Technical Specialist (Disease Surveillance & Risk Management) in July, replacing Evan Sergeant who left earlier in the year. Barbara graduated with BVSc from Sydney University in 1977, and spent 15 years in private practice - small animal and mixed. During the latter part of that time she completed a Graduate Diploma in Applied Science (Computing) and achieved Membership of the Australian College of Veterinary Scientists (Epidemiology). Barbara has spent the past 6 1/2 years in the NSW Agriculture Regional Veterinary Laboratories at Wagga Wagga, and then Orange, as Diagnostic Pathologist.

Edward Dunn, commenced as District Veterinarian at Nyngan at the beginning of April. Ed graduated from University of Queensland in 1998, and had spent most of his time in practice at Cootamundra, as well as various locums including a 3 month stint in Wales.

Clive Roberts has moved from Condobolin to take the same position as District Veterinarian in Dubbo. After 3 years in Condobolin, Clive is finding different perspectives and different diseases to deal with in Dubbo.

Catherine Taragel has been occasionally acting as SFVO Orange, while Jeff Marshall has been on intermittent sick leave following a shoulder injury.

Vale John Entwisle - We were saddened to hear of the sudden death of John Entwisle, District Veterinarian (Scone) from 1969 to 1998. After a long illness caused by cancer, John died of a heart attack on Friday 20 April. He will be remembered for his impish humour and dedication to disease control. John oversaw the eradication of bovine tuberculosis and bovine brucellosis within the district. His interest in ensuring that the ratepayers of the district were well served by the Rural Lands Protection system saw him establish a series of Night Schools at which he imparted an understanding of animal disease management. John also had an active interest in the provision of Rural Counselling Services to ratepayers when they were under severe stress because of drought and low prices in the mid 1990s. His contribution to animal health and welfare in the Scone-Merriwa districts will not be easily forgotten.

LIVESTOCK AND PASTORAL CONDITIONS

Seasonal Conditions

Dry conditions throughout April and May were given welcome relief in many areas with widespread general rains over the Western Slopes and Plains in June. This rain has been particularly important for replenishing stock water supplies in areas of the Southern Tablelands and North-West slopes. The coastal areas of the mid and far North Coast experienced a difficult start to winter, particularly those areas which were flooded in March.

Floods

North Coast pastures were slow to recover from the major flooding during March due to waterlogging compounded by further heavy rainfall, particularly on the mid-North Coast. Army

worm invasion also added to the pasture damage. Some livestock deaths on agistment properties were reported with introduced stock being naive to poisonous plants such as lantana

Grasshoppers and Locusts

Significant damage to cereal crops was reported from perimeter invasion of Eastern Plague Locust (*Oedaleus australis*) in the Moree area late in June.

QUARTERLY HIGHLIGHTS

Anthrax

Five submissions for investigation of sudden deaths were negative for anthrax. There were no positive anthrax cases during the quarter.

Exotic Disease Exclusions

Foot and mouth disease was excluded on six occasions during May and June. A slobbering heifer (no vesicles), a single animal with oral ulcers, a cow with tongue ulcers (and lesions consistent with photosensitisation), and a lame bull were all negative on serology for FMD antibodies. A steer with a ruptured gum vesicle (and possibly interdigital lesions) had a tissue sample test negative for FMDV, VSV and SVD antigen in the Vesicular Disease Antigen ELISA, and virus isolation was negative for FMDV. A lamb with lip lesions was confirmed as Scabby Mouth.

Hendra virus was excluded as the cause of sudden death in a horse with acute circulatory failure and pulmonary oedema. Immunohistochemistry on fixed sections and virus isolation on fresh tissues were both negative for Hendra virus.

Virulent Newcastle disease virus was excluded in several incidents involving poultry showing respiratory and/or neurological signs.

Contact: Barbara Moloney, Orange on (02) 6391 3687

Bovine Tuberculosis in NSW - Updates

The final destination of 46 of 729 animals traced from a positive property in Qld is still being determined. Neighbours of the 4 infected herds that require testing have been identified. TB testing of cattle in these herds has been completed in all except for one herd where the cows are calving. Only one reactor has been detected. Slaughter of this animal is being organised.

Of the 361 adult cattle from Bollon which were ordered to slaughter, TB lesions were found in 5 animals (1.39%). A lesion was also found in a calf, probably born to one of the infected cows. This compares to the detection of 1 lesion in the 313 cattle (0.32%) slaughtered before the tracing commenced. Admittedly the age of the latter group of animals was lower (mainly heifers rather than cows), but it highlights the need for vigilance on the part of meat inspection staff.

