THE VETERINARY PATHOLOGY REPORT

Australian Society for Veterinary Pathology
S.A. Department of Agriculture
Central Veterinary Laboratories,
G.P.O. Box 1671, Adelaide, S.A. 5001
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DEADLINE FOR APRIL VETERINARY PATHOLOGY REPORT : 11 MARCH
DEADLINE FOR ABSTRACTS OF CONFERENCE PAPERS : 25 MARCH

CONFERENCE UPDATE

VENUE: Ian Clunies Ross Lecture Theatre, Veterinary School, University of Sydney.

DATES: 14-15 May, 1988

THEME: PATHOLOGY OF LYMPHORETICULAR TISSUES

TENTATIVE PROGRAMME:-

Day l: Anatomy of mammalian lymphoreticular tissues
Anatomy of avian lymphoreticular tissues
Ontogeny of mammalian lymphoreticular tissues
Ontogeny of avian lymphoreticular tissues
Structural and functional relationships in the lymphoreticular tissues
Pathology of lymphoreticular tissues – ruminants - birds
Annual General Meeting
Annual Dinner

Day 2: Case presentations involving lymphoreticular tissues of all species
Other case presentations - time permitting
There will be time only for about 16 presentations maximum.
Cases of LRT pathology will be given first preference in order of receipt.

CALL FOR PAPERS (FIRST and LAST CALL!)

Papers are invited from members, particularly involving lymphoreticular tissues pathology of all species. Presentations will be limited to 15 minutes. Abstracts should be prepared as follows:

* up to one A4 page
* typed single space on A4 paper using 12 point Letter Gothic,
* Prestige or similar type with carbon ribbon. Main heading in same type, uppercase, underlined and centred with author's name and address in lower case centred below.
* any references to be given in full
* scientific names in same type and underlined
* margins 3cm LHS, 1½ cm other sides
* to be in final form for reproduction by photocopying
* deadline (to Secretary, ASVP) - 25 March 1988.

ACCOMMODATION:

Reservations have been made for the nights of the 13th and 14th May at the following:

St. Andrew's College, Carillon Ave., Newtown.	(02) 51 1449
Wesley College, University of Sydney, Western Ave.	(02) 51 5266
Women's College, Carillon Ave., Newtown.	(02} 51 1195

Please make bookings direct, stating that you are an ASVP delegate. Accommodation in Sydney is scarce due to bicentenary activities during 1988.

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Some members may have missed receiving pages 4 and 15 of the October issue of the Report which contained Cor Lenghaus's article on feather loss in peach faced love birds and Frasar Trueman's articles on gossypol toxicity and ergot poisoning. We apologise to the authors and to those who missed out, but if you require a replacement copy please contact the Secretary (Phone Adelaide (08) 228 7322 and one will be supplied.

"Registry of Immunopathological and Cytochemical Techniques

Mark Gorrell has advised the Registry of his Melbourne University, Veterinary Science laboratory's immunohistochemical methods for localising leucocyte populations. They mainly involve alcohol-fixed frozen sections, but there are less satisfactory methods for paraffin sections. Mark also has a method for fluorescent labelling live leucocyte suspensions.

Regional Veterinary Laboratory, Wollongbar, has more information about these and other immunopathological and cytochemical techniques presently used in veterinary laboratories in Australia. If you are using this technology please send to the RVL Wollongbar, N.S.W. 2480, and a note briefly outlining your techniques and what they are used for. The Registry is a means by which this expertise can be shared within our small and scattered profession."

TREASURER'S REPORT

At the 1987 AGM the question of unfinancial members was raised. Before removing these chronic unfinancial members from the Membership list, we would like to give then one more chance in case they have either not received our notices of financial status sent in our mailings, or have other reasons for being unfinancial which we are not aware of. We have no record of the following members having paid subscriptions from and including 1985/86. If you are in professional or personal contact with any of these people, could you either bring it to their attention or notify one of the committee members as to whether the person concerned still wants to belong to the ASVP. If the committee doesn't hear anything from or about these members they will be removed from the membership list as of the 1988 AGM. The members concerned and our current mailing addresses for them are as follows:

R.J. Higgins, Dept. of Vet. Path., Uni. Of California, Davis, CA 95616 USA.
D. Hopkins, 68 Canning Hwv, South Perth, WA 6151.
P. Kemsley, Berrimah Ag. Lab., PO Box 4160, Darwin NT 5794
E. Laing, School of Agric., R.C.A.E. PO Box 588, Wagga Wagga 2650.
A. Lax, 308 Drummond St South, Ballarat Vic. 3350.
J.Y.S. Lee, Zoo Negara, Hulu Kelang, 68000 Ampang, Selangor, Malaysia.
N.J. Macclachlan, North Carolina State Uni, School of Vet. Med., Raleigh, NC 27606 USA.
P.F. Moore, Dept. of Vet. Path., Uni. Of California, Davis, CA 95616 USA.
D.A. Purcell, Dept. of Agriculture, Animal Health Lab, Jarrah Rd, South Perth WA 6151.

It has also come to my attention, because of bank charges incurred by overseas members paying their subscriptions, it would be cheaper and more convenient for overseas members to pay for several years subscriptions in one cheque, if they wish to.

Tammy Utteridge,
Hon. Treasurer

K.G. (CURLY) JOHNSTON

A large number of Ken's friends and colleagues gathered at Camden on the 8th of December to say farewell to Ken (Curly) Johnston, Senior Veterinary Clinical Pathologist, University of Sydney Rural Veterinary Centre, Camden.

Ken graduated B.V.Sc. from the University of Sydney in 1952 and immediately joined the Department of Veterinary Pathology, University of Sydney. His studies continued in London where, in 1956, he was awarded the Academic Diploma in Bacteriology. He moved to Camden in 1959 to the new Rural Veterinary Centre where he established and maintained teaching and diagnostic clinical pathology services.

Many a student bas passed through the RVC since then and will recall Ken's measured, thorough teaching program, his partnership with the quicksilver David Hutchins and his thoughtful concern for student welfare.

Visiting lectureships at Ontario Veterinary College, Guelph; National Institute for Research in Dairying, Reading and School of Veterinary Medicine, Davis added to his skills and widened his circle of international contacts.

Many bodies including the Sydney Faculty of Veterinary Science, Australian College of Veterinary Scientists and our own Australian Society for Veterinary Pathology have benefited from Ken's wise counsel. His expertise in microbiology, particularly in the field of mastitis is recognised internationally.

A serious illness has restricted Ken in recent months, but his sensible calm approach to his predicament is a shining example to others.

'Integrity' is a quality consistently associated with K.G. Johnston. Typically, Ken has requested that money donated towards a retirement gift be used to fund a final year undergraduate prize in clinical pathology at the University of Sydney. If you would like to recognise the contribution of K.G. Johnston to veterinary pathology by making a donation to the fund, complete and return the attached form.

ADR

DONATION TO K.G. JOHNSTON CLINICAL PATHOLOGY PRIZE

Name----------

Address ----------

---------- Post code ----------

Enclosed is my cheque for $ ----------

Mail to: Professor J.R. Egerton,
Department of Veterinary Clinical Studies,
University of Sydney Farms,
Private Mail Bag 3,
Camden. NSW 2570

NEWS OF MEMBERS

Unknown Address

Does anyone know the whereabouts of the following members?

Dr. C.J. Bishop (formerly of MS 1063, Bunya Rd. Samford Old. 4520).
Dr. B.C. Duff (formerly of 33 Tintern Ave., Telopea. NSW. 2117)

Please inform the Secretary (Dr. Vui Ling Tham, CVL, GPO Box 1671 Adelaide, SA. 5001) if you know of their contact addresses.

News from NSW - RVL Wagga Wagga

During the past quarter we were relatively short of veterinary staff, with both John Searson and Jeff Marshal visiting North America. John presented a paper describing the adaptation of the ELISA test for use in the Bovine Brucellosis Eradication Campaign in NSW to the XXIII World Veterinary Congress in Montreal. In addition he attended a meeting of the World Association for the Advancement of Veterinary Parasitology, also in Montreal, and visited a range of diagnostic and research institutions in Canada and the USA. Naturally, he has returned charged with enthusiasm and a host of new ideas. In contrast, Jeff holidayed for six weeks in Nebraska.

At the end of the year we will have said farewell to Richard Whittington who was transferred to CVL, Glenfield. He will be undertaking a Ph.D. project on various aspects of ovine footrot. Richard adapted extremely well to laboratory life and his stay at Wagga Wagga was marked by a prodigious output of scientific publications.

News from Tasmania

David Obendorf rejoined the Mt. Pleasant Laboratory last July.

STATE REPORTS

SOUTH AUSTRALIA - Peter Phillips

POXVIRUS IN A WHITE-BACKED MAGPIE (Peter Phillips)

Solid proliferative, cream-coloured lesions from the tongue, mouth, eyelid and ear of a juvenile white-backed magpie (Gymnorhina tibicen hypoleuka) were submitted in formalin late in October. The bird had been found and cared for, for 3 weeks and the lesions had grown progressively worse over that period despite treatment with Amoxil.

Histopathology revealed a marked epithelial proliferation with large eosinophilic intra-cytoplasmic inclusions (Bollinger bodies) and vacuolation of epithelial cells. This histopathology is characteristic of avian poxvirus infection.

Poxvirus infection in magpies has been recorded in the literature* but little is known about its epidemiology except that it seems to be a condition of young birds and is probably spread, like other avian poxviruses by mosquitoes. Spring therefore, with its proliferation of magpies and mosquitoes, is when 'epidemics' are likely to occur.

*HARRIGAN, K.E. et al. 1975. Poxvirus infection in the white-backed magpie, (Gymnorhina hypoleuka and pox-like conditions in other birds In Australia. J. Wildlife Dis., 11: 343-347.
CHUNG, Y.S. et al. 1977. Studies on poxvirus isolated from a magpie in Queensland. Aust. vet. J. 53 : 334-336.

PERITONITIS IN A DOG ASSOCIATED WITH PROPIONIBACTERIUM THEONII (Vui Ling Tham)

Portions of liver, mesentery and peritoneum from a mature male Border Collie from a farm from the Murray Bridge area were submitted for histopathology and bacteriology. This dog had severe extensive peritonitis, sulphur granules in the lesions and excess brown peritoneal fluid.

Histologically, there were marked proliferative and pyogranulomatous inflammatory changes in the peritoneum and mesentery associated with tangled masses of gram positive filamentous bacteria subsequently isolated and identified as Propionibacterium theonii .

P. theonii has been isolated from dairy products. There is, to the best of my knowledge, no information to date on its pathogenicity or association with animal diseases. We propose to undertake transmission experiments on this bacterium. Histologically, the changes associated with it can easily be confused with those due to Nocardia spp.

WESTERN AUSTRALIA - David Pass

ALBANY REGIONAL LABORATORY - Ruth Reuter

BOVINE STEATOSIS

A clinically normal two year old Murray Grey steer was killed at a local abattoir for home consumption. No abnormalities were detected until the meat was being cut up into portions. The entire carcase had areas of very pale muscle and was held by the public health inspector so the cause could be determined. Sections of silverside and brisket were submitted for examination. There was extensive infiltration of all samples with fat to the degree that sections placed in formalin quickly floated to the surface. Histological examination revealed masses of normal adipose tissue surrounding small groups of atrophic muscle fibres. Two months after this case was submitted an identical case came from another abattoir. This one involved a seven month old Angus steer from a different area. There was no relation to the first case and no factor which could be pinpointed as being responsible for the condition in either case.

Steatosis (fatty muscular dystrophy) has been reported from many overseas countries where it occurs sporadically. The cause has not been determined, although suggestions of a predisposing congenital abnormality of the vascular system have been seriously considered. A nice description of the condition can be found in the U.S.D.A. Atlas of Meat Inspection Pathology (1972) by W.S. Monlux and A.W. Monlux, p. 139-140.

OXALATE NEPHROSIS IN SHEEP

Formalized tissues were submitted from a mob of 400 composed of hoggets and wethers approximately 18 months of age. Several of the animals had become lethargic over the past two weeks and post mortems had been conducted on two animals which had died. The most striking gross finding was enlargement and discoloration of the kidneys of both animals. On histology there was severe nephrosis with very large numbers of oxalate crystals present in the tubular lumens. On a second property from a different area of the state 30 animals were lost from a mob of several thousand, with a similar history. Histological findings in tissues submitted were identical. Near drought conditions are being experienced already in this region. Although sheep ordinarily are relatively tolerant to high levels of oxalate, it was suspected that ingestion of plants containing this chemical in conjunction with restricted water supplies could have precipitated a problem.

JAUNDICE IN A TURKEY

One thousand, four month old large white turkeys were imported from the eastern states to control grasshoppers in a eucalypt plantation. The birds were released on range around the same time that granular fertilizer was distributed around the young eucalypt seedlings. Three weeks later some of the turkeys were seen picking at the fertilizer granules and three birds were found dead the next morning. On post mortem of one bird there was yellow staining of the walls of blood vessels, joints and body fascia. The liver was grossly enlarged with round depressed areas of necrosis. There were ulcers in the caecae. Histological examination showed the granulomatous reaction characteristic of Blackhead with Histomonas organisms present in liver and caecae; however, there were also very extensive bile duct hyperplasia and collections of haemosiderin in sinusoidal macrophages. The cause of these changes could not be definitely determined. The levels of copper, zinc, iron and manganese in liver and kidney were considered normal.

SUSPECT CLOSTRIDIUM NOVYI INFECTION IN A PIG

A two year old imported Irish sow was apparently normal and ate well in the evening. Early the next morning she was found dead. Although the night before had been cool, the carcase was in an advanced state of decomposition, with gas bubbles through all tissues and a strong "rancid butter" odour. Port wine coloured fluid was present in all body cavities and dark blood was oozing from the body orifices. Impression smears and histopathology revealed many large clostridial-like rods with subterminal spores in all tissues. There was no growth on culture. The post mortem picture in conjunction with the microscopic findings suggested a diagnosis of clostridial infection. A previous case similar to this which occurred in a piggery in Western Canada was attributed to Clostridium novyi (oedematiens) on the basis of fluorescent antibody studies.

