# THE VETERINARY PATHOLOGY REPORT

Australian Society for Veterinary Pathology
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PRESIDENT'S REPORT

The present Executive of the Australian Society of Veterinary Pathology is approaching the end of their term in office with a touch of sadness. This will be our last full edition of "The Veterinary Pathology Report" before the annual conference. We hope that you have found the information in our newsletters of interest and that communication within the membership has been fostered.

Unfortunately we have not been swamped with papers for our annual conference on Saturday 23 May 1987. Ian Links gives you a gentle reminder below. Please get into action because we would like the conference to be as successful as previous years and a fitting finale for the Refresher Course.

Everything is in readiness for the big course, "Through the Naked Eye - the gross pathology of domestic animals". Even though registrations are rolling in it its not too late to encourage your colleagues to attend. Phil Ladds has arranged with Doug Bryden to have all the kodachromes copied immediately after each lecture. This will provide a marvellous collection of material for placement in the Registry and purposes of study. In addition the possibility of the production of a colour atlas is being explored.

The examinations for membership of the Australian College of Veterinary Scientists were conducted during January and February. Five of our members were successful. They acquitted themselves extremely well providing ample evidence of the talent within the Society. The Examiners would be delighted to face a similar bunch in 1988 so take the plunge, register your intent and start studying now. Next year we would like to receive a better response from members of the College for the supply of material for use in the practical segments.

In previous editions of “The Veterinary Pathology Report” I have stressed the importance of communication. Of ultimate value is the relaying of our findings to the profession at large via refereed scientific journals. We have a moral commitment to perform this vital function and it is essential for promotion within our various employing organisations. A rough check of three journals revealed that we were very active during 1986. Our members had 79 publications In the Australian Veterinary Journal, four in the Journal of Comparative Pathology and three in Veterinary Pathology. Several conclusions may be drawn from these statistics. Perhaps members should consider publishing more material in recognised journals of Veterinary Pathology. The Australian Veterinary Journal would be quite thin without the support of the The Australian Society for Veterinary Pathology. Eventually there would seem to be a need for an Australian Journal of Veterinary Pathology.

Peter Phillips and a happy band of followers have agreed to accept nomination for our new Executive. Providing everything goes according to plan, Tham will be Honorary Secretary, Tammy Utteridge Treasurer and Robyn Giesecke Editor of The Veterinary Pathology Report and committee person. I would be delighted to see the Executive move to South Australia because of the calibre of the nominees and geographical location. Some years ago we made a conscious decision to hold our conferences along the eastern seaboard but the Festival State is not too far removed and is closer to our colleagues over on the western frontier. We trust that the new Executive obtains as much pleasure and support during their term as we have.

J. R. W. Glastonbury
PRESIDENT

The Australian Registry of Veterinary Pathology

Efforts to establish the Registry have continued to move forward since the last edition of "The Veterinary Pathology Report". Our application to the Rural Credits Fund has passed through the vetting system, of the New South Wales Department of Agriculture. It has been submitted to the Reserve Bank with a considerable degree of confidence.

The Bureau of Rural Science (Department of Primary Industry) has made a welcome donation of $500.00. In addition, the Veterinary School at Murdoch has indicated that they would be able to make a small contribution. These donations when coupled with previous ones from James Cook University of North Queensland ($250) and the New South Wales Department of Agriculture ($6000 in all) will provide valuable bargaining chips with the Animal Health Committee. Bill Hartley and Tony Ross have had the rewarding task of spending the $5000.00 recently provided by the latter organisation for stores and equipment to help get the registry up and running.

At the forthcoming Annual General Meeting I intend to propose that we form a special committee to oversee the establishment of the Registry. Ideally this Management Committee should include Bill Hartley and be composed largely of people from Sydney, in particular Glenfleld. It will be too much to expect our new Executive from South Australia to fight for the Registry from arm's length.

Finally Bill Hartley would like to invite all interested members to visit the Registry at Taronga Park on the day following the Annual Conference. This will be Sunday 24 May 1987 so adjust your travelling arrangements accordingly for it should prove a most worthwhile experience.

POST-GRADUATE REFRESHER COURSE 0N GROSS PATHOLOGY

The culmination of all your efforts in preparing notes and presentations is fast approaching. We look forward to an enthusiastic audience to see the cream of Australia’s and New Zealand's veterinary pathologists present the last word on Gross Pathology. The executive would like to thank all who have contributed to the success of the refresher course. See you there - May 18th to the 22nd.

1987 ANNUAL CONFERENCE OF THE AUSTRALIAN SOCIETY FOR VETERINARY PATHOLOGY - 23rd May.

VENUE: 'The Veterinary School, University of Sydney, Camperdown, Sydney,

REGISTRATION: $15 which includes morning and afternoon teas and lunch. All members of the ASVP will receive a copy of the proceedings either by bill or to be picked up at the conference. Emergency contact number at the Veterinary School during the conference will be 02 692 2441 or 692 3126. In order to have some idea of those attending could you please return the enclosed registration form by Wednesday, l3th May or phone Ian Links (069-230934). Non-members are welcome.