Cattle have been traced from a large infected cattle property in northern Queensland to another of the same owner's properties in the south of NSW. Dispersals from this herd also went to other properties in Queensland, Northern Territory and South Australia.

A lesion histologically characteristic of TB, detected in a calf at Casino abattoir in March, was found to be negative following laboratory culture result in July. The calf originated from a property near Armidale and was born to a cow that had been introduced from Queensland. The property was quarantined and preliminary investigations undertaken. Quarantine was released when the laboratory reported that the organism grown from the lesion was not *Mycobacterium bovis*.

Contact Steve Ottaway, Grafton on (02) 6640 1687

Chicken Pox and Foot and Mouth Disease in Humans

The Program Manager (Quality Assurance), Dick Jane requested that the Senior Field Veterinary Officer (Hunter) recover a set of paired human specimens from human pathology laboratories for transfer to Geelong. These specimens were from a person who had recently returned from Scotland and had presented at his local practitioner with mouth blisters.

Subsequently the condition was diagnosed as Chicken Pox. The collection of the specimens and their trans-shipment became an exercise in inter-agency cooperation. This was able to be carried out with a minimum of fuss demonstrating that even with the involvement of private laboratories as happened in this case, such a transfer could be achieved.

DISEASE TRENDS AND PREDICTIONS

Nodule Worm Re-Visited

Nodule worm –*Oesophagostomum columbianum* – was once a significant sheep worm in summer rainfall areas – second only to *Haemonchus* in importance.

With the advent of ‘modern’ drenches (like thiabendazole), and pasture improvement (better nutrition), it is generally believed that *O.columbianum* all but disappeared from high rainfall areas (eg the New England region of NSW), leaving the more cold tolerant *O.venulosum* to fill the void.

Nodule worm continued more or less as a curiosity in the western areas of NSW (less drenching; milder winters), but is now receiving more attention. Certain processors are reporting significant losses from *O.columbianum* – associated ‘pimply gut’. One processor reported that 9% of approximately one million ‘runners’ (exported for sausage casings) were condemned in the first half of this year because of ‘pimply gut’. The problem seems mainly to be in sheep from the plains of Queensland and northern NSW.

The biology of the worm (cold intolerance) might suggest that strategically-timed treatments could significantly reduce the problem, but further work needs to be done. To this end NSW Agriculture (Flock Health sub program), Fletcher International and Queensland’s Department of Primary Industries are working together on this issue.

In the meantime the three organisations are running field days in northern NSW and southern Queensland during September to increase awareness of potential losses from nodule worm in certain situations.

Contact: Stephen Love, Armidale on (02) 6776 5013

Pestivirus and Liver Damage

Death of a number of calves occurred over a 3 month period in a continuously mated beef herd in the Nyngan area. All calves had developed similar clinical signs of coughing, dyspnoea, pyrexia, weight loss and eventual death, with all cases starting around the same age (4-6mths).

The property owner suspected that the problem could be paddock related, and moved the mob to a new paddock. However the problem continued, and clinical examination of a new case was conducted. Initially calf diptheria was suspected, and treatment with oxytetracycline was initiated. The calf showed some improvement, however then proceeded to lose weight despite further treatment.

The calf died shortly after, and a post mortem examination showed: necrotic laryngitis, with purulent discharge in the nasal passages and trachea, chronic pneumonia of the cranial lung lobes. The liver had a distinct acinar pattern and cholestasis. A heavy mixed growth of *Pasteurella multocida* was cultured from the larynx. Liver histopathology showed marked peri-acinar necrosis with replacement haemorrhage and fatty change. The lung was tested for pestivirus and was shown to be positive.

This was a surprising result as the liver lesions are consistent with a toxic cause, and the respiratory infection secondary to immunosuppression from chronic pestivirus infection. Further cases were examined with similar clinical signs and post mortem findings. These cases were also shown to be chronically infected with pestivirus.

Further property inspections did not reveal any clues to the cause of the liver damage, which leaves us guessing. Some ideas put forward are:

- liver changes due to anoxia of pulmonary disease.
- unusual manifestation of pestivirus infection.
- Possible previous exposure to blue – green algae.

Contact: Edward Dunn, Nyngan, (02) 6832 1008

Ovine Brucellosis – Involvement of Ewes

Extensive testing of rams for almost two years to eradicate ovine brucellosis in a stud Poll Dorset flock failed to reduce the incidence of the disease. Rams as young as six months of age were giving CFT titres up to 64. All positive animals were removed from the flock as soon as test results were available.

