New South Wales

ANIMAL HEALTH SURVEILLANCE

July - September 1999

Number 99/3

STAFF

Rob Williams commenced in August as the District Veterinarian at South Coast RLP Board. Rob graduated from Sydney University in 1993. Since that time he has worked in mixed practice, small animal practice and at the University of Tasmania.

Two new veterinary officers commenced work in the Western Division during the quarter. They are Aarn who is based at Balranald RLPB, and Brian Hodge based at Bourke.

Aarn graduated from Sydney Uni in 1987 and initially worked at Taronga Zoo before tutoring in Veterinary anatomy at Sydney Uni. He then went to Papua New Guinea with Australian Volunteers Abroad. After that he completed a Masters at Sydney University in Pathology, was involved in dog hookworm research in Brisbane and completed a PhD in Fish Ecology at Macquarie University. He was then a Project Specialist for ACIAR (Australian Council for International Agricultural Research), before commencing work in September as a Veterinary Officer in the Western Division based at Balranald.

Brian graduated from Queensland in 1967 and has completed a Masters degree and PhD in Animal Production. He has worked in private practice in Cobar and Bourke prior to joining the department as Veterinary Officer, Bourke.

LIVESTOCK AND PASTORAL CONDITIONS

Seasonal Conditions

Useful, though slightly below average, rainfall occurred in most areas of the state. The exception to this is the far south-west corner which continues to be very dry and the far south coast which has experienced a marginal winter.

The North Coast has experienced prolonged wet conditions since summer and waterlogging has reduced pasture production and caused difficulties in the harvest of soybeans and maize. Livestock have slipped in condition due to the poor nutritional value of the pastures and the continual wet conditions, with dairy production particularly affected with increased levels of mastitis and cell counts occurring.

Mice & Plague Locusts

Mice - Over the quarter there have been increasing numbers and damage reported over much of the northern half of the wheat belt. The greatest affected areas are Nyngan, Coonamble, Dubbo and Condobolin RLPB with increased levels also occurring in the Northern Slopes, Walgett and Moree RLPB. It is expected there may be a population explosion at the end of October, continuing through the summer which would impact greatly on summer crop production.

Locusts - Hatchings of Australian Plague Locusts nymphs have been reported in a wide area of the western slopes and plains. This is as a result of the widespread scattered egg laying in Autumn and generally mild, moist, winter conditions. The Australian Plague Locust Commission is currently

undertaking surveys from Griffith north to Walgett and are anticipating carrying out control programs as the nymphs concentrate in bands.

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

QUARTERLY HIGHLIGHTS

Infectious Bursal Disease - not the exotic kind
Two outbreaks of IBD were diagnosed on North Coast broiler farms during July/August.

The main clinical feature was a sharp peak in mortalities over a 4 or 5-day period in affected sheds. Age of onset ranged from 30-40 days of age. Shed mortality was <1% daily, and for the whole episode did not exceed 2% per shed.

The main post mortem finding was a gelatinous layer of oedema fluid on the serosal surface of the bursa, which in some birds was enlarged to twice its normal size. Spleens were slightly enlarged, and kidneys sometimes had urate retention.

Rapid seroconversion in surviving birds confirmed the rapid spread of IBD infection within affected sheds.

The IBD virus isolated was shown by nucleotide sequencing and monoclonal antibody profiling to be consistent with known Australian strains of IBD, and not the exotic very virulent IBD virus.

These birds were from vaccinated breeders, and should have been protected by passive immunity up to 35 days of age. Very virulent IBD virus, causes a daily mortality rate up to 4%, and can cause disease in passively immune birds less than 35 days old.

These investigations promptly excluded the possibility that an exotic disease was responsible for the mortalities. A program of broiler IBD vaccination will be undertaken on these farms.

Contact: Roger Cook, Wollongbar on (02) 6626 1333

Equine Infectious Anaemia (EIA)
Horse exports to Hong Kong from Australia were suspended following the detection of EIA in the Hunter Valley. Two mares from one stud were found sero-positive after testing for export to New Zealand during August. A third positive horse was identified during September. The horse, an unbroken pony teaser stallion, had contact three years ago with one of the mares identified with the disease at the Hunter Valley stud. The stallion's origin could not be determined.

Major studs have decided to test all their resident mares as soon as possible and to require all introduced horses to have a negative Coggins test before entry. This has lead to more than 9,000 horses undergoing testing during the quarter, a substantial proportion of the State's thoroughbred mare population.