DINNER: Friday 22nd May, 7.30 for 8.00 pm at the Mixing Pot Restaurant, 178 St John's Road, Glebe (02-6607449), just around the corner from the Forest Lodge Hotel. The restaurant is licensed or you can bring your own. Main courses cost approximately $10-$12. Numbers also required by Wednesday, 13th May. Spouses and/or partners are welcome. First in, best dressed!

ACCOMMODATION: See the last Vet. Path, Report or accommodation guide for the Gross Pathology Course. St Andrew's College, Carillon Avenue, Newton 2042 (Tel 02-511449 and ask for Rachel Guest) is a popular place to stay because of its proximity to the veterinary school. Full board ! $35, B & B $25 (cooked breakfast) per day. Dinner $7.50. Accommodation should be booked directly, not through the ASVP.

PROGRAMME: 8.30 am Annual General Meeting
10.00 am Morning Tea
10.30 am Scientific Session 1
12.30 pm Lunch
1.30 pm Session 2
1.30 pm Session 2
3.14 pm Afternoon Tea
3.45 pm Session 3
4.50 pm Concluding Address - John Glastonbury. President
5.00 pm Close

ANNUAL GENERAL MEETING: If you have any topics to raise at the meeting, please get organised!

SCIENTIFIC SESSION: We still need more contributions. We aim to have 12-16 presentations of 15-20 minute duration, so dust off the interesting case reports, research findings etc. which have been sitting on your desk for the past year waiting for you to write them up. The ASVP Annual Conference is the ideal venue to present them so that they are not lost to posterity. We look forward to an exciting day.

Manuscripts should be forwarded to the Secretary, Ian Links, at the Regional Veterinary Laboratory, Private Mail Bag, Wagga Wagga, NSW 2650(phone 069-230934). The deadline for receipt is 6th May, 1987. Manuscripts should be prepared in the following manner (ready for direct copying for the proceedings):

* 1-2 pages in length including a brief introduction, methods, conclusions and possibly citing several major references.

* Typed single spaced on A4 paper using Letter Gothic 12 (or Prestige 12 or similar type with carbon ribbon).

* Leave a 3.5 cm margin on the left arid 2.5 cm margin on all other sides to allow for binding and trimming.

* Even if the text is brief, begin at the top of the page, and leave the remainder blank for notes.

* Remember the copy you send will be photocopied exactly as it appears for binding in the proceedings. No corrections or errors please!

NON-DOMESTIC ANIMAL PATHOLOGY REGISTRY - Bill Hartley.

The non-domestic animal pathology Register has now been functioning for nearly eighteen months and appears to be developing effectively. The initial materials examined were archival sections from Taronga Zoo going back to 1972. More recently many sections have been received from numerous sources within Australasia. Approximately 14,000 sections have been examined and from these 1,607 cases have been selected to date for inclusion in the Register. These are made up as follows: marsupials 540, monotremes 23, other mammals 435, reptiles and fish 214 and birds 395. Approximately 75% of these cases are from our native fauna. Paraffin blocks are available from many of these cases. Although the collection is largely based on animal diseases, many normal tissues are included from most species. Also within the Registry is a collection of colour transparencies - 1,800 to date - depicting clinical signs, gross and microscopic lesions.

The response to requests for materials for inclusion in the Register has been mixed. To those individuals and organisations who are regular or periodic submitters of samples, the Registry is most grateful. To those

of you who have not yet found the time or the inclination to sort out and send materials, this is a gentle reminder that the Registry still would like to receive suitable materials. Any native animal and cage bird cases with 'good' pathology, i.e. which are in a fresh state of preservation and have usual or unusual lesions, will be readily accepted.

The Registry functions not only as a central repository for the collection and storage of materials from our native fauna, it also serves as a source of materials for lectures and for instruction of under-graduate and post-graduate students and others who have an interest in this field. The Registry is also prepared, now having some expertise in this subject, to act in a consultant capacity in the pathology of our native fauna and cage birds.

The Registry is currently involved in developing a computer retrieval system which will allow cases to be sorted for any combination of criteria; such as species, type of pathology, aetiologic agent, source, etc. Print-outs of any specific information held in the computer will be made available on request. For those who may be interested, the computer in use is an IBM Compatible Olivetti M24SP personal computer (obtained at cost price from Olivetti), a software system produced (at no charge) by Human Interface Ltd., and based on a data base package, Oracle, (donated at no cost from Oracle Ltd.).

NATIONAL WILDLIFE HEALTH CENTRE, WISCONSIN, USA

The ASVP has received a copy of the 1966 Annual Report of the National Wildlife Health Centre, Madison, Wisconsin USA from Pam Whiteley. It contains details of the activities and output of the NWHC, much of which involves disease diagnosis. Richard Whittington will forward the report to anyone interested.

A.V.P.A. AVIAN Histopathology Workshop - Roy Mason

The A.V.P.A. Avian Histopathology Workshop, which was held at Camden from 17-19 February 1987, was an outstanding success. This was due to the foresight of the A.V.P.A. and the perseverance and dedication of Garry Cross and his team.

Participating State Departments of Agriculture and other participating institutions were provided with a comprehensive histopathology slide set covering the body systems and many diseases of fowls and other birds. The slide set was complemented with detailed proceedings providing descriptions of the pathological processes in the slide set.

REPORT FROM NORTH AMERICA - Professor M.D. McGavin, Department of Pathobiology, College of Veterinary Medicine, University of Tennessee.