When the owner decided to test the flock for the OJD Market Assurance program the opportunity was taken to submit the ewes to a *B ovis* CFT at the same time. 37/138 ewes gave positive reactions with titres 8-128. Subsequent bacteriology on mammary glands, milk, as well as a mammary abscess resulted in sparse to profuse growth of *B ovis* in various animals. The most recent test in the flock of nine months old rams resulted in 14/77 positive titres, range CFT 8-128.

There seems little doubt, given the high prevalence of infection in the ewes, that they are an important factor in the epidemiology of *B ovis* infection in this flock.

Contact: Helge Grant-Frost, Mudgee on (02) 6372 1866

Investigations into Blindness in Sheep

In the last 12 months in the Cooma Rural Lands Protection Board, many graziers have reported blindness in their sheep. The first report was in June 2000 with most cases occurring over the following spring and summer periods. All ages of sheep were affected and spread into neighbouring mobs and flocks was observed, suggesting an infectious agent. Long term, possibly permanent blindness was reported as occurring on two properties.

Inspection of affected sheep showed the early signs of keratitis and corneal oedema with weeping of the eyes a common early sign. Limbal vessels were evident at the edges of the cornea. In mild cases, these extended only 2 – 3 mm, but could reach the centre of the eye in more advanced cases. More severe cases lead to pus formation within the anterior chamber, sometimes progression to a bulging central corneal ulcer with a hyperaemic rim. Scarring and neovascularisation slowly resolved, ultimately leading to a return of sight.

Approval was given for investigation under targeted surveillance programs and culture of organisms was attempted on 5 occasions. On 3 of the 5 occasions, the bacteria *Moraxella ovis* was isolated. In these cases, samples were taken from sheep in the early stages of the disease – weeping eyes, corneal oedema but no corneal ulceration. On one property, initial samples recovered no organisms but samples from an adjoining mob shortly afterwards isolated *M ovis*.

There was little evidence for Chlamydial involvement, with only one smear from one property positive. In two sets of samples, culture for Mycoplasma was negative. Many cases would resolve without treatment and mustering for treatment certainly helped spread infection. Mobs that had been recently yarded reported infection rates of over 50%.

Only one flock experienced long term blindness, possibly complicated by mustering and dipping when infection was occurring in the flock. In general, sheep held condition well during infection, with deaths due to misadventure the greatest cause of production loss. Blindness in individual sheep would resolve as quickly as a matter of days in some cases, with others taking a month or to recover from

The lack of age related immunity suggests that infection with pinkeye due to *M ovis* has not been common in the Cooma area in the last 5 years.

Contact: Christine Haylock, Cooma on (02) 6452 1122

DISEASE CONTROL AND ADVISORY PROGRAMS

Bovine Johne's Disease Market Assurance Program

At the end of the quarter there were 1327 herds (154,263 cattle) with a status under the BJD MAP. Of these, 567 herds (55,419 cattle) have undergone 2 tests and 138 herds (6,780 cattle) have undertaken 3 tests under the scheme.

There have been 245 herds (~12%) with reactors to the Bovine ELISA of which 29 (~2.3%) are infected herds. The majority of reactors, 334 from 198 herds, have been identified during round 1 testing of which 24 (2%) were infected. There were 73 reactors from 41 herds in round 2 testing of which 4 (0.9%) were infected, and 17 reactors from 6 herds in round 3 testing of which 1 (1.3%) is currently infected.

Table1: Number of Herds with a Status under the CattleMAP

MAP Herd Status	This Quarter	Last Quarter	At 30th June 2000
MN1	356	337	381
MN2	309	302	278
MN3	281	257	158
NA	264	245	118
TOTAL	1210	1141	935

Contact: Tim Jessep, Goulburn on (02) 4828 6614

Australian Sheep Johne's Disease Market Assurance Program

At the end of the June Quarter there were a total of 345 flocks currently enrolled in the SheepMAP. Of these, 242 flocks have a status of MN1, 102 have a status of MN2 and 1 flock has a status of MN3. During the quarter 3 MN1 flocks were found to be infected with ovine Johne's disease and were all situated within the OJD control zone. One of these was detected using serology at a maintenance test and the other two were detected while undergoing a routine investigation of ill

thrifty animals. Ten MN1 flocks and 1 MN2 flock reverted to a status of non-accredited (NA) and one MN1 flock was given a suspect (SU) status.