OTHER CONDITIONS SEEN RECENTLY IN THE LABORATORY INCLUDE:

* Lymphomatosis in a nine week old Burmese kitten.
* Copper toxicity in a ram.
* Parvovirus infection in a dog.
* Vegetative endocarditis due to Coryne Pyogenes in a bull.

SCHOOL OF VETERINARY STUDIES, MURDOCH UNIVERSITY

Multiple Neoplasia in an Ageing Broodmare (Jan Thomas)

A fifteen year old thoroughbred broodmare had a 2 year history of intermittent coughing, weight lots and mucus discharge from both nostrils. An S-shaped density was present caudal to the heart on radiographs but all other diagnostic tests were unrevealing. Necropsy examination revealed several changes. In the right thyroid gland there was a pale, well-circumscribed nodule 0.5cm x 1cm which corresponded histologically with a thyroid adenoma. In the cranial pole of the right kidney, there was a well circumscribed, fleshy, proliferative, pale lesion which histologically was a renal adenocarcinoma with well differentiated cords of epithelial cells proliferating in a papillary formation. In the left caudal lung lobe, there was a large, firm, pale, diffuse lesion which extended along the bronchus in that area forming the "S" shape seen radiographically. Histologically, this lesion consisted of sheets of uniform rounded cells with a pink granular cytoplasm which was positive with PAS staining and was, therefore, called a granular cell tumour.

Sporotrichosis in a Cat (Clive Huxtable)

A three month old DSH cat had a three month history of spreading, non-healing ulcerative skin lesions. Towards the end of the time, there was sneezing and epistaxis. Smears of nasal discharge revealed large numbers of organisms within macrophages as did a tissue biopsy, and Sporotrichum Schenckii was cultured from the lesions. The cat was destroyed. Both the owner and the attending veterinary practitioner developed discharging skin lesions and lymphadenopathy and required systemic iodide therapy. The cat poses a particular risk for zoonotic infection due to the massive numbers of organisms produced by discharging lesions. Infections have been reported to establish in unbroken human skin.

Animal Health Laboratories, Perth.

Probable Encephalomyocarditis virus infection in pigs. (R. Peet)

Unexplained sudden deaths occurred in 2 litters of pigs 4 to 7 days old. They were in good condition and 3 of the second litter to die were presented for post mortem examination. Milk curds were present in the stomachs, and apart from excessive fluid in the thoracic and peritoneal cavities, there were no other gross lesions apart from possibly pale hearts.

Histopathology revealed focal areas of myocarditis in all 3 piglets characterised by primarily plasma/1ymphoid cell infiltrates, loss of myocytes and some PMN aggregation. There were no other lesions in other organs, including brains. Bacteriology of livers and heart blood was negative. A tentative diagnosis of EMC virus infection was made and a virus as yet unidentified cultured from the one brain submitted for virology. The piggery had a recent history of a rat plague with the owner shooting some 30 to 40 per day. Current leptospirosis and erysipelas vaccination programmes were considered satisfactory.

If this proves to be EMC virus infection, it will be the first time it has been diagnosed in Western Australia.

Probable β-mannosidase Deficiency in Anglo Nubian Goats (R. Peet)

Two Anglo-Nubian kids (newborn) were submitted to AHL for post mortem examination. One was alive and had clinical symptoms characterised by a severe continual tremor which prevented it from standing. It could swallow if force-fed. Because the owner had assisted at delivery, the attending veterinarian had diagnosed 'cerebral palsy'. Necropsy revealed nothing significant grossly, but histopathology of the brains of both kids showed severe vacuolation of many neurones and the presence of occasional spheroids and "corpora amylacea". Probable β-mannosidase deficiency was diagnosed and the remaining flock members will be tested biochemically. To our knowledge, this will be the first time the condition has been seen in W.A.

NORTHERN TERRITORY - Lorna Melville

BERRIMAH AGRICULTURAL LABORATORY

Systemic mycosis in a German Shepherd (L. Melville)

A three year female German Shepherd with a 3 month history of lameness, failure to thrive, anaemia and persistent elevated body temperature was admitted for surgery when an intra abdominal mass was detected. At surgery disseminated lesions were found in the spleen, kidney and liver and the animal was killed. Further lesions were found in heart muscle on autopsy. Histologically multiple granulomatous lesions were present in the tissues examined and a lymph node swab collected at surgery yielded a pure growth of fungus identified as Torula caligans.

This fungal identification contrasts with the well known entity of A.terreus infection in German Shepherd dogs and a case of Fusarium sp. mycosis reported from Murdoch University.

Vitamin A Deficiency in Layers (L. Melville)

Vitamin A deficiency was diagnosed on a layer farm with 1000 birds. About 450 birds were affected with 160 deaths.

The initial findings on post mortem examination were enlarged kidneys and ureters packed with urate crystals. A diagnosis of infectious bronchitis was made. Mortalities, however, continued to rise over the next two weeks and further examination of the birds showed the more typical lesions of conjunctivitis and pustules in the oesophagus. Histological examination showed squamous metaplasia of the mucous secreting cells of the oesophagus. The most prominent lesions found, however, were in the bursa, with marked squamous metaplasia of the bursal epithelium.

The owner, when questioned about his feed supply, said the current feed had been in use for 3 months because the feed company had supplied double his normal order by mistake. The feed had a rancid odour. The birds responded rapidly to a change in diet.

This case was interesting in that the initial lesions seen were in the kidney and ureter. Only as the disease progressed did oesophageal and eye lesions appear. Subsequent serology showed the birds were negative for TB.

Bluetongue studies 1987 (Geoff Gard)

Each vet season since 1981 a herd of sentinel steers has been pastured near Darwin for the monitoring of arboviruses and each year until last, 2 to 5 types of bluetongue virus were recovered. Lest year bluetongue (BLU) Type 3 was isolated for the first time from 3 animals. This year BLU3 was the only BLU type recovered and from every steer.

Overseas experiments suggest that successive infection of animals with 2 types of bluetongue virus will protect against a third type and this year, with all animals infected with a single type, the opportunity was taken to investigate this hypothesis. The 18 surviving steers were experimentally infected with BLU1 in July and BLU23 in October. After these challenges BLU1 was recovered from 16 steers end BLU23 from 13.

Two 1986 BLU isolates appeared more virulent for embryonated eggs than other Australian strains and these were inoculated and passaged in sheep to gauge their pathogenic potential in sheep. Both viruses consistently produced mild/moderate clinical disease which did not increase with passage.

NEW SOUTH WALES - Jim Rothwell

REGIONAL VETERINARY LABORATORY, ORANGE

BLAST CELL LYHPHOMA IN A PRETTY FACED WALLABY

A pretty faced wallaby from the Western Plains Zoo, Dubbo, was found depressed with pale mucous membranes, cold extremities, and excess salivation. The animal died 3 hours later despite treatment with antibiotics, valium, atropine and corticosteroids.

Necropsy findings including petechial and ecchymotic haemorrhages in subcutaneous tissues, thigh muscles (at the site of intramuscular injections), the epicardium, subcapsularly in kidneys and in the mucosa of the gastrointestinal tract. The spleen was much enlarged with prominent lymphoid nodules and all internal organs were pale.

Histologically there was a generalised infiltration of many organs with primitive lymphoid cells. There was a heavy infiltration of the spleen with neoplastic cells causing disruption of the architecture. The lymph node examined had a large focal area which was infiltrated by dense sheets of neoplastic cells. A low grade diffuse infiltration with the lymphoid cells was also present in the liver, kidneys and lungs. The histopathology was consistent with a blast cell lymphoma possibly originating in the lymph node with spread to blood vessels with lymphoid leukaemia.

STAGGERS IN SHEEP ASSOCIATED WITH MARSHMALLOW

A staggers condition in sheep associated with the ingestion of Marshmallow (Malva parviflora) has been recognised for many years from the western division of New South Wales. Outbreaks have mainly occurred in the Coonamble district and more recently have been reported from Wilcannia following a good spring with abundant growth of Marshmallow, frequently being the predominant green forage available.

Sheep affected are usually young, frequently lambs still on ewes, with 24 months being the oldest cases reported. Clinically sheep develop lameness and lag behind if forced to exercise, with worst affected cases becoming recumbent, but if left alone usually recover and become locomotory again within an hour. Morbidity is high with between 20% and 50% of flocks affected but deaths are rare. In one case from Wilcannia, 500 2-tooth ewes out of a mob of 1400 became lame and were unable to travel when mustered for classing.

Laboratory examinations have confirmed a muscle problem. Histologically there is varying degrees of acute muscle damage in a range of muscles, particularly from the large muscle groups of the hind legs. Changes include oedema with focal swelling of myofibres, loss of cross striations and occasionally acute myonecrosis. Enzymology has demonstrated markedly elevated CPK and SGOT serum concentrations, sometimes preceding clinical signs. Vitamin E and selenium levels from clinically affected animals have all been normal, as have calcium and phosphorus analysis. No histological lesions have been observed in the central nervous system and the condition is considered to be solely a muscle problem follow grazing of the Marshmallow plant.

Ixiolaena brevicompta poisoning in sheep

Also reported from the western division have been cases of Ixiolaena brevicompta ("Plains Plover Daisy/Flat Billy Button") poisoning in sheep involving a White Muscle Disease-like syndrome, one report from Tilpa involved sheep grazing on the black soil floodplain of the Darling River. There was a moderately dense spring growth of Ixiolaena following rain in late June/early August and evidence the plant had been grazed with sheep preferentially selecting the dry seed heads. Sheep had only been exposed to the Ixiolaena for 2 weeks and only lambs 3-4 months of age were affected, their dams remained normal. At the time of investigation (mid November) 30 were clinically affected and 30 dead out of 2200 at risk.

Clinically lambs showed a stilted/proppy gait and tended to lag behind the mob. They had a hunched appearance and as signs progressed would collapse into recumbency but remained alert. Terminally they showed respiratory distress before death.

Pathologically there was pallor of selected skeletal muscle groups with the semimembranous muscles in the hindquarters consistently being symetrically and uniformly pale. Histologically the muscles show a degenerative myopathy similar to that of White Muscle Disease, although selenium and Vitamin E levels are usually normal. Work by Keith Walker, RVL Glenfield, has shown the condition to be due to an unsaturated fatty acid, crepenynic acid, concentrated in the seed heed.

REGIONAL VETERINARY LABORATORY - ARMIDALE

POISONING CAUSED BY DARLING PEA (SWAINSONA GALEGIFOLIA) (Barbara Vanselow)

Swainsona poisoning was diagnosed on 3 separate properties in 2 flocks of sheep and 1 flock of goats. In the goat flock, feral goats in the area were also seen to be affected.

Clinical signs were variable but included progressive ataxia beginning in the hind limbs, dog-sitting, intermittent tremor of the head and shoulders, loss of condition and ascites. Star gazing was not pronounced.

Histopathology of the brain was consistent with Swainsona poisonings with vacuolation of neurones especially in the brain stem and Purkinje cells of the cerebellum and axonal swelling.

The plant contains an indolizidine alkaloid swainsonine, which is a potent inhibitor of lysosomal mannosidase and therefore causes a neurovisceral lysosomal storage disease analagous to genetically transmitted mannosidosis. This inhibition of lysosomal mannosidase results in the accumulation of mannose-rich oligosaccharides in lysosomes. These vacuoles occur in many tissues and increase with increasing exposure to the alkaloid. The vacuoles will regress if the exposure to the alkaloid is removed. Axonal swelling and degeneration occur but unlike the vacuole formation this degeneration is not reversible.

The clinical signs of Swainsona poisoning are mainly related to the brain lesions. Blindness is a feature but was not mentioned in the clinical symptoms for the cases described here. The onset of clinical signs may require several months of heavy Swainsona ingestion.

AVIAN ENCEPHALOMYELITIS (Steven Hum).

A Narrabri show bird breeder lost 80% of his 2-3 weeks old chickens. The birds showed ataxia which gradually progressed to paralysis. They either had been killed or died following several days of prostration.

There were no abnormalities detected at post mortem examination but histology revealed a severe diffuse granulomatous encephalomyelitis characterised by areas of perivascular mononuclear cuffs and prominent glial nodules in the cerebrum, cerebellum and spinal cord. Sections of the heart and skeletal muscle showed oedema and areas of lymphocytic infiltration. There were dense lymphoid aggregates in the muscle of the proventriculus and gizzard which is regarded as diagnostic for Avian Encephalomyelitis.

FISH DEATHS ASSOCIATED WITH PROTOZOAL INFECTION OF GILLS (Barbara Vanselow)

Approximately 300, 18 months old silver perch and yellow belly died in a large farm dam on the northern tablelands of NSW. They began dying in early July after the first heavy frost. Deaths continued throughout winter and into September. No further deaths occurred as the weather became warmer although by then the dam may have been completely depopulated of the two species. Cod and catfish in the dam were unaffected.

Clinically the sick fish ware seen near the edge of the dam, sometimes swimming slowly or lying on their sides gasping. There was a green slimy discolouration and thickening of the gills.

On histopathology of the gills there was extensive epithelial hyperplasia causing fusion of secondary lamellae in some areas. This was often associated with an inflammatory reaction. In some areas there was haemorrhage within the gill filaments. Many protozoa were visible in the spaces between gill filaments and occasionally in the inter-lamellar space between secondary lamellae. Under oil immersion these protozoa resembled Chilodonella hexasticha.

It is not certain whether the protozoa were the sole cause of the deaths or whether stress, such as cold stress, rendered the fish susceptible to this infection.

BRONCHOPNEUMONIA IN A RUFOUS RAT KANGAROO (AEPYPRYMNUS RUFESCENS) ASSOCIATED WITH CAPILLARIA SP (Stephen Love)

Death preceded by dyspnoea in a rufous rat kangaroo in a captive colony at Armidale was found to be associated with a parasitic bronchopneumonia. Histologic examination of the lungs revealed the presence of adult nematodes and Capillaria-like eggs within bronchioles. Areas of oedema, a degree of emphysema, and bronchiolitis with an inflammatory infiltrate dominated by mononuclear cells were the main features.

