
October - December 2001

STAFF

During December, Catherine Taragel commenced as Veterinary Officer (VO), Epidemiology. Catherine has moved into this position from VO, Orange, where she was predominantly involved with sheep animal health programs and OJD research during the past 5 years. Catherine will be on maternity leave from 11 April 2002 returning early October 2002.

Interviews for the Veterinary Officer –in training positions were undertaken during December and the 5 successful applicants were Erika Bunker, Glen Edmunds, Graham Knowles, Richard Luong and Sarah Robson. They will be starting with NSW Agriculture in February 2002 and we welcome them and hope they enjoy a long and fulfilling career.



Frank Nottle commenced his appointment as the Animal Health Manager with the State Council located in Orange. Prior to this appointment, Frank had spent over 21 years as the District Veterinarian (DV) at Coonabarabran.

Buster Neilson started as the DV with the Tweed-Lismore RLPB in mid-December after 4 years as the DV at the Northern Slopes RLPB. He is now enjoying seeing the surf at least once a week and eating more fish.

Christine Haylock, DV Cooma went off on 12 months maternity leave just before Christmas and successfully delivered a healthy 8.1 lb baby boy named Russell Lindsay Haylock (Russ) on 17 February 2002. During her maternity leave Sally McPhie is replacing her. Sally has been working in private practice since graduating from Sydney Uni in 1997, most recently at All Creatures Veterinary Clinic in Canberra, and we hope she enjoys her time as DV Cooma.

QUARTERLY HIGHLIGHTS

Anthrax

There was one suspect case during the quarter in sheep with deaths in 7 of 1480 animals. Although negative on smear for *Bacillus anthracis*, the clinical signs and previously history of disease on the property was indicative for anthrax and so was treated accordingly. The previous instance of anthrax on this property had occurred in 1994, however vaccination had been discontinued in recent years. There were 6 other exclusions for anthrax during the quarter which were found to be negative.

Cattle Tick

In early January 2002, tick fever due to *Babesia bovis* was diagnosed in a four year old cow that subsequently died. No cattle ticks were detected when all of the 63 head on the property were examined.

The last diagnosis of tick fever in NSW was in 1998 when a single animal died though no cattle ticks were detected on this occasion either. The year prior to this a significant outbreak of tick fever occurred on two adjoining properties. This was an unusual case for NSW in that it was accompanied by a heavy infestation of cattle ticks on both properties. Mortalities were 8 ex 65 and 31 ex 120.

DISEASE TRENDS & PREDICTIONS

Hypoglycaemia-Spiking Mortality Syndrome (HSMS)

A broiler flock vaccinated at 7 days of age against ND experienced a significant increase in mortalities and culls over 4 days at 2 weeks of age. Clinical signs initially suggestive of ionophore toxicity included a range of nervous signs. Follow-up investigations to excluded virulent NDV in samples from this flock.

Low blood glucose levels in some affected birds (< 4.4 mMol/l) and clinical signs that may be associated with hypoglycaemia (fine tremors) in the absence of etiologic agents associated with nervous signs suggests that HSMS which has been reported in broilers in other countries is a possibility. The aetiology of this condition is unknown although an infectious agent is suspected.

Suspect *Lamanema Chavezi* - Not

Following an overseas expert opinion on parasite sections detected in the abscessed livers of alpaca, the consensus is that these were more likely to be trematode eggs rather than the trichostronglyloid nematode *Lamanema chavezi*. This particular case highlights the need and performance of post-entry surveillance given that in contacts of these animals had recently been imported from South America.

DISEASE CONTROL & ADVISORY PROGRAMS

Bovine Johne's Disease Market Assurance Program (Cattle MAP)

At the end of the December quarter there were 1395 herds tested under the CattleMAP in NSW consisting of 158,929 head of cattle. Of these, 705 herds (65,025 cattle) have had 2 screening tests, and 184 herds (9,289 cattle) have had 3 negative tests.

There have been 339 reactors from 201 herds during round 1 testing, 79 reactors from 46 herds during round 2 testing and 19 reactors from 8 herds during round 3 testing. This reactor rate remains steady at 0.20% of animals tested. Of the 201 round 1 reactor herds, 26 (1.9%) have been detected as infected, 8 herds (0.8%) have been detected as infected at or prior to round 2 testing and 2 (1.3%) have been infected at or prior to their 3rd test.

