

THE VETERINARY PATHOLOGY REPORT

Australian Society for Veterinary Pathology P.O. Box 483', Bairnsdale,  
Vic. 3875

NOVEMBER, 1983

NUMBER 2

MEMBERSHIP

We now have over 100 financial members representing all Australian states, New Zealand, New Guinea and the U.S.A. A membership list is attached at the end of this report.

ANNUAL GENERAL MEETING

Details of the A.G.M. are attached at the end of this report.

MINISTERIAL LETTERS

In July a letter was sent to all C.V.O.'s and veterinary institute directors in Australia advising of the A.S.V.P.'s willingness to represent veterinary pathologists "on any issue and in any forum". This was followed in September by a letter to State and Federal Ministers of Agriculture (Primary Industry) and Mr. Barry Jones, Minister for Science and Technology. The letter read as follows:

"Dear

The association which I represent was formed in May this year. It's 90 members are practicing veterinary pathologists employed in Commonwealth, State and private veterinary laboratories as well as Universities throughout Australia. Their daily work involves investigation, characterization and diagnosis of diseases of all animal species. Therefore the ASVP represents a body of professional people with an intimate knowledge of existing and emerging animal disease problems and their relative importance. In addition, because they are continually screening for new or unusual disease conditions, veterinary pathologists are in a key position to recognise and raise the alarm on exotic disease when it first occurs in Australia.

My purpose is to inform you that this completely independent association is prepared to make comment on any matters concerning animal health and disease and to ask that it be included in any requests for submission on these matters.

Yours faithfully,

I. McCausland President"

Cordial replies were received from all Ministers and Mr. Jones invited the A.S.V.P, to make a submission to the Fenner Advisory Committee on the future of A.N.A.H.L. There was apparently some concern in the hierarchy of the South Australian and Northern Territory departments that the letter implied the State veterinary services were incompetent to supply their respective Ministers with advice. That certainly wasn't the intention; the purpose was to inform the Ministers of the presence of the A.S.V.P. as a new, independent, national body available to make submissions to official enquiries, etc. on behalf of veterinary pathologists.

PROPOSED SUBMISSION RE A.N.A.H.L.

The A.S.V.P. has been invited by the Minister of Science and Technology,

Mr. Jones, to make submissions to the Tenner Committee on the future role of A.N.A.H.L. The committee is composed of Professor F.J. Fenner, retired Director of the John Curt in School of Medical Research, ANU; Dr. K. Boardman, CSIRO executive; Dr. W. Gee, Bureau of Animal Health; Professor B.P. Marmion, Dept. of Microbiology and Immunology, Adelaide University; and nominees of the National Farmer's Federation and the Minister of Finance.

The Terms of Reference for the Advisory Committee are:

Given the financial implications of a full research function for A.N.A.H.L., the specific physical design constraints and the current state of viral diagnostic research in Australia:

1. Should A.N.A.H.L. operate in the future:
  - (a) as a research-oriented facility with a secondary diagnostic function; or
  - (b) essentially as a diagnostic facility serving primary industry?
2. What order of operation should be considered? What are the staff and cost implications?
3. Should A.N.A.H.L. work on endemic as well as exotic animal viral pathogens?
4. Should A.N.A.H.L. undertake virus vaccine production?
5. Should A.N.A.H.L. become an animal viral reference centre for South-East Asia?

The Terms of Reference are not necessarily exclusive, but the Ministerial Committee is seeking an urgent response.

The executive feels that the ASVP should make a strong submission since our members are in a key position to recognise exotic or "look-alike" diseases when they first appear, and will almost certainly be the main users of A.N.A.H.L.'s diagnostic facility. If there is membership support the executive wishes to make the submissions below. Please indicate your support, lack of it, or suggested other submissions to Ian McCausland or Len Stephens, phone (051) 52 2751, telex 55103, or PO Box 483, Bairnsdale 3875 by November 30. The submissions are:

1. The ASVP recommends that A.N.A.H.L. be able, at very short notice, and without political or bureaucratic interference, to accept specimens from all over Australia for rapid confirmation of suspected exotic disease.
2. The ASVP recommends that A.N.A.H.L. has diagnosis of exotic disease as it's primary role. This role includes training and research towards increased preparedness for rapid, competent, confident diagnosis of exotic disease.
3. The ASVP recommends that a veterinary pathologist, experienced in the diagnosis of a wide range of animal disease, be on the staff of A.N.A.H.L. This pathologist will play an essential role since most exotic disease can be presumptively diagnosed on gross examination and histo- pathology. The pathologist would work with the virologists in reaching a final diagnosis and would play an invaluable role in communicating with and training veterinary pathologists throughout Australia.