Further investigation revealed the presence of some eggs in the faeces of rufous rat kangaroos, long nosed potaroos (Potorous tridactylus), and brush-tailed bettongs (Bettongia penicillata) in the same colony. Preliminary work (by D. Spratt, CSIRO Wildlife and Rangelands Research) has indicated that while the eggs of this nematode are morphologically similar to those of C. hepatica, the morphology of the adults of the two species is quite different.

This apparently is the second known occurrence of this parasite, the first being in a similar colony at Cowan, NSW and investigated by G. Reddacliff, Taronga Park Zoo. Treatment with fenbendazole in both cases appeared to be successful.

(NOTE: Not to be cited without direct contact with the author. Paper being prepared for publication).

CENTRAL VETERINARY LABORATORY - GLENFIELD

UPDATE ON BOVINE HEREDITARY NEUROLOGICAL DISEASE RESEARCH (P.A.W. Harper, P.J, Healy, J. Dennis)

Inherited Congenital Myoclonus (ICM)

ICM, formerly known clinically as Hereditary Neuraxial Oedema, is a widespread autosomal recessive defect of Poll Hereford and their crossbred calves. Breeding studies at Glenfield aimed at identifying heterozygous sires and producing cases for pathological and biochemical study, have resulted in 45 of 197 calves affected with the disease between 1982 and 1987.

Recent studies using strychnine binding to synaptosomes, have identified a deficiency in glycine receptor motor inhibition at the level of the recurrent motor axon collaterals in the spinal cord of ICM affected calves. To continue this work, we need as many affected calves as possible delivered alive to this laboratory. Calves are readily recognised; unable to rise from birth, bright and alert if fed, spontaneous and stimulus-responsive myoclonic jerks, a 'sawhorse' muscular rigidity or tetany when picked up, and fractures in the coxae. No morphological changes can be detected in the CNS.

Specimens for diagnosis: Live calf.

Maple Syrup Urine Disease (MSUD)

MSUD is due to branched chain ketoacid decarboxylase deficency and has been recognised in Poll Hereford, Hereford and their crossbred calves. It is a widespread autosomal recessive defect, and breeding studies have produced 8 of 29 affected calves. Calves are usually normal for the first few days, developing progressive higher central nervous system (CNS) impairment resulting in recumbency, depression, stupor, muscular spasms, opisthotonos, extensor rigidity, nystagmus, hypethermia, coma and death within a week of life. The urine in later stages smells like burned sugar.

Widespread spongy change of white matter in the CNS due to myelin oedema is noted histologically, and accounts for the pathological appearance of neuraxial oedema. The urine forms a yellow precipitate on addition of 4 volumes of 2,4 dinitrophenylhydrazine.

Specimens: Live calf preferred. Urine, plasma, CSF, aqueous humour, fixed brain.

Citrullinaemia

Citrullinaemia is due to arginosuccinate synthetase deficiency, and is extremely common in Holstein-Friesian calves, due to widespread use of semen from the bull Linmack Kriss King (LMKK) and his descendents Newline Kriss Commodore (NLKC), Glen joy Starlite Jupiter (GUPI), and Pitcairn Lin Fergy (FERGY). Breeding experiments have confirmed 18 cases from 89 calves; 13 of 52 from NLKC, and 5 of 15 from LMKK. The original reports suggested that Heybridge Free Enterprise (HENT) had produced a case, however, in breeding experiments, no cases of 19 calves born to HENT were produced.

Calves are usually normal for the first few days and develop progressive higher CNS dysfunction with depression, head-pressing, blindness, jaw-champing, frothing at the mouth, bellowing, aimless wandering, stupor recumbency, convulsions, nystagmus, hyperthermia, extensor rigidity coma and death within the first week of life. The onset of clinical signs are correlated with progressive hyperammonaemia, due to failure of the urea cycle. Brain lesions of cerebrocrotical oedema may be subtle.

Specimens: Aqueous humour, plasma, CSF, urine, fixed brain.

Degenerative axonopathy

Lesions of axonal degeneration and loss with myelin phagocytosis and depletion, resembling Wallerian-type degeneration, have been noted in the spinal cord and brainstem, and to a lesser extent in the peripheral nerve and midbrain of 17 neonatal Holstein- Friesian calves. The calves were mostly unable to stand from birth, and were considered weak, frequently collapsing when assisted to stand, or developing limb extension and opisthotonos.

The aetiology of this disorder is undetermined; however, the available pedigree information suggests all are descendents of LMKK. A breeding experiment is in progress.

Specimens: Live calf preferred. Fluids as for citrullinaemia, plus fixed brain, spinal cord, peripheral nerve and muscle.

Alpha Mannosidosis

Breeding experiments have confirmed that all mannosidosis cases are affected at birth; the majority being so severely affected that they are unlikely to survive beyond the neonatal period. All Galloway calves were either stillborn or died within 24 hours of birth.

REGIONAL VETERINARY LABORATORY, WAGGA WAGGA

Internal Parasitism in Sheep.

Since the introduction of the "Drenchplan" strategic drenching programme in Southern New South Wales, we have demonstrated resistance by sheep nematodes to anthelmintics on an increasing number of farms. Properties where drenches are highly efficient have shown an economic and parasitological advantage by adopting the programme.

Anthelmintic resistant parasites have a property prevalence of about 50% in Southern N.S.W., resistance to BZ's being more common. Multiple resistance to both BZ's & Levamisole has been found on 25% of farms. Double summer strategic drenching programmes should be adopted only if a highly efficient drench is used.

Yersiniosis.

On the basis of the detection of segmental necrotic enteritis associated with prominent bacterial colonies or the isolation of Yersinia sp. this bacterium was associated with outbreaks of diarrhoea in sheep on 11 farms. Y. enterocolitica and Y. pseudotuberculosis were recovered from 5 and 3 outbreaks respectively. In the majority of instances the affected animals have been shown to be carrying moderate burdens of Ostertagia and Trichostrongylus sp.. This disease provides fertile ground for future research,

Porcine pneumonia.

Pathologically interesting manifestations of pneumonia were observed in material from 4 farms. On the first farm weaner pigs died suddenly and were found to have severe generalised interstitial pneumonia histologically. Microbiological examinations were negative and a toxicosis was suspected. Combined infections with Pasteurella multocida and Haemophilus parasuis were responsible for acute fibrinous pleuropneumonia in grower pigs on another farm. On the third, P. multocida alone was recovered from lungs with acute suppurative bronchopneumonia superimposed upon the chronic lesion of bronchiolitis obliterans. In an isolated mortality from the fourth property, pulmonary infarction associated with lesions, consistent histologically with those of disseminated intravascular coagulopathy, was found.

"Strawberry" Footrot.

Pigs of various ages started experiencing severe foot problems after being introduced to an old piggery which had very rough concrete floors. Gram stained impression smears prepared from the feet were found to contain large numbers of organisms morphologically consistent with Dermatophilus congolensis together with numerous diptheroids.