Table 2: Status of SheepMAP flocks in NSW

MAP Status	This Quarter		Last Quarter		At 30 th June 2000	
	Residual	Control	Residual	Control	Residual	Control
MN1	27	221	35	234	56	253
MN2	13	89	10	71	2	16
MN3	0	1	0	1	0	0
IN	3	0	7	6	3	2
TOTAL MN1/MN2/MN3	351		351		327	

Australian Goat Johne's Disease Market Assurance Program

During the quarter there were 4 new goat herds that entered the scheme, bringing the total number of monitored negative herds to 35. Of these, 34 are MN1 and 1 herd is MN2. The uptake of the GoatMAP is slowly increasing with more herds showing interest in entering the scheme as goat owners are becoming more aware of Johne's disease as an issue that may effect them.

Ovine Brucellosis Accreditation Scheme

During the quarter there were 10 new flocks that entered the NSW OB Accreditation Scheme. There were also 2 voluntary cancellations, 2 enforced cancellations and one suspended flock. The number of flocks remaining in the scheme remains fairly stable at 1,217.

There were a total of 5612 sheep tested for ovine brucellosis of which 272 (0.05%) were positive reactors using the CF test. Of these, 165 out of 4474 (0.04%) were positive while undergoing testing for accreditation purposes and 76 out of 981 (0.08%) were positive reactors during routine diagnostic/monitoring testing.

Contact: Catherine Taragel, Orange on (02) 6391 3924

EBL Control and Eradication Program

Table 3: EBL status of NSW dairy herds at the end of June 2001:

EBL Status	Number of herds	% of total herds
ACCREDITED & CERTIFIED FREE	4	0.3%
TESTED NEGATIVE	511	35.2%
MONITORED NEGATIVE	905	62.2%
BMT NEGATIVE	--	--
PROVISIONALLY CLEAR	9	0.6%
INFECTED	9	0.6%
UNDER INVESTIGATION	--	--
SUSPECT (former NA 7 BMT NEG.)	9	0.6%
NOT ASSESSED (newly assembled herd)	7	0.5%
Total	1,454	100%

Quarantining of NSW's INFECTED & PROVISIONALLY CLEAR herds

All the 9 INFECTED (plus one EBL infected dairy heifer rearing farm) and the 9 PROVISIONALLY CLEAR herds (plus one EBL provisionally clear heifer rearing farm) are currently under quarantine and District Veterinarians supervision.

EBL Provisional Freedom

At least 99.8% of dairy herds in the state must have a 'clean' EBL status – which can be either ACCREDITED/CERTIFIED FREE, TESTED NEGATIVE or MONITORED NEGATIVE – and no infected herds, before the industry can claim EBL Provisional Freedom.

At the end of June 2001 the following non 'clean' herds were listed in the NSW EBL Register:

- **9 EBL INFECTED herds** (+ one H.R. farm). The herds require two 'clean' whole herd tests at least 6 months apart to achieve the target TESTED NEGATIVE status. The first clean herd test must be completed at least 6 months after removing the last known EBL reactor from the herd. Of the 9 herds, only one herd can achieve the target status by the end of 2001.
- **9 EBL PROVISIONALLY CLEAR herds** (+ one H.R. farm). The herds are required to complete one 'clean' whole herd test at least 6 months after achieving the status before progressing to the target TESTED NEGATIVE status. All the herds can achieve the target status providing the herds are tested by the end of 2001 and no new EBL reactors are detected.
- **9 SUSPECT herds.** This group of herds originated from previously NOT ASSESSED and BMT NEGATIVE herds which had not completed the required EBL tests or the owners have not provided information on the origin of the herds by the set date of 31 March 2001. Each of the herds require one 'clean' whole herd test before progressing to TESTED NEGATIVE status.
- **7 NOT ASSESSED herds.** This group of herds was assembled in the last few months. Each herd requires either:
 - two 'clean' tests at least 6 months apart, or
 - the owners to provide evidence to the relevant Rural Lands Protection Board District Veterinarian on the 'clean' origin of the new herd before the herds may progress to TESTED NEGATIVE or MONITORED NEGATIVE status. Majority of the herds can attain the target status by the end of 2001. *It is considered that NOT ASSESSED herds may become an obstacle for the industry achieving EBL Provisional Freedom unless the dairy companies execute their power and do not accept milk from any new supplier of unknown EBL status.*

Contact: Richard Zelski, Tocal on (02) 4939 8940

New South Wales Footrot Strategic Plan

The NSW Footrot Steering Committee has set the end of December 2001 as the target date to progress the whole of the State to Control or Protected Area status for footrot. Currently only portions of the Young, Gundagai and Hume Rural Lands Protection Boards remain at Residual Area status and good progress is still being made with eradication programs in these areas.

