NSW Agriculture

NSW Agriculture & Rural Lands Protection Boards

ANIMAL HEALTH SURVEILLANCE REPORT

March – April 1994

Contributions to this Report are warmly welcomed.
Please submit them as Wordperfect documents on disk or to the COMMON area on the Agnet computer, DEEP.

Livestock & Pastoral Summary

Following much needed rain on the north coast, there has been abundant pasture growth and water shortages have been relieved. Follow–up rainfalls and cooler weather have seen continued pasture growth and there is hope for a return to a bulk of feed for the winter months.

Continuing rain and milder weather in the Hunter region have produced favourable pastoral conditions although some areas, mostly in the upper Hunter, need a good soaking for runoff. The bulk of feed is very good for this time of the year and stock are generally in good condition.

Relatively little rain has fallen over recent months in the Western Division. Stock are in reasonable to good condition in the far west and south–western parts which still have good quantities of dry pasture from rain last year. Northern areas that had little summer rain in the past two years have little pasture left. Limited pasture could lead to poisonings in these northern areas and there is a risk of rock fern poisoning in cattle in mulga lands. Flystrike has receded as a threat in many areas with the dry conditions.

A large proportion of the Dubbo region received very useful falls of rain early in March with over 50 mm in some parts. Coming on top of variable rain at the end of February these areas have replenished water supplies. However this was a false autumn break which has, for most of the region, dissipated with the absence of follow–up rains. Nights have turned colder with the first reports recently of light frosts in some areas. Feed supplies are rapidly deteriorating in both quantity and quality and unless good rains arrive soon, accompanied by a continuation of warmer weather to allow a rapid pasture response, the outlook for winter is grim. Many early autumn sown fodder crops such as oats and barley are struggling to stay alive at present.

Good rains occurred over most of central NSW. Cooler weather conditions were experienced, however, temperatures are still adequate for pasture growth. Although it has also rained in the south, it has been a little variable especially as regards run off.

Investigations of Suspected Exotic Diseases

Exotic *Salmonella* identified in NSW Children

Salmonella abortusovis has been isolated from two children from a sheep property in northern NSW. The organism was identified at the Institute of Medical and Veterinary Science (IMVS) in Adelaide and this was confirmed by the International Reference for Salmonella in Paris. This is the first identification of this organism in Australia. The organism is considered to be carried only by sheep and has been reported in many countries in Europe, Africa and Asia as well as a small number of other countries. It is spread mainly by vaginal discharges and by aborted and dead lambs from infected ewes. The infection is scheduled by the OIE as a List B disease for reporting and movement control.

Health Department investigators could not identify a source of infection but consider that it was probably contracted from sheep. The status of the sheep is being investigated on the property and the pathogenicity of the isolate is being experimentally assessed at AAHL at Geelong. The property has been quarantined pending the results of these investigations. No sheep have been introduced to the property for several years and none have been sold since 1988. However sheep have grazed stock routes. Any abortions or stillbirths that may have occurred on the property would probably not have been observed because of the extensive nature of the enterprise and the presence of predators in the area.

It is possible that the organism has been present in the country for some time and has not been detected as it has not caused serious problems in sheep. It has only now been identified because it has infected a susceptible human who has shown symptoms of a gut infection.

In endemically infected countries of Europe, the disease's incidence is reported to be exceptional or sporadic. Although it can cause abortions, stillbirths and lamb losses, it tends to be self-limiting in infected flocks and usually does not have a significant effect on production. It was common in the west of England but has not been identified there since 1976.

AQIS has advised that Australia's major trading partners are not overly concerned with the presence of the infection in a country and few impose restrictions. However AQIS is currently negotiating live sheep exports to two markets and this could be affected. The major slaughter sheep trade to the Middle-East is unlikely to be affected. Certification that *S abortusovis* has not occurred on properties of origin may be required in future. Canada requires that artificial breeding centres exporting genetic material to them be free of evidence of the disease. Providing the evidence to satisfy export certification requirements may not be simple. Trade in wool and sheep meat should not be affected.