Contact: Rod Hoare, EMAI on (02) 4640 6308

Newcastle Disease Outbreak
Another outbreak of Newcastle disease was confirmed on 19 August on a small layer farm at Schofields in Sydney's outer Western Suburbs. This is the third outbreak of virulent Newcastle disease in NSW in less than 12 months, all due to a virulent mutation of endemic Newcastle disease virus. 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. All surveillance has now been completed, with no further signs of Newcastle disease detected.

Surveillance in the Mangrove Mountain Control Area following eradication of the outbreak there earlier in the year is scheduled to be completed by the end of November, with all results negative to date. Both the Mangrove Mountain and the Schofields Restricted and Control areas should be revoked by the end of the year.

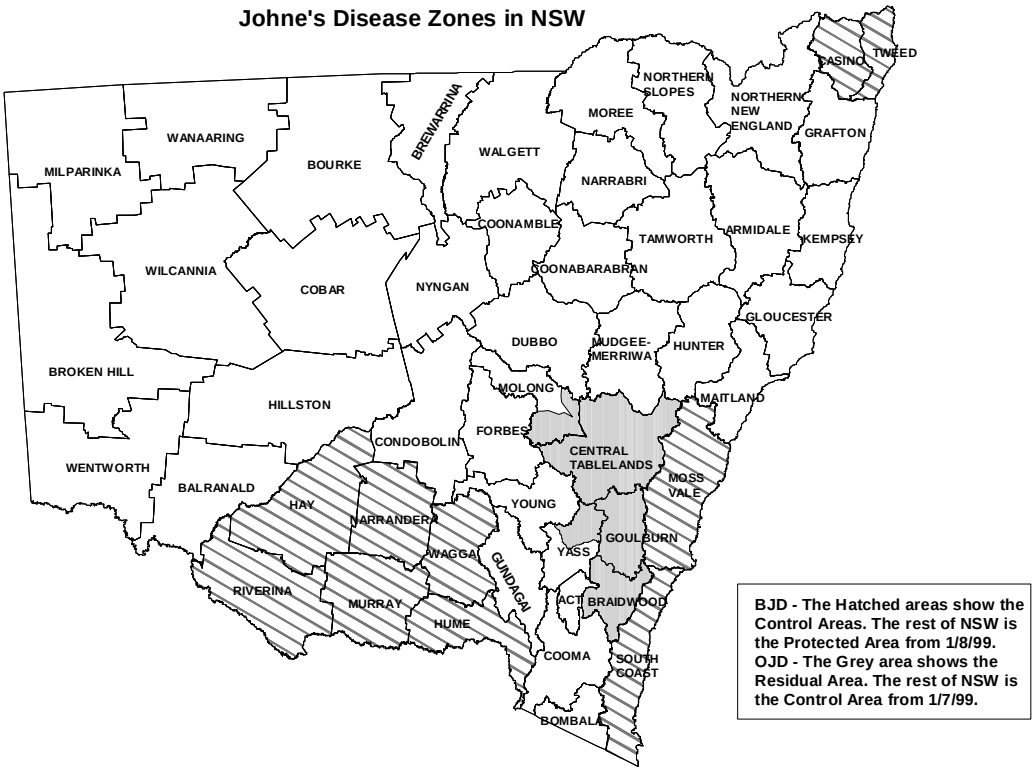
Contact: Evan Sergeant, Orange on (02) 6391 3687

Zoning for Johne's disease
Zoning for OJD and BJD has been introduced during the quarter and the zones for NSW are shown in Fig 1. OJD zoning was implemented from 1 July, 1999 and applies to sheep, goats and deer (other than fallow deer). BJD zoning was implemented on 1 August, 1999 and applies to cattle and goats. The following species (although susceptible to JD) are not zoned and are not subject to movement restrictions into or within NSW - alpaca, llama, camel, vicuna, guanaco, buffalo, bison and fallow deer.

Braidwood, Molong and Central Tablelands RLP Boards are preparing cases for progression of all or part of their Boards to "Control" zone status for OJD, and Moss Vale, Hay, Narrandera and Casino RLP Boards are applying to progress their boards

to “Protected” status for BJD by the end of the year.

Fig 1. Johne’s Disease Zones in NSW



Information on JD zoning is available on the Internet at the following address:
http://www.agric.nsw.gov.au/QA/jd/jdnsw.htm

DISEASE TRENDS AND PREDICTIONS

Sheep Lice

Field testing of a Lice Diagnostic Test commenced during the quarter. This test is being developed in a collaborative project between NSW Agriculture, the CSIRO and Woolmark. The test uses monoclonal antibodies on comb and cutter grease, and is showing considerable promise.

