



# ANIMAL HEALTH SURVEILLANCE

## January – March 1997

Number 97/1

### LIVESTOCK AND PASTORAL CONDITIONS

Excellent seasonal conditions were experienced over the north of the State during the quarter with good rains received on the North Coast in particular. Conditions in the North-West were ideal for summer cropping with good harvests being recorded.

Conditions in the central and southern areas remained very dry, with little effective rain received. As a result, the area of New South Wales declared drought-affected has increased from 17% in January to 27% in April. This area is likely to continue to increase unless substantial general rains are received before cold weather sets in.

### DISEASE TRENDS AND PREDICTIONS

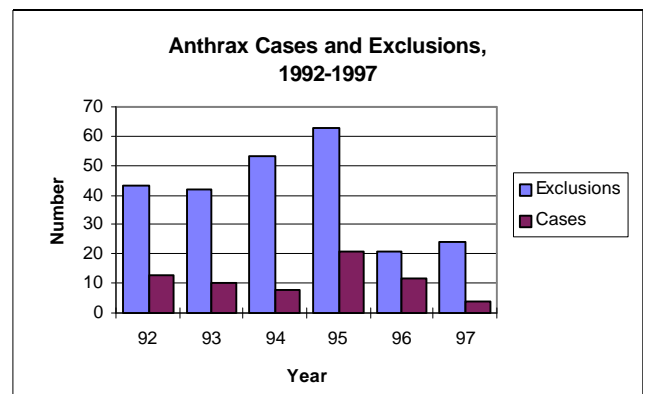
#### Anthrax

Following an outbreak of anthrax in Victoria early in the year, a review of recent cases of anthrax in New South Wales was undertaken.

Between January 1992 and the end of March 1997 a total of 68 cases were diagnosed. There were a further 246 investigations in which anthrax was specifically excluded by laboratory testing (see Figure 1). These figures do not

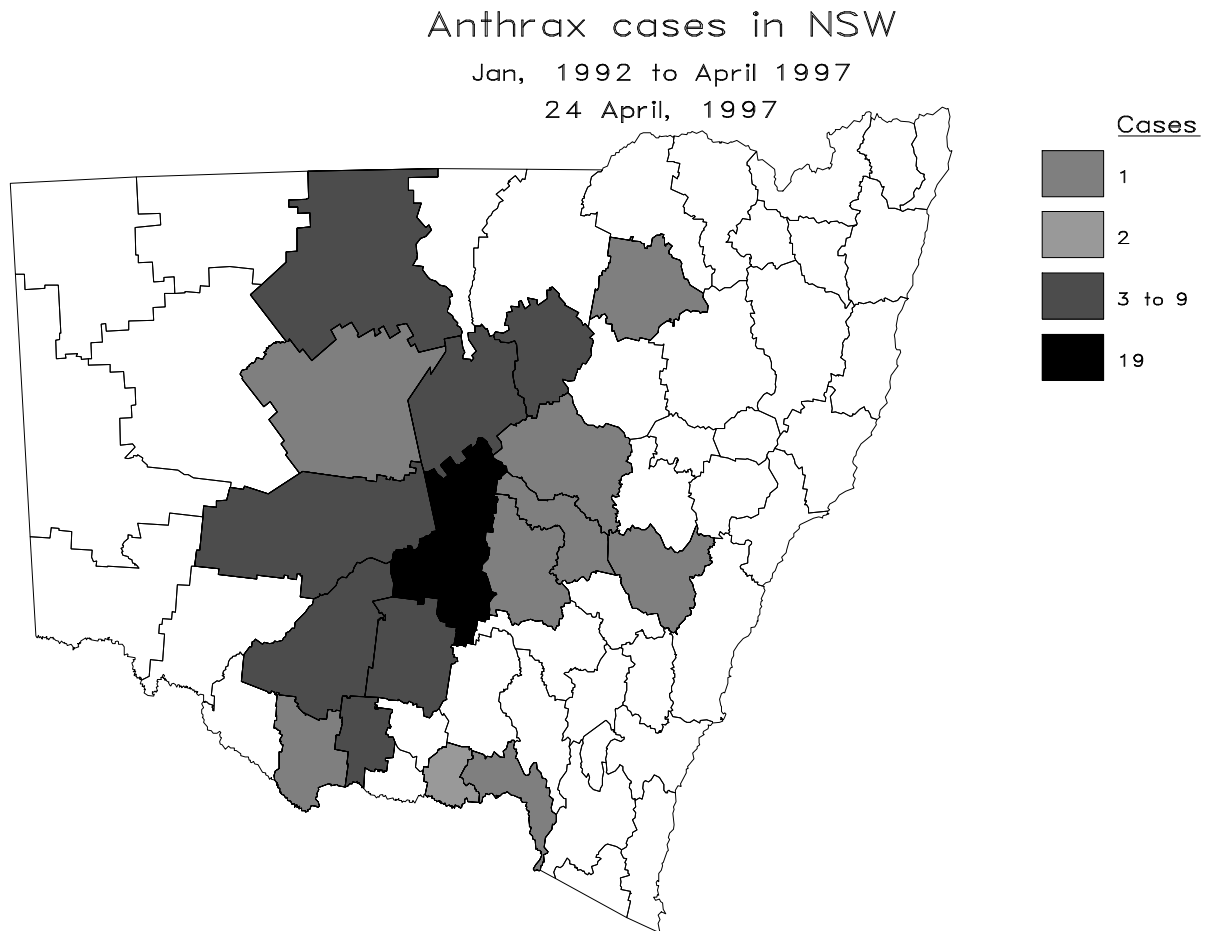
include cases in which anthrax was excluded following field investigations.

Figure 1: Number of anthrax cases and exclusions in NSW, 1992-97



Of the 68 cases diagnosed, 61 were confirmed by laboratory testing, while the remaining seven were diagnosed on the basis of history and clinical findings, without laboratory confirmation. Those cases in which laboratory confirmation was not obtained were usually those where there were either no fresh carcasses to test or the samples submitted were unable to satisfactorily exclude anthrax. All 68 cases were treated according to current policy and the disease was rapidly and completely controlled by vaccination and quarantine.

**Figure 2: Distribution of Anthrax cases in NSW**



The geographic distribution of cases is shown in Figure 2, with one case in the Bathurst district well outside the traditional 'Anthrax Belt'. This case was due to the tracing and identification of sheep recently moved off an infected property immediately prior to the disease outbreak. In this case, only one animal was affected and prompt diagnosis and action prevented further spread of the disease or contamination of the property. This is the first instance for many years in New South Wales of anthrax being spread through the movement of animals.

The majority of cases (34) were in beef cattle, with 27 in sheep, three in horses and two each in dairy cattle and pigs. Five cases of infection were also diagnosed or suspected in a second species on the property; three in sheep and one each in dogs and dairy cattle.

Contact Evan Sergeant, Orange on (063) 91 3687.

### **Arboviruses**

Arbovirus monitoring has continued in New South Wales during the quarter, both as part of the National Arbovirus Monitoring Program (NAMP), and through general disease surveillance and investigations.

Testing under NAMP has identified bluetongue virus activity on the coastal strip as far south as Taree on the Mid-North coast. There has also been a slow spread of Akabane virus down the coast with widespread activity of other Simbu viruses as far south as the Sydney area. Bovine ephemeral fever virus has been confirmed in NAMP herds in the North Coast area only, although field investigations and diagnostic testing have identified clinical cases in the Far North Coast, the Mid-North Coast and the North-West regions (see report below).

Contact Peter Kirkland, Menangle, on (046) 29 3331.

## SIGNIFICANT DISEASE EVENTS

### **Anthrax**

Four confirmed anthrax cases occurred in New South Wales during the quarter, including two in beef cattle, one in a horse, and one in which pigs became infected by scavenging on presumed infected cattle carcasses. All cases were dealt with according to policy and effectively and rapidly controlled. These cases bring the total for the 1996-97 season to seven.

Laboratory examination excluded Anthrax as the cause of death in a further 25 investigations during the quarter.

*Contact: Evan Sergeant, Orange on (063) 91 3687.*

### **Tuberculosis**

Following detection of a granuloma in which tuberculosis (TB) could not be excluded as a possible cause, a herd of 556 cattle were tested in the Coonamble district. Three reactors to the test were detected. All three reactors were young cattle, which is not indicative of infection with the bovine strain of TB.

The three reactors were slaughtered and lesions from head and lungs of one bull were submitted for laboratory examination. At this stage the lesions appear to be due to actinobacillosis and rhodococcosis rather than TB. However, the herd is being held in quarantine pending finalisation of laboratory investigations.

*Contact Roy Everett, Orange on (063) 91 3719.*

### **Tick Fever**

Tick fever was detected on two properties in the Cattle Tick Protected Area in January 1997. The straying of stock is believed to have led to the disease spreading between properties. The situation has been brought under control by regular dipping of stock and prophylactic use of Imidocarb.

*Contact Peter McGregor, Wollongbar on (066) 24 0334.*

### **Ephemeral Fever □ Narrabri RLPB, 1997**

Following serological confirmation in two herds that Bovine Ephemeral fever was present in the Narrabri district, the following analysis was prepared. It assumes that all cases are BEF, although some of the reports were by telephone.

There were 14 herds affected between 26 February and 8 April 1997. There were a total of 60 cases with three deaths from total herd/mob numbers of 2797. One herd of 1800 head reported 40 cases, and, if this large herd is removed, there were 19 cases from 997 at risk.

The disease was sporadic with eight herds having only a single case: three herds with two cases; and two herds with three cases; in addition to the single large herd. Bulls were disproportionately represented with four cases.

Cases were first reported in Eulah Creek and Pilliga areas. Eulah Creek is 30 km east of Narrabri with the farms being in valleys between the timbered hills of Mt Kaputar National Park. Pilliga is another timbered area.

Cases then spread to between Pilliga and Narrabri and along the Namoi River towards Baan Baa. One case was at Edgeroi north of Narrabri. Another herd was affected at Rowena 100 km north-west of Narrabri (see Figure 3).

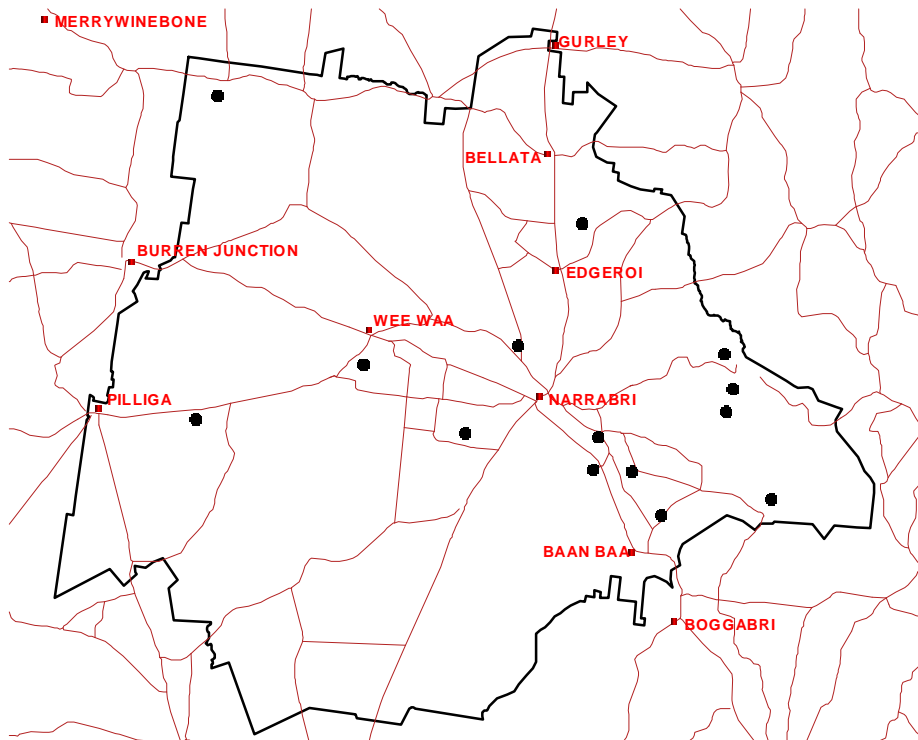
The Narrabri area experienced major rains over the 1996-97 summer with the last fall in early March.

Narrabri experienced a major epidemic of ephemeral fever in January-February 1996 with an estimated 80% of herds in the district having up to 15% of their stock affected. This also followed major rains. The spread pattern was an enlargement of the 1997 outbreak.

A single case was confirmed in the Pilliga area in March 1991 and another in March 1995. No

Figure 3:

### Location of Ephemeral Fever Outbreaks in Narrabri RLPB - 1997



Produced by Resource Information - April 1997

cases were recorded during the dry summers of 1994 and 1993. The last outbreak prior to 1996 occurred in 1992, with 52 cases.

The years in which cases are often the first/only in the region raises the possibility that the virus/vector is over-wintering. The timbered areas of the Pilliga scrub and Nandewar Range foothills are most under suspicion for this phenomena. (Editor's note: Cases of ephemeral fever have also been reported from other districts across the North-West region of the State.)  
*Contact Shaun Slattery, Narrabri on (067) 92 2607.*

#### Paroo staggers

Reports have been received from five properties in western New South Wales of sheep with clinical signs consistent with Paroo Staggers. The disease already has been confirmed in one flock and there are likely to be more cases that are unreported.

The morbidity of the disease is relatively high with about 30-50% of affected mobs showing

some clinical signs. The classical sign of knuckling bilaterally in the hindlimbs is seen in relatively few (0.5%) of sheep with few dying. Affected animals are usually noticed when being mustered for crutching and shearing. They are usually seen staggering and having body tremors, eventually lying down. If left, they recover in 5-30 minutes or more. If pushed too hard, mortalities can occur. There are few other signs.

Outbreaks occur in some areas after good rains. The pattern in previous years has seen outbreaks occurring some weeks after very good infeds of moist tropical air from northern Australia and the seas to our north.

The feed available to sheep affected has varied considerably. The outbreaks have occurred over a wide area each time. These factors suggest an insect-borne virus or an infection of some description, possibly insect-transmitted.

*Contact Greg Curran, Cobar on (068) 36 2108.*

## **DISEASE CONTROL AND ADVISORY PROGRAMS**

### **Bovine Johne's Disease Market Assurance Program**

By the end of March 1997, a total of 168 cattle herds had achieved either TN1(162) or MN1(6) status under the Market Assurance Program. Of these, there are 119 beef herds and 51 dairy (some herds include both).

The majority of assessed herds are from the Moss Vale Rural Lands Protection District (73), with 10 each from Armidale and Casino districts and the remainder from throughout the State.

A total of about 25,000 cattle have now been tested in 223 herds, with only 70 (0.3%) reactors detected in 48 herds. Of 32 reactor herds followed up to date, only one has been positive after follow-up testing.

A list of assessed herds under the Program is available by Infotax on 1902 940 579.  
*Contact Tim Jessep, Goulburn on (048) 23 0744.*

### **Antimicrobial residues**

The National Antibacterial Residue Minimisation Program was conducted on calves killed in New South Wales from April 1996 until December 1996. Under the program, domestic abattoirs submitted 1564 samples for antimicrobial testing, of which 19 (1.2%) were positive to the screening test and 10 (0.6% ) were above the Maximum Residue Limit (MRL) for a range of antimicrobials. At export abattoirs, 25,829 samples were tested, of which 83 (0.3%) were calves positive to the screening test and 22 (0.09%) were above the MRL for a range of antimicrobials after confirmatory testing of the kidney.

Field investigations of residues above the MRL found that most contaminated calves had been treated for scours and the withholding period had not been obeyed.

*Contact Sally Spence, Wollongbar on (066) 26 1214.*

### **Endosulfan**

As a result of concerns about Endosulfan residues in recent years, the National Residue Survey conducted a random survey of cattle from the cotton-growing areas of New South Wales and Queensland during the 1996-1997 season. A total of 278 samples were tested from New South Wales cattle, with only nine animals having detectable residues, all of which were less than one quarter of the Maximum Residue Limit for Endosulfan. Additional testing carried out as part of the CFZ testing program and for abattoir quality assurance found only one Endosulfan residue above the MRL during 1996-1997.

These results are extremely encouraging, and clearly demonstrate that measures put in place to prevent Endosulfan residues occurring in beef have been highly-effective.

*Contact Dan Byrne, Tamworth on (067) 63 1103.*

### **Organochlorine Residues**

The National Organochlorine Residue Monitoring Program (NORM) commenced in New South Wales in January 1996. Under this program, cattle tailtags are classified into a range of testing categories for organochlorines (OC's) based on the risk of residues occurring. At the end of March 1997, a total of 312 tags were on the testing list, including 81 at T1 status, 82 at T2, 149 at T3 and one at T4.

During the first quarter of 1997, only four OC residues were detected in New South Wales, including one above the MRL and three between half-MRL and the MRL. Two of these were detected as a result of NORM program testing (one T1 herd and one T2), while the other two were detected by abattoir quality assurance testing.

*Contact Dan Byrne, Tamworth on (067) 63 1103.*

### **New South Wales Footrot Strategic Plan**

In southern New South Wales, the summer proved to be ideal for the completion of eradication programs on a number of infected flocks. Hot and dry weather to the end of March allowed a number of inspections to be carried out improving the probability of the success which is to be measured next spring.

The promise of a good summer in northern New South Wales proved true with much of the Tablelands country having excellent pasture growth. With additional summer rain, the combination provided a very suitable environment for the expression of footrot. This proved fortunate for the planned active surveillance of the Armidale and Glen Innes RLPB Districts. A fully-randomised footrot survey commenced in Armidale in February with an accredited footrot contractor employed by NSW Agriculture surveying 100 flocks in Armidale and 40 flocks in Glen Innes. The survey was completed at the end of April.

The number of quarantined properties to the end of March showed a slight increase on the last quarter's 162 to 165. This is not unexpected as most of the release inspections are not likely to be completed until spring 1997.

Flock prevalence within the group geographic areas has been reduced to 4.4% with an estimated 364 infected flocks at the end of March.

Submissions for footrot culture and gelatin gel testing continues through the Regional Veterinary Laboratory at Orange. A total of 85 flocks, including 39 from the New England survey, had gelatin gel testing carried out for the March quarter.

*Contact Rob Walker, Wagga Wagga on (069) 23 0463.*

### **Sheep Johne's Disease**

Johne's disease was confirmed in sheep in a further nine flocks during the quarter, bringing the total number of confirmed flocks to 169. Of the nine new flocks, four were detected as a result of owner notification, and in six the disease was found in introduced sheep only.

*Contact Stephen Ottaway, Orange on (063) 91 3854.*

### **Sheep Johne's disease Strategic Plan**

NSW Agriculture has employed two temporary assistants to assist with tracing and surveillance

activities in relation to Stage 1 of the Strategic Plan, with two more appointments expected shortly. The two positions already filled are located in Orange, with the other two positions to be in Young and Goulburn. To date, tracing continues to identify the majority of new infected flocks, and there have been no new detections outside the endemic area which cannot be traced directly to sheep movements as the source of infection.

Good progress has also been made with the analysis of laboratory and field data to provide increased confidence that there are no other foci of infection in NSW outside the Central West region. A final report of this analysis is due by the end of May.

*Contact Stephen Ottaway, Orange on (063) 91 3854.*

### **Australian Sheep Johne's Disease Market Assurance Program**

The Market Assurance Program has now been virtually finalised, and a "Train the trainer" course has been run in Orange. Standard Definitions and Rules are also in the final stages of drafting, to complement the MAP, and to provide guidelines for establishment of zones of differing status for Johne's disease.

*Contact Stephen Ottaway, Orange on (063) 91 3854.*

### **Enzootic Bovine Leucosis**

The latest round of Bulk Milk Testing (BMT) for Enzootic Bovine Leucosis (EBL) was completed during March 1997. Overall, there was a further decline in the percentage of dairies producing positive BMT results from 9.1% in November 1996, to 8.2% (150 of 1825) in March 1997.

Of the 150 positive dairies, eight had no previous history of infection, with one being BMT Negative; two Monitored Negative; and the remaining five Not Assessed (NA) status. The five NA herds were registered in the preceding 3-4 months only. This is particularly disturbing and may indicate that owners of newly-formed dairy herds do not pay sufficient attention to the EBL status of purchased animals. This should change in the near future as processors implement a new requirement for farmers

registering new dairy herds. Only herds consisting of cattle which are EBL negative will be allowed to register as milk suppliers.

The New South Wales Dairy Industry is strongly supporting the EBL Eradication Program in New South Wales, and an EBL penalty payment system which will come into effect from 1 July 1999. It will be applied to all milk accepted by the New South Wales Dairy Corporation from any dairy farmer whose bulk milk supply tests positive to EBL on a BMT after that date.  
*Contact Richard Zelski, Maitland on (049) 30 2419.*

### **Cattle tick control program**

NSW Agriculture's program of cattle tick inspections involves two examinations of all cattle on every property in the Cattle Tick Protected Area, as well as examination of suspect herds outside this area. To date, 5,300 herds have been inspected once, and about 2,300 of these have now been inspected a second time. From this inspection program, a total of 91 cattle tick-infested properties have been detected. Seventy six of these are within the Cattle Tick Protected Area and 15 are at Yorklea, south-east of Casino, in that part of the Southern Zone which was released to Tick Free New South Wales in October 1996. There are about 20 foci of infestations. The majority of infestations detected have been either single tick or light infestations, with only a few heavy infestations.

Sources of infestations have not been positively identified. Field information and chemical resistance patterns do however provide some cross linkages between various infestations.

Spread of cattle tick has occurred at several of the focal points by the straying of stock. In these cases, poor fences have been evident, contributing to uncontrolled movement of cattle and the spread of infestations. Several infestations can also be linked to the movement of infested cattle by a cattle dealer. The dealer has been interviewed with a view to prosecution for several alleged offences under the *Stock Diseases Act 1923*.

*Contact: Peter McGregor, Wollongbar on (066) 26 1334.*

### **Field observations of cattle tick**

Some significant differences in normal observations have been detected this year. In previous years, amitraz (Tactic) provided prolonged protection against reinfestation of cattle with cattle tick larvae. This year however cattle have become reinfested in a very short time on some properties. This finding was thought to be a function of larval challenge, though it was also noticed on less heavily infested herds. Discussions with CSIRO in Brisbane have drawn the conclusion that this may be the first indication of amitraz resistance expressed as a decreased repulsion activity. No evidence of amitraz resistance has been identified in laboratory chemical-resistance testing. This finding indicates that a reversion to compulsory control-dipping programs is inappropriate and that progress towards eradication must continue.  
*Contact: Peter McGregor, Wollongbar on (066) 26 1334.*

## **DISEASE SURVEILLANCE**

### **Bat lyssavirus**

Passive surveillance for Australian bat lyssavirus has continued and is concentrating particularly on bats submitted by the public. A total of 50 bats were tested during the quarter with three positives ☞ both of which were little red flying foxes. This brings the total number of bats now tested in New South Wales to 89, with six positives, all in flying foxes. The majority of bats tested have been from the coastal area, from Sydney northwards, with a few from inland areas. Of the six positives, five have been from the North Coast area, with the sixth from the Central Western area. To date, only 11 micro-bats have been tested, with the other 78 being macro-bats (flying foxes).

*Contact: Ian Bell, Orange on (063) 91 3691.*

### **American Foul Brood Disease**

NSW Agriculture supports a continuing program for the diagnosis and eradication of American foul brood (AFB) disease of bees. Testing as part of this program is conducted on samples submitted by honey packers for export testing, as well as samples submitted from producers and

inspectors for diagnostic purposes. Table 1 shows the results of AFB testing for the current quarter, and cumulative results for the year since 1 July 1996.

**Table 1: AFB testing summary for New South Wales**

	Jan-March 1997	July 1996-March 1997
Positive	117	297
Negative	66	169
Total	183	466

Of the 297 positive tests so far during the 1996-97 season, 171 have been new infections, with the remaining 126 being monitoring tests on known-infected hives.

Contact Keith Oliver, Orange on (063) 91 3689.

### Laboratory submissions

Summary information on specimen submission to NSW Agriculture laboratories for the current

quarter and the corresponding quarters for 1995 and 1996 are shown in Table 2.

The number of accessions has dropped by about 17% since the corresponding period in 1995, after increasing slightly in 1996. Most of this decrease was in sheep submissions, which fell by 22%, while cattle and other livestock species remained relatively stable.

The number of actual samples submitted, which provides a better indicator of level of passive surveillance and laboratory workload, also fell by about 10%. Interestingly, most of the fall in sample numbers was associated with dairy cattle samples, which fell by more than 30%, while sheep samples only fell by about 7%.

Contact: Evan Sergeant, Orange on (063) 91 3687.

**Table 2: Laboratory accession and sample numbers for 1st quarter of 1995, 96 & 97**

Species	Accessions			Samples		
	1995	1996	1997	1995	1996	1997
Sheep	2252	2659	1774	28998	35290	27008
Non-dairy Cattle	1672	1866	1528	16743	13741	17536
Dairy Cattle	995	1032	1015	29156	18165	19959
Goat	209	254	169	2200	1396	3782
Horse	189	218	167	799	708	632
Pig	110	113	78	690	1064	377
Other	1658	1619	1151	8731	13294	9372
Total	7085	7761	5882	87317	83658	78666



## ***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 and Animal Health Program in Orange on (063) 91 3237 or fax (063) 61 9976.*

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