



New South Wales



ANIMAL HEALTH SURVEILLANCE

October – December 1999

Number 99/4

STAFF

John Plant (Program Leader Flock Health) retired on 19 November, 1999. John was actively involved in the development of flock health programs in relation to footrot, sheep lice, ovine brucellosis, internal parasite control and ovine Johne's disease. He was also involved in the control and prevention of arsenic residues in wool. His experience of over 30 years in the Sheep Industry specialising in flock health and production will be missed and we wish him well in his retirement.

John Seaman, formerly Officer-in-Charge of the Regional Veterinary Laboratory at Orange has been appointed to replace John.

LIVESTOCK AND PASTORAL CONDITIONS

Seasonal Conditions

Excellent rainfall continued across the majority of the state with the exception of part of the Monaro and the central portion of the Western Division. This was also combined with lower than average temperatures to cause delays to winter crop harvesting and damage to grain quality. Though, the large bulk of feed has provided excellent opportunity for fodder conservation over a large area of the state.

Plague Locusts

Low Density swarms continued to persist in the Riverina district during December. Swarms in the Hillston-Griffith area were observed laying eggs in mid-December and egg laying is likely to have occurred in other areas. Locust

numbers in the Central Western Plains areas decreased during December, though a small residual population remains and most likely will have laid eggs. These eggs should hatch in the first week in January and bands may develop if the vegetation remains green. There is still a threat that swarms from these districts may migrate across the state and into other states.

Mice

Mice activity has continued to decline during the quarter, though numbers may increase through summer and possibly be in plague proportions again next autumn as rain related harvesting delays may increase grain residues to support the mice.

QUARTERLY HIGHLIGHTS

Anthrax

There were 6 submissions for Anthrax during the quarter, with anthrax confirmed in 2 submissions by positive smears. One case occurred in a 2 year old steer from Nyngan RLPB where 3 calves had died 1 week previously, the other case occurred in a sheep flock at Bourke RLPB where 100/1700 sheep (6%) were found dead. Both cases were located around dams, exhibited classical signs of the disease and were in a known anthrax area.

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

Newcastle Disease Update

A third outbreak of Newcastle disease was confirmed on 19 August on a small layer farm at Schofields in Sydney's outer Western

Suburbs. The 8000 caged, laying hens on the farm were rapidly and humanely destroyed and disposed of by burial at the licensed Eastern Creek tip. Movement controls were imposed and surveillance undertaken on commercial poultry farms within a 3 km radius of the infected farm. No further cases of Newcastle disease were identified, although virulent virus was retrospectively isolated from an adjoining broiler flock, after the birds had been processed.

Surveillance in the Mangrove Mountain Control Area following eradication of the Newcastle disease outbreak there earlier in 1999 was completed by the end of November. Although initial testing indicated that eradication had been successful, virulent virus was isolated retrospectively from three broiler flocks after the birds had been processed. The remaining flocks in the area were vaccinated, and surveillance in the area is continuing.

Since early January 2000, Newcastle disease virus has been identified at the following locations in Western Sydney:

- Orchard Hills - Multi-aged layer farm of 15,000 caged layers (virulent sequence)
- Llandilo - Multi aged layer farm of 9,500 caged layers (virulent sequence)
- Marsden Park - Multi-aged layer farm of 90,000 caged layers (variant sequence)
- Rossmore - Layer farm of 23,000 caged layers, including 15,000 pullets introduced from Mangrove mountain (virulent sequence)

All farms experienced problems in recently introduced (4-8 weeks post introduction) started pullets - white eggs from brown egg strains and some mortality with characteristic nervous signs. Mortalities were low and other age groups remain healthy. The farms seem to have now recovered.

An additional two infected farms have also been identified in the Tamworth area, one a pullet rearing enterprise with about 18,000 pullets and the other a breeding farm of about 14,000 birds. Surveillance is being undertaken on other farms in the Tamworth area, with two farms identified with serology titres suggestive of recent virulent ND infection. These farms,

along with 2 farms with tracing connections, will be the subject of more intensive examination in an attempt to define the source of infection.

All outbreaks to date have been caused by virulent mutants of an endemic Australian low-virulence virus, however there is no known connection between the farms. All infected flocks have been quarantined and the Sydney flocks have been vaccinated, pending a decision on future action.

The Consultative Committee on Emergency Animal Diseases has determined that the disease is not eradicable in the short to medium term, and consultations between Government and the poultry industries are continuing, to develop a long term management strategy for dealing with the disease.