Early results from the Yennora Wool Store Survey indicate 10 % of clips are lousy, which is slightly less than previous years with nearly 40 % of producers not dipping for sheep lice, an increase over the previous surveys. There has been a decrease in the number of producers using plunge and shower dips and an increased use of the newer backline products. There has been a significant decrease in the number of producers who are mixing organophosphates with cyromazine in blowfly control. This will have a significant effect on organophosphate residues in the New South Wales clip.

Contact: Ed Joshua, Moree on (02) 6752 5111

Cattle Abscesses - Bovine Actinobacillosis with a spring rush

There have been an increased number of cases of *Actinobacillus lignieresii* diagnosed this year. In some cases only individual animals are affected, though in others the disease has occurred in multiple animals. Cases have included 4 of 35 steers with 8-15 cm diameter soft masses under the jaw, 7 of 30 bull calves with submandibular abscesses, and 8 of 2,000 18 month old animals with clinical wooden tongue and a further 40 with large abscesses on the face, throat and parotid area.

It is thought the increased number of cases is associated with good growing conditions last spring. *A. lignieresii* is a normal inhabitant of the

oral cavity of ruminants and infection of surrounding soft tissues results after traumatic damage due to abrasive feed material or grass awns. Shaun Slattery, DV Narrabri recently checked the incidence of facial abscesses in his area and found the two years with the highest number of cases (1993 & 1999) had wet winters the previous year.

The 1999 spring is beginning to look like it will be an excellent growing season for much of the state with above average rainfall in late September and early October. This may lead to 2000 being another bumper year for abscesses in cattle.

Contact: Patrick Staples, Orange on (02) 6391 3854

OJD Vaccine trial

The National Registration Authority has issued two permits to allow NSW Agriculture to trial a killed vaccine against OJD and to use the vaccine on a limited number of properties for attempted disease control. The trial is expected to run for some years and will assess the usefulness of the vaccine under Australian conditions. Until the results of the trial occur, it will be unclear whether the vaccine will have any long term place in the control of the disease in Australia.

Contact: Lee Cook, Orange on 6391 3722.

DISEASE CONTROL AND ADVISORY PROGRAMS

Countdown Downunder

During July, farm seminars commenced on Countdown Downunder which is a national mastitis and cell count control program developed by the Australian Mastitis Advisory Council (AMAC).

The goals of the program are, by 2001

- to have at least 90% of Australian dairy farms supplying milk with a cell count of less than 250,000 cells/mL in all milk supply periods
- to have 100% of Australian dairy farms supplying milk with a cell count of less than 400,000 cells/mL in all milk supply periods.

Information on this program is available at http://www.byc.com.au/countdown

National Organochlorine Residue Management (NORM) Program

Currently in NSW there are 176 properties with tail-tags on the "T" list for organochlorine testing. This compares favourably with the 394 tags "T" listed at the commencement of the program in January 1996. T Listed properties have an Organochlorine Property Management Plan developed and implemented. Abattoir monitoring is undertaken on the properties to ensure the effectiveness of the plan, and they are audited to monitor compliance.

Abattoir testing since 1 January, 1999 has not produced any Organochlorine (OC) residue results which exceed the relevant MRLs. These samples include 246 samples from "T" listed cattle and 4,302 samples from "Clear" status cattle tested in abattoir QA programs. There were 11 results in the range ½ MRL to MRL.

The Monitor testing "M" program is currently under way testing cattle with tailtags where there is no record of OC testing. Almost 7,000 tailtags from 4 coastal Rural Lands Protection Boards with a history of past OC usage in agriculture have been placed on the AQIS ERP database and 500 NSW samples are funded by the NORM Program. To date almost half of the allocated samples have been collected and no results have been equal to or above ½ MRL.

The steady increase in Cattlecare Accreditation in NSW is also increasing producer awareness of OC residue prevention.

Contact: Graeme Williamson, Wollongbar on (02) 6626 1370

Bovine Johne's Disease Market Assurance Program

As of 14 October, 1999 there are 947 herds enrolled in the CattleMAP in NSW consisting of 113,057 head of cattle. Of these, 313 herds (33,648 Cattle) have had 2 screening tests.

There have been 243 reactors from 141 herds during round 1 testing and 52 reactors from 27 herds during round 2 testing. This reactor rate remains at 0.20% of animals tested as has previously been reported. There have now been 5 infected herds identified by MAP testing.

