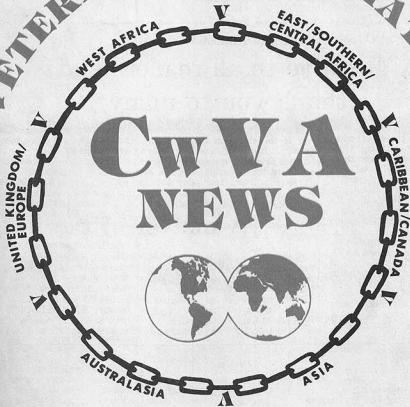


COMMONWEALTH VETERINARY ASSOCIATION



TO
STRENGTHEN THE LINKS
OF
FRIENDSHIP & CO-OPERATION
BY
KNOWING EACH OTHER
BETTER



The Commonwealth Veterinary Association News Circulating throughout the Commonwealth and beyond



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EDITOR'S REMARKS

A goodbye to all readers and thank you to many

It has been a privilege and a time of much interest to have played an active, although modest, role in the Commonwealth Veterinary Association. Most gratifying, from a personal point of view, were letters from various areas of the developing Commonwealth and the privilege of meeting colleagues from some of those developing lands.

I always appreciated that the editorship is a job that should, on a regular basis, move to a new home in another member country in a different CwVA region. The CwVA News is about to make that move and it is time for me to say 'Goodbye'. I thank all those who contributed to the CwVA News while I was editor. Many contributions were written specifically for the CwVA News, while others were selected from various publications.

Recent years have seen a coming-of-age in the CwVA and a prodigious growth in its activities and influence. Much of this has been concurrent with the energetic leadership of President Trevor Blackburn. Like other CwVA

projects our newsmagazine, with a new home and a fresh editor, faces a bright and certain future.

Goodbye and good luck
to all.
Your departing editor
Brock Cleland.

A matter of fact

In working cooperatively, so that developing partners may become self-reliant, the CwVA recognizes, in a practical way, that in all developing regions of the Commonwealth are the homes of many of its peoples. The CwVA's work is an acknowledgement that all regions of the Developing Commonwealth are

of great importance. As our Commonwealth Secretary-General, Shridath Ramphal, has said "The Commonwealth has no centre and no periphery" and to quote Mr. Ramphal further "SELF-RELIANCE is a core issue in dealing with the problems of small states and developing countries".

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When you have read this copy, please pass it on to a school, library or a new reader.



Patron - His Excellency, Sir Dawda Jawara,
President of the Republic of The Gambia
Honorary President - Dr. L.P.E. Choquette

Executive Committee:

President - Mr. J.T. Blackburn
Vice President - Dr. B.N. Touray
Secretary/Treasurer - Dr. J. Archibald

Regional Representative of:

Asia - Dr. S. Abdul Rahman
Australasia - Dr. W.J. Pryor
Caribbean/Canada - Dr. J.L. Robinson
East/Central/Southern Africa - Dr. S.P. Kamwendo
West Africa - Dr. B.N. Touray
UK/Europe - Mr. J.T. Blackburn

The President's Message

The activities of the Association and the Executive have continued unabated in the first half of this year with a double meeting in Bangalore, India in February and an Executive think tank in London in April.

In a forthcoming issue of the CwVA News will be reports of several conferences and more importantly the resolutions and recommendations drawn-up at the South West Pacific Conference, Solomon Islands June 1988; Canada/Caribbean Regional meeting, Georgetown Guyana November 1988; the Asian Regional Seminar, Bangalore February 1989 and the Animal Health Assistant Seminar Part II, Bangalore 1989.

The Chairman of these various Seminars and Committees, namely Dr. W. J. Pryor - South West Pacific Conference, Dr. J. Robinson - Canada/Caribbean Conference, and Dr. S. Abdul Rahman - two Seminars in Bangalore are thanked for their efforts in arranging successful meetings.

It will be noted that several resolutions and recommendations were made from these various Seminars/Conferences and now that we have demonstrated that we can mount successful conferences and seminars the most important task lies ahead of us, namely to prove that we are not just a talking shop but that we are an active association.