An event in which Australians can take some pride in is the fact the President (Dr. David Dodd) and the Secretary (Dr. Helen Ackland) of the American College of Veterinary Pathologists, in the words of the President, speak "with the same accent". This is a considerable honor as Australian Diplomats form a considerable percentage of the total membership. Thirteen ACVP diplomats (11 Australians) are listed as residing in Australia.

Australians have served before and presently in offices of the ACVP. David Dodd was a counsellor for many years, Helen Ackland has been Secretary for several years, M.D. McGavin was on the Examination Board for 4 years and Chairman for one and is currently Associate Editor on Veterinary Pathology. Two others, Dr. P.W. Ladds and Peter Moore are on the Editorial Board, this being Dr. Ladds second term.

It may be of interest to younger members to realise that the Australian expertise in Veterinary Pathology was not always of the calibre that it is now and that competent veterinary pathologists end histopathologists were an absolute rarity in the 1950's.

The British tradition had been to emphasize the isolation of aetiological agents (parasites, bacteria and viruses) and then develop control measures such as vaccines. This was a desirable approach where resources were limited and obviously gave the best cost-benefit ratio on many occasions. However, it did little to allow the development of interpretive pathology for those diseases which did not involve a staple aetiological agent or in which the pathogenesis was more complicated.

Australians started to go overseas for pathology training in the 1950's. Among the first were Drs. K.V.F. Jubb and David Dodd. The latter passed the ACVP Boards in the early 60s and were followed by Dr. D. McGavin in 1963. There was a marked increased in Australian diplomats in the late I960's, including Drs. Winter, Nairn and Ladds from Australia and Cordes, O'Hara and Martinovitch from New Zealand. My apologies to those I have not included.

Today Australia is blessed with a large number of extremely well-trained and productive veterinary pathologists. The progress ever the last 30 years has been enormous and should be of considerable pride to Australians.

JOB LINE

Veterinary Pathologists interested in new challenges and a change in scenery might care to read through the Job Vacancies in the next issue of the Australian Veterinary Journal.

Following retirement of Dr Allan Jackson a vacancy is available at the New South Wales Department of Agriculture's Regional Veterinary Laboratory at Armidale.

Appointment as Special Veterinary Research Officer (Salary $40,579) is possible for a suitably qualified applicant with further potential for appointment as Officer in Charge (additional allowance payable).

Armidale has a population of 22,000 with excellent education and recitation facilities. The Laboratory is located at the University of New England Campus and has close working relationships with the University and a major CSIRO Research Unit at Chiswick.

Staff includes four veterinarians, a research officer and adequate technical and support staff.

Armidale is located on the New England Tablelands approximately two and one half hours by road from Coffs Harbour with daily air services to Sydney and Brisbane.

For further information contact Bob Coverdale on (067) 73488).

STATE REPORTS

QUEENSLAND

ANIMAL RESEARCH INSTITUTE (Fraser Trueman)

Avian Perosis - Manganese deficiency

200 eight week old layers in a flock of 3,000 showed signs of lameness and squatting on their hocks. Four birds were post-mortemed and showed unilateral or bilateral swelling of tibio-metatarsal joints, deviation/rotation of the metatarsus and luxation of the gastrocnemius tendon(s). Liver manganese levels ranged from 3.0 to 4.3 mg/kg D.M. (normal - 8 to 10 mg/kg). Perosis was diagnosed.

Inclusion body hepatitis in broilers.

A flock of 20,000 thirty five day old broilers was sustaining losses of 60 birds/day. Dead birds had swollen livers with pinpoint white foci visible on the surface. Histopathology revealed varying degrees of hepatitis and hepatocellular necrosis with the presence of numerous large basophilic inclusion bodies. Inclusion body hepatitis was diagnosed.

Oxalate nephrosis in sheep.

250 mixed aged Merinos in a flock of 1,100 shoved signs of stiffness, recumbency and death after being yarded for two days and released into a paddock containing Buffel grass and pigweed. Kidneys appeared swollen at autopsy and histopathology revealed varying degrees of tubular distension. Interstitial fibrosis and inflammatory cell infiltration. Large numbers of pale, almost transparent crystals were visible within tubular lumina. Serum calcium vas severely depressed (0.73 mM/L).

Oxalate poisoning was diagnosed.

Warfarin Poisoning of Neonatal calves

A property at Oakey lost 6 Simmental calves from birth to 3 days of age. Some calves did not move after birth whereas others walked considerable distances. Dams remained normal. Autopsies on 2 calves showed extensive haemorrhaging in both subcutaneous and internal organs. Histologically both calves had biliary retention in liver. Also there were multiple foci of hepatic necrosis in one and severe purulent myocarditis in the other. The property was fairly badly drought affected and cows were being fed barley straw ad lib and about 1 kg cottonseed per head per day. Flick liquid baits containing warfarin were used in the hay shed, and 2 or 3 of these containers were thought to have been spilt on the hay; each was 5 litres containing 10 g warfarin. The serum of the one calf tested was positive for warfarin (1.1 mg/L) and this was considered toxicologically significant. If warfarin was the cause of these mortalities then absorption was probably via the placenta and possibly also from milk. However, foetal calves would have to be extremely susceptible because the toxic dose in adult ruminants is of the order of 200 mg/kg daily for 12 days. Only 30g was reported to have been spilt on the hay which was being fed to 60 cows.