During the last quarter meetings were held with Board staff from the Orange and Wagga Wagga SFVO Regions to discuss progress with the Footrot Strategic Plan. Statistics returned from Rural Lands Protection Boards for the end of June 2001 indicate there has been an increase in the number of footrot quarantines (and sheep in quarantine). Statewide over the last 12 months (2001 total 434 quarantines compared to 400 in June 2000) but at the same time there have been 97 flocks released from quarantine. The overall increase in footrot quarantines reflects the good seasonal conditions which have been highly suitable for the expression and spread of footrot over the last 2 to 3 years in many areas of the State. Boards are still committed to detecting footrot infections and in some areas

producers who were previously living with footrot problems have sought assistance due to greater expression of the problem.

Discussion with RLPBs have identified a number of problems which could impact on the future success of the Footrot Strategic Plan, particularly on the tablelands. These include producer cooperation, competition for resources (impact of OJD), policy changes, availability of contractors and regulatory support from NSW Agriculture. Problems with handling low expression strains are to be discussed by the Footrot Technical and Advisory Sub-Committee at the next meeting in October. The NSW Footrot Policy (as outlined in the NSW Footrot Eradication Manual) is currently under review and should be finalise by the end of the year.

Contact: John Seaman, Orange on (02) 6391 3248

Cattle Tick Control Program

This year a total of 41 cattle tick infestations were detected this is a reduction on the 80 infestations detected last year. Quarantine restrictions have been released on the properties in the Grafton area that were quarantined due to the infestations associated with Hawthorne Park. Three properties have been detected as infested in the Liston area, which is west of the traditional cattle tick areas.

Contact: Peter McGregor, Wollongbar on (02) 6626 1334

DISEASE SURVEILLANCE

Newcastle Disease

Data from national survey, movement testing, individual IP testing and ND exclusion testing showed no evidence of virulent Newcastle Disease. The auditing records demonstrated that a comprehensive process of clean-up and disinfection was followed. The Technical Working Group of the Newcastle Disease Management Group endorsed lifting of the Control Areas and quarantines on all properties.

Contact: Rory Arthur, Orange on (02) 6391 3719

Ovine Johne's Disease (OJD) Surveillance

At the end of June there were 560 with current status of infected (IN), 809 with a status of suspect (SU) and 2013 with a status of under-surveillance (US) for OJD in NSW. There has again been an increase in the percentage of infected flocks since the previous quarter in both the control (0.6% to 0.7%) and residual (9% to 9.1%) zones. Table 4 summarises the OJD status of flocks in both the Control and Residual Zones for June and March quarters. Tables 5 and 6 show the number of flocks which have had a property disease eradication plan approved, and the number and percentage that have satisfactorily completed their eradication plan respectively.

Table 4: Summary of the OJD Situation in NSW

		As at 30 June 2001			As at 31 March 2001		
Flock Information	Zone*	No. flocks	Total No. flocks	% flocks	No. flocks	Total No. flocks	% flocks
Current IN/flocks	CZ	222	26791	0.8%	193	26791	0.7%
	RZ	362	3988	9.1%	357	3988	9%
Current SU flocks	CZ	388	26791	1.4%	342	26791	1.3%
	RZ	406	3988	10.2%	401	3988	10%
Current US flocks	CZ	684	26791	2.6%	629	26791	2.3%
	RZ	1290	3988	32.3%	1293	3988	32%

Table 5: Number of OJD PDEPs approved

		As at 30 June 2001		As at 31 March 2001	
Number of PDEPs approved		New	Total	New	Total
CZ		0	95	2	95
RZ		2	61	1	59

Table 6: Number & Percentage of OJD PDEPs completed

		As at 30 June 2001			As at 31 March 2001		
% IN flocks completing PDEP		No. flocks	Total No. flocks	% flocks	No. flocks	Total No. flocks	% flocks
	CZ	61	272	22%	61	244	25%
	RZ	43	425	10%	41	419	10%

Contact: Ian Links, Wagga Wagga on (02) 6938 1992

NTSESP (National Transmissible Spongiform Encephalopathy Surveillance Program)

Table 7: Numbers of brains submitted

Submitter	Bovine Count	Ovine Count
Abattoir	5	2
Govt vet	17	23
Private vet	23	8
Total	45	33

This brings the total submissions for the year to 54 bovine and 51 ovine. This is similar to the situation for last year, when we were on track for bovine submissions (100 required pa), but behind the required number for ovine submissions (153 required pa).