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

Abattoir Surveillance for OJD in New South Wales

Monitoring of adult cull sheep in abattoirs for signs of OJD under the National Abattoir Surveillance Program (NASP) commenced in NSW in late November 1999. Four NASP Inspectors are currently rotating between six NSW abattoirs which kill significant numbers of adult sheep, but it is expected that the inspection program will be extended to other meatworks in NSW over the next few months.

Currently, approximately 40 lines of cull adult sheep are examined each day, comprising about 10,000 sheep in total. Lambs and sheep less than 2 years of age are not inspected. At the moment, about half of all the lines of aged sheep that are killed in NSW are examined by NASP inspectors. Almost 20% of the total NSW adult sheep population will have been examined by the end of 2000 at this rate of inspection. Of the lines of sheep inspected, approximately 60% originated from the current Control Zone and approximately 40% from the Residual Zone.

To date about 150 lines of sheep with OJD (confirmed by histopathology) have been detected by abattoir surveillance. The average

rate of detection is about one infected line per day per inspector.

Sheep from close to 1,000 properties have been examined to date. Infected sheep have been identified from about 100 different properties, about one-third of which were previously known to be infected and about two-thirds of which are likely to be new infected properties. Almost all of the new suspect properties are in areas where OJD is already known to be prevalent. Up to now, only one infected line has been detected which originated from an area where OJD has not previously been reported.

Contact: Laurie Denholm, Orange on (02) 6391 3863

Updated Zoning for Johne's disease in NSW

During the quarter, Mossvale, Hay and Narrandera Rural Lands Protection Boards progressed from Control to Protected Zone status for BJD. Zone boundaries for OJD have not changed since they were implemented on 1 July, 1999. The new JD zone boundaries are outlined in the map of NSW below (Figure 1).

Inclusion of Braidwood RLPB in the Control Zone for OJD is expected to be gazetted during March 2000, following recent approval by Veterinary Committee.

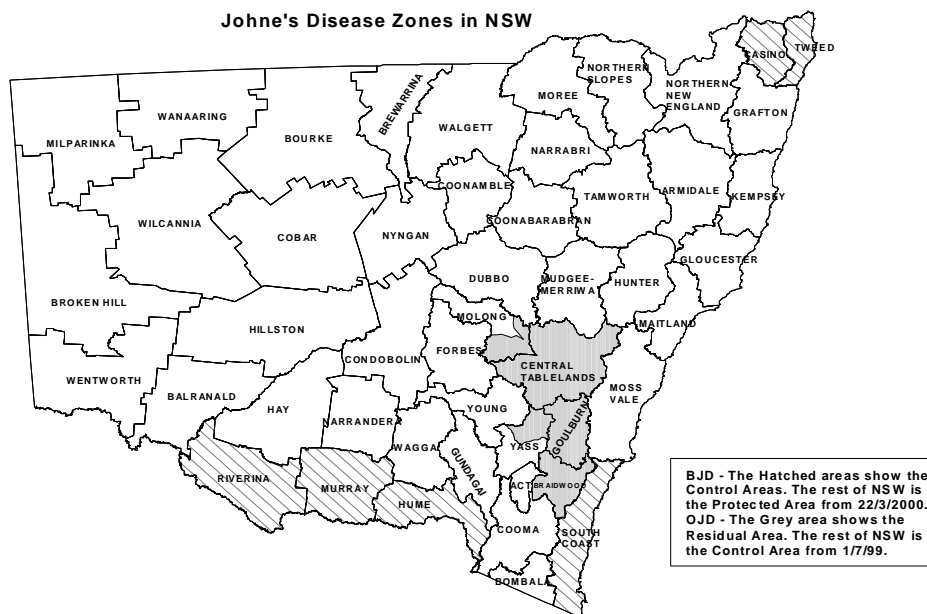
Contact: Ian Bell, Orange on (02) 6391 3691

DISEASE TRENDS AND PREDICTIONS

Helminths lead the way this summer

Much of New South Wales experienced favourable conditions over the last quarter in 1999, with good rainfall and mild to warm weather resulting in helminthosis in sheep and goats in many areas. Clinical haemonchosis including deaths was seen not only in the Haemonchus-endemic areas in the north of the state, but also in other regions where the problem only occurs sporadically. Problems attributed to Ostertagia and/or Trichostrongylus were also seen over much of NSW.