The current number of herds with a status under the Cattle MAP is outlined below in Table 1.

Table 1: Status of CattleMAP herds in NSW

NSW CattleMAP Status	December 2001	September 2001	December 2000
MN1	338	358	356
MN2	326	318	313
MN3	299	286	248
Total MN1 – MN3	963	964	917
NA (dropped out)	305	273	194
IN (detected by testing in MAP)	36	33	29

Contact: Tim Jessep, Goulburn on (02) 4823 0744

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

During the quarter there were 16 new flocks entering the SheepMAP. This brings the total number of flocks in the program to be 354, with 212 at a status of MN1, 139 MN2 and 3 at MN3. There were 2 SheepMAP flocks found to be infected during the quarter, and 8 flocks dropped out of the program. The 2 infected flocks were both located in the Residual Zone for OJD and were both detected while undergoing maintenance tests to remain at MN1. One of the maintenance tests was undertaken with serology (AGID) and the other by the PFC test. The total number of SheepMAP flocks that have been detected as infected is now 18, of which 12 are located in the Residual Zone and 6 are located in the Control Zone.

During the year 2001 there has been a decrease in participation of flocks in the SheepMAP within the OJD residual zone from 53 to 37, and a corresponding increase in participation of flocks in the MAP within the OJD control zone from 286 to 317. There has been a steady increase in flocks progressing to MN2 within the OJD control zone, though this has not been replicated in the residual zone where flocks have mainly either maintained their status, been detected as infected or dropped out of the program. Five flocks were detected as infected while undergoing testing under the program during the last 12 months, all within the residual zone.

National Veterinary Committee has recently endorsed changes to the number of sheep required to be blood sampled for SheepMAP Sample and Maintenance Tests (and for Check Tests). This followed a review of the comparative flock sensitivities of serology (AGID) and Pooled Faecal Culture (PFC). The analysis demonstrated that while both serology and PFC had high flock sensitivity where disease was present at 2% prevalence or greater, serology provided a markedly lower sensitivity in lower prevalence flocks.

As a result, it was agreed that increasing the number of sheep assessed by serology would ensure similar performance between blood testing and PFC, and provide a greater sensitivity than originally anticipated. This has resulted from research demonstrating the sensitivity of PFC testing is greater than originally predicted.

A **Sample Test** will now consist of either:

- **875 sheep** assessed by serology; or
- 350 sheep by PFC (7 pools of 50), ie no change to the PFC testing.

The **Maintenance** and **Check Tests** will now consist of either:

- **250 sheep** assessed by serology; or
- 100 sheep by PFC (2 pools of 50).

Table 2 outlines the status of SheepMAP flocks within NSW at the end of December 2001.

Table 2: Status of SheepMAP flocks in NSW

MAP Status	31 December 2001		30 September 2001		31 December 2000	
	Residual	Control	Residual	Control	Residual	Control
MN1	23	189	27	193	44	220
MN2	13	126	14	112	9	66
MN3	1	2	0	2	0	0
IN (Total)	12	6	10	6	7	6
TOTAL MN1/MN2/MN3	354		348		339	

Contact: Catherine Taragel, Orange on (02) 6391 3384

Australian Goat Johne's Disease Market Assurance Program

There were 5 new entries and no drop-offs during the quarter. This brings the total number of herds in the GoatMAP to 46. There are currently 42 MN1 herds and 4 MN2 herds in NSW. Of these, 22 MN1 and 2 MN2 herds are located in the control zone for JD in goats and 20 MN1 and 2 MN2 herds are located in the residual zone.

Contact: Catherine Taragel, Orange on (02) 6391 3384

Alpaca Johne's Disease Market Assurance Scheme (AlpacaMAP)

During the quarter there have been 11 new entries into the scheme with a status of MN1 bringing the total number of MN1 herds to 46. Nine herds progressed to MN2 status, bringing the total of MN2 herds to 62. To date there are 2 herds that have achieved MN3 status. The AlpacaMAP herd numbers have increased from 88 herds at the end of March 2001, to a total of 110 herds at the end of 2001.