ASVP TO BECOME INCORPORATED?

While searching for an appropriate constitution, committee member Bob Jones realised that the ASVP should probably be an incorporated association. The Association Incorporation Act provides a set of model rules which can be modified to suit our purposes as a constitution. Incorporation also provides some degree of legal protection for the society. In the next issue of Vet Path Report, Bob Jones will give a full rundown of the pros and cons of incorporation. A draft constitution will also be circulated. Anyone who wishes to comment on this matter should contact Bob Jones at the Regional Veterinary Laboratory, Bendigo.

#### DISAFFILIATION FROM THE A.V.A.

It is not easy to disaffiliate! The AVA was notified of the 24 to 5 vote in favour of disaffiliation by members of the AAVP who were also AVA members, but at the recent (22 October) AVA council meeting a motion was passed:

"That all AVA members of the AAVP be circulated with pros and cons documents and asked two questions.

1. Do they wish to continue to have AAVP?
2. Would they be prepared to extend their membership to encompass microbiologists and parasitologists, for example?"

The executive had already indicated to the AVA that as elected office bearers of both the AAVP and the ASVP we have no interest in this proposal as the matter has been decided by the AAVP membership vote.

#### A.F.I.P. FACILITIES

The Armed Forces Institute of Pathology, Washington DC, 20306, U.S.A. runs 2 valuable series available to veterinary pathologists throughout the world.

i) Authoritative Case Opinion - Glass slides or paraffin blocks of a difficult case can be sent to the AFIP for examination by a panel of highly regarded veterinary pathologists. An answer usually is received within a couple of weeks. Some authors use these opinions to back up their claims about a case before publishing; e.g. an unusual tumour.

ii) Slide Study Sets; The AFIP has numerous sets of glass and Kodachrome slides, each about a particular topic. There are several excellent sets on subjects such as Fetal pathology, Liver pathology and toxicology, as well as some more specialized sets, e.g. Rinderpest, histology of the alligator. There are over 100 sets, most with accompanying notes.

To use either facility of the AFIP a standard form should be sent with each request. Copies of forms and indexes of slide sets can be obtained from the Education Department, AFIP, Washington DC, 20306, U.S.A.  
NEWS FROM THE USA - John King

(Ed. Note: John King, Professor of pathology at Cornell, NY USA, is spending his sabbatical at the Regional Veterinary Laboratory, Bairnsdale. He will be there until June 1984)

In the last few years at Ithaca, NY, we have found several new problems in horses related to treatment.

The first is the production, within hours, of haematuria and renal colic in horses given Vit.K in essentially normal doses. A marked tubular nephrosis is the end result which in some cases can cause chronic renal failure and death. The large animal clinic at Cornell has been able to reproduce this with doses as low as twice label recommendations.

Another problem comes in two categories. In one, the horses also have haematuria of a mild nature. If necropsied for any reason, various degrees of renal medullary necrosis are seen and all have been related to excessive or prolonged dosage with non-steroidal anti-inflammatory drugs. These are usually adult horses treated for founder, arthritis or the like. This renal lesion is a well-known one in man and has been seen in most animal species. A second, even more serious problem related to the prolonged use of nonsteroidal anti-inflammatory drugs, is the production of perforating gastric or duodenal ulcers in foals. In some cases chronic constricting duodenitis has been reproduced in ponies in Oklahoma State University Vet. College.

A new problem of massive liver necrosis was seen last year in foals several days to a week old. The foals die with icterus and other signs of liver failure and all had been treated with a "probiotic" containing supposedly beneficial bacteria, moulds and other substances such as iron "Primapaste" to start their G.I. flora "properly". The toxic agent in the material is unknown but suffice to say we have reproduced the lesion and death in newborn foals with the commercially available substance.