In future, investigations of abortions and lamb losses should include *S abortusovis* as a possible cause. *(Contact: David Kennedy, Orange, 063-913 626)*

Significant Disease Events

Botulism in Yearling Horses

A major mortality of 10% of nearly 400 stud yearling thoroughbreds occurred at and following the annual Easter Yearling Sales in Sydney. Intensive cooperative work by private, university and government veterinarians and technical staff identified the cause as type C botulism. The source of the toxin is still being investigated. (*Contact: Tony Ross, Menangle, 046-293 333)*

Salmonella enteritidis Phage Type 4

Although the investigation of the case of *S enteritidis* PT4 in a child near Newcastle late last year found several significant contacts with animals, it did not identify the source of the infection. However epidemiological evidence indicated that the risk that it was contracted from commercial poultry was extremely low.

Following this incident the Australian Poultry Industry Association (APIA) has reviewed salmonella monitoring undertaken in Australia of meat chickens, products and litter from 1977 to 1991. *S enteritidis* was isolated from samples of meat and litter during 1979 to 1983, but not since then. From 1985 to last year APIA sampled an average of about 2,000 chicken carcase washings each year in NSW. Although about 11 different serotypes were isolated each year, none were found to be *S enteritidis.* (*Contact: George Arzey, Menangle, 046-293 333)*

Salmonellosis in Calves

Salmonellosis has been diagnosed as the cause of diarrhoea and deaths in several dairy calf-rearing units on the north coast associated with the prolonged wet weather. The typical clinical signs are of profuse diarrhoea, polyarthritis and death in 2-4 week old calves. *S dublin* and *S typhimurium* are the main serotypes. Although multiple antibiotic resistant strains have been found in Victoria, these have not been implicated on the north coast of NSW to date. A 3-year-old child in-contact with affected cattle on one property had diarrhoea and vomiting associated with salmonellosis. (*Contact: Paul Gill, Wollongbar, 066-240 298*)

Salmonellosis involving the same serotypes has also been an endemic problem in several calf-rearing units on the south coast of NSW for several years.

Anthrax

No anthrax incidents were confirmed during the period however it was excluded from a mortality involving 4 cows over 10 days near Coonamble. Occasional deaths have occurred in the same paddocks during the spring-summer period for the past 7 years. No known toxic plant species were found and the cause of the deaths has yet to be identified.

A north coast human pathology laboratory suspected anthrax on a weekend submission from a veterinary practitioner. Smears from an aged cow that died suddenly with bleeding from external orifices were found to contain gram positive rods but fortunately polychrome methylene blue stains of the smears early on the Monday morning indicated that organisms

were clostridia, rather than anthrax bacilli.

Ephemeral Fever Easing

The outbreak abated on the north coast with the onset of cooler weather conditions in early April. As most cases were in young cattle, the immunity of the adult herd appears to have persisted well since the last outbreak on the north coast two years ago.

Infection was widespread in the Hunter Valley, extending north-westward through Scone. The major syndrome seen has been lameness or paresis of short duration (48 hours). There have been occasional cases with pulmonary oedema and subcutaneous emphysema. As expected, bulls and heavily conditioned animals have been most affected. In the Tocal sentinel herd all 10 heifers seroconverted to ephemeral fever and 9 were observed to have clinical signs. Vaccination has been effective in protecting stock.

Cases have also been suspected on the south coast and highlands, and also in 3 herds in the Bourke district in western NSW with high antibody titres indicative of recent infection. While BEF and some other significant arboviruses of animals frequently overwinter on the north coast of NSW, infections in western NSW are more likely to originate from central Queensland. (Updated sentinel herd results attached.)

Ovine Johnes Disease

Three further infected flocks were identified on the central tablelands during the period. Two of these were in the Porters Retreat-Mt Defiance area where a Footrot Quarantine area was declared several years ago to overcome problems of sheep on crown land, forestry land and national parks straying onto adjoining farms. The two properties were at opposite ends of the area. It is likely that straying sheep were the source of infection and that other flocks in that area will be infected. *(Contact: Steve Ottaway, Orange, 063-913 854)*

Photosensitisation

Heavy losses occurred in two cases associated with photosensitisation in lambs grazing panic and cow peas in the Dubbo region. In one case, more than 10% of 450 weaned lambs on almost pure Bambatsi panic developed severe lesions after only a few days. *(Contact Laurie Pryde, Dubbo, 068-811 275)*

"Vibriosis"

With increasing use of the the ELISA on vaginal mucus, venereal campylobacteriosis or "vibriosis" is being implicated over a wider area in investigations of poor reproductive performance.

