NSW Agriculture

NSW Agriculture & Rural Lands Protection Boards

ANIMAL HEALTH SURVEILLANCE REPORT

September-October 1993

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 and Pastoral Summary

Much of the State has enjoyed a bountiful prolonged spring, with the notable exception of the north coast and eastern side of the New England Tableland, much of which is declared drought affected. The Wanaaring district in north-western NSW has also missed out nad is drought affected.

Investigations of Suspected Exotic Diseases

Bluetongue was excluded as the cause of isolated sheep deaths at Nyngan and Bombala. In the Nyngan case a haemorrhage of the aortic arch had attracted the suspicion of District Veterinarian, David Counsell. Although lameness and facial swelling are the expected clinical signs of bluetongue, a common post-mortem lesion observed in naturally occurring cases overseas and experimental cases in Australia is a haemorrhage in the wall at the base of the pulmonary artery. Sentinel herd monitoring for arboviruses in NSW detected bluetongue virus infection on the north coast last summer for the first time since 1989. No clinical disease has yet been observed and the strains that have occurred in NSW for at least 20 years are probably non-pathogenic. *(Contact: Ian Bell, Orange, 063-913691)*

Significant Disease Events

Chalkbrood in NSW

The bee disease, chalkbrood, was first diagnosed in Australia in south-east Queensland earlier this year. The fungus invades and kills bee pupae in hives leaving them a white or black chalky consistency. Although previously regarded as exotic, the causative fungus, *Ascosphaera apis*, survives and spreads in the environment by means of highly resistant spores. Eradication was not considered as an option but the Queensland border with NSW was closed for the movement of bees, bee products and equipment in an attempt to slow

the spread of the infection. Intensive monitoring of northern NSW hives has since been undertaken and in September typical signs of chalkbrood were detected by Livestock Officer, Warren Jones, in hives in the Moree area. The State is now regarded as an infected zone and southern states have banned movements of bees, products and equipment from NSW. *(Contact: Bruce White, Windsor, 045-770627)*

Flood Plain Staggers

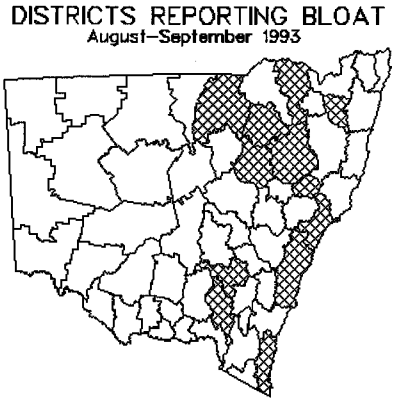
At the end of October two suspect cases of flood plain staggers were seen in a cow and calf grazing *Agrostis* near the Warrambool Channel in the Walgett district. The country had been flooded about 2-3 months ago. Examination of the seed heads found abundant nematode galls but none that were toxic. However recent monitoring of the Barwon-Darling system by South Australian scientists found toxic galls on *Polygonum* and *Agrostis* from the Moree distict to the SA border.

Anthrax

Although anthrax has been the cause of much concern in central Queensland lately, none has been reported in NSW during this period. It was excluded as the cause of two isolated horse mortalities on stock routes in the Nyngan and Dubbo districts.

As noted in the previous AHS Report, the anthrax endemic area on the slopes and plains of NSW is contracting. However the Rockhampton incident is a reminder of how *Bacillus anthracis* can persist and occasionally cause losses in areas in which it has not been reported for many years.

Disease Trends and Predictions



The ideal spring has produced pastoral conditions that will test footrot freedom in many districts and properties. The excellent conditions have also increased the risk of diseases like bloat, enterotoxaemia and internal parasites. For August-September, 28 incidents of bloat, 37 of enterotoxaemia and 205 of internal parasitism were reported by field veterinarians. The average reported mortality due to bloat was 3% of the 2300 cattle at-risk. On the southern tablelands *Haemonchus* has survived through the winter and losses may occur before the first summer drench next month.

In the west, skin damage caused by grass seeds of *Stipa* spp (corkscrew or spear grass) is being compounded by an early fly wave. With a large bulk of feed to dry off, fires are expected to be a big problem this summer.

The natural immunity to ephemeral fever of the cattle herd on the mid and far north coasts is probably low following little if any spread in the past two summers and infection in younger stock in particular may occur this summer.

Disease Surveys and Studies

Arbovirus - Sentinel Herd Program

With the generous help of cattle owners and Rural Lands Protection Boards, the annual program of regular testing 25 to 30 groups of calves for serological evidence of infection with akabane, bluetongue and other arboviruses has started again across the State and will continue till early next winter.

Last summer-autumn akabane virus spread on the north coast and lower Hunter valley, but the incidence of abnormal calves was lower than expected. As mentioned above, bluetongue strain 1 spread on the north coast with an apparently separate focus in the Manning valley. Epizootic haemorrhagic disease (EHD) virus also spread in the same area. Although not confirmed as the cause, EHD virus was isolated from one of many cases of an ill-defined syndrome in cattle that resembled ephemeral fever.

Spread of ephemeral fever virus was not detected last summer-autumn in NSW. The last significant spread of ephemeral fever in NSW was on the coast from the Manning valley to the Shoalhaven valley and on the north-west slopes and plains in early 1992. Natural immunity of cattle on the north coast is now likely to be low. Websters make commercial vaccines for both akabane and ephemeral fever. *(Contact: Peter Kirkland, Menangle, 046-293333)*

Arboviruses - Vector Monitoring Program

Another aspect of arboviral monitoring in eastern NSW is the study of the ecology of *Culicoides* vectors; in the central and southern areas by Alan Bishop and Harry McKenzie at Gosford. Their painstaking trapping and identification studies to date have confirmed *C brevitarsis* to be the principal vector in NSW. Another highly competent vector of bluetongue virus, *C wadaii*, has not been identified in NSW since 1985.