NEWS FROM NSW - John Glastonbury

Personal:

Frank Doughty, the inaugural Officer-in-Charge of the Regional Veterinary Laboratory, Wagga Wagga, has been appointed, subject to appeal, to the position of Director of Quarantine in Head Office.

Research:

At the Regional Veterinary Laboratory Wollongbar, Roger Cook is studying cardiomyopathy in woolly-coated Poll Herefords.

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Rapid, cow-side mastitis tests are being evaluated by the Mastitis Section at the Central Veterinary Laboratory Glenfield. Electrical conductivity of milk and the Rapid Mastitis Test are the two tests involved.

A State-wide study of wool derangement showed sneep on 20/22 properties to be infected by itch mite. Most sheep had been treated at the last shearing with arsenic or "pour-on" deltamethrin.

Peter Healy at the Central Veterinary Laboratory Glenfield is assisting Professor Brian Farrow unearth Sydney Silkie dogs which are heterozygous for glucosidase deficiency or Gaucher's Disease.

Interesting Disease Investigation

Cattle An increased prevalence of arthrogryposis/hydranencephaly has been observed in the areas serviced by Armidale and Glenfield. Peter Kirkland, presently on leave at the University of Newcastle, is evaluating the effectiveness of a vaccine against Akabane virus.

Mycoplasma sp. (Leach group 7) caused a severe outbreak of mastitis in a herd on the South Coast. Polysynovitis was also observed.

A number of foetuses from the Southern Riverina have displayed lesions consistent with Sarcocystis sp.-like abortion, as reported from Victoria.

Sheep: Recently, 4 outbreaks of blackleg involving the myocardium have been investigated at the Regional Veterinary Laboratory Wagga Wagga.

Pigs: Scalding of the skin of the perineum and underline consistent with 'burnt pig disease' was observed at Wollongbar. Tylan (R) had been fed to the pigs for the previous 6 weeks.

Goats The Virology Section at Glenfield has developed an interest in caprine herpesvirus, which has been associated with pustular vulvovaginitis. Serologically, it appears similar to a New Zealand isolate of the virus but both are distinct from bovine herpesvirus 1. Out of 19 herds surveyed to date, 4 contained serological reactors.

Fish: Since May at the Regional Veterinary Laboratory Wollongbar, several cases of 'red spot' have been observed in fish caught in the estuary of the Clarence River. Changes in temperature and salinity associated with 'freshening' of the river trigger Vibrio anguillarum, parasites or trauma to initiate the primary lesion. Secondary infection with Aeromonas sp. or fungi such as Saprolegnia sp. incite a very severe ulcerative dermatitis and associated myositis.

NEWS FROM QUEENSLAND - Roger Kelly

One of our newest members, Dick Sutton, recently spent from 27 June to 21 July on a visiting teaching assignment at the Udayana University in Bali, Indonesia, under the auspices of the Australian Universities International development programme (AUIDP). The assignment was aimed at postgraduate training in parasitology. Dick had an interesting time but was worked pretty hard under somewhat unusual circumstances. An interesting feature of the animal industry in Bali is the comparative insignificance of parasitic disease there, due in part to the small numbers of animals on individual holdings, and to the system of bringing the feed to the animals. Fasciola gigantica was fairly common in cattle livers from the local abattoir. The latter could best be described as a shambles; edibility of meat from it apparently being made possible by the custom of consuming the product on the same day of slaughter.

Phil Ladds is on study leave in the U.K. until December. His address is c/- Prof. F. Bourne, Dept. of Vet. Med., Bristol.

The following is a copy of the new pathology services formula offered by the Animal Health Branch, for which the Branch has recently been reorganised into five groups. It is possible that there may be changes later, bringing other regional laboratories under the same scheme.

Pathology services include:

1. Advisory and diagnostic services to the animal industries.
2. Research on animal disease.
3. Provision of laboratory support of various regulatory programmes.
4. Collection and analysis of information relating to animal disease.
5. Publication and presentation of significant findings,
6. Provision of in-service training and the training of overseas personnel in disease investigation techniques.