Figure 1



High egg counts have occurred in the western areas of the state, and when larval differential has been requested the majority have been *Trichostrongylus sp.* with a low percentage of *Haemonchus*. There has been a tendency,

especially in the Western division, for producers to not request a larval differential count as a cost saving measure. Drenching on high egg counts alone may lead to the wrong

drench being used and possibly even wrong management advice being given.

NSW Agriculture issued a statewide news release in December warning producers of the favourable conditions for internal parasites of livestock. Producers were encouraged to follow the recommended control program for their area, and to be careful to regularly monitor their worm control using 'Wormtest'. It was also pointed out that worms are thought to cost the Australian sheep industry approximately \$220 million annually, with most of this loss being due to subclinical parasitism.

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

Bovine Venereal Campylobacteriosis (Vibriosis)

During the quarter there were 9 submissions diagnosed with Vibriosis. These were detected across the state in an area extending from Hillston to Holbrook to Lismore. The disease, caused by *Campylobacter fetus* subsp *venerealis*, is transmitted venereally and is characterised by temporary infertility of female cattle and a small percentage of infected cows abort. Vaccination is highly effective for prevention and treatment of the disease in herds where natural mating occurs.

The other subspecies, *Campylobacter fetus* subsp *fetus*, is known to cause sporadic abortion in cattle but is not usually associated with infertility. This subspecies has also been isolated from the intestinal and reproductive tracts of healthy cattle. Vaccine is not available for control, and differentiation between the two subspecies is difficult by the traditional phenotyping technique.

Routine diagnosis of Vibriosis in cows and heifers is by the campylobacter ELISA, though this test can not be used on bulls or for testing aborted foetuses. In these situations culture is used, which unfortunately is poorly sensitive, especially in relation to bulls, which require 4 negative cultures at weekly intervals to be certified free of infection.

Table 1. NARM test results 1.1.99 to 1.12. 99

At EMAI, the Campylobacter PCR has been adopted to confirm the identity of presumptive campylobacter isolates with the advantages that it is much faster (takes 4 hours), more accurate (can identify and differentiate both subspecies in one step), is less labour intensive and cheaper. It is planned to develop this test for routine diagnosis, using routine clinical material and hopefully to eventually replace the presently used and poorly sensitive cultural techniques.

Contact: Steve Hum, EMAI on (02) 4640 6383

Recreational Pig shooting aids surveillance

Recreational pig shooting has been put to good use. A staff member of the Health Department at Bourke has added a very useful component to the hunting urge by collecting blood samples from shot pigs to monitor arbovirus activity in the district. The serum samples, collected from boars approximately 2 years of age, were also submitted to RVL Orange and tested for *Brucella abortus* and Leptospirosis. The samples were negative for *Brucella abortus*, though were positive for both *Leptospira pomona* and *L. bratislava*.

Contact: Bob Coverdale, Dubbo on (02) 6881 1275

DISEASE CONTROL AND ADVISORY PROGRAMS

National Antibacterial Residue Minimisation (NARM) Program

The results of the NARM program testing in NSW for 1999 up to 1 December are given in Table 1.

All cases where residues greater than half the MRL were detected have been investigated. Failure to individually identify calves treated for scours was a common cause of residues, as calves could be inadvertently sold before the withholding period had passed. Allowing calves access to milk from treated cows was also a common cause of calf residues.

Contact: Sally Spence, Wollongbar (02) 6626 1214

Livestock class	Number sampled	+ve Urine test *	<LOR	<half MRL	>half MRL <MRL	>MRL	result pending
Bobby calf - domestic	435		4				1
Bobby calf - export	15,565	9	8	9	5	38	2
Cull cows	0						
Feedlot	50						
Suspect	8	4				1	1

*No kidney sample submitted so confirmatory test could not be carried out.

Bovine Johne's Disease Market Assurance Program (CattleMAP)

At the end of the December quarter there were 1060 herds tested under the CattleMAP in NSW consisting of 127,061 head of cattle. Of these, 334 herds (35,992 cattle) have had 2 screening tests, and 63 herds have had 3 negative tests. This number is greatly up on the 947 herds which had been tested at the end of the last quarter and is mainly due to the increased level of testing in Rural Lands Protection Boards aiming to meet Protected status for BJD.

There have been 297 reactors from 175 herds during round 1 testing and 55 reactors from 28 herds during round 2 testing. This reactor rate remains steady at 0.20% of animals tested. Of the 175 round 1 reactor herds, 128 have been resolved with 15 infected. Of the 28 round 2 reactor herds, 25 have been resolved with 1 infected. The majority of infected herds detected have been identified by MAP testing carried out on all dairy herds in the in the north coast area to support their application for progression of zone status.