Ixiolaena brevicompta myopathy in sheep

Several sheep flocks in the Cunnumulla region were affected in February/March by a locomotor syndrome in weaner sheep 3-6 weeks after marking.

In one of the cases a weaner flock of 2,000 had 50-60 clinically affected sheep and deaths occurred at the rate of 3-4 per day. The condition varied from a mild stiffness of gait, to severe stiffness and ability to walk only several yards, to sternal recumbency. The biggest weaners in the group were affected. Three sheep were examined at the laboratory; two were moderately affected and one only mildly clinically

affected. Histologically all had widespread and severe skeletal muscle lesions of necrosis with regenerative changes. The large muscles of the hind limbs were especially affected and no lesions were present in nervous or other tissues.

Ixiolaena brevicompta was suspected on the basis of the pathology and "Ixiolaena sp" seeds were found in one rumen sample. Subsequently specimens of plant from the field consisting of thin dried stalks and degenerated seed heads were forwarded and a definite identification of Ixiolaena brevicompta was made. Many clinically affected sheep recovered with time.

NORTH QUEENSLAND (Phil Ladds)

Queensland DPI, Animal Health Laboratory, Oonoonba

Yellow-wood nephrosis in cattle

Recent cases and outbreaks of interest included Yellow-wood (Terminalis oblongata) toxicity as a cause of death or severe illness in 28 of 600 crossbred cattle. Chronic renal lesions (tubular degeneration and necrosis and associated fibrosis; urethral blockage by proteinaceous material) were observed in several animals killed for necropsy.

Trichomoniasis in budgerigars

High mortalities (up to 50% of budgies resulting from infection of the crop with Trichomonas gallinae have been observed on several occasions.

Citrullinaemia in calves

The first North Queensland case of citrullinemia was recently diagnosed in a Fresian calf from the Atherton Tablelands. The calf was born alive early in the morning, was noted to be standing at mid-day, then found dead in the afternoon. Enquiries revealed that 20 calves had died under similar circumstances during the past two years. Diagnosis was confirmed by Dr. Peter Healy at Glenfield.

Mortalities in barramundi

In collaboration with staff of the Graduate School of Tropical Veterinary Science, James Cook University mortalities of barramundi (Lates calcarifer) larvae and fingerlings are being investigated. Ammonia toxicity is suspected but seems to be complicated by other factors such as parasitism and enteric infection with blue-green algae.

Graduate School of Tropical Veterinary Science, James Cook University

Squamous cell carcinomas of sheep and cattle - lymphocyte labelling

Research projects involving the immunopathology of the genitalia of rams and bulls and of ovine aural squamous cell carcinoma are continuing. Good peroxidase anti-peroxidase (PAP) labelling of lymphocytes is being achieved by use of frozen sections and monoclonal antibodies developed at the Sheep Biology Unit, University of Melbourne.

Saltwater crocodile hatchling mortalities

Preliminary investigations of hatchling mortalities in farmed saltwater crocodiles (Crocodylus porosus) indicate a predominantly infectious, probably bacterial, cause precipitated by stress factors. Hepatic enlargement with hepatitis is the most frequent finding.

Picornavirus infection of Endeavour prawns

Significant mortalities in Endeavour prawns (Metapenaens ensis) have been associated with the presence in female gonads of intranuclear eosinophilic inclusions, indicative of infectious haemopoietic and hypodermal necrosis virus (IHHNV), a picornavirus recognised elsewhere as a severe pathogen.

Crown of Thorns Starfish.

Deaths of the crown-of-thorns starfish (Acanthaster planci) in Fiji appear to be associated with an infectious organism, yet to be identified, in the pyloric caeca.

Yellow Rattlepod hepatopathy in chickens

Experiments on the yellow rattlepod (Crotalaria mitchelli) have revealed that feed containing 1% of the seed of this plant in the ration will cause lesions in the livers of chickens within one month; these include megalocytosis and bile duct hyperplasia.

Other interesting causes

Interesting diagnostic cases included probable papova-like virus infection in a budgie, black-grained mycetoma in a cat, and a large adrenal cortical neoplasm with extensive metastasis in a horse. Clinically, ventral oedema had been observed in this horse. Much fluid was present in the abdomen at necropsy. Neoplastic tissue extended around both kidneys and into the posterior vena cava. Metastases were seen in the liver, spleen, lymph nodes and lung.

VICTORIA Prepared by S. Friend

BAIRNSDALE REGIONAL VETERINARY LABORATORY

ACORN POISONING IN CALVES

Acorn poisoning was recently confirmed as the cause of death of more than 30 young dairy replacement heifers (6-9 months old) on a South Gippsland property. Autopsies revealed ascites, hydrothorax, marked perirenal oedema and pale kidney cortices, speckled with petechiae. Histological examination of kidneys from 3 autopsied calves showed acute cortical tubular necrosis with formation of granular casts containing degenerate epithelial cell nuclei. Serum urea levels in two live affected calves were 74mM and 122mM (normal range 2-11mM).