The Branch has been organised into five groups to facilitate the fulfillment of the above roles:

Group 1 Diagnostic Services

The major responsibility of the Group is the provision of an efficient disease diagnostic service to the commercial livestock industries.

Group II Special Projects

The major activity of this group is the execution of research mainly into the pathogenesis of conditions of immediate or potential importance to industry.

Group II Epidemiology and Control

A significant portion of this group's activities is directed towards the continued production and supply of tick fever vaccines. Staff are also involved in research into the methods of spread and control of disease. The group provides laboratory backup for a number of field studies of

parasites; particularly ticks and gastrointestinal worms of sheep and cattle.

Group IV Brucellosis and Tuberculosis

This Group is totally committed to the provision of laboratory support to the National Tuberculosis-Brucellosis Eradication Campaigns. Similar laboratories are located in Rockhampton and Townsville (within the Oonoonba Veterinary Laboratory).

Group V Oonoonba Veterinary Laboratory

This is the regional laboratory for north Queensland, and, as such, engages in all the activities listed above, albeit to a lesser extent.

NEWS FROM SOUTH AUSTRALIA - Peter Phillips

(Ed. note: Congratulations on completing your PhD)

Having undergone several reviews and inquiries (Badger; Wells; Morris; Radcliffe) the current situation in South Australia is that whilst still situated in the Institute of Medical and Veterinary Science building Road in Adelaide, state veterinary pathology services are now under the control of the S.A. Department of Agriculture (SAGRIC) and not the IMVS. The former Veterinary Pathology Division of the IMVS is now the Veterinary Sciences Division of SAGRIC. This change took place on 1/7/82.

The SAGRIC Veterinary Sciences, Animal Health and Animal Industry Divisions are shortly to be amalgamated into one large Division and the veterinary laboratory will be seeking a new identity.

Plans have been displayed for a proposed new laboratory complex at the Adelaide northern suburb of Northfield. Due to funding difficulties these laboratories could not be expected to be commenced for another three years.

Some problems seen here recently:

Cattle: "Milk Drop Syndrome" in dairy cattle grazing oats near River Murray. Seasonal and traditionally considered nitrate/nitrite toxicity. Plants however contain little nitrate or nitrite on assay. Now considered a complex mild rumenal acidosis, hypomagnesaemia problem. Treatment - remove from pasture.

MDV abortions in dairy herd in South East, with disastrous consequences for owner.

Sheep: Pyrrolizidine alkaloid toxicity, presumably from Salvation Jane (Patterson's Curse). Local panic by horse owners following local practitioner's appearance on TV News saying many horses will die if left in paddocks with Salvation Jane.

Pigs Non-fatal posterior paresis/ataxia in weaners. No evidence of viral or bacterial infection. Considered organic arsenical problem. 3-nitro added to feed at less than recommended rate (assayed) and tissue levels not considered toxic, but pigs recovered when 3-nitro was removed from ration.

Deer: MCF in Rusa Deer in South East and on West-Coast.

Goats: Abortions in Adelaide Hills herd of Angoras for second year running associated with rising titres to Toxoplasma.

Poultry: Serious losses to large broiler establishment due to adenovirus (IBH).

Zoo: Vitamin E/Se-responsive myopathy in Western Grey Kangaroos. On same diet and in same enclosure as Red Kangaroos which do not have any problem. Different Vitamin E/Se requirement?

NEWS FROM TASMANIA - Barry Munday

(Ed. note - Barry has recently been appointed as an honorary research associate with the Pathology Department of the Medical School of the University of Tasmania).

Trout Export

As a result of intensive testing procedures over the last two years by Mt. Pleasant Laboratories and the Fish Diseases Reference Laboratory at Benalla the first consignment of trout ova from Australia to the U.K. were exported from Tasmania this year (i.e. the first consignments under the 1975 regulations).

Serology Expansion

Rob McKenna, previously of Murdoch University, has been appointed as Medical Scientist (Serology) at the laboratory. It is hoped to extend our serological repertoire as a result of the time that will now be available for developing 'new' tests.

Enteritis in young sheep and calves associated with coccidian parasites

David Obendorf, Roy Mason.