There are currently 892 herds with a BJD status under the CattleMAP with the beef:dairy ratio remaining at 70:30 and the percent of studs at 66%.

The 892 herds consist of the following statuses under the program:

82 TN1, 340 MN1, 52 TN2, 250 MN2, 71 MN3, 97 NA.

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

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

At the end of the quarter there were 308 flocks in the SheepMAP of which 303 have a status of MN1 and 5 a status of MN2. During the quarter there were 11 new entries into the program with a status of MN1 and these all entered from a status of non-assessed. There were 7 flocks which reverted from MN1 to non-assessed and 2 flocks which progressed from MN1 to MN2.

During the quarter, the use of tissue culture as a definitive test, and the protocol for use of the pooled faecal culture (PFC) test in the SheepMAP were approved by Veterinary Committee. A circular detailing this protocol was sent to approved veterinarians, many of whom had been eagerly awaiting pooled faecal culture. The first PFC samples from MN1 flocks due to progress to MN2, and flocks wanting to enter the SheepMAP using PFC were collected during December. Results from these samples should be available from March, 2000.

The revised SheepMAP Rules and Guidelines were approved by VetComm in late December and will be released in March 2000. A copy of the new guidelines which are in a manual format will be distributed to all flocks in the program, and to veterinarians approved under the program.

GoatMAP

During the quarter 4 herds entered the GoatMAP to bring the total at the end of the quarter to 6 herds with a status of MN1. There has been a slow uptake of the program by the Goat Industry, though with the approval to charge the Caprine ELISA at \$6/ head instead of \$9.00 for >20 head or \$10.15 for <20 head, the number of herds entering the scheme is

hoped to rise. Also, for producers in OJD residual zones which are currently non-assessed for Johne's disease and can meet trading conditions, there is a one-off free subsidy to undergo Market Assurance Equivalence (MAE) testing. Producers may then use this free testing to assist them to enter the GoatMAP.

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

AlpacaMAP

The program has been accepted by breeders and is progressing well. Thirty six vets have completed the correspondence training to become approved under the AlpacaMAP. There are a further 21 veterinarians who have received the training kit but have not yet completed the exam.

Currently, 47 herds have a monitored negative status under the scheme. The tested herds vary in size from 2 to 99 animals.

Contact: Bob Coverdale, Dubbo on (02) 6881 1275

Enzootic Bovine Leucosis

The November 1999 BMT gave the lowest number of positive tests since the start of the Program in 1993. The result was as follows in Table 2.

Out of the 6 farms giving positive or inconclusive BMT result, 2 herds have no history of EBL infection. An individual animal test detected 1 positive animal in one herd, while the second herd is still under investigation. The other 4 farms are known to be infected with EBL virus and were already involved in an intensive eradication program.

Table 2: Results for the November 1999 Bulk Milk Test (BMT)

Result	Herds
Negative BMT	1690 herds (97%)
Inconclusive BMT	2 herds (0.1%)
Positive BMT	4 herds (0.2%)
Not Sampled - Disbanded	23 herds (1.4%)
Not Sampled - Seasonal Etc	18 herds (1.0%)
Total	1737 herds (100%)

As at 31st December 1999 the EBL status of NSW dairy herds was:

Table 3: Current EBL status

Status	Number (%) of herds
Accredited/Certified Free	4 (0.2%)
Tested Negative	482 (28%)
Monitored Negative	1040 (60%)
BMT Negative	40 (2.3%)
Provisionally Clear	85 (4.9%)
Under Investigation	2 (0.1%)
Infected	60 (3.5%)
Not Assessed	24 (1.4%)
TOTAL	1737 (100%)

Currently, there are 21 dairy herds which are under quarantine (Undertaking - Section 11) because of active EBL infection.

Contact: Richard Zelski, Maitland on (02) 4930 2419

Ovine Brucellosis

During the quarter there was one new flock entered the scheme and 9 cancellations, of which 7 were voluntary cancellations. Input was received from breed societies and the AVA into the revised OB Accreditation Rules and Guidelines. These new OB guidelines will be released in early 2000.

Testing was undertaken on 3,739 rams from 126 flocks using the *Brucella ovis* CFT of which approximately 69% was for accreditation purposes and 31% was for diagnostic and monitoring. Of the accreditation testing there were 6 positives and 4 inconclusives from 4 submissions, and 77 positives from 12

submissions in the diagnostic and monitoring testing.

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

DISEASE SURVEILLANCE

National Transmissible Spongiform Encephalopathy surveillance Program (NTSESP)

For the period 1/1/99 - 31/12/99, NSW exceeded its target for cattle by 41 cases, with a requirement to submit 100 cases that fitted the criteria for the program. Sheep numbers were one short of the required 153 suspect cases. These figures are correct at 03/02/2000, however there may be additional case(s) yet to complete laboratory investigation and processing.

Four cases were referred to the Australian Animal Health Laboratories in Geelong for final confirmation of the diagnosis. No cases of TSE were detected.

All involved in assisting the NSW Cattle and Sheep industries in achieving the required targets in the active surveillance program for 1999 are to be thanked for their efforts.

Contact: Steve Dunn, Gunnedah on (02) 6742 9293

Bee Diseases

There were 184 submissions for American Foul Brood from 1 October, 1999 to 20 January, 2000, of which 49 were positive and 135 were negative as outlined in Table 4. This brings a total of 87 infections detected positive by smear/comb samples and 40 infections detected positive by honey samples since July, 1999.

Table 5: Summary of current status by zone

	Flocks*	Current Status				Total
		IN	SU	NA	US	
Control	25443	117	242	632	452	1693
Residual	5053	326	333	303	846	1860
Total	30496	443	575	934	1298	3553

- Total flock numbers in Control and Residual zones are approximate only

Figure 2:

Table 4: American Foul Brood (AFB) Testing Summary

	1 Oct 1999 - 20 Jan 2000	Since July, 1999
Positive	49	127
Negative	135	327
TOTAL	184	454

European Foul Brood disease was diagnosed 40 times during the quarter and Sacbrood was suspected in one situation.

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

Ovine Johne's Disease Surveillance

At the end of November 1999, 494 flocks had been identified as infected for OJD in NSW since 1980, with 443 (1.5% of the State's sheep flocks) still having an IN status. Of the 443 currently known infected flocks, 326 (74%) are in the Residual Zone. About 6% (326/5053) of flocks in the Residual Zone are known to be infected, compared to <0.5% (117/25443) in the Control Zone. There have been 11 new infected flocks reported since the beginning of the quarter.

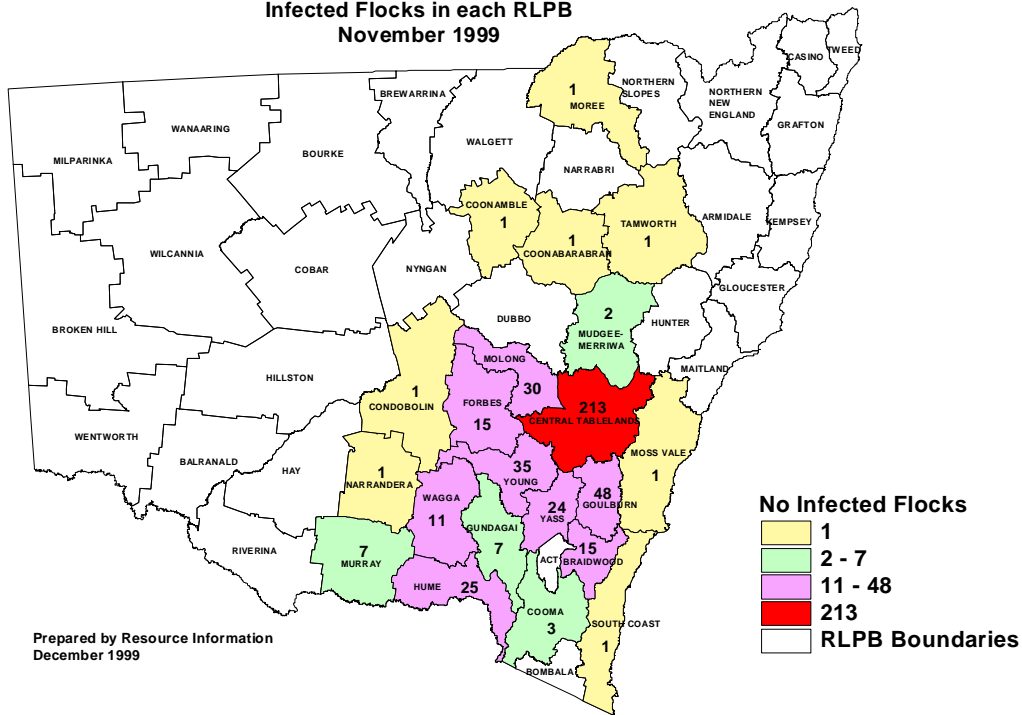
Table 5 summarises the current status situation in NSW.

During the quarter 20 Property Disease Eradication Plans (PDEPs) were approved, bringing the total approved by NSW Agriculture to 142. A total of 42 PDEPs have been recorded as completed.

The current distribution of infected flocks within NSW is shown in Figure 2.

Contact: Maurie Ryan, Orange on (02) 6391 3728

**Ovine Johne's Disease
Infected Flocks in each RLPB
November 1999**



Bat Viruses

Lyssavirus infection was confirmed by PCR in a Grey-headed flying fox which had a recent history of short seizures, though there was no evidence of Lyssavirus infection in the baby of this bat. A fruit bat was also found to be positive for Lyssavirus. There was no evidence of Lyssavirus infection in 3 other Grey-headed bats, a Little Red bat and 2 flying foxes (one of which was pregnant), all of which had bitten or scratched people. Paramyxovirus-like particles were found in the faeces of the pregnant flying fox.

During the quarter over 100 bats were trapped, weighed and sexed at Cabramatta Creek. Of the bats trapped, 23 heavily pregnant females were retained for necropsy, virus isolation and serology (dam and foetus) and the remainder were released. The studies confirmed high titres to Menangle virus in approximately 60% of bats and their foetuses.

National Arbovirus Monitoring Program (NAMP)

Light traps have been located at 17 NAMP sites in NSW, 4 in Victoria and South Australia and 3 in Tasmania. Port monitoring for AQIS is also continuing in each of these states. Samples for the first half of the 1999/2000 season are currently being sorted prior to identification and counting. Current indications are that the first occurrence and dispersal of *Culicoides brevitarsis* from the endemic mid-north/north coast of NSW has been slightly earlier than in 1998/99 due to the relatively warm winter/early spring. This has been offset by slower development during the cool/wet start to summer in NSW. No potential vectors of bluetongue or Akabane viruses have been recorded in the southern states or at any port site.

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. As from 1 November, full cost-

recovery was introduced for diagnostic testing at all NSW Agriculture Veterinary Laboratories, resulting in a decline in the number of accessions received for the quarter.

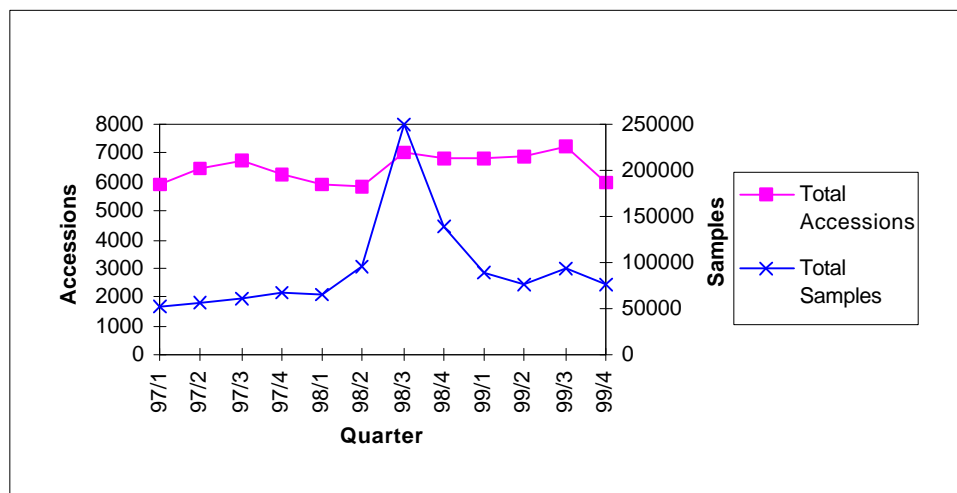


Table 6: Number of laboratory accessions by species, for the period 1 October - 31 December 1999

	SHP	CTL	PIG	GTS	AVN	HRS	FSH	BEE	D/C	O.SP	Total
Menangle	895	1196	55	102	379	504	4	243	109	454	3941
Orange	889	159	11	28	27	28	1	10	17	37	1207
Wollongbar	51	556	26	30	26	17	20	58	2	44	830
All labs	1835	1911	92	160	432	549	25	311	128	535	5978

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/>