The toxin responsible for acorn poisoning is not known. Tannic acid and its derivatives (gallic acid and pyrogallol) have frequently been suggested as the toxic principle; however, there is no conclusive evidence of significant renal damage caused by these substances alone. At the RVL Bairnsdale we have been able to reproduce the toxicity by feeding acorns from an outbreak of poisoning. We have, however, been unable to reproduce toxicity by feeding local acorns experimentally contaminated with a Penicillium sp. commonly found beneath the husks of acorns in natural outbreaks. (Ian Jerrett)

DAVAINEA PROGLOTTINA INFESTATION OF CHICKENS

Davainea proglottina infestation was diagnosed in a chicken presented for necropsy. The flock of origin included 20, 4-5 month old free range chickens. Six birds were clinically affected. Principal signs were neurological ("wobbly and weak in the legs, can't perch properly·). Numerous small tapeworms identified as D. proglottina were found in the small intestine with the help of a dissecting microscope. Hungerford (in Diseases of Poultry, 4th Edition p504 states that D. proglottina infestation “has been seen to kill chickens in the country districts of NSW. On occasions, it causes leg weakness and paralysis”.

Treatment of the remainder of the flock with one half of a 50mg tablet of Droncit (praziquantel) resulted in prompt relief of clinical signs. (Kit Button)

ALGAL POISONING

Two of a group of 21 dairy cows were found dead near an irrigation dam and 5 further animals showed signs of photosensitization. The dam had developed a growth of blue-green algae over the previous three weeks. Specimens were examined from one cow and showed acute periacinar hepatic necrosis with pooling of RBC's around these areas.

Algae subsequently obtained from the dam were identified as Microcysitis aeruginosa. An intra-peritoneal mouse toxicity test performed with sonicated algal material resulted in the death of a mouse within three hours. Histology on the liver showed marked vascular congestion and diffuse hydropic swelling of hepatocytes. Changes were most pronounced in periacinar areas with scattered necrosis of periacinar hepatocytes evident.

No further cases were seen on the property following the provision of clean drinking water. (Steven Hum).

HAMILTON REGIONAL VETERINARY LABORATORY - Cor Lenghaus

PEAS

A mob of 23 two year old Simmental or Simmental-Hereford bulls were moved onto a sparse, drying pea crop in a perennial rye grass pasture. A week later when the bulls were being driven for yarding, one bull became completely intractable, and jumped over or through 5 fences before collapsing. This animal subsequently had intermittent convulsions, became comatose and died within 24 hours. About a third of the mob showed similar signs of hyperexcitability or frenzy, inco-ordination and inability to charge, excess salivation and retention of food in the mouth. In the yards, these bulls could easily be stimulated into totally manic behaviour leading to convulsions. If left alone the bulls quickly quietened. They did not appear blind.

At considerable personal risk, a private practitioner treated the bulls with injectable steroids, diuretics and thiamine on the assumption that the animals had acute cerebral oedema. Thiamine powder was also sprinkled liberally on hay fed to the bulls for three days, in a small holding paddock. All but one of the affected animals recovered from this hyperexcitability syndrome during the following week. The exception regressed to a clinically non-responsive, dummy-like state.

Histological examination of tissues from the dead bull revealed a terminal acute bronchopneumonia, probably secondary to aspiration of rumen contents. In the brain there was widespread perivascular oedema about medium sized blood vessels and sporadic neuronal necrosis, more commonly found in (the more sensitive) cortical neurones.

The cause of this nervous system disease remains unresolved. Mature cows subsequently allowed to graze the suspect pasture did not develop any clinical disease. Several fungi were readily isolated from pea plant material submitted to the laboratory, but these have yet to be identified. Many of the perennial ryegrass seed heads were parasitized and replaced by the sclerotia of fungi which resembled Claviceps purpurea. Clinical and post mortem findings in the bulls were similar to convulsive ergotism, a disease cause by a high intake of C. purpurea.

However, there is anecdotal evidence of mania in cattle (particularly bulls) which have grazed pea crop stubbles where ergotism was not a differential diagnosis. Hyperexcitability-type nervous disease has also been reported in young lambs with access to pea crop ensilage.

SORREL

Sorrel (Rumex sp.) which has high oxalate levels, grew abundantly this year and was often a dominant green plant available in stubble paddocks. Problems were associated both with moving weaner sheep onto such stubbles and with yarding sheep which had grazed Sorrel contaminated pastures.

Sporadic deaths occurred within 3 weeks in sheep given access to Sorrel. These sheep died of oxalate nephrosis. Owners were advised to shift sheep to clean pastures and provide free access to good quality drinking water. Clinical disease quickly disappeared after this was done.

A more serious problem resulted when sheep were yarded and deprived of water overnight. On release, numbers of sheep staggered and became recumbent. These suffered from hypocalcaemia due to binding of blood and alimentary tract calcium with free-oxalate. Significant numbers of sheep also subsequently died from oxalate nephrosis, apparently brought on by the period spent yarded without access to water. In one episode 9 of 160 sheep died from hypocalcaemia within 24 hours of release, but a further 60 died during the following 2 weeks due to oxalate nephrosis. The sheep had grazed Sorrel-containing pastures before yarding, without apparent ill effect.

LESSER LOOSESTRIFE

There are several field reports which link stock losses with grazing stubbles contaminated with Lesser Loosestrife (Lythrum hyssopifolia). The plant is widespread in Victoria and South Australia and is usually found in damp, sandy soils or near streams. It grows over large areas in stubble or fallow paddocks following a wet spring season. Toxicity has been associated with a plant's flowering period, from November to March.

In Western Victoria suspect toxicoses were previously seen in early 1974 and 1979.

During January and February this year the RVL investigated Loosestrife-associated disease on 4 properties around Horsham and Stawell with 2-8% in adult sheep as well as weaners. Within 7-10 days of being admitted to stubble paddocks with a large amount of Loosestrife present, some sheep were found dead, other depressed. Sheep died quietly. Deaths stopped quickly once sheep were moved to grass paddocks. Postmortem findings included haemorrhages of subcutaneous tissue, thoracic wall and omentum, a tan or orange-coloured swollen liver, mild jaundice, and swollen wet kidneys with perirenal oedema. GLDH levels (indicator of liver damage) and urea levels (indicator of kidney function) were markedly elevated in some sheep. Histologically there was variable periacinar or midzonal hepatic necrosis and moderate to severe nephrosis affecting all types of renal tubules.

In an attempt to reproduce the disease, two sheep were fed Lesser Loosestrife for 12 days. The Loosestrife came from 2 different sources and was still green and fairly succulent. From day 7 there was a modest elevation in those blood parameters indicating liver and kidney damage, particularly in one of the sheep. Gross post mortem findings were unremarkable. Histology revealed a nephrosis and increased sporadic hepatocellular death.

We conclude that Lythrum hyssopifolia is toxic to some sheep, and that the farming community needs to be aware of the problems which may occur when sheep graze stubbles in which it is the dominant green feed present.

COCCIDIOSIS IN 2 YEAR OLD WETHERS

A mob of 2 year old wethers that had never been vaccinated or drenched, was trucked from north of Broken Hill to the Western District in mid-December. Three weeks later some sheep were noticed to have a dark scour and were losing condition. Within a week, 500 of 1600 sheep had dark, mucoid diarrhoea and

severe weight loss. Coccidiosis was diagnosed on post mortem in a sheep submitted to the R VL. This was confirmed by histopathology. Sheep made a rapid recovery after treatment with oral sulphadimidine. but not before 65 sheep had died.

Clinical coccidiosis is unusual in sheep of this age. However, these sheep had been grazed under extensive conditions and had probably had little previous exposure to Eimeria sp.

EXOTIC DISEASE

Herewith, a condition until recently, virtually unheard of in Australia, which has assumed considerable importance on some local properties.

a) Atrophic Rhinitis (AR) in pigs is seen as an atrophy of the nasal turbinates which may be so severe to cause marked shortening or deviation of the snout. The disease results from persistent infection of the nasal epithelium by diverse pathogenic micro-organisms, particularly Pasteurella sp. Toxic effects of such chronic infections suppress osteoblastic activity which inhibits osteogenesis of the scroll-like turbinates. Ultimately, there must also be an active degenerative process occurring, as in the most severe cases of AR the turbinates are completely absent.

b) A pig farmer near Horsham who introduced Duroc pigs from North America into his herd several years ago now has a serious AR problem in his grower Duroc pigs, and lesser problem in his large White/Landrace stock. Pasteurella sp. isolated from the nasal passages of these pigs have been forwarded for typing, to investigate whether we have unwittingly imported new strains of Pasteurella sp. organisms along with the pigs.

NEW SOUTH WALES prepared by Mark Carrigan

Orange Regional Veterinary Laboratory - John Seaman, Mark Carrigan

Suspect rape poisoning (Brassica napus) in sheep

Over a 3 day period 30 x 567, 3½ year old Merino ewes died. Four days prior to the first death the sheep had been placed in a 100 ha paddock of 60% rape and 40% wheat stubble. The rape aftermath had many pods full of seeds and there were lots of rapeseeds on the ground.

Clinically affected sheep often stood alone in the paddock, a number held their heads high and appeared blind, however eye reflexes were normal. When forced to move, sheep had generalised weakness and often fell onto their knees and dropped their heads to the ground. More severely affected sheep were in lateral recumbency and either lay quietly or exhibited running movements with their legs. On stimulation many of these sheep showed nystagmus and slight twitching of the head. At death the head was usually dorsiflexed and the ground was scraped clean by paddling movements of the legs.

At necropsy the most significant findings were very dry impacted ruminal and colonic contents. There was no inflammation of the mucosa throughout the gastrointestinal tract. The carcases were slightly dehydrated and there was congestion of musculature and internal organs. Histopathology was non-specific with fatty degeneration of hepatocytes and mild congestion of other organs.

The clinical signs, necropsy findings and limited histopathology are in keeping with rape poisoning as described by Selwyn L. Everist and E.J. McBarron. In "Poisonous Plants of Australia" Everist described four types of rape poisoning - respiratory, digestive, nervous and urinary.

The digestive syndrome is reported to be probably the most common type of rape poisoning in cattle and sheep. It has been reported from Canada and Britain. Symptoms occur 2-3 days after onset of feeding and

include loss of appetite, discomfort, stagnation of the gastrointestinal tract and constipation. Deaths may be as high as 30% of the herd.

The nervous syndrome, also known as rape blindness, has been noted in cattle and sheep in Canada and Britain. Affected animals stand alone or wander into solid objects, obviously blind etc.

Bovine tuberculosis

Tuberculosis has been diagnosed in cattle in the Macquarie Marshes, west of Warren in New South Wales. In early January a bull (described as a 'feral cleanskin') slaughtered at Gunnedah abattoir vas found to have chronic granulomatous lesions throughout the lung and mesenteric lymph nodes resembling Tuberculosis. Mycobacteria cultures of these lesions were subsequently negative. Check testing of 161 cattle on the property of origin produced 4 reactors, 2 of which had lesions at slaughter. Mesenteric lymph nodes from one of these animals contained focal small (2-3 mm) granulomatous lesions in which Mycobacteria-like organisms were demonstrated on ZN and AO stains and histopathology sections were consistent with Tuberculosis. Mycobacteria cultures isolated MAIS-complex organisms with further cultures continuing. Further testing of cattle from the same owner produced 15 reactors out of 170 cattle but only 2 showed lesions (restricted to the retropharyngeal lymph nodes) at slaughter. Of these 2, Actinobacillosis was confirmed on culture and histology from one animal, while the lesions in the other were consistent with TB, Mycobacterium bovis has been cultured.

To date over 5000 cattle in the Macquarie Harsh area have been tuberculin tested, often under difficult conditions using helicopters to muster 'feral-type' cattle. Reactors have been confined to the one herd. A further 2000 animals have been voluntarily destocked from the area. Total depopulation of the area will occur in 1989 when the marshes will be taken over by the National Parks and Wildlife Services.

Glenfield Regional Veterinary Laboratory - Tony Ross

Jim Rothwe11 has been appointed to a permanent Veterinary Research Officer position at RVL Glenfield. He commenced duty on 30.3.87.

Experimental Reproduction of Hyperthermia in Beef Cattle

During the summer and autumn of 1986 a hyperthermia syndrome was seen in cattle (dairy and feedlot) on the central slopes, tablelands and coast of N.S.W. Nearly all cases war· associated with feeding of grain (wheat, barley, oats and lupins) harvested in the very wet spring of 1985 in the central west of N.S.W.

Grain samples from several affected properties revealed the presence of ryegrass seeds and 0.2 to l.0% w/w ergots (Claviceps purpurea). A feeding trial confirmed that the ingestion of grain containing ergots (Claviceps purpurea) was the cause of the hyperthermia syndrome.

Wagga Wagga Regional Veterinary Laboratory - John Searson

Suspected Facial Enzema

Of 28 5-year-old Hereford cows with calves at foot, gracing a rye grass dominant pasture, 18% developed depression, anorexia, a staggering gait and ultimately recumbency and death. Photosensitisation was not observed. The case fatality rate was 100% and the principal post mortem finding, was a shrunken, firm 'coppery' coloured liver.

A degenerative hepatopathy characterised by severe bile stasis, segmental ulceration and hyperplasia of biliary epithelium, periductular oedema and fibrosis and focal hepatocyte necrosis was observed histologically.

There had been extremely lush growth of the pasture which was flattened by heavy rain 2 weeks prior to the outbreak. Approximately 3 weeks after the event, no spores of Pithomyces charatum could be detected in numerous samples of the pasture.

Citrullinaema

A 3 day old Friesian calf sired by 'Newline Chris Commodore', showed dyspnoea, muscular spasms and bellowing. Citrullinaemia was confirmed bio-chemically and histological examination revealed astroglial oedema with prominence of Alzheimer Type II cells.

Lupinosis

Lupinosis was definitely the 'flavour' of the month for sheep during February with material being received from 6 outbreaks. The mortality rates varied from 2 to 20% and various ages and breeds of sheep were involved. On 2 properties the sheep had not had any access to stubbles of Lupins for 3 weeks prior to the first cases being detected.

Vaginitis

Suppurative vaginitis 3 to 10 weeks post mating is proving to be an important emerging condition in piggeries throughout the State. We have received material from three piggeries in this Region and in one the disease is suspected of causing a 25%reduction in farrowing rates. Routine culture of vaginal swabs has yielded mixed bacterial flora but from one piggery five of the eleven swabs yielded a Corynebacterium sp. with some characteristics in common with C. suis. The latter organism has been incriminated as a possible cause overseas. At this stage vaginitis requires much more thorough investigation both in the field and at the Laboratory.

Wollongbar Regional Veterinary Laboratory - Paul Gill

Salt Poisoning in Pigs – 15/20 14 week old growers were found dead, the remaining 9 were prostrate and fitting. Pigs submitted to the laboratory had acute lamina cortical necrosis and eosinophilic meningitis. As the owner was alleged to have fed scraps from Ballina shops, the diagnosis allayed fears of a more exotic disease.

Fish Kill associated with Floods - Acid water (pH 3.6) and elevated aluminium levels (2.5 ppm) were associated with a very high mortality in fish, crustaceans and molluscs over a 15 km stretch of the Tweed River above Murwillumbah. The mortalities began soon after flooding of the river due to heavy rain. Investigations are continuing into the source of the acid water.