This autumn and winter saw several outbreaks of illthrift and scouring in hogget lambs and artificially reared calves weaned onto pasture. In all cases the predominant pathological finding was a small intestinal enteritis characterized by villous atrophy, inflammatory cell infiltrates into the submucosa, small mucosal ulcerations associated with bacterial proliferation, and the presence of coccidian stages in the submucosal tissues.

Various coccidian stages were seen in submucosal lesions but the presence of oocysts in intestinal scrapings or faeces was not a feature of these outbreaks.

We don't know what type of coccidian this represents; it may be a form of Eimeria, Globidium or Besnoitia. In the absence of any other likely enteric agents such as nematodes, Salmonella, Campylobacter or Cryptosporidia, it is suggested that these lesions are due to a combination of coccidian parasitic infection, host hypersensitivity and secondary bacterial infection. This condition may represent one of the so-called sulphonamide-responsive enteritides.

Scouring in horses after anthelmintic drenching:

David Obendorf

Young horses (two to three years old) exposed to heavy infections during the winter may develop scouring due to the spring emergency of small strongyle larvae (Cyathostominae) from the large bowel wall.

Within two to three weeks of drenching heavily parasitised horses may commence scouring as a result of several mucosal damage and the feeding activity of these developing strongyles.

The parasitic infection in these cases is not patent, therefore no ova are detected in the faeces. Close examination of the freshly collected dung sample may reveal numerous larvae up to 1 cm in length.

At increased dose rates (four to ten times recommended levels) both fenbendazole and oxfendazole have been shown to be highly effective against all stages of the small strongyles. Repeated treatments at 2-week intervals may be necessary.

Cocoa bean husk poisoning in fowls

Roy Mason

Cocoa-bean husks, which are used as mulch in the garden or as deep litter for birds, contain the alkaloid theobromine. The amount of theobromine in the husk depends on the variety of the bean and treatment

during processing. Roasting of beans may result in sublimation of theobromine with transference of theobromine from the bean to the husk. Theobromine resembles caffeine in its action except it has little central nervous stimulatory action. Large doses of theobromine are toxic causing death from heart failure.

Recently a small flock of back-yarder hens gained access to garden recently mulched with fresh cocoa-bean husks. The following day the birds appeared normal but shortly after their morning feeding, one as dead. The birds were fed again at midday and one was seen to eat, flap its wings and die. Another fowl died later. Two dead birds examined had cocoa bean husks in their crop and gizzard contents. Cocoa bean husk can contain 1% theobromine. Theobromine is readily absorbed from the gut but is less readily excreted. This can lead to high tissue levels of the alkaloid. Death usually occurs suddenly, often associated with some form of excitement, such as feeding, as occurred in this case.

NOTES FROM WESTERN AUSTRALIA - Dave Pass  
Murdoch University

#### Disseminated Aspergillosis in German Shepherd Dogs

Six cases of disseminated mycosis due to Aspergillus terreus have been investigated at the Murdoch University Veterinary Hospital over a period of three years. All of these cases involved German Shepherd dogs, both intact and sterilised males and females aged approximately 3 years although one female was aged 7 years.

A purulent pyonephritis with multifocal areas of renal cortical necrosis was a consistent finding at post mortem. Similar lesions were found to a lesser extent in the spleen, liver, myocardium, lungs and bone. Microscopically these lesions were multifocal pyogranulomas with central areas of liquifactive necrosis and contained large numbers of branching, septate hyphae identified as Aspergillus terreus by culture. Aspergillus terreus, normally a non-pathogenic soil saprophyte, has been isolated in other cases of disseminated mycosis in dogs whom were notably all German Shepherds. This high breed association to the disease suggests a genetically based specific immunodeficiency. Humoral and cell-mediated immunity to Aspergillus terreus is being investigated in the local German Shepherd population, particularly in dogs related to the cases so far presented.

#### Suspected tuberculosis infection in a seal

The seal had a two-month history of respiratory disease following pneumonia and left pneumothorax.

The gross lesions were confined to the upper and lower respiratory tract and consisted of an acute tracheitis, serosanguinous pleural effusion and fibrinous pleuritis, atelectasis and abscessation of the left lung and multifocal areas of abscessation throughout the right lung. The bronchial lymph nodes were enlarged and had caseating centres.

The microscopic changes in the lungs were multifocal areas of granulomatous inflammation characterized by large foamy macrophages surrounding central areas of liquifactive necrosis of alveolar tissue. Long filamentous acid-fast organisms were clearly visible within the areas of necrosis. Further identification is not possible as cultural procedures failed.

#### Aeromonas hydrophila infection in foals

A 3-day-old foal developed dysentery following treatment for retained meconium. The foal was agammaglobulinaemic. At PM there was haemorrhagic enteritis and bronchopneumonia. A. hydrophila was isolated in heavy growth from the gut and lung. Approximately two weeks later another foal on the same property developed diarrhoea. Over 3 days the faeces changed from pasty yellow to watery and mucoid. This foal was also agammaglobulinaemic. The foal failed to respond to therapy. At PM the mucosa of the jejunum was thickened by oedema but the remainder of the



mucosa was normal. The content was watery and mucoid. Histologically there was acute enteritis but the lesion was not commensurate with the severity and duration of the clinical course. A. hydrophila was isolated in heavy culture from the gut and a light growth from the lung. This organism is a common cause of hypersecretory diarrhoea in some populations of aboriginal children in W.A. The strains responsible produce an enterotoxin. The isolates from foals will be tested for their ability to produce enterotoxin.

A four-year old goat was presented with a history of profuse watery diarrhoea of 5 days duration. The goat failed to respond to therapy. At PM gross lesions were minimal and consisted of several small colonic ulcers. The clinical signs and PM findings were suggestive of hypersecretory diarrhoea. The bacteriology results are confusing. Klebsiella pneumoniae was cultured in heavy pure growth from the colon and K. ozaenae from the jejunum. Be that as it may, can anybody comment on diarrhoea associated with Klebsiella and enterotoxigenicity of Klebsiella?

We have also recently seen a case of necrotizing typhlitis due to Aeromonas hydrophila in a guinea pig and Aeromonas infection in fish.

#### Sinus lesions in horses

Over the past 2 years we have seen ten cases of space-occupying lesions in young (less than 3 yr) horses. The sinus is filled with gelatinous fluid and the mucosa is thickened, or there is a discrete mass of loose often myxomatous connective tissue usually with trabeculae of immature bone throughout. The origin and precise diagnosis in most of these cases is confusing. They have been diagnosed as myxofibroma, ossifying fibroma, fibrous dysplasia and cementoma or cementifying fibroma arising from tooth germ. These lesions are obviously not new to many but may be to some. According to older references they are a "not uncommon" lesion.

#### Interesting odds and sods:

Acute pancreatic necrosis in a galah; cerebrocortical necrosis in a foal following respiratory difficulty at birth; mycobacterial skin lesions in cats and dogs; acute haemorrhagic enteropathy in dogs. Does anybody have any up-to-date suggestions on the cause of haemorrhagic enteropathy in dogs?

Neurological disease in a cat: A 4 year old male cat developed ataxia and falling to one side after a long car trip. The cat was treated with Lopotol (nitroscanate) the day before the trip. It was also on chlorethamine treatment for urolithiasis. During the car trip the cat was on the floor of a station wagon at the back under the rear seat, which was folded forward. The owner had experienced troubles with his exhaust and fumes were sometimes noticed in the car. The cat was destroyed. There was neuronal necrosis and gliosis in the thalamus. The cause was not determined but toxicity was suspected. Nitroscanate uncouples oxidative phosphorylation and therefore could possibly be implicated in the pathogenesis of the lesion. If carbon monoxide levels were increased they may have acted in concert.

#### Department of Agriculture, Perth

Chickens: Femoral head necrosis due to infection with S. aureus has been diagnosed in 35-40 day old broilers. The birds were submitted for 'leg weakness'. At PM the femoral necks shattered when the legs were opened out. The disease has been reproduced in 35-day-old birds. Reovirus, which has been incriminated in bone disorders of broilers, has not been isolated.

E. ovis infection of lambs post-marking has been diagnosed recently in a number of flocks, as has cobalt deficiency.

A case of acute fibrinous pneumonia from a cow in Broome raised the

question of CBPP again. Pasteurella sp, C. pyogenes and a Mycoplasma sp. which is not M. mycoides were cultured. This case is brought to your attention because it was apparent that there no longer seems to be a facility available for the rapid diagnosis of CBPP.

#### Albany

(Ed. note - Congratulations to Barry Richards for passing his A.C.U.P. exam.)

A Haemophilus somnus-like organism was isolated from an outbreak of acute sero-fibrinous polyarthritis in suckling lambs. The mortality rate was 80/350 and there was a high morbidity. Other cases have occurred in the South-west. Most cases of arthritis are due to Erysipelas.

NEWS PROM BENDIGO, VICTORIA

- Bob Jones

#### Chronic secondary Phytoogenous copper poisoning

During the last month several owners have reported losses of sheep from copper poisoning. The affected sheep were nearly always Border Leicester-Merino crosses. Most were adult ewes, fat and about 4 to 5 years old and many had lambed about 2 months previously. Clinically the common signs observed were weakness, anaemia, haemoglobinuria, jaundice, anoxia and death. Losses of about 12-20 per property were reported but many more sheep were anaemic, depressed, weak and jaundiced. On some farms shearing and vaccination may have precipitated the deaths. Grossly, the common findings were anaemia, haemoglobinuria, jaundice (the abdominal fat was orange-yellow), enlarged brown-black kidneys and enlarged spleens. The livers were yellow and friable. Histologically, there was acute focal hepatic necrosis with bile stasis and haemoglobinuric nephrosis. Kidney and liver copper levels were elevated. In some cases mild evidence of pyrrolizidine alkaloid poisoning was detected in the liver. This year the pastures on affected properties have been dominated by sub-clover from about April, whereas in most years dry feed is available from January to May, while from Hay to December the pasture consists of grasses, weeds and clovers. It is postulated that sub-clover accumulates normal amounts of copper but little or no molybdenum. The imbalance of copper, molybdenum and sulphate leads to the problem. Treatment consisted of minimising stresses, providing licks of molybdenum, gypsum and salt and/or spraying the pastures with molybdenum.

#### Yersiniosis in sheep

Disease in sheep associated with Yersinia pseudotuberculosis has been seen in Merino sheep predominantly, although outbreaks have been seen in Border Leicesters and 1st cross ewes. The average age of affected animals is about 2 years (range of 6 months - 4 years) and the average mortality rate within affected mobs is 3.6% (range 0.5%-9%). Clinical signs are variable. Affected sheep ultimately became recumbent and depressed but early signs are non-specific (e.g. muscle tremor, leg weakness). Scouring has been noted in more than half the outbreaks and faeces may be foul.

Gross changes are often evident in the liver and spleen of affected sheep at post mortem. Multiple small yellow foci may be scattered throughout these organs. Histologically these are either microabscesses or granulomas and may contain large numbers of bacteria. Intestinal lesions have been seen grossly in some cases. The small intestine is oedematous and the mucosa roughened and congested. In these cases acute inflammatory changes are apparent in the intestine, again accompanied by numerous gram-negative bacteria. Yersinia pseudotuberculosis (serotypes III and IB) was been isolated from liver, intestine and mesenteric lymph nodes.

The disease is important from a diagnostic viewpoint in that some of these outbreaks have been thought to be cases of anthelmintic resistance.

NEWS FROM NEW ZEALAND

- Bill Hartley

I sent a memo about the future uses of our Registry of Animal Pathology for training of V.I.O. pathologists from the S.W. Pacific area to the head of a division - so far he has not communicated the offer to the state labs in Australia - but he certainly intends so to do within the next couple of months (Ed. note - it just arrived on my desk). The Registry is virtually complete so we would welcome visitors for post graduate training. If you have any interesting material you would like included in the Registry - particularly with entities peculiar to your area - we would like to include them.