It is all too easy to go to a conference, draw-up a series of resolutions which give one a certain "glow" knowing that these resolutions will put the world on its feet and then to go away home and forget all about it leaving someone else to implement them.

Having made these resolutions on behalf this Association, it is incumbent upon all members to assist in implementing them. I would therefore urge you to study these resolutions and recommendations and where applicable bring them to the attention of the appropriate people, politicians, senior officials of government departments etc. It is essential to follow-up such action and monitor progress, it is appreciated that it is not always easy to implement resolutions but every effort must be made to do so and note taken of the results.

Another important meeting which took place recently was the think tank meeting of the Executive in London when plans were prepared to take this Association through the next five years and into the next century. A report of this meeting will appear in the next issue of the News but in the meanwhile one important piece of news is that we have now fixed a date for the first ever Pan Commonwealth Veterinary Association Conference.

Council Members will recall that I wrote to them last year asking for suggestions for Pan Commonwealth Conference and for a venue.

Over 20 replies were received and these were carefully studied by Executive Committee and we decided to invite the Zimbabwe Veterinary Association to host such a Conference.

The Zimbabwe Veterinary Association agreed and the Conference will take place in Harare, Zimbabwe, 10-14 September 1990.

The basic theme of the Conference will be "Animal Health and Production Year 2001". We shall be studying various aspects of Health (with particular reference to tick-borne diseases), Production and Education all of them aimed at seeking ways of improving living standards at village level and assisting the Peoples of the Developing Commonwealth.

Further details of the Conference will be circulated in due course, in the meanwhile the Zimbabwe Veterinary Association Executive Committee have taken on the role of local Organizing Committee, and Dr. W.J. Pryor, Regional Representative Australasia, will be Chairman of the Scientific Session Committee and anyone wishing to submit a paper to this Conference should write to Dr. Pryor, Galwiji, Pryor's Road, Scotsburn, RMB 141, Buninyong, Victoria, Australia. 3357.

Mark the dates in your diary and we will have our first ever Pan Commonwealth Conference in Harare, September 1990.

J. TREVOR BLACKBURN,
CwVA PRESIDENT.

A year of progress

Although the year 1987/88 has been thought of, in the CwVA, as a year of transition, reorganization and planning, it was a year of very substantial progress. New members, the Veterinary Associations (or Approved Bodies) of Cyprus, The British Virgin Islands, Hong Kong, Tonga, Western Samoa, Solomon Islands and Vanuatu, raised the membership to a total of 46 Commonwealth countries. A programme of Forward Planning, put forward by President Trevor Blackburn when he assumed office in January of 1988, soon made its presence felt.

In the Australasia Region a regional scientific conference and CwVA Council meeting were held in June in Honiara, Solomon Islands. In the Caribbean/Canada Region a regional conference and CwVA Council meeting were held in Guyana in November.

Responding to the need, for continuing education in the fields of animal production and health throughout the developing Commonwealth, CwVA 'Book & Journal' program was extremely active and productive. Copies of the Indian Veterinary Journal go to Bangladesh and Sri Lanka. Copies of New Zealand's and Australia's veterinary journals go to many of the South Pacific Islands as well as other areas of the Commonwealth. The Canadian journals reach the Caribbean, Africa, Asia and the South Pacific.

British veterinary journals, through the British Veterinary Association's long established 'Books and Small Aids' project, reach veterinarians throughout the developing Commonwealth. The BVA has taken the lead in the Commonwealth Veterinary Twinning Scheme. At least eight BVA divisions are participating in a pilot project and are twinned with various veterinary associations, these include Kenya, Bangladesh, Sri Lanka, Zimbabwe, Malaysia, Swaziland, The Caribbean and Tanzania.

Individual veterinarians, from far and wide, are supporting these programs by passing on textbooks and journals to their less affluent colleagues. The considerable mailing same participants. The BVA often sends along parcels with departing travelers. The New Brunswick Veterinary Assoc. of Canada made a generous donation of \$300 towards distribution costs. Liat Airlines and Air Canada supplied free transportation for 400 lbs. of books to the Caribbean. Encouraging commercial support resulted in the distribution of many copies of

Mercks Veterinary Manual, and of copies of Bovine Medicine and Surgery. Not included above are over 200 textbooks sent from Canada to over 20 developing countries.