In an unvaccinated Coonabarabran herd where only 60% of a heifer mob was tested pregnant, 7 of 12 swabs returned positive ELISA values. In another herd in the Dubbo region, where only 25% of 90 heifers were tested in-calf, 7 of 10 swabs were positive. Vibriosis was also confirmed as a contributor to a dry cow problem at Wilcannia, in cattle introduced from Queensland.

Further effort is needed in the beef industry to lift the level of vaccine coverage to avoid the scenario that one producer in the Gunnedah region observed "Bulls out in October – still coming into season in February!"

Mineral Deficiencies

Selenium deficiency was commonly diagnosed in illthrift investigations in both cattle and sheep in the Dubbo region. Low blood glutathione peroxidase levels were found at Mudgee, Dubbo and Coonabarabran in young cattle.

The necessity to evaluate animals' status for some minerals by their urinary exretion rate has been illustrated in a Dubbo dairy that has had a history of a syndrome in which cows "spook and stampede". Although serum sodium levels were normal, 7 of 9 tested had urinary sodium less one–fifth of the normal concentration. Several also had low urine calcium excretion despite normal serum concentrations. *(Contact: Rob North, Dubbo, 068– 822 133)*

Disease Trends and Predictions

Buffalo Fly

This pest has been widespread through the north coast region with reports of sightings down to Jerseyville near South West Rocks. Synthetic pyrethroid resistance as far south as Grafton has been confirmed by field bioassay in a resistance mapping project funded by MRC. Publicity has highlighted the problem of resistance and its impact on residues following increased use of chemicals to achieve fly control. The use of strategic neighbour control groups, of chemical control and of buffalo fly traps is being been promoted. *(Contact: Peter Harper, Grafton, 066–420 467)*

Disease Surveys and Studies

Johne's Disease – Progress in Review

In NSW there are about 60,000 cattle herds of which about 170 are known to be infected. However the real number of infected herds is thought to be much higher. A confidential investigation of JD reactions in 4300 adult dairy type cattle slaughtered in NSW abattoirs in late 1992/early 1993, found that 3% had a positive reaction and 8% had a suspicious reaction. These cattle represented 2200 different tail tags which meant that 80% of the tags only had one or 2 animals tested. Even so, 5% of tail tags had at least one positive test and another 11% had a suspicious test.

Only 700 of the tags were registered to dairy herds and, of these, 9% had a positive test and another 18% had a suspicious test. Again the numbers of animals tested for each tag number were generally low. Only 86 tags had five or more animals tested but a quarter of these had a positive test and another 40% had a suspicious test. It is not possible to estimate the true herd prevalence of JD from these figures because of the small numbers tested per tail tag and because of the factors that influence the types of cattle that are sent to slaughter.

In February, Animal Health Committee's Working Party on Johne's Disease met for the first time and developed the guidelines for a market driven herd classification program, to be called the National Johne's Disease Market Assurance Program. This was endorsed by AHC

in April. The details of the program are not yet finalised but it is planned to be a voluntary program conducted subject to a written agreement between a herd owner and his or her veterinarian. Veterinarians will undertake training and be approved by the State governments.

The NSW Minister for Agriculture, Mr Ian Causley, has recently decided to contract an independent consultant to assess developments in JD and to advise on policy options for NSW, including the use of Cattle Compensation funds for JD. Cattle known or suspected of being infected with JD are no longer ordered to slaughter or compensated, pending the outcome of the review. It will be undertaken during the next two months by Sloane, Cook and King of North Sydney with recommendations to be considered by the Cattle Compensation Advisory Council in July. *(Contact: David Kennedy, Orange, 063–913 626)*

Vaccination Coverage for Leptospirosis

Results of a survey on leptospirosis vaccination in NSW dairy herds, conducted in conjunction with the NSW Dairy Corporation, has found that 57% of herds vaccinated in 1993. The proportion in previous year was 54%. *(Contact: Richard Zelski, Maitland, 049–302 419)*

Leptospira zanoni Ruled Out

L zanoni infects cattle on Queensland's Atherton Tableland, and has been incriminated as a cause of disease in people there. In February, 551 cattle were surveyed on the north coast for evidence of infection with *L zanoni*. The survey had been requested by dairy industry representatives in the Northern Dairy Group.

Sera were tested from adult dairy cattle in 22 herds, mainly from the Richmond valley and Dorrigo plateau. About 100 sera which had been submitted to RVL Wollongbar for other purposes from 41 herds from the Tweed valley to Taree were also tested.

None of the sera agglutinated the *L zanoni* antigen at the minimum serum dilution of 1:50, indicating that it is highly unlikely that *L zanoni* is present in dairy cattle on the north coast of NSW. *(Contact: Paul Gill, Wollongbar, 066–240 298)*

Does *L hardjo* Cause Abortions?

High titres to *L hardjo*, detected in two aborting cows on the north coast recently has rekindled debate and highlighted the difficulty in interpreting serological results for *hardjo* without a reliable method of culturing the organism. Although *L hardjo bovis*, the prevalent serotype in Australia, is strongly suspected to cause abortions, this is not a conclusively proven. On the other hand, *L hardjoprajitno* is a significant cause of bovine abortion in some other countries.

The two aborted foetuses had no definitive lesions and yielded no pathogens. Leptospire cultures on the urine of both cows are negative to date, although one had a mild interstitial nephritis. Both had high MAT titres to *hardjo* of 1600 and 400, but they had also been vaccinated. Herdmates of the first cow had titres from 200 to 800. MAT's for *hardjo* are usually less than 100, although higher titres have been detected on the north coast during recent wet months.

Can these high *hardjo* titres be interpreted as evidence of recent infection and as evidence that

hardjo caused the abortions or are they simply anamnestic responses in vaccinated cattle? What does your experience indicate? (*Contact: Paul Gill 066–240 298 and help clarify the situation.)*

Developments in Disease Recording and Reporting

Field Disease Recording

All 6 District Veterinarians in the Dubbo region have started submitting text of their monthly reports electronically, in addition to their *Fieldvet* disease data. Extracts from these reports are more easily incorporated into SFVO Dubbo's reports and thence into the State report.

Mudgee and Gloucester Rural Lands Protection Boards are the latest to purchase computer equipment and software to improve disease recording and reporting for their District Veterinarians.

SFVO Gunnedah has distributed to his DV's an *Epi Info* database file of all accredited free ovine brucellosis flocks for his area. DV's now have current information on accredited free flocks, not only in their own board area but in surrounding areas. Updated files will be distributed quarterly

A sample of long term lice records for Wentworth and Wanaaring districts in western NSW have been computerised to help Rangers monitor lice infestations and to determine how effective lice dipping methods are in western NSW.

Laboratory Disease Recording

Labsys has been installed in all regional and specialist veterinary laboratories and is already helping in laboratory management and analysis of laboratory findings. It will also enable preparation and transmission of disease reports more quickly and effectively. Further work is presently being undertaken to allow epidemiological analyses of laboratory results.

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 NSW. If you would like more specific information about diseases occurring in your part of the State, contact your local RLPB District Veterinarian or departmental Senior Field Veterinary Officer or Regional Veterinary Laboratory. For statewide information contact David Kennedy.

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BLUETONGUE VIRUS AGID.

LOCATION	O/N	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
LISMORE	0*	0	0	0	0	0	1		
CASINO	(1)	0	0	0	0	0			
GRAFTON	NS	0	0	0	1/9	NS			
COFFS HARBOUR	0	NS	8	10	10	10			
DORRIGO	NS	0	0	0	1/6	NS			
KEMPSEY	0	0	0	0	4	6	7		
TAREE	0	0	0	0	0	3/8			
GLOUCESTER	0	0	0	0	1	8/9			
PATERSON	NS	0	0	0	0	1			
SINGLETON	0	NS	0	0	0	1			
SCONE	0	0	0	0	0	0			
CAMDEN	0	NS	0	0	0	0			
NOWRA	NS	0	0	0	0	0			
BODALLA	NS	0	NS	0	0	0			
BEGA	NS	0	NS		0	0			
MUDGEE	NS	0	0	0	0	0			
TAMWORTH	NS	NS	0	0	0	0			

OTHER NEGATIVE LOCATIONS: INVERELL, MOREE, BOURKE, DUBBO, WAGGA, YANCO, WENTWORTH.