There are 729 herds with a BJD status of MN1 or better under the CattleMAP, with the beef:dairy ratio remaining at 70:30. The percentage of studs

have dropped 1% from the last quarter to be at 66% of herds enrolled in the CattleMAP.

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

Australian Sheep Johne's Disease Market Assurance Program

At the end of September there were a total of 303 market assured flocks in NSW, representing almost 1% of the State's sheep flocks. Three of these flocks are MN2 and the remaining 300 are MN1.

During the quarter, 28 flocks entered the scheme with a status of MN1, 5 from an initial OJD status of suspect (SU) or under-surveillance (US) and 23 from a status of non-assessed (NA). There were 272 flocks which retained their MN1 status, 2 MN1 flocks progressed to MN2 status and 2 reverted to a status of non-assessed (NA).

Contact: Catherine Taragel, Orange on (02) 63913924

Ovine Brucellosis

During the quarter, at RVL Orange and Wollongbar there have been a total of 3,040 rams tested from 116 flocks. Of these, 1,324 from 55 flocks were tested for accreditation with 16 positive and 11 inconclusive reactors from 10 flocks. There have also been 1,716 rams tested from 61 flocks for diagnostic monitoring with 169 positive and 10 inconclusive reactors from 29 flocks.

There has recently been an increase in false positive serological results using the *Brucella ovis* CFT. These results have occurred predominantly in Border Leicester rams in the western areas with the majority from Coonamble RLPB. The cause of this is currently unknown, though is thought to possibly be due to cross contamination by an unknown bacteria associated with increased levels of homosexual activity by Border Leicester rams compared to Merinos.

Contact: Catherine Taragel, Orange on (02) 63913924

New South Wales Footrot Strategic Plan

The prospect of another excellent Spring over the entire state was well in place by the end of September and as well as cases of foot abscess a number of cases of footrot were appearing over a wide area. This is to be expected under very heavy challenge conditions and is still a good sign for the future of the program. The more pressure there is on the disease to express itself the better the prospects of identifying infected flocks now rather than later.

It was estimated that 588 infected flocks existed in NSW by September 1999. The estimated number of infected flocks in 1991 (the peak of footrot) was 6179, so in 8 years footrot has been eradicated from 5591 flocks under the NSW Footrot Strategic Plan.

The number of flocks in quarantine at the end of September stood at 400 (1.2%), a rise of 79 on the previous quarter and the highest number yet in the program. The number of flocks in quarantine virtually doubled in the 12 months from September to September with a total of 950,000 sheep in these quarantine flocks. Much of this is the result of previously designated Residual areas coming under strict regulatory control but on the figures of known infected flocks (see above) one can assume that 188 - 200 flocks, in Residual area, are not under quarantine restrictions. It is anticipated that footrot will become a notifiable disease over the whole state early next year to put pressure on the industry to make a final attempt at eradicating the majority of infected flocks.

Submissions to RVL Orange were down to 83 (almost halved on the previous quarter) but the proportion coming out of the New England still hovered around the 50% figure.

Contact: Rob Walker, Wagga Wagga on (02)69381993

Cattle Tick Control Program

Cattle tick eradication programs have commenced on 88 infested properties and 291 at risk properties. There are a further 260 properties under quarantine for surveillance which are not undergoing an eradication program based on treatments.

Contact: Peter McGregor, Wollongbar on (02) 66261334

Enzootic Bovine Leucosis

The current EBL status of 1,731 (100%) of dairy herds within NSW is shown in the following Table 1.

Table 1:EBL Status of Dairy Herds within NSW

EBL Status	Number of herds (%)
Accredited and Certified Free	4 (0.2%)
Tested Negative	465 (26.9%)
Monitored Negative	1,031 (59.6%)
BMT Negative	54 (3.1%)
Provisionally Clear	84 (4.9%)
Infected	69 (4.0%)
Under Investigation	3 (0.1%)
Not Assessed	21 (1.2%)
TOTAL	1,731 (100%)

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

DISEASE SUVEILLANCE

National Transmissible Spongiform Encephalopathy surveillance Program (NTSESP)

During the quarter a total of 92 submissions were received, of which 52 were bovine and 40 ovine. All submissions were negative for TSE. Diagnoses included PEM, hypomagnesaemia and hypocalcaemia, nasal granuloma, osteoarthritis and hepatic atrophy.

The following tables outline, submissions for the quarter by species and RLPB area (Table 2), submissions by species and laboratory (Table 3) and by species and submitter (Table 4).

Table 2 Submissions by Species and RLPB area

	SPECIES		
RLPB	Bovine	Ovine	Grand Total
Armidale	4	20	24
Bombala		1	1
Casino	3		3
Cooma	2	6	8
Coonabarabran	1		1
Dubbo		1	1
Gloucester	3		3
Hume	4		4
Hunter	3		3
Molong	1	1	2
Moree	1		1
Murray	8		8
Naranderra		1	1
Narrabri	12	5	17
Northern New England	6	2	8
Riverina	2	1	3
Tweed/Lismore		2	2
Wagga	1		1
Walgett	1		1
Grand Total	52	40	92

Table 3 Submissions by Species and Laboratory

	SPECIES		
Laboratory	Bovine	Ovine	Grand Total
MENANGLE	25	23	48
ORANGE	3	2	5
WOLLONGBAR	24	15	39
Grand Total	52	40	92

Table 4 Submissions by Submitter and Species

	SPECIES		
SUBMITTER	Bovine	Ovine	Grand Total
Abattoir	2	3	5
Government	29	18	47
Private Practitioner	21	19	40
Grand Total	52	40	92

By the end of October, NSW is well ahead of target for both sheep and cattle with 107 cattle and 143 sheep exclusions on the national database for 1999, compared to the annual targets of 100 and 153 for cattle and sheep respectively.

Contact: Steve Dunn on (02) 6742 9293

Ruminant Feeding Restrictions

There has been an extension of the restriction on feeding ruminant material to ruminants. The extended restrictions are to provide further insurance against an occurrence of TSE. The new restrictions extend the ban to include all mammalian tissue (such as from dogs or cats) but still permit the use of meat meal or other products derived from pigs, horses or kangaroos.

Contact Lee Cook on 6391 3722.

Bee Diseases

There were 270 laboratory reports of American Foul Brood for the quarter of which 192 were negative and 78 were positive. Of the 78 positive reports, 56 were individual notifications and 22 were monitoring reports. A total of 22 of the 56 individual notifications during the quarter had positive reports during the last financial year. Table 5 shows the results of testing undertaken during the current quarter and since the beginning of the last financial year.

Table 5: American Foul Brood (AFB) Testing Summary

	Jul-Sept, 1999	Since July, 1998
Positive	78	367
Negative	192	654
TOTAL	270	1021

Contact: Mick Rankmore, Gunnedah on (02) 67429274

Ovine Johne's Disease Surveillance

At the end of September, 483 flocks have been identified as infected for OJD in NSW since 1980, with 432 (1.4% of the State's sheep flocks) still having an IN status. Of the 432 currently known infected flocks, 321 (74%) are in the Residual Zone. About 6% (321/5053) of flocks in the Residual Zone are known to be infected, compared to <0.5% (111/25443) in the Control Zone. Table 6 summarises the current status situation in NSW. OJD was confirmed in a flock in the Tamworth RLP district for the first time during the quarter. This flock is closely related to an infected flock in the Central Tablelands area.

Table 6: Summary of current status by zone

		Current Status				
	Flocks*	IN	SU	NA	US	Total
Control	25443	111	248	599	417	1629
Residual	5053	321	331	170	920	1817
Total	30496	432	579	769	1337	3446

* approximate number of flocks in Control and Residual zones

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

Figure 2:

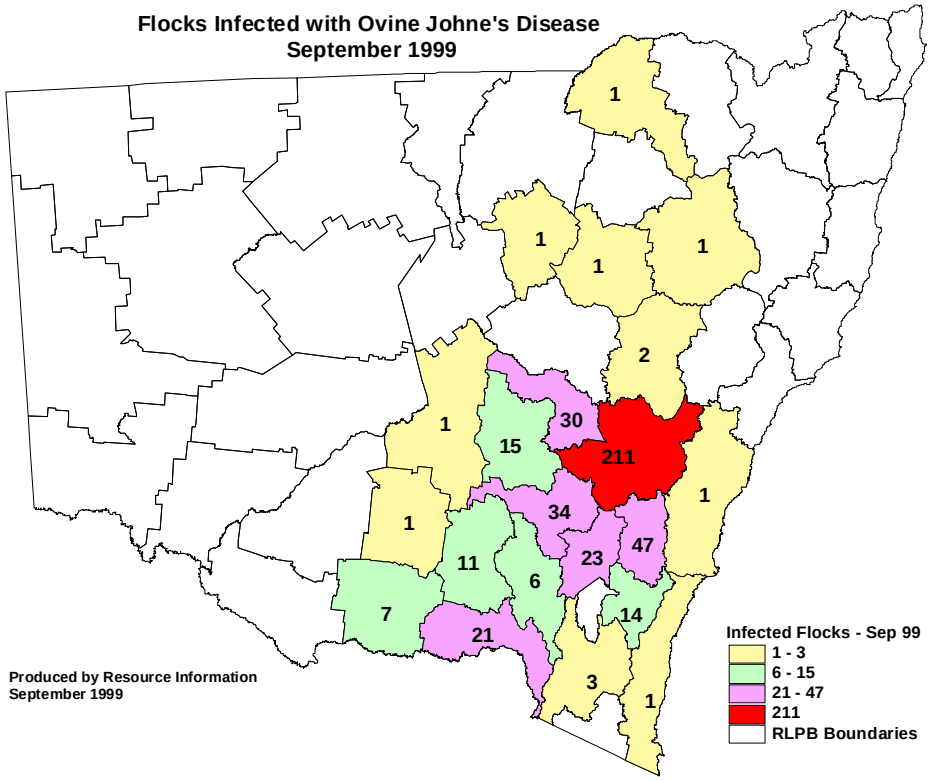
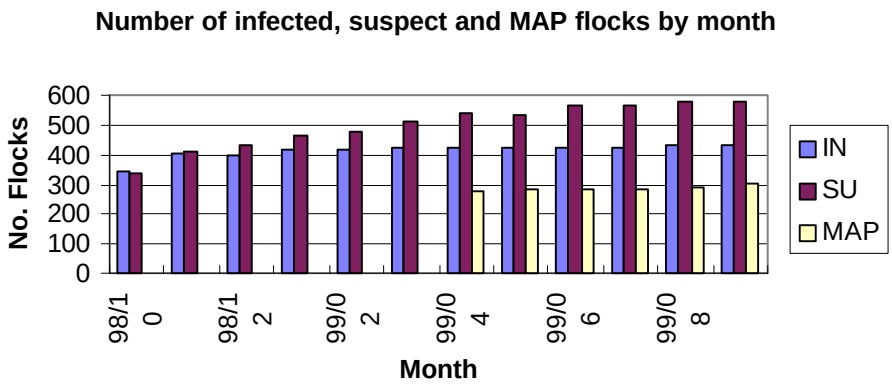


Figure 3 shows the cumulative monthly totals of infected, suspect and Market Assurance flocks for the last 12 months within NSW.

Fig 3:



During the quarter 6 Property Disease Eradication Plans (PDEPs) were approved, bringing the total approved by NSW Agriculture to 122. A total of 42 PDEPs have been recorded as completed.

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

Bat Viruses

Five flying foxes and five microbats were examined during the quarter, with no pathological or viral evidence of lyssavirus infection detected.

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

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.

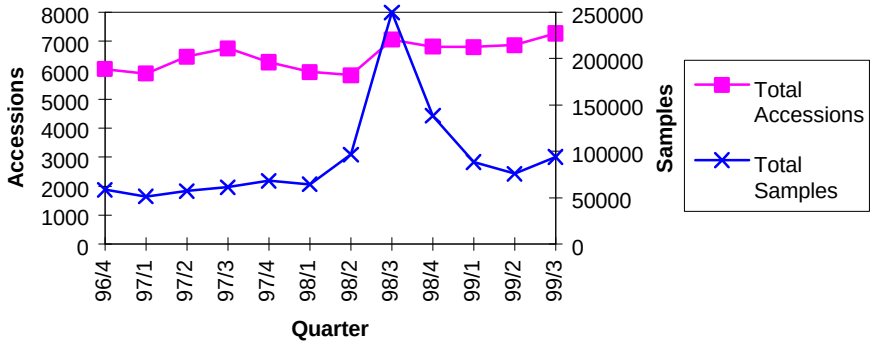


Table 7: Number of laboratory accessions by species, for the period 1 July - 30 September 1999

	SHP	CTL	PIG	GTS	AVN	HRS	FSH	BEE	D/C	O.SP	Total
Menangle	1171	1601	74	96	242	916	2	244	124	497	4967
Orange	634	249	24	16	12	51	0	8	10	36	1040
Wollongbar	86	917	44	26	29	35	11	54	5	46	1253
All labs	1891	2767	142	138	283	1002	13	306	139	579	7260

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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