There is obviously more scope for AQIS veterinarians to improve their submission rate, and Animal Health Australia discussed ways of addressing this problem at the last NTSESP meeting in Canberra on July 18. In the last few weeks there has been evidence of a few more submissions from AQIS.

Those District Veterinarians that have participated in the scheme have generally responded well to the request for more sheep submissions. However, only 20 RLPBs had submissions this quarter. It is hoped that the Boards will continue to remind their ratepayers about the scheme in newsletters etc., so that they will call DVs when they have genuine nervous cases in their sheep and cattle.

Table 8: Submissions by RLPB (including private, AQIS and RLPB veterinarians)

Rural Lands Protection	Bovine	Ovine
Armidale	2	8
Bombala		1
Braidwood	1	
Casino	4	
Cooma		5
Dubbo		1
Forbes		1
Gloucester	1	
Goulburn	1	3
Grafton	1	
Hume	7	5
Hunter	1	
Moss Vale	1	
Murray	3	
Narrabri	7	4
Narrandera	2	
Northern New England	4	2
Riverina	6	2
Tweed-Lismore	2	
Wagga Wagga	2	1
Total	45	33

Contact: Belinda Walker, Gunnedah, on (02) 6742 9293

Bee Diseases

There were 35 reports for American Brood Disease for the period April 4 2001 to July 11 2001. This brings the total number of positive reports since July 2000 to 135, during which time 3,657 of 9,228 (40%) of hives in 172 apiaries were inspected.

Contact: Keith Oliver, Orange, on (02) 6391 3689

NAMP (National Arbovirus Monitoring Program)

The lower Hunter Valley experienced above average rainfall during April. There was a later onset of winter and conditions from June to August 2001 have been unusually mild.

Between March and May (seroconversions in early June), there was transmission of Akabane along the entire coastal plain from the far North Coast south to the Hunter Valley, with spread west up the Hunter Valley as far as Scone. During April and May seroconversions were also detected at most sites on the North-west slopes in districts adjacent to the Queensland border and as far south as Narrabri. There was no Akabane or Simbu activity detected on the NSW South Coast.

Within the Akabane endemic area, the incidence was average to slightly lower than normal. By the end of the season, most animals had seroconverted at coastal locations, although over a much longer time-span than usual. The incidence on the far north-western slopes and plains was moderate with about 40-60% of animals seroconverting. As Akabane virus is not endemic in these areas (although there was also a moderate incidence in the preceding year), some deformed calves are expected. A few cases of calf deformities have been observed on the north-west slopes during late July. Overall, considering the favourable seasonal conditions, Akabane transmission was less extensive and slower than usual. This may have been due to interference with transmission due to the extensive spread of Peaton virus early in the season.

Seroconversions for bluetongue virus were only recorded at 2 locations in the far north of the state – at Casino and Wallangra (on the N-W slopes just south of the Queensland border), both in mid-June. The incidence was low to moderate (20% at Casino and 50% at Wallangra). Infection was not detected at any locations further south.

The seroconversions at Wallangra were unusual and have not been detected in this area previously. However, during the previous year, there had been extensive bluetongue transmission in nearby districts in southern Queensland. No isolates of bluetongue viruses have been made to date. Serotyping (by VNT) has not been completed.

Although spread started later than usual, bovine ephemeral fever virus infection was widespread at all sites along the North Coast, the Hunter Valley and the Cumberland region west of Sydney. There were also seroconversions on the north-west slopes and plains (Wallangra, Narrabri, Inverell, Bourke, Dubbo) the central tablelands (Bathurst and Goulburn) and far south coast (Bega and Bodalla). Seroconversions were recorded in most coastal locations in April to June and May-June at the inland locations.

The incidence of BEF was high in most coastal locations and the Hunter Valley (60-100%) and low to moderate in inland districts (20-30%). Disease was widespread and severe in the Hunter Valley, Cumberland region and the north west slopes and plains. Cases were observed in most other regions but were generally mild. Although the severity of disease varied around the state, and transmission started relatively late, the most remarkable feature was the widespread nature of BEF infection. This probably reflected the widespread flooding in many districts in late summer-early autumn.

Contact: Peter Kirkland, EMAI, on (02) 4640 6331

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>