REGIONAL VETERINARY LABORATORY - WOLLONGBAR

Theileriosis in a Cow (John Boulton)

The 4-year-old AIS cow presented with weight loss, jaundice, anaemia, haemoglobinuria and a temperature of 39.8°C. Babesiosis was suspected. The PCV was 0.06 L/L and about 80% of red cells were parasitised by Theileria sp. (presumed T, buffeli). There were up to 4 organisms per parasited erythrocyte, and affected cells often had small dense bacillary forms and large vacuolated pyriforms together. The cow died 3 weeks later of chronic active necrotising pneumonia probably due to aspiration; lesions attributable to theileriosis were not found at necropsy.

The cow had recently been introduced to north-eastern N.S.W, from 400km away. Theileria are commonly found in the blood of north-eastern N.S.W. cattle but such high parasitaemia and clinical disease are unusual. Perhaps the pneumonia had been immuno-suppressive, facilitating proliferation of the piroplasm.

Plesiomonas sp. infections (John Boulton)

Plesiomonas shigelloides is occasionally recovered from the faeces of people with diarrhoea, particularly in tropical and subtropical areas. The organism also occurs in the gut of freshwater fish and other animals. It was recently isolated from the gut of a pelican which was found moribund at Ballina, N.S.W., and also from the blood and liver of a debilitated, unsuckled 3-day-old Hereford. It probably was an opportunistic pathogen in both cases.

Congenital hepatopathy (John Boulton)

One out of four stillborn calves from a herd of 43 was submitted to the laboratory. It had a cholestatic degenerative hepatopathy characterised by severe biliary hyperplasia, abundant pigment-containing macrophages in periportal areas, moderate karyomegaly, karyorrhexis and individual cell necrosis. Have any other laboratories seen a similar picture? Transplacental hepatotoxicity is one possibility.

VICTORIA - Sue Friend

VETERINARY RESEARCH INSTITUTE - PARKVILLE

Lafora's Disease in a Dog (John Finnie)

A 10 year old Corgi bitch was presented with intention tremors, generalized muscle fasciculations and severe contractions of muscles of the head and neck.

Microscopically, numerous inclusion bodies were observed in neuronal perikarya and processes throughout the brain and spinal cord. Some neurons contained 2 or more inclusions, which were basophilic, surrounded by a paler ring, and stained positively with PAS and Grocott stains, ultra structural examination of these bodies revealed accumulations of fine filaments interspersed with finely granular material; no limiting membrane was present.

Lafora's disease is a rare, familial, progressively fatal myoclonic epilepsy in children, characterized by the widespread accumulation of glycoprotein within neurons, and occasionally in myocardial fibres and liver cells. The disease is thought to reflect an underlying metabolic defect, inherited as an autosomal recessive trait. Inclusions resembling Lafora bodies have also been observed in CNS neurons of a high proportion of aged dogs without neurological signs, implying a normal aging process but clinical manifestations of Lafora's disease have occasionally been observed in dogs when the inclusions are widely disseminated throughout CNS neurons and processes.

REGIONAL VETERINARY LABORATORY - Rob Raharley

Erysipelas in Pheasants

Erysipelothrix rhusopathiae was isolated from several pheasants submitted from a regional farm. About 50 of 250 pheasants died over a period of 3 weeks. Gross lesions included spenomegaly and hepatomegaly. Histopathology demonstrated multifocal, coalescing areas of necrosis in the spleen and, to a lesser extent, the liver. Gram stain revealed numerous bacteria within Kupffer cells and splenic macrophages.

Tyzzer's Disease in a Foal

Multifocal necrotizing hepatitis was the only lesion detected in tissues submitted from a 2 week old thoroughbred foal. Warthin Starry staining of liver demonstrated numerous sheath-like clusters of intra-cellular bacilli at the periphery of the lesions. A presumptive diagnosis of Tyzzer's disease, caused by Bacillus piliformis was made.

Cerebellar Aplasia in Friesian Calves

A neonatal Friesian calf showing severe ataxia was presented to the laboratory for necropsy in late August. We anticipated one of the Healey/Harper exotica (citrullinemia or similar) but found cerebellar aplasia. A further 4 calves from the same farm were also devoid of cerebellar substance. Serological and virus isolation studies for BVD are in progress.

Coccidiosis in Budgerigars

Necrotizing enteritis was found in two female budgerigars. Numerous coccidial gametocytes and oocysts were identified in the the affected sections. The birds were maintained in brooding boxes at the time of the outbreak. Sulphonamide therapy prevented further cases.

AUSTRALIAN FISH HEALTH REFERENCE LABORATORY

Filarioids in Bream

Fishermen reported muscle "abscesses" in bream and other species in the Tambo River. These were found to be nests of tightly-coiled filarioid nematodes, reminiscent of the lesions of Onchocerciasis. The species could not be determined as they had been frozen. There was minimal host reaction.

Iridovirus in Trout

An iridovirus morphologically and serologically indistinguishable from the iridovirus common in redfin perch was isolated from rainbow trout on two farms. Focal necrosis of the gastric pits, intestinal lamina propria, and liver, and vacuolation of the cerebral and thalamic white matter, were prominent lesions. Mortalities were low, but infection persisted for at least three months.

"Visceral granuloma" in Trout

Saltwater-reared rainbow trout displayed intra-luminal renal calcified nodules, and focal calcification of the gastric lamina propria. The condition is recognized as a result of high calcium, low magnesium diets, and is poorly named, as true granulomas are absent.

REGIONAL VETERINARY LABORATORY - Kit Button

Nervous Coccidiosis

Coccidiosis was confirmed in calves on over 30 properties during the past 2 months. On three properties single nine month old calves were presented with nervous signs in addition to diarrhoea (Tristan Jubb, Maffra). Staggering, recumbency and intermittent clonic convulsions with opisthotonus and strabismus were seen in all three cases. Coccidial oocyst counts per gram of faeces were 4.8 million (mainly E.zuernii), 50,000 (spp not noted) and 120,000 (mainly E. bovis), all consistent with coccidiosis. Serum total protein and albumin concentrations were uniformly depressed and glucose concentrations were markedly elevated. Faecal lead assayed for in one case was negative, and faecal thiaminase, RBC transketolase and serum magnesium results were unremarkable. No lesions were found in the brain examined from one fatal case.

While the neurological syndrome associated with Coccidiosis has been recognized for over 60 years there is still only speculation on the mechanisms involved. These have included roles of thiamine metabolism, hypomagnesaemia, ratio of electrolytes, vitamin A deficiency and toxins produced by the coccidia. Hypoglycemia has also been suggested but serum glucose was elevated in each case reported here and elsewhere.

(Fanelli H.H. 1983 Bovine Pract. 18:50-53.) (Keith Thomas, Ian Jerrett).

Yersiniosis in Deer

Thirteen of 160 farmed Chital deer (a tropical species) were found dead over an 8 day period (Bruce Robertson, Warragul). Most were 6-8 weeks old and had faecal staining around the tail. Autopsies revealed fibrino-necrotic enteritis in all cases. Lesions were most severe in the caecum but diptheritic plaques were often also present in the lower to mid small intestine and proximal coiled colon. Pin- point pale foci were present throughout the liver in most cases. Body fat reserves were metabolised and no milk was present in the C.I. tract of the affected "calves". Yersinia pseudotuberculosis was readily isolated from the intestine, mesenteric lymph nodes and liver and typical histological lesions of yersiniosis were present. The disease on this property appeared to be associated with overstocking, inadequate nutrition and cold, wet conditions. No further cases were seen after the introduction of intensive supplementary feeding. (Ian Jerrett)

Bovine Salmonellosis

Two serotypes of Salmonella sp commonly occur in cattle in Gippsland. S. dublin (Group D) is extremely common in the Macalister Irrigation Area while in South and West Gippsland S. typhimurium (group predominates.

S. dublin is very specific to cattle and rarely causes infection in other species, while S. typhimurium infects a wide range of animals, including man. Diseases commonly caused by S. dublin include abortion, diarrhoea, osteomyelitis and septicaemia while S. typhimurium is frequently isolated from scouring or septicaemic cattle.

Salmonellosis occurs throughout the year although there is a marked seasonality, with about 10 times as many cases in September/October compared to January/February. By comparison, peak occurrence of yersiniosis is in August/September with few or no cases from January to April.

A recent submission of milk samples (Gerry Davis, Maffra) reminded us that Salmonella sp can be a cause of mastitis and be transmitted by milk. A cow had acute mastitis in 2 quarters and S. dublin was isolated in pure, heavy growth from both. S. dublin does cause human disease, including osteomyelitis, on rare occasions and infection is associated with consumption of raw milk.

The propensity of S. dublin and S. typhimurium to also cause generalised infection in calves was also demonstrated this month when these bacteria were isolated from an EDTA blood (Pauline Brightling, Maffra) and from various tissues of several animals (Peter Alexander, Bega) respectively. (Ken Slee)

CENTRAL VETERINARY DIAGNOSTIC LABORATORY - Sue Friend

Amyloidosis in a Cat

An 18 month old Siamese cat, which had given birth to two viable kittens a week earlier was presented to a veterinarian in a state of collapse and died two hours later. Post mortem examination revealed pallor of all tissues, haemoperitoneum and an enlarged, pale, waxy liver with rounded edges and multiple lacerations. There were extensive subcapsular haemorrhages and haematomas, many of which were organizing. The salivary and thyroid glands were approximately twice normal size, pale and firm. The pancreas was swollen, pale and firm and the spleen was large, meaty with prominent follicles. Histologically, there were extensive deposits of homogeneous, eosinophilic amyloid throughout the interstitium of the thyroid, compressing the follicles and effacing the structure of the glands, the splenic white pulp and throughout the spaces of Disse in the liver. The salivary glands, lymph nodes, small intestine, uterus and kidneys were much less extensively involved. Amyloid was deposited within the interstitium around pancreatic acini rather than within the islets. Ultrastructurally, these deposits consisted of large aggregates of fine, non-branching fibrils. The cat exsanguinated from the numerous hepatic lacerations, some of which may have occurred at parturition and the others following palpation during the clinical examination.

Lymphadenopathy in Cats

Recently we have received lymph nodes from aged cats presented with localized lymphadenopathy and suspected of having lymphosarcoma. Histologically, these nodes were characterized by follicular and medullary cord hyperplasia with sinus histiocytosis and a marked eosinophilia.

Further questioning revealed that the cats had miliary dermatitis and one had been treated with megestrol acetate. Whether the dermatitis was idiopathic or was caused by fleas, fungal or bacterial agents had not been determined.

Dermatitis in Bull Terriers

We have received skin biopsies from bull terriers 6 months to 2 years of age with severe folliculitis and pyoderma, often involving the feet, but generalized in many cases. Histologically, the lesions were characterized by acanthosis, orthokeratosis, intraepidermal pustules, folliculitis, furunculosis and pyoderma. The changes appear to be bacterial in origin but we have not been able to culture these cases.

Has this condition, or the acral dermatitis of very young bull terriers associated with an immunosuppression syndrome been noted in other centres? We would be interested in any additional information available on these conditions.

REGIONAL VETERINARY LABORATORY, BAIRNSDALE

Cardiomyopathy in Red Poll Calves (Kit Button)

Two of 14 purebred Red Poll calves, a male and a female, developed signs of congestive heart failure at 3 and 5 weeks of age. Both calves had grown well until dyspnoea and engorged jugular veins were noted. Calves had the gross lesions of congestive right heart failure, hydrothorax and hydropericardium, ascites, mesenteric oedema and an enlarged congested liver. Both calves had dilated flabby hearts but there were no valve lesions nor congenital anatomical defects. The female calf had a pale streakiness of the left atrial and ventricular myocardium. Both calves had an increase in subendocardial connective tissue and the female had frank areas of myonecrosis with normal glutathione peroxidase, indicating that selenium deficiency was not involved. Inherited myocardiopathies occur in Hereford and Japanese Black cattle but we are unaware of any reports in Red Polls.

Copper Deficiency (Ian Jerrett)

Enzootic ataxia was diagnosed recently in 2-8 week old lambs and kids on three properties. Serum copper values were 0.2-2.4 μM in effected lambs and 0.5-3.6 μM in ewes (normal > 5.0 μM). Typical lesions of demyelination were found throughout the length of the spinal cord and liver copper values in autopsied lambs were 0.05-0.09 mM/kg DW {normal > 0.80 mM/kg DW).

Copper deficiency was also associated with ill-thrift, lameness and long depigmented hair coats in 3-1 month old Hereford calves. The mean serum copper level of 6 affected calves was 1.0 μM. Lame calves had enlarged distal metaphyses of metacarpals and metatarsals. On histological examination there was failure of osteoid formation and mineralisation with persistence of cartilage cores in metaphyseal trabeculae (see JAVMA 166,682).

Cryptosporidiosis in Kids (Ian Jerrett}

Infestation with cryptosporidia was associated with diarrhoea and deaths in neonatal Angora Kids on two properties. Affected kids were 5-20 days old and presented with yellow mucoid or watery diarrhoea. Autopsied kids were malnourished and dehydrated. Cryptosporidia were detected in faecal smears and in

smears of ileum mucosa stained by a modified Z-N technique. Histology revealed villous stunting in the distal S.I. with organisms visible in the brush border of villous epithelial cells.

Duck Septicaemia (Ian Jerrett)

Pasteurella anatipestifer infection was the cause of nervous signs and heavy mortalities in commercially reared 3-7 week old Khaki Campbell ducklings. Predominant clinical signs were depression, ataxia, paralysis and ocular discharge. Fibrinous polyserositis was a frequent gross autopsy finding. Histological examination revealed pyogranulomatous meningitis, fibrinous air sacculitis and fibrinous pericarditis. Splenic and hepatic necrosis were occasionally present.