Hepatic Necrosis in Parrots - Diffuse severe periacinar hepatic necrosis was seen in three young Asiatic parrots that died in a single nest; at necropsy there was haemorrhage into body cavities. The owner reported losses of up to 75% of young Asiatic parrots only. Papova virus has been suggested as a possible cause of this condition (Dr. W. J. Hartley, pers. comm.).

Vaginitis in Mares - Klebsiella pneumoniae was recovered from the genital tract of 17/29 infertile mares showing vaginal discharge. Haemophilus equigenitalis was suspected by the submitting veterinarian. The problem has proved refractory to tetracycline therapy despite the Klebsiella's invitro sensitivity to this antibiotic.

NORTHERN TERBITORY Prepared by L. Melville

BERRIMAH AGRICULTURAL LABORATORY (Lorna Melville)

LIVER TOXICITY IN GOATS: Several goats in a grazing trial utilising signal grass (Brachiaria decumbens) showed chronic weight loss and photosensitisation leading to death.

Gross post postern findings were confined to the liver which appeared enlarged and firm with grey-green discolouration. Bile ducts were prominent.

Histological lesions involved mainly bile ducts. There was chronic cholangiohepatitis with some necrosis of bile duct epithelium. Some ducts contained crystalline material. A mild mononuclear inflammatory reaction, bile duct proliferation and peribiliary fibrosis were also present.

Pasture investigation at the time failed to reveal any fungal contamination.

Several weeks later the group of goats grazing koronivia grass (Brachiaria humidicola) showed significant weight loss over 2 months. In this case lesions were confined to hepatocytes, with cellular and nuclear swelling and single call necrosis. Pasture investigation again failed to reveal any abnormalities.

ATYPICAL INTERSTITIAL PNEUMONIA IN PIGS: A sudden onset syndrome of severe respiratory distress occurred on a 250 sow piggery with approximately 650 weaners aged 4-10 weeks. 10 weak old weaners were initially affected. Over the next few weeks all ages were involved with about 30% of animals affected at any time. 50 animals died over a 6 week period.

Lesions were confined to the lungs where there was moderate to focally severe thickening of alveolar septae due to macrophage and lymphocyte accumulation, vascular congestion and interstitial oedema. There was some Type II pneumocyte hyperplasia, focal emphysema and mild peribronchial lymphoid hyperplasia.

A toxic aetiology was suspected and attack rate analysis appeared to implicate the soyabean component of the ration. Pen feeding trials reproduced the disease experimentally and further implicated the soyabean component of the ration. However extensive chemical analysis has failed to reveal the toxic component. Factors so far eliminated Include insecticides, herbicides, aflatoxins and ergosterol produced by moulds growing on the grain.

ARBOVIRUS SENTINEL PROGRAM: The high activity of bluetongue viruses last year has continued in the 1987 sentinel program. Last year 5 blue tongue serotypes were isolated - Types 1, 3, 9, 15 and 16. This year bluetongue viruses were isolated in the first bleed of sentinel animals in January. This is two months earlier than usual for bluetongue activity.

Warts-Papillomatosis in kangaroos.

A proliferation of warts over the face, fore and hind limbs of a euro (Marcopus rubustus) kept in a tourist park severely restricted its movements. Park rangers decided on humane grounds to put the animal down. It was then submitted to the AZRI.

The animal was a mature (2 year old) female. Typical cauliflower-like growths, between 15-25mm wide and 10mm high were present in an almost confluent mass over the nose and upper lip, the forearms (extending right to the claws) and the hind legs. There were a few scattered warts present on the tail. Some trauma and secondary microbial infection had occurred about warts on the limbs.

Another euro and 2 red kangaroos (M.. rufus) in the same enclosure were also affected to a lesser extent. These two species are considered fairly close genetically. Breeding has occurred between the two species producing viable but sterile offspring. It is therefore likely that the same virus affected these animals.

A crude wart vaccine was prepared from the first animals for use on any of the other euros should their condition warrant it.

ARID ZONE RESEARCH INSTITUTE (Denise McEwan).

Atypical mycobacterial lesions in a mala wallaby (Lagorchestes hirsutus)

One of a colony of forty captive malas developed a large ulcerated abcess over the shoulder area.

Smears taken from the lesion revealed numerous long AFB's. On culture multiple isolations of a MAIS organism were made (identification by IMVS Adelaide).

The animal was euthanased and autopsied. The lesion was found to be locally extensive involving both muscle and bone of the shoulder region. Other lesions were found in the liver in the form of multiple microscopic granulomas.

Four months prior to the lesions being noted, the animal had sustained a wire cut to the area. It is probable that the infection was incurred at that time.

DIARY OF COMING EVENTS

18th-22nd May, 1987 - Post-Graduate Refresher Course in Gross Pathology, (University of Sydney)

23rd May, 1987 - Annual Conference. A.S.V.P., (University of Sydney)

16th-21st August, 1987 - World Veterinary Congress, Montreal. Canada

24th-28th August, 1987 - ANZAAS Congress, Townsville, "Science and Life in the Tropics". Contact the Hon. Organizing Secretary, ANZAAS Conference, James Cook University, Townsville. QLD. 4811.

1st September, 1987 - Close of applications to sit membership examinations, Australian College of Veterinary Scientists.

VET. PATH. REPORT PUBLICATION DATES

JULY, OCTOBER, JANUARY. APRIL.