Contact: Bob Coverdale, Dubbo on (02) 6881 1295

National Transmissible Spongiform Encephalopathy Surveillance Program

Submissions of both cattle and sheep to the program have been good. The submissions for the quarter from each RLPB are shown in **Table 3**.

Table 3. Cattle and sheep submissions by Rural Lands Protection Board for year 2001

January – December 2001							
District Vet		Abattoir Vet		Private Vet		TOTAL	
S	C	S	C	S	C	S	C
11	4			27		38	4
2						2	
					1		1
	1						1
	3		1		3		7
				1		1	
9	1			22		31	1
1						1	
		1			1	1	1
		5				5	
1				1		2	
	3		1		2		6
41		2		1	1	44	1
			1		1		2
2						2	
2				29	26	31	26
	2						2
					1		1
1						1	
1		1				2	

	1	1				1	1
					6		6
				3	10	3	10
14	18					14	18
1	1		2			1	3
5	11				1	5	12
	1						1
1						1	
1		1		1	7	3	7
				1	1	1	1
			1		1		2
	2				1		3
3			1		2	3	3
	1						1
				1			1
		1				1	
96	49	12	7	87	65	195	121

The quota for both cattle and sheep was exceeded for the year 2001. Based on our cattle and sheep populations, NSW is required to submit 100 cattle brains and 153 sheep brains per annum, to the program.

Sheep numbers for the year were actually better than previously reported, due to the fact that sometimes 2 or 3 sheep were submitted on one laboratory report. This was corrected in the December quarter, thus sheep numbers in the table above are artificially high.

It can be seen from these records that there is considerable variation in the number of submissions from various parts of the state. This almost certainly reflects the enthusiasm of the District Veterinarian or Private Practitioner in that area, rather than the distribution of nervous disease.

Differential diagnoses obtained during TSE exclusion for Cattle for the year 2001 includes meningoencephalitis, botulism, BJD, actinomycosis, neoplasia, ketosis, PEM, obstetrical paralysis, arthritis, hypomagnesaemia, hypocalcaemia, Vit E deficiency and traumatic reticuloperitonitis. There were many differential diagnoses obtained for sheep during the year, including encephalitis, mild degenerative brain lesions, phalaris staggers, parasitism, OJD, PEM, hepatopathy with & without associated encephalopathy, listeriosis and neoplasia.

Contact: Belinda Walker, Gunnedah on (02) 6742 9263

Caprine arthritis-encephalitis (CAE)

For the year 2001, goats from 37 separate herds were tested for CAE. Goats in 7 herds were detected as positive to the CAE test, although animals in 3 herds retested negative after a change in test procedure.

The change in test procedure came about after an occurrence of weak false positive tests in goats belonging to previously CAE tested negative herds caused concern. Coupled with disparate test results on the same goats tested with the same reagents at different veterinary laboratories, the accuracy of the current test in some laboratories was questioned. Subsequent investigation by the laboratories found that a washing reagent containing PBS may have been the cause. Retests on previous weak positive sera using a new washing reagent returned negative results.

Three boer goats were tested CAE positive in a herd with a suspected history of contact with a dairy goat (cross dairy/boer goats present in the herd) and the clinical signs of CAE, big knee (carpal arthritis) occurred in a CAE positive goat in one herd.

There is currently only one herd accredited for CAE (mixed flock of dairy breeds and fibre goats). Poor confidence in the laboratory test may be the reason for the drop off from the accreditation scheme.

Contact: Diane Ryan, Menangle on (02) 4640 6373

Ovine Brucellosis

During the quarter there were 9 new accredited flocks, 1 voluntary suspension due to the property being quarantined for OJD and 11 cancellations of which 6 were voluntary. There are currently 970 flocks accredited free under the NSW OB Accreditation Scheme.

There were 7,598 tests undertaken for ovine brucellosis using the CF Test from 397 submissions during the quarter. Of these, 5,152 tests from 281 submissions were for Accreditation testing with 204 positive reactors (0.04%), 967 tests from 47 submissions were for diagnostic purposes with 166 positive reactors (0.17%), 1,427 tests from 59 submissions were for monitoring purposes (mainly in the Western division) with 84 positive reactors (0.06%) and 52 tests from 10 submissions were for export testing with zero (0%) positive reactors.