TASMANIA - Judith Handlinger

MT. PLEASANT LABORATORY - LAUNCESTON

Severe outbreak of photosensitisation and death in dairy cattle - Roy Mason and Judith Handlinger

A herd of 350 Friesian dairy cattle were placed onto a dryland hillside paddock (25/9/87) the bottom 200 meter strip of which had received previous NP fertilizer. On the afternoon of the following day (26/9/87) the cattle were noticed to be agitated when in the yards for milking. One cow died while in the yards and it was also noticed that the milk production had dropped. The cattle were not returned back to this pasture.

Prior to turning out onto this dryland paddock the cattle had been grazed over flood irrigated grass clover pasture. No supplementary feed of any kind had been fed out for over 4 weeks. In the owners words the dryland pasture was "the best feed the cattle had seen for a long time".

On 27/9/87 10 cows had died and by the pm of 28/9/87 a total of 28 cattle were dead and early signs of photosensitisation, reddening of white skin and sore teats were occurring.

By 29/9/87 a total of 35 cattle had died and about 170 cattle had varying degrees of photosensitisation.

Over this early phase total and conjugated bilirubin levels, AST and GGT levels were all high in affected cattle indicating a hepatogenous photosensitisation, most probably of mycotoxic origin.

Given that the cattle had fairly regularly grazed the irrigated paddocks over the previous weeks but that the dryland paddock had not been grazed for about 7 weeks, and then by dry cattle, it was considered the dryland paddock was the most probable source of toxin.

An extensive property paddock survey was conducted on 2/10/87 but no obvious source of toxin (blue green algae or mycotoxin) could be found. However, in the hillside dryland pasture there was dead pasture litter from the previous season amongst the green grass. There were also dead standing thistle stalks. In the pith cavity of these stalks was a black sooty fungal growth. Alternaria spp. fungi were isolated from stalk material.

In total over 59 pasture fungal isolated have been obtained from this property and adjacent properties. When these have been identified a check will be made to confirm whether any have been implicated in this type of problem before.

No significant numbers of Pithomyces chartarum spores were detected. Problems from facial eczema would be considered unlikely, however, because in NZ, outbreaks require relatively prolonged periods of warm moist weather with minimum night time temperatures above 13^{o} C. Although September was unusually mild in the area of the affected property it was not that mild.

Of the 170 photosensitised cattle 70 developed severe mastitis and were dried off or culled.

Has anyone seen a similar problem and been able to identify the cause?

PARALYSIS AND WINTER DEATHS IN TIGER QUOLLS - D.L. Obendorf and J.H. Handlinger

A number of Tiger Quoll deaths associated with hind limb paralysis have been seen this winter at the Cradle Mountain National Park. A similar incidence was apparently seen in the winter of 1983 in the same area. Three of the four animals examined to date have been aged males with multiple ruptured intervertebral discs of varying duration, plus widespread parasitism of both gastro-intestinal tract and skeletal muscles. (A fourth, younger animal was found dead with a tracing bacterial sinus over the shoulders, and was not seen paralysed).

The ruptured intervertebral discs were seen in both the lumbar and thoracic regions. In the one animal suitable for histopathology, spinal degeneration was associated with a prolapsed thoracic disc, but no spinal lesions were found with the several lumbar disc prolapses. Spondylitis spurs were also detected on lumbar vertebrae on x-ray.

Parasitology

Muscle parasites included Anoplotaenia dasyuri (metacestode stage) which was widespread in the heart and skeletal muscles of all 3 affected animals, but was not seen in the younger male. One of these three aged animals showed a heavy and widespread sarcocystis infection of skeletal muscle, but not heart. Another showed skeletal muscle degeneration and invasion by helminth larvae which are as yet unidentified but possibly are Ascaroid larvae.

Gastro-intestinal parasites included Baylisascaris tasmaniensis (all animals examined); a spiruroid (probably either cylicospiruria or cycthospiruria) in the animal with sarcocystis; adult stages of Anoplotaenia in the small intestine of the same animal; and the cestode Dasyurotaenia dasyuri - (this animal plus the younger quoll).

Although there was some evidence of muscle damage round the ascaroid larvae, the parasite findings would appear to be incidental except that the muscle parasites (the metacestoge stage of Anoplotaenia, the sarcocystis and probably the Ascaroid larvae) are likely to be derived from coprophagic activity, which may reflect the seasonal nutritional stress of the animals. The adult stage of Anoplotaenia is unusual in this species.

The apparent high winter incidence of spinal paralysis in this area is probably artificially elevated by the availability of free feeding at the nearby tourist lodge attracting the disabled animals.

Other conditions seen recently in the laboratory include:-

Yersinia pseudotuberculosis Type 1 was isolated from severe conjunctivitis in two goats from unrelated flocks. At least one of the flocks had a history of scouring which was unresponsive to anthelmintics.

A bovine with disseminated papillomatosis of the mouth, oesophagus and rumen was found to be infected with chronic mucosal disease.

Deaths in ducks fed medicated turkey crumbles - Roy Mason

A flock of 5 to 8 week old Rouen ducklings ran out of their normal rations and were supplied instead with turkey crumbles supplemented with Avatec (lasalocid) and Emtrly (dimetridazole).

Within 2 days of changing feed 20 of the ducklings were dead. Affected birds showed neurological signs with unsteadiness and inability to stand predominating. The birds submitted were in excellent physical condition and no gross lesions were detected on post mortem examination.

Ducks are reported to be more tolerant of ionophores than other avian species (MacQueen 1987); therefore the most probable cause of the problem is considered to be dimetridazole.

Reece et al (1985) reported the occurrence of dimetridazole toxicity in 30 week old Pekin ducks. It was reported that the birds showed signs of tremor and incoordination within 4 hours of receiving feed medicated at 470 ppm dimetridazole. However, immediate removal from the medicated feed prevented significant losses although egg production dropped to < 10%. This same medicated feed was fed to Kharki Campbell ducks but only produced a fall in egg production.

There is an obvious danger in feeding to ducks, feed medicated with dimetridazole for the control of protozoan parasites in other poultry species. In addition there may be breed differences within ducks in their susceptibility to this substance.

MacQueen, P.A. (1987) Veterinary Clinical Toxicology. Proceeding 103 Post Grad. Foundation in Vet. Sci. P386.

Reece, R.L. Barr, D.A., Forsyth, W.M. and Scott, P.C. (1985) Avian Dis 29:1239

JOB LINE

Position Required for Poultry Diagnostician

Dr. W.M.D. Fernando, DVM, a Sri Lankan now a citizen of the United States, seeks a temporary (2 year) position as a poultry disease diagnostician in Australia with the Department of Agriculture, industry or other organisation.

In Sri Lanka Dr. Fernando served as a veterinarian in the Department of Agriculture and as Chief Veterinarian and Superintendent of the Zoological Gardens of Sri Lanka. Following immigration to the States in 1968 he undertook post graduate studies in the Department of Avian and Aquatic Animal Medicine at Cornell University, gaining his MS in 1970.

For the past 15 years Dr. Fernando has been employed as an avian pathologist with the Department of Agriculture, Pennsylvania.

Dr. Fernando can be contacted at the Housecall Service for Pets. P.O. Box 16, Summerdale, PA 17093. USA. (Phone 717 - 732 - 2000).