KEY: * No of Positives. () Indicates maternal antibody or non-specific reaction.

EPHEMERAL FEVER VIRUS VNT.

LOCATION	O/N	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
LISMORE	0	0	0	4	4	5	5		
CASINO	0	0	0	1	1	3			
GRAFTON	NS	0	0	0	0	NS			
COFFS HARBOUR	0	NS	0	0	4	10			
DORRIGO	NS	0	0	0	0	NS			
KEMPSEY	0	0	0		0	0	2		
TAREE	0	0	0	0	0	1/8			
GLOUCESTER	0	0	0	0	3/9	4/9			
PATERSON	NS	0	0	2	10	10			
SINGLETON	0	NS	0	0	2	5			
SCONE	0	0	0	0	1/13	3/13			
CAMDEN	0	NS	0	0	0	0			
NOWRA	NS	0	0	0	0	0			
BODALLA	NS		NS	0	0	0			
BEGA	NS	0	NS		0	0			
MUDGEE	NS	0	0	0	0	0			
TAMWORTH	NS	NS	0	1	0	0			

OTHER NEGATIVE LOCATIONS: INVERELL, MOREE, BOURKE, DUBBO, WAGGA, YANCO, WENTWORTH.

KEY: * No of Positives. () Indicates maternal antibody or non-specific reaction.

AKABANE VIRUS AGID.

LOCATION	O/N	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
LISMORE	0	0	0	9	10	10			
CASINO	(1)	0	7	8	5	6			
GRAFTON	NS	0	0	9	8/9	NS			
COFFS HARBOUR	0	NS	0	10	10	>3			
DORRIGO	NS	0	0	0	2/6	NS			
KEMPSEY	0	0	0		0	11			
TAREE	0	0	0	0	0	0			
GLOUCESTER	0	0	0	0	0	0			
PATERSON	NS	0	0	0	0	5			
SINGLETON	0	NS	0	0	0	6			
SCONE	0	0	0	0	0	1/13			
CAMDEN	(1)	NS	0	0	0	0			
NOWRA	NS	0	0	0	0	0			
BODALLA	NS	0	NS	0	0	0			
BEGA	NS	0	NS		1	0			
MUDGEE	NS	0	0	1	0	0			
TAMWORTH	NS	NS	0	0	0	0			

OTHER NEGATIVE LOCATIONS: INVERELL, MOREE, BOURKE, DUBBO, WAGGA, YANCO, WENTWORTH.

KEY: * No of Positives. () Indicates maternal antibody or non-specific reaction.

AKABANE VIRUS VNT.

LOCATION	O/N	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
LISMORE	(4)	(4)	0	6	5	4			
CASINO	(7)	(8)	(9)	(9)	(2)	(4)			
GRAFTON	NS	(1)	0	1	2?	NS			
COFFS HARBOUR	(1)	NS	(1)	8	9	7			
DORRIGO	NS	(2)	0	1	2/6	NS			
KEMPSEY	(2)	(2)	0		0	5/11			
TAREE	(2)	(3)	(1)	(1)	1	0			
GLOUCESTER	0	0	0	0	0	0			
PATERSON	NS	(1)	0	1	0	8			
SINGLETON	0	NS	0	1	0	7			
SCONE	(1)	(5)	0	0	0	3/13			
CAMDEN	(2)	NS	0	0	0	0			
NOWRA	NS	(1)	0	0	0	0			
BODALLA	NS	0	NS	0	0	0			
BEGA	NS		NS		0	0			
MUDGEE	NS	(2)	0	1	1	0			
TAMWORTH	NS	NS	0	0	0	0			

OTHER NEGATIVE LOCATIONS: INVERELL, MOREE, BOURKE, DUBBO, WAGGA, YANCO, WENTWORTH.

KEY: * No of Positives. () Indicates maternal antibody or non-specific reaction.