Contact: Catherine Taragel, Orange on (02) 6391 3384

Enzootic Bovine Leucosis

The November 2001 Bulk Milk Testing (BMT) round was completed with all negative results. This is the first time since inception of the NSW EBL Program in 1993 that a BMT testing round has returned all EBL negative results.

Due to excellent co-operation and support from all sectors of the NSW dairy industry the NSW EBL Eradication Program has made highly satisfactory progress and is in its final stages of eradicating EBL infection from dairy cattle population in the State.

The Program commenced in 1993 with over 25% of NSW dairy herds being infected. Since 1993 the NSW Dairy Industry and NSW State Government provided over \$1.5 M for EBL testing of infected herds and for BMT monitoring of the State dairy herds. The origin of these funds was the NSW Cattle Compensation Fund and the Dairy Industry Conference fund. While NSW Agriculture provided veterinary expert advice to this industry driven program, considerable time and money was also provided by Rural Land Protection Boards and by individual dairy herd owners. The fund was exhausted for BMT by November 1999 and for herd testing by September 2001. Currently the cost of ongoing BMT monitoring is paid by milk processing companies.

Table 6 lists the EBL status of NSW dairy herds as at the end of December 2001.

Table 6

EBL herd status:	December 2001
ACCREDITED & CERTIFIED FREE	4
TESTED NEGATIVE	501
MONITORED NEGATIVE	896
PROVISIONALLY CLEAR	4
INFECTED	5
UNDER INVESTIGATION	1
SUSPECT	3
NOT ASSESSED	3
Total	1417

A problem in achieving the original EBL eradication target by the end of 2000 has been caused by a small number of dairy farmers carelessly buying in untested cattle and/or being slow to complete their testing program. The remaining 5 Infected and 4 Provisionally Clear herds are all in quarantine and are subjected to EBL eradication tests, supervised by Rural Land Protection Boards District Veterinarians.

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

The NSW *Salmonella enteritidis* Free- Monitoring and Accreditation Scheme

Testing has continued during the year under the NSW SE Accreditation scheme, which covers 50% of commercial layer farms and 95% of elite breeding flocks in NSW. Participants are also required to meet basic biosecurity and egg storage standards in order to gain accreditation. Since the inception of the scheme in 1997, SE has never been detected in participating flocks.

Contact: George Arzey, Menangle on (02) 4640 6402

Ovine Footrot

The NSW Footrot Strategic Plan is still on target to progress the whole of New South Wales to Control or Protected Area status for footrot by early 2002. This significant achievement has resulted in the number of footrot infected flocks being reduced from over 6,000 down to approximately 600 over the last 10 years. The NSW Footrot Steering Committee has set the next goal to have all of the State declared Protected Area status by end of December 2005.

Over the last 12 months there has been an increase in the number of properties in quarantine for footrot throughout New South Wales – largely associated with good seasonal conditions favouring the expression of footrot and a result of Residual Areas progressing to Control Area status (where quarantine is compulsory).

However, Rural Lands Protection Boards are confident good progress is still being made with eradication programs and there is still widespread industry support for the Footrot Strategic Plan. A number of areas within the Plan are being reviewed as experiences change and knowledge increases. As the Plan progresses there will be greater emphasis on regulatory activities to ensure prescribed eradication programs are carried to protect the wider industry. The challenge for the future will be maintaining industry support while holding a hard line on individuals or groups to ensure eradication programs are carried out.

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

Bee Diseases

For the period 18 October 2001 – 2 January 2002 there were 65 reports for American brood disease. There have now been 127 positive reports since July 2001 submitted from 118 individual beekeepers. Of the 118 individuals, 11 have had American brood disease detected in the previous financial year and 25 have not had a recorded history of positive AFB smear or honey sample prior to this detection. The number of positive American foul brood (AFB) honey lab reports during the quarter was 12, bringing the total number since July 2000 to 20.