In the study area in each of the last three summers, the first detections of *brevitarsis* have been made during November in the lower Manning valley. From there the midge has spread south-west until about March-April. By March 1991 it had spread inland to Merriwa and south to Nowra and in the following summer it again moved well inland to Tamworth and south to Nowra and Goulburn. However by March this year it had only moved as far as Singleton. The mild winter however may have allowed enough *brevitarsis* to survive in the Hunter valley from where they could start to extend over a wider area this summer. *(Contact: Alan Bishop, Gosford, 043-1900)*

Johne's Disease

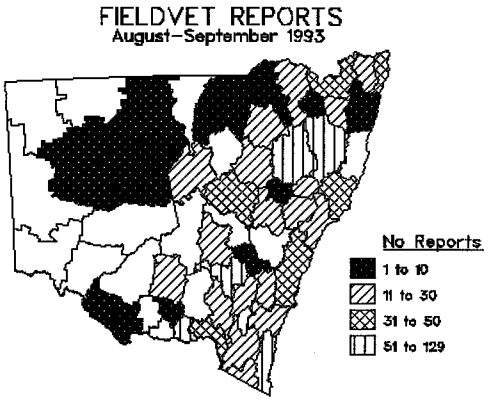
An investigation started last year into 116 cattle herds with a history of Johne's disease has detected reactors to the EMAI ELISA in 64% of them. Overall 1% of the adult cattle tested had positive ELISA reactions and a further 0.8% had inconclusive reactions. Half of the positive reactors were slaughtered and 80% of these were confirmed as infected. Only about a quarter of the inconclusive reactors were slaughtered but 55% of these were also found to be infected. (It should be noted that the animals that were slaughtered were not a representative sample of reactors.)

The low sensitivity of the ELISA was again demonstrated by the fact that about half of the cattle that initially reacted, but which were retested negative, were confirmed to be infected at slaughter. It was estimated that about one in 100 non-infected cattle reacted (falsely) to the ELISA, but that only one in 500 gave a false positive reaction. This estimated specificity of a positive result was therefore about 99.8%. *(Contacts: Graeme Eamens, Menangle, 046-293333 or Graeme Fraser, Wollongbar, 066-240293)*

Developments in Disease Recording and Reporting

Field Disease Recording

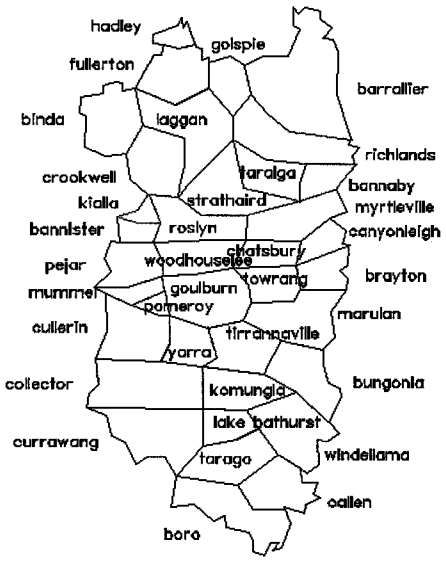
The *Fieldvet* database contains over 4700 disease reports for the year to date. Twenty-three District Veterinarians are now recording disease events on computer and reporting by electronic data transfer. Unfortunately during this period some staff have had problems with electronic data transfer. Although these have generally been resolved, a few districts recording disease events are underrepresented in the database at the moment.

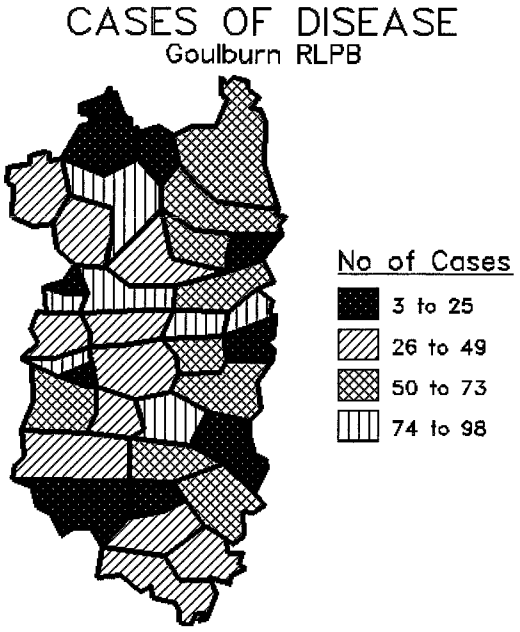


The current version of *Fieldvet* is currently being revised and upgraded to operate in *Epi Info* version 6 which will be available in the New Year.

At Goulburn, Senior Field Veterinary Officer, Tim Jessep, has used the *Epi Map* program to develop regional and district maps for depicting disease occurrence. The following maps illustrate the localities in the Goulburn RLPB with the numbers of reports of a fictional disease as a demonstration of the use of local mapping. (*Contact: Tim Jessep, Goulburn, 048-230744)*

LOCALITIES IN GOULBURN RLPB





Laboratory Disease Recording

Don Jones and Owen Elvery have been travelling the State installing and refining the new *Labsys* information and management system at Regional Veterinary Laboratories. All but the Wagga laboratory are currently using Level 1 *Labsys* to record and manage accessions. Data entry and reporting from the laboratory and test levels (Levels 2 and 3) is about to commence for serology.

David Kennedy
Program Leader Animal Health Surveillance
NSW Agriculture
Locked Bag 21 ORANGE 2800
Phone 063-913626 Fax 063-631309

fdwk\ahsrep.oct 9.11.93

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.