APPROVED WORKSHOPS SPONSORED BY VICTORIAN DEPARTMENT OF AGRICULTURE  
VENUE: REGIONAL VETERINARY LABORATORY, HAMILTON

WORKSHOP 1

HISTOPHILUS OVIS/HAEMOPHILUS 50MNUS

11-12 APRIL 1984

SUGGESTED TOPICS:

1. Review of taxonomy of Histophilus, Haemophilus and Actinobacillus
2. Morphology and biochemical characteristics
3. Serological relationships and characteristics
4. Nucleic acid characterization
5. GLC and plasmid profiles
6. Virulence studies  
The diseases in sheep  
- septicaemia, infertility  
The diseases in cattle-  
vaginitis/endometritis/ITEME
9. Epidemiologic studies

contact Jonathan Webber 055.723722

WORKSHOP 2

OVINE CONTAGIOUS EPIDIDYMITIS

12-13 APRIL 1984

SUGGESTED TOPICS: 1. General overview

2. Brief review of current situation in each state
3. Studies on prevalence and economics
4. Recent developments in diagnostic procedures
5. Studies on breed susceptibility, pathogenesis and implications in design of control measures
6. Date management systems and predictive models
7. Diagnostic tests (POSTERS)
8. Use of computers in laboratory procedures
9. Design and administration of accreditation schemes
10. Financial considerations of eradication schemes

For further information,  
contact Rob Rahaley 057.622933

Abstracts will be required by 20 March 1983 and will be circulated prior to the workshops. A camera-ready copy of all talks is to be provided to the Chairman of the session at the workshop for incorporation into the proceedings of the 2 workshops. you wish to attend, please fill in the following details:

NAME, ADDRESS, TELEX

Title of Presentation(s) i)

ii) iii)

Accommodation required (tick)      April 10    ....    11    ....    12    ....    13

....

Would you require transport to Hamilton YES/NO on      (date)

to Melbourne YES/NO on (date)  
Return to Dr J.J. Webber, PO Box 406, Hamilton, Vic. 3300,

AUSTRALIAN SOCIETY FOR VETERINARY PATHOLOGY MEMBERSHIP ON 11 November  
1983

ALLEN JG  
ARZEY, K E  
BADMAN, R . T .  
BARTON, M.  
CALLINAN RB  
CANFIELD P J  
CARRIGAN, M,  
CHICK, B  
COOK R.  
COPLAND MD  
CROWLEY AM  
DANIELS, P  
DE SARAM, W  
DICKSON J  
DOUGHTY F  
DUFF B  
DUNCAN I  
ELLIS T  
FAHY VA  
FINNIE JW  
FORSYTH WM  
FRASER G  
FRIEND S  
GARDINER DE  
GARDNER DE  
GIBSON JA  
GILL PA  
GLASTONBURY J.R.  
GOGOLEWSKI RP  
GREENWOOD, P.  
GIESECKE PR  
GRIFFITHS GL  
HAMIR AN  
HANDLINGER JH  
HARPER P.  
HARRIGAN K.E.  
HARTLEY W J  
HILL BD.  
HILL, M.W.M.  
HINDMARSH M  
HOFFMANN D  
HOOPER P.T.  
HOPKINS D L  
HOWELL JMCc  
HUMPHREY J  
HUXTASLE CRR  
JACKSON ARB  
JERRETT I  
JONES R  
KABAY M  
KELLY R  
KETTERER PJ  
KING JM  
LADDS FW  
LAING E  
LANCASTER MJ  
LAX A

LENGHAUS C

MASON RW  
MCCAUSLAND I  
McCOLL K  
MCKENZIE RA  
MCORIST S  
MILLER RI  
MITCHELL G  
MUNDAY BL  
NICHOLLS T  
NORTON J  
NUNN MJ  
OBENDORF DL  
PARSONS J  
PASS DA  
PEET R  
PHILLIPS P  
PRITCHARD DH  
RAHALEY RS  
REECE RL  
REUTER RE  
RICHARDS RB  
RIFFKIN GG  
ROBINSON WF  
ROGERS RJ  
ROTHWELL TLW  
SCOTT PC  
SEAMAN J  
SEAWRIGHT AA  
SIMS L  
SMITH HV  
STEPHENS L  
STRAUBE E  
SULLIVAN N  
THACKER L  
THAM VL  
TRUEMAN KF  
UTTERIDGE T  
WALKER KH  
WATT D  
WEBB R  
WEBBER JJ  
WHITE WE  
WILLIAMS OJ  
WINTER H