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

Ovine Johne's Disease (OJD) Surveillance

At the end of December 2001, 853 infected (IN) flocks have now been identified in NSW since 1980, with 695 (2.3% of the State's flocks) still having an IN status. Of the 695 current known infected flocks, 409 (58.8%) are in the Residual Zone. About 12.1% (409/3388) of flocks in the Residual Zone are known to be infected, compared to <1.0% (261/27391) in the Control Zone, and <2.1% (25/1200) in the Residual/Control Zone. Seventy-two new infected flocks were reported during the October to December period. Table 7 summarises the current status situation in NSW.

Table 7: Summary of current status by zone

		Current Status				
ZONE	Flocks*	IN	SU	US	NA	Total
Control	27,391	261	359	952	1,108	2,997
Residual	3,388	409	369	1,343	148	2,306
R/C	1,200	25	98	182	221	526
Total	31,979	695	826	2,477	1,477	5,829

* Total flock numbers in Control, Residual and Residual/Control zones are approximate only. Currently Yass is the only RLPB which is zoned part Residual and part Control.

IN: Infected; SU: Suspect; US Under Surveillance; NA: Nil Assurance

The distribution of current infected flocks is shown in Figure 1, and the quarterly totals of Infected, Suspect and Market Assurance (MAP) flocks for the last 12 months in Figure 2.

There were 72 new Infected flocks reported during the October to December with 29 of these in the Goulburn RLPB district, and 15 in the Young RLPB district.

Five new PDEPs were approved during the October to December period (3 Residual Zone, 2 Control Zone), making a total to 215 PDEPs that have now been approved by NSW Agriculture. No flocks were reported as completing PDEPs during the period, with 116 PDEPs now recorded as completed.

Figure 1: Distribution of Infected flocks in NSW at 31st December 2001

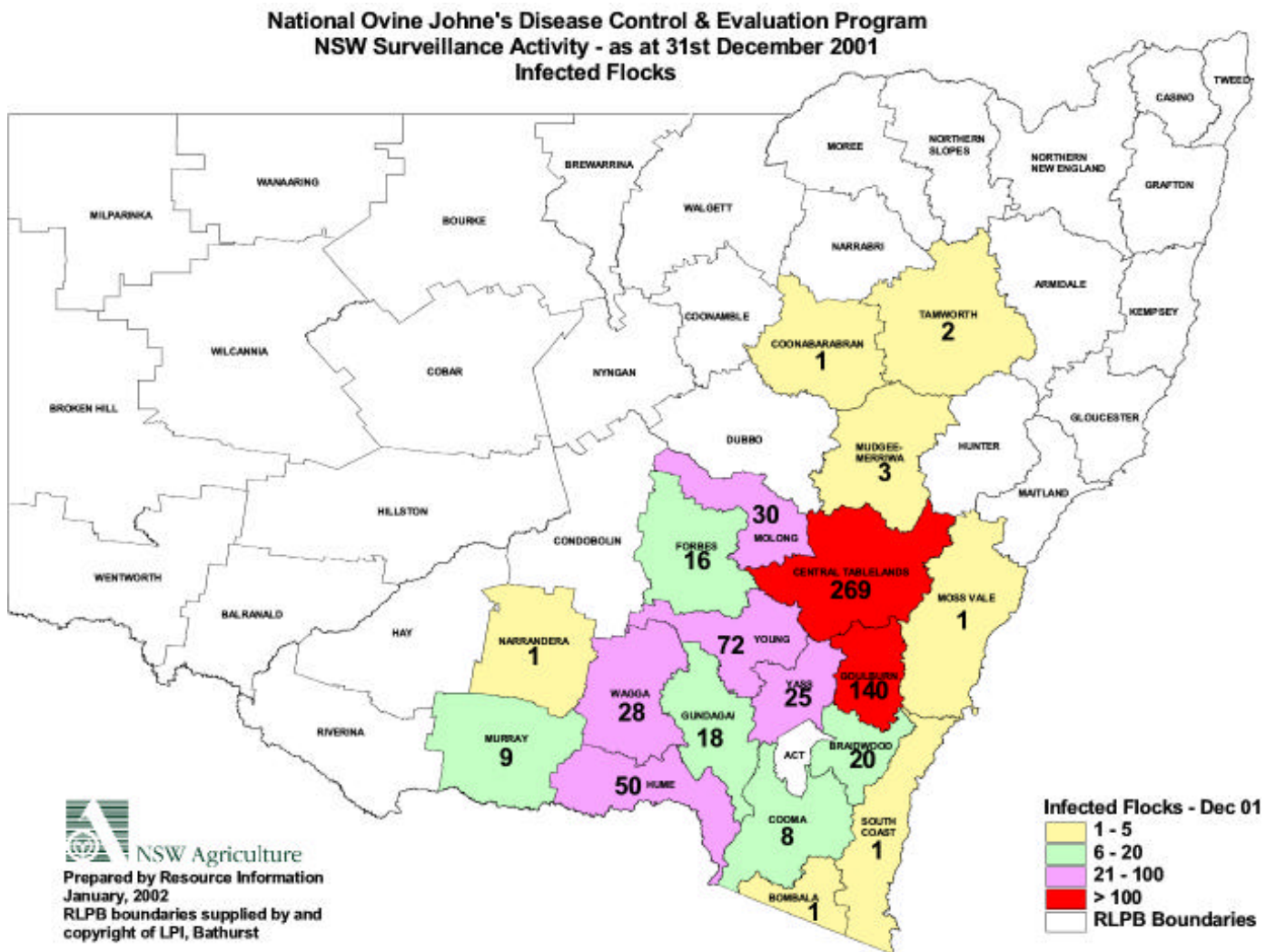


Figure 2

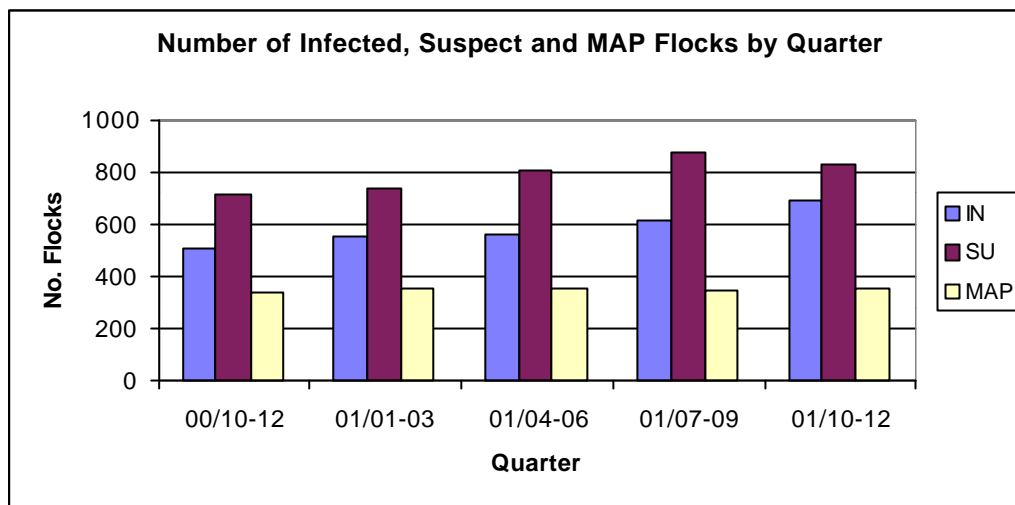
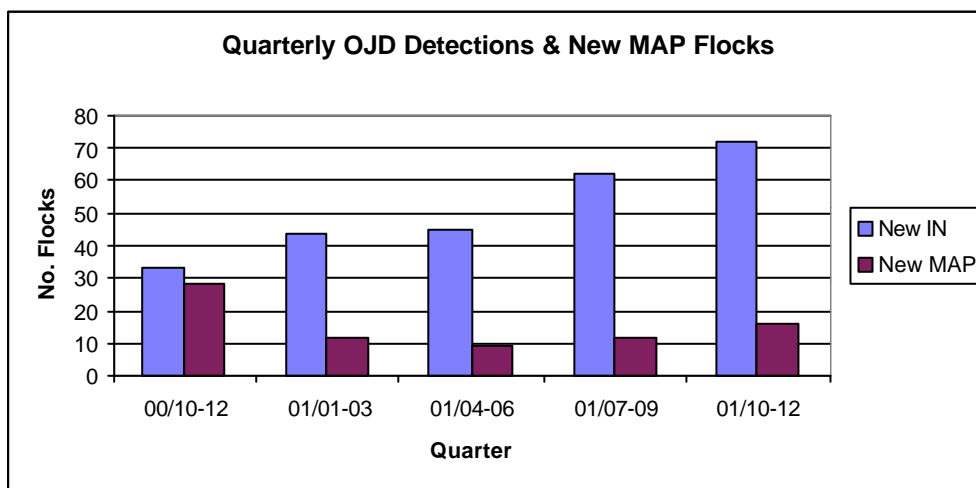


Figure 3 shows the number of new infected flocks reported each quarter for the last 5 quarters. The number of new infected flocks identified has continued to increase in the last few quarters as abattoir surveillance positives are being confirmed and reported as Infected.

Figure 3



Abattoir Surveillance

This program has been running since the end of November 1999. For the October-December 2001 period 2,889 lines totalling 982,713 sheep were examined. Of the 2,889 lines examined, 445 lines have had samples of intestine sent to the laboratory for histology examination. 329 of these lines have returned a positive result.

Abattoir surveillance has proven an extremely valuable surveillance tool in high, moderate and low prevalence zones across NSW and interstate. It provides information crucial for disease control on individual properties and on a local, regional, state and national basis. Monitoring is occurring in 11 abattoirs in NSW with more than 85% of adult sheep killed in NSW being monitored on an annual basis.

Table 8: Abattoir Surveillance for 1st October to 31st December 2001 (including source of sheep).

	NSW Residual	NSW Control	NSW Res/Cont	ACT	QLD	VIC	SA	Unknown	Total
Total number of lines screened	283	1,995	207	7	23	142	45	167	2,889
Total number of sheep screened*	95,553	652,957	67,455	1,424	12,514	75,227	21,757	55,826	982,713
Number of lines sampled	167	200	56	3	0	2	0	17	445
Number of samples submitted	431	388	135	6	0	6	0	39	1005
Number of lines positive	150	117	45	3	0	1	0	13	329
Number of samples positive	316	227	84	5	0	2	0	27	661
Positive Line Detection Rate (e/a)	53%	6%	41%	71%	0	<1%	0	16%	11%

* The total number of sheep screened is the total number of sheep reported in lines examined not the actual number of sheep examined.

NB No correction has been made for multiple lines from some properties. Interstate results refer only to sheep monitored in NSW abattoirs.

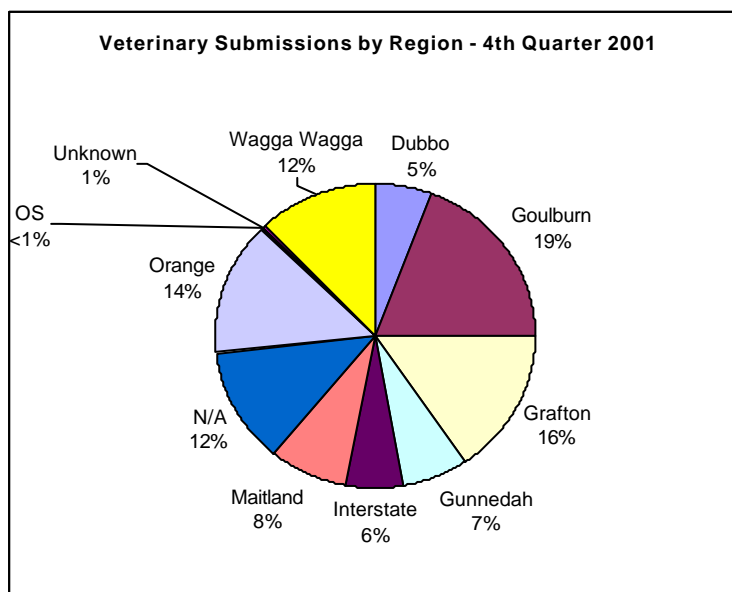
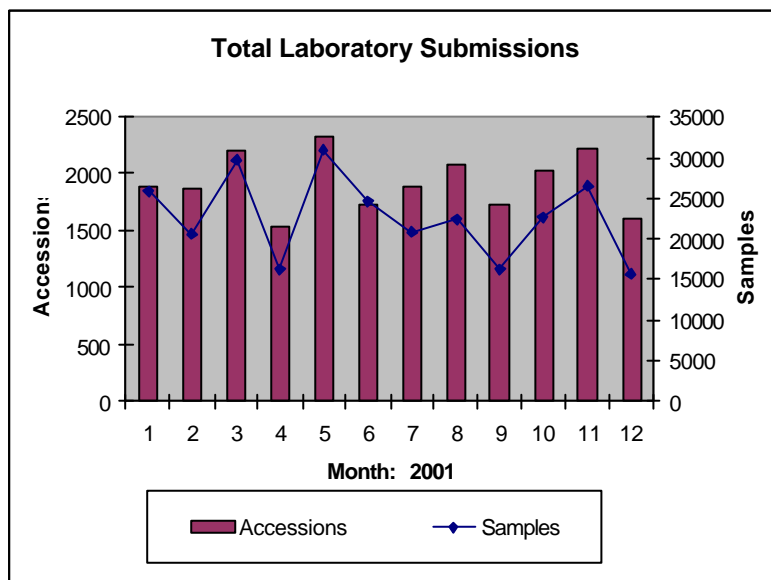
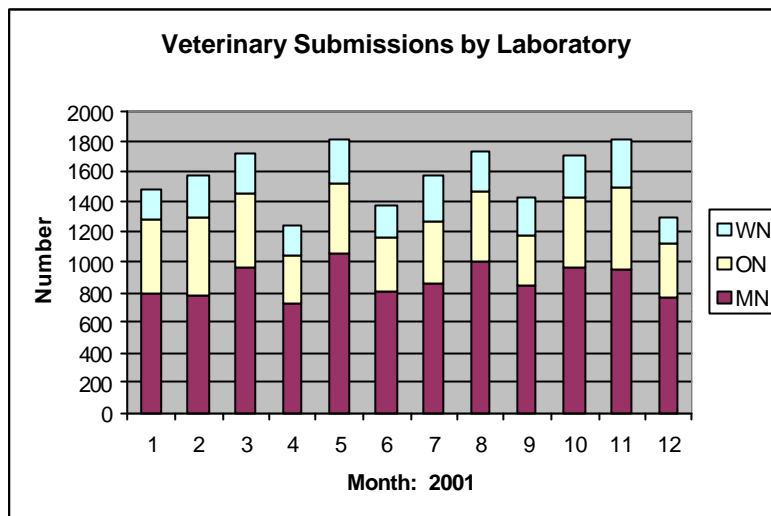
Table 9: Abattoir Surveillance Cumulative Totals November 1999 to 31st December 2001

	NSW Residual	NSW Control	NSW Res/ Cont*	ACT	QLD	VIC	SA	Unknown	Total
Total number of lines screened	2,406	15,759	772	17	1,564	1,198	276	1,236	23,248
Total number of sheep screened*	683,346	4,945,549	234,181	3,277	729,582	488,614	133,234	379,026	7,596,799
Number of lines sampled	1,011	1,346	233	3	15	59	15	96	2,778
Number of samples submitted	2,509	2,769	476	6	27	137	42	223	6,288
Number of lines positive	793	477	166	3	0	26	0	60	1,525
Number of samples positive	1,551	841	312	5	0	54	0	104	2,867
Positive Line Detection Rate	33%	3%	22%	18%	0%	2%	0%	5%	7%

* *RLPB part Residual and part Control Zone*. NB Database corrections have led to the alteration of some cumulative totals. Interstate results refer only to sheep monitored in NSW abattoirs.

Laboratory Submissions

The following two charts show the total laboratory accessions and samples, and veterinary submissions by laboratory, for the 12 months to 31 December 2001, respectively. The third chart shows source of samples for laboratory investigation by Regions for the 4th Quarter 2001.



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>

Prepared by:

Barbara Moloney

***Technical Specialist Disease Surveillance and Risk Management
NSW Agriculture
Locked Bag 21
ORANGE NSW 2800
Phone: 02 63913687 Fax: 02 63619976
email: barbara.moloney@agric.nsw.gov.au***

Catherine Taragel

***Veterinary Officer Epidemiology
NSW Agriculture
Locked Bag 21
ORANGE NSW 2800
Phone: (02) 6391 33384 or Fax: (02) 63619976
email: catherine.taragel@agric.nsw.gov.au***

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

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