The CwVA was elected to Associate Membership in the World Veterinary Association. Efforts were made to establish working relations with agencies, both within and outside of the Commonwealth family. Included in these were the Commonwealth Secretariat, the FAO, the EEC, the UK Agricultural Board, the BVNA and the APHACA. Much effort was also directed to enlisting the support and interest of various state and provincial veterinary associations in member countries. In India alone, the regional representative visited many state

veterinary associations, among these were the associations of Kerala, Delhi, Maharashtra and Andhra Pradesh. The same regional representative made working visits to Bangladesh, Sri Lanka and Maldives.

Close ties of friendship and cooperation between veterinarians of many Commonwealth countries are on a steady increase because of the CwVA and its work. Threads that act as a binding force, strengthening this movement, are the regular publication of the CwVA News and the correspondence between individual veterinarians, which has been an offshoot of the 'Book and Journal' project.

Source: Annual Report (1987/88) of the CwVA Secretary-Treasurer.

'Book and Journal' notice

The Book & Journal program is expensive to operate. At the moment I have been soliciting books from all sources and then sending them out to countries where I think the need is greatest. I am not convinced that that is the best way to operate this program. I would like some ideas from members as to how I can improve the service. Perhaps it would be better for members to send me their book requirements and then I could go out and solicit the specific books. It would be more efficient and I would know that what is be-

ing sent is what is required. I continue to be surprised at the generosity of some organizations. I hesitate to single one out but I feel that I must publicly thank the New Brunswick Veterinary Medical Association (Canada) for a most generous donation of \$300 Can. I would like to thank everyone who helped me in the past year and I would welcome any assistance from members in other regions.

Signed: Bert Stevenson, P.O. Box 1410, Sackville, New Brunswick, Canada - E0A 3C0.



Dr. H.S.N. Kinyiya now represents the Kenya Veterinary Association on the CwVA East/Central/Southern Africa Regional Council. He succeeds Dr. Colin F. D'Souza. The address of the KVA is: P.O. Box 29089, Kabete, Kenya.

Did you know that

A five year study (1982-1986) of mortality in an Ontario (Canada) waterfowl park was conducted. The highest mortality rate was in birds under seven weeks of age, with infectious disease most frequently diagnosed. In older birds amyloidosis and gout were most common. Associations were found between the presence of amyloid and the diagnoses of gout, enteritis, and arthritis.

Source: Can Vet J Nov/88 pg. 911. Authors: Richard R. Schneider, D. Bruce Hunter, David Waltner-Toews and Ian K. Barker.

New CwVA regional rep for Asia

Dr. D.D. Wanasinghe, CwVA council member from Sri Lanka, was elected to the CwVA executive committee at the Asian regional council meeting held in Bangalore, India, on February 28th. This council meeting was held in conjunction with the 1989 CwVA Bangalore seminars. His nomination, made by retiring Regional Representative Abdul Rahman, was seconded by Dr. Fazlul Hoque, council member from Bangladesh.

Dr. Wanasinghe is head of Sri Lanka's Disease Diagnosis and Investigation Service. He has a Diploma in Agriculture from the School of Agriculture at Peradeniya, Sri Lanka. In 1967 he graduated with a Doctor of Veterinary Medicine degree from the Agricultural University of Mymensingh in Bangladesh. Postgraduate studies, with a thesis on 'The Role of Bacterial Adherence in the Pathogenesis of Mastitis' led to a Ph. D. degree from the University of Queensland, Australia, in 1974.

Dr. Wanasinghe is an active member of several professional organizations, including the Sri Lanka Veterinary Association and the

Sri Lanka Association for the Advancement of Science. He is a past president of the Sri Lanka Veterinary Council and is at present its registrar.

Included in a broad working background, in both research and practical aspects of his veterinary career, is the following very interesting experience. For five years he was manager of one of Sri Lanka's largest livestock projects. It involved a large tract of land with some 800 workers clearing 2000 hectares of jungles in a river basin. Pastures were established and dairy buildings and living quarters for farm workers were constructed. This farm now in full operation employs 250 workers and has 2000 head of cattle. These cattle are the offspring of indigenous stock, which were crossbred with the Indian zebu and the European dairy breeds. Thus milk production was improved and those very important indigenous qualities, that allow for adaptation to the local environment, maintained.

Dr. Wanasinghe's address is: c/o Veterinary Research Institute, Peradeniya, Sri Lanka.



A fortunate decision

Sometime during the early days of the Commonwealth Veterinary Association a decision was made to refer to the association as the CwVA and not the CVA. As the Caribbean Veterinary Association uses the initials CVA a considerable amount of confusion has been avoided by that choice of CwVA. The type of confusion avoided is very real and it does exist in the CwVA Asian region as a result of the use of BVA by both the Bangladesh Veterinary Association and the British Veterinary Association.

The appropriateness of that 'CwVA' decision is very easily noted. From

the April/89 issue of Commonwealth Currents we quote:

(1). from the table of contents on the cover - "New Moves by C'wealth Foreign Ministers" and "The Queen on C'wealth Day".

(2). from page 4, a heading "The C'wealth Fund".

(3). from page 8, a heading "C'wealth - India ...".

(4). from page 15, a caption accompanying a photograph from the 1988 Hong Kong meeting of the Commonwealth Association of Planners - "C'w planners".

CwVA exec meeting

The executive committee of the Commonwealth Veterinary Association met at Commonwealth House in London, England, in April of this year (1989). During that five-day meeting representatives from Sri Lanka, Australia, India, Malawi, The Gambia, Canada and the UK formulated plans to carry the CwVA into the next century. Of immediate interest are the following plans:

(1). a pan-Commonwealth CwVA conference will be held in 1990.

(2). The strengthening of the regional structure of the CwVA.

(3). The improvement of the 'Book & Journal' program.

(4). The preparation of a directory of Commonwealth veterinary schools and veterinary assistant training centres.

(5). The appointment of Dr. Abdul Rahman as Editor-Designate of the CwVA News. His duties will commence with the preparation of the Jan/90 CwVA News.

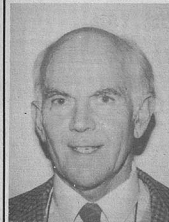
A complete report on this meeting will be carried in future issues of the CwVA News.

Sarcocystis infection

Sarcocystis infection has been reported in the cardiac muscles of Indian lions, wild deer, moufflon, chamois, various species of artiodactyls and mule, Virginia, sika and fallow deers. It has been found in the tongue

and skeletal muscles of the banded armadillo and mule deer, in the oesophagus and myocardium of the Indian gaur and in the oesophagus of a goral.

Source: Indian Vet J Feb/88 p160



Prominent worker

Dr. W.J. Pryor, Australia's CwVA's council member and Australasia's CwVA regional representative, has been honoured by Massey University in New Zealand with the award of the degree of Doctor of Science (honoris causa). Dr. Pryor is a former Dean and Professor of the Faculty of Veterinary Science of Massey University. The degree was conferred in November, 1988, by the University at the 25th Jubilee celebrations of the School in recognition of his special contribution to the establishment and growth of its Faculty of Veterinary Science.

New council member

Dr. Fazlul Hoque now represents Bangladesh on the CwVA Asia Council. He succeeded Dr. M.H. Bhuiyan in that office. Dr. Hoque is a graduate of Mymensingh Agricultural University of Bangladesh where he majored in Veterinary Science and Animal Husbandry. Besides his D.V.M. degree Dr. Hoque holds a postgraduate degree in Dairy Science and Breeding from Kell, West Germany. He is at present the Chief Veterinary Officer of the Government of Bangladesh. He was one of the four delegates from Bangladesh who spoke at and added so much to the CwVA Bangalore meetings.

Dr. Hoque's address is: c/o the Bangladesh Veterinary Association, 48 Kazi Alaudin Road, Dhaka, Bangladesh.



CVA executive

The Executive of the Caribbean Veterinary Association is as follows: President - Dr. Robert L. Loregnard President-Elect - Dr. Mahfouz Aziz Secretary - Dr. Edward P.I. Cazabon Treasurer - Dr. Gustave E.N. Borde

This executive will hold office until October, 1990. Among their major activities is a complete revision of the Association's constitution and continuing education program.

The address of the CVA is: c/o The Ministry of Agriculture, St. Clair, Port of Spain, Trinidad and Tobago.

New Student Association In West Africa

Last year (1988) saw the formation of the Veterinary Students Association of Ghana. Its first president is Moses Okine. As student organizations in other Commonwealth countries may wish to correspond with the newly formed VSAG we are pleased to assist by indicating its address. "c/o Box B. 189, Tema, Ghana."

Official logo

At a recent executive meeting in London an official logo was adopted and will be used in future on all CwVA literature.

This logo is based on the Commonwealth logo, which is made up of a sphere surrounded by rays representing a "C" for Commonwealth, almost encircling the world. It was necessary to obtain permission from the Commonwealth Secretariat to utilize this logo as part of our logo.

The centaur was superimposed upon the Commonwealth Logo to represent the veterinary profession. Thus we have a logo indicating that we are the veterinary profession within the Commonwealth.

It is hoped that other Commonwealth Professional Associations will adopt a similar logo i.e. to superimpose their own professional logo on the Commonwealth logo thus giving basically a corporate logo but with individual designs for each Professional Association.

J. Trevor Blackburn,
CwVA President

Solomon Islands

Dr. I. Crothers has been elected to represent the Solomon Islands Veterinary Association of the CwVA Australasia Regional Council. He succeeds Dr. G. Polke. Dr. Crothers' address is: Ministry of Agriculture & Lands, P.O. Box G 13, Honiara, Solomon Islands.

Hong Kong joins

Hong Kong became the newest member of the Commonwealth Veterinary Association. Hong Kong is in CwVA's Australasia Region. Dr. A.A. Holmes, secretary of the HKVA, was elected its CwVA council member. Dr. Holmes' address is: Hong Kong Vet. Assoc. c/o Shatin Equine Hospital, Sha

An auspicious start for 1989, the year of CwVA's 22nd birthday

India - a gracious host

The bustling Indian city of Bangalore, a place of many gardens, was the scene of two very successful CwVA seminars, the Asian Seminar dealing with immunobiologics and the Second International Seminar dealing with animal health assistants. Here, at the modern Holiday Inn, months of planning by the CwVA Executive Committee and countless hours of background work by chairman Dr. Abdul Rahman reaped a fitting harvest - two extremely productive seminars. Five days of sessions each one well attended by groups of 50 or more listeners, who collectively represented many years of practical experiences from a myriad of developing regions. These audiences were not just listeners, they were active participants, playing vigorous and positive roles in every question and discussion period.

Members of the local Bangalore Veterinary Association and the Karnataka State Veterinary Association, all members of the Indian Veterinary Association, were busy and concerned hosts to visiting colleagues from Bangladesh, Sri Lanka, Fiji, Papua New Guinea, the U.K. and Canada. To this writer it seemed that each and everyone of these Indian veterinarians had made it his personal chore to ensure that the desires and needs of no guest were left unfulfilled. The Karnataka association hosted the visitors at their clubhouse where an evening meal, of traditional Indian fare, was served in an attractively lit outside area against a background of shadowy flowers, shrubs and trees. Each of the visitors was introduced to the gathering, and each was garlanded and presented with an attractive hand-etched brass vase, on the bottom of which were the etched-in initials, KVA.

Another evening was highlighted by a meal at an Indian vegetarian restaurant. There was rice and a variety of condiments. For everyone there was a shiny round tray circled by round vessels, containing various sauces, and accompanied by thin crispy Indian bread which eliminated the need of forks or spoons.

On another occasion a delightful

evening and family meal was enjoyed by all the visitors at the home of Chairman Abdul Rahman.

Future issues of the CwVA News will carry complete reports on these seminars. These will cover accompanying ceremonies, including the very colorful and traditional "lighting of the lamp".

As a Canadian, who was privileged to attend both The Gambia and the Bangalore meetings, this writer can visualize a time to come when CwVA conferences will be combined with

holidays and travel for veterinarians and their wives from the developed Commonwealth partners. In both The Gambia and Bangalore accommodation was excellent and the hospitality of the hosts unsurpassable. For the delight of the traveller there are countless fascinating sights and sites, and convenient tours and guides to take you about.

A pleasure that is much overlooked is that of meeting colleagues from different regions and cultures of our Commonwealth.



Distinguished guests and CwVA officials at the headtable during opening of CwVA's A.H.A. seminar. A truly cosmopolitan group from the Commonwealth, representing India, Bangladesh, Sri Lanka and the U.K.

IMPORTANT NOTICE

A new CwVA newsmagazine

Coming in January 1990

Support and assist your new editor:

Dr. S. Abdul Rahman, c/o Indian Vet. Assoc.
No. 123, 7th Main Road, IV Block (West) Jayanagar,
Bangalore - 560 011, INDIA.

Asian Seminar

The CwVA Asian seminar dealt with immuno-biologics. The basic reasons for this seminar were aptly summarized in remarks by CwVA President Trevor Blackburn during the opening ceremonies. Quote: "We are here to study the extremely important topic of immuno-biologics, which form an essential part of the drive to improve livestock production and go, hand in hand, with improved methods of animal husbandry. Widescale control of disease, by use of vaccination programs, depends on the correct use of efficient vaccines. Production of reliable vaccines is dependent upon standardization of production procedures and the efficient study and recording of immune responses. There must be controlled use of vaccines by planned vaccination programs and there must be constant vigilance against new diseases and possible mutations of existing disease-producing organisms."

The speakers, assembled in Bangalore for this seminar, were from Bangladesh, Sri Lanka and India. They spoke with the authority that comes from many years of close involvement in their fields of activity. A fuller report, on the papers presented, will be forthcoming in future issues of the CwVA News. However the following remarks, which indicate just how important this seminar was, are extracted from various papers. The author's name (or names) is given first, followed by his remarks.

B.S. Keshavamurthy (India): "India has a livestock population of 440 million and 200 million of poultry.

At the present level, of vaccination production, 9% of this population can be protected against viral diseases and 14% against bacterial diseases. Owing to operational limitations, in the field, only 60 to 70% of the vaccine can be utilized. Thus, there is a wide gap between the present production level and the target of a 70% vaccinated population in order to build a national herd immunity."

M.D. Idris Ali (Bangladesh): "Bangladesh consists largely of a delta with a riverine environment, it experiences flooding in about one-third of its total land area each year. Out of a total land area of about 14 million hectares about 9 million are under cultivation. Bangladesh has a human population of about 110 million, a density of seven persons per hectare - among the highest in the world.

The livestock population of Bangladesh includes 23 million cattle.
Turn to page 9



Dr. Tabunakawai of Fiji, looks to his right to study a neighbour's technique while to his left Dr. Blackburn of the U.K. concentrates on his own dinner tray.



Obviously contented and happy after their meal are from left to right, Dr. Mike Nunn, PNG and Dr. Abdul Rahman, India.



Vegetarian Dinner - Among the relaxing moments at Bangalore was the Indian style vegetarian dinner. Good humoredly awaiting their dinner trays are from the left to right, Dr. Wanasinghe, Sri Lanka; Dr. Wazed Ali Khan, Bangladesh and Dr. Mannan Miah, Bangladesh.

CwVA Asian Seminar

from page 3

½ million buffalo, 11 million goats, ½ million sheep and 92 million poultry. These produce large quantities of meat, milk, eggs, hides and skins, draft power and fuel. Hides and skins have been the country's third major source of foreign exchanges. Rural households average 2.6 cattle/buffalo, one goat/sheep and 7½ poultry.

The major causes of loss of production in livestock are infectious diseases and parasitism. The production of vaccines and their use are the main activities of the Bangladesh Disease Control Programme."

B.R. Saxena (India) - "Theileriosis has become an acute disease with a mortality rate between 50 and 70% in susceptible animals, i.e. the exotic and crossbred cattle. The cost of treatment is exorbitant. The present form of a new Theileria vaccine comprises Theileria annulata schizonts in vitro, subsequently cryopreserved in concentrated form in polypropylene tubes and stored at minus 196°C in liquid nitrogen. Cattle immunized with this new vaccine can withstand the attack of tickborne theileriosis for a period of one year."

A.K. Sen and S.N. Saba (India) - "In India 'foot and mouth' disease is widely prevalent and repeated vaccinations are carried out to control it. There is no effective vaccination available for the pig; yet 'foot and mouth' in pigs, with high mortality and morbidity, is not uncommon in India. It is well known that the 'foot and mouth' virus is a poor antigen, even regularly vaccinated cattle have sporadic breakdowns in immunity. There is an urgent need to improve the quality of 'foot and mouth' vaccine by incorporating better antigenic properties."

M.C.L. de Alwis, Anoma I.U. Rajapakse, A.A. Vipulasiri and S. Radhakrishnan (Sri Lanka): "Sri Lanka uses about 1½ million doses of hemorrhagic septicaemia vaccine in annual routine immunization programs. This vaccine is produced in Sri Lanka at the Veterinary Vaccines Laboratory."

Henry A. Subasinghe and Stanley Fernando (Sri Lanka): "Foot and mouth" disease is one of the most important animal virus diseases in Sri Lanka. It occurs regularly in epidemic proportions, causing considerable loss to the country's economy. Vaccination of young and adult stock is undertaken routinely as a control measure. A study has shown that calves, born to 'foot and mouth' vaccinated cows, have circulating 'maternally derived' an-

tibodies and that these calves do not respond to 'foot and mouth' vaccination.

A study with buffalo cows and their calves showed that when these cows were vaccinated for 'foot and mouth' disease during late pregnancy, their calves had a persistent high level of 'maternally derived' antibodies up to four months of age. It is stressed that the primary immunization of young buffalo calves for 'foot and mouth' disease should be done after four months of age. About five months of age seems to be the most appropriate time."

Mohmd. Wazid Ali Khan (Bangladesh): "Duck breeding in Bangladesh is of great importance in supplying the population with meat and eggs. The large number of rivers, canals, low-lying areas and ponds lend themselves to duck rearing. Bangladesh has a duck population of 22 million, they are raised, along with other poultry, in every rural household. Duck plague (duck virus enteritis) is a highly contagious disease. It is responsible for outbreaks of high morbidity and mortality in barnyard ducks and in commercial duck farms. Outbreaks during the late winter and the monsoon season confirm the seasonal nature of the disease."

Prior to 1986 'duck plague' vaccine was imported. Since then Bangladesh has produced 110 million doses of a 'chicken egg freeze-dried' vaccine. This has not been enough to meet the demand. It must be emphasized that the duck-raising countries of Southwest Asia should establish a vaccine bank for emergency use."

S.P. Garg (India): "Rabies 'HEP' Flury strain vaccine has been found safe in buffalo calves, when given by epidural injection. A single epidural injection of 'HEP' Flury strain vaccine protected at least 50% of calves against a 100% fatal challenge dose of Street rabies virus. A new method of successful vaccination of cattle, exposed to valid dog bites, has been developed. In this method 'HEP' Flury strain vaccine is given - one epidural injection and one intramuscular injection on '0' day and one intramuscular injection on the third and fifth days after. This new method of vaccination has proved successful under field conditions."

T. Gopal (India): "Premature thymic regression, as an indicator of the immunodeficient state in bovine neonates, has been recognized. In calves, which were less than one week



This young lady's beautiful voice charmed the audience as she chanted the prayer which opened the A.H.A. seminar.



Dr. Indra Abeygunawardena of Sri Lanka.

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Seminar dealing with Health Assistants

Following the CwVA Asian Seminar was the CwVA's "Second International Seminar for Educators and Administrators of Animal Health Assistant Courses". This three day seminar, Feb. 25th-27th, was held in the same conference room in Bangalore's Holiday Inn as Asian seminar dealing with "Immuno-Biologicals".

The First CwVA International Seminar dealing with animal health assistant training was held in The Gambia in 1987. It was an extremely productive series of meetings, dealing largely with the African situation but with inputs from the U.K., the Caribbean and Canada. Its chairman was Dr. Gavin Hamilton, Dean of Canada's Western College of Veterinary Medicine at Saskatoon, in the Province of Saskatchewan.

The chairman and convener of these two CwVA Bangalore seminars was Dr. S. Abdul Rahman. Dr. Rahman is the secretary-general of the Indian Veterinary Association, India's CwVA council member, and at the time of these seminars was Asia's CwVA Regional Representative. He is also the Head of the Department of Veterinary Parasitology at Bangalore's veterinary college. It is safe to say that all participants left these seminars with a feeling that the success and accomplishments of those past five days owed much to Dr. Rahman's organizing talents and his capacity for hard work and sustained effort.

It was soon apparent of the appropriateness of India (the largest member of CwVA's Asian family) as a venue for a seminar on animal health assistants. India has 80,000 AHAs working in various aspects of the livestock industry. Bangladesh 3000 and Sri Lanka 880. It also soon became evident that the duties and responsibilities of different levels of AHA work varied widely. The variety of jobs done by AHA workers in the Asian region was obviously much greater than that previously noted in the African and Caribbean countries. In his talk, "Training of Veterinary Assistants in Karnataka State (India)", Dr. B.C. Ramakrishna pointed out that the different levels of AHA workers in India included veterinary inspectors, veterinary supervisors, field veterinary assistants, livestock assistants, livestock inspectors, stockmen and compounders. Each of these different designations performed different duties, had different responsibilities and their training differed accordingly.

Dr. H.B. Shetty, Kamataka's Director of Veterinary Services (Bangalore is the capital of the State of Kamataka) spoke at one of the sessions. His words carried the theme and thoughts which, again and again, rose up in discussions throughout the seminar.

Quote: "The manpower requirements to provide adequate animal health care, both preventative and curative, are enormous. Trained veterinary graduates alone cannot cope with this tremendous demand, and so the necessity of technical personnel, below the graduate veterinary level, to cater to the needs of farming communities. It is suggested that the objective of this seminar is to obtain information, from participant countries and states, on the training of animal health auxiliary staff, so that some kind of uniform standards will evolve. This information flow and consequential assessment may not be that important for us at this juncture if we take into consideration the utility of this para-veterinary staff in different countries under different conditions."

"One thing that we have to recognize is that these para-veterinary workers are required to render service in their own districts, often with little prospect of advancement. They are the persons who understand the local language, communicate easily with the farmers and understand the farmers' problems. It is they who live and render service

under difficult village conditions. It is relevant for us to seek answers whether to have a universal pattern and evaluation or regional or even local ones, according to area requirements with reference to levels of development of both human and livestock resources of areas."

As speakers from India, Bangladesh, Sri Lanka and the U.K. contributed their papers, it became evident that a great deal of information, many sound suggestions and a record of valuable experiences were accumulating. A more comprehensive report of these papers and events, pertaining to the seminar, will be carried in future issues of the CwVA News. Much of the value of this information stems from the fact that it centres on practical and personal experiences.

Input from the Pacific islands (Australasia Region) came from Dr. Mike Nunn of Papua New Guinea. He described, in considerable detail, changes taking place in the training and use of AHA workers in PNG. He told of an agricultural department undergoing changes that were not only new and innovative, but imaginative and even daring. Certainly the training and work of AHA workers in PNG are now being geared to a changing village environment and a holistic approach to rural life.

It appears that PNG may have picked

Turn to page 11

The CwVA Asian Seminar

from page 9

old and had succumbed to E. coli infection, severe degeneration and atrophy of the thymus gland with generalized hypoplasia of the spleen, lymph nodes and intestinal submucosal lymphoid tissues has been observed. We are conducting studies to learn more about the altered immune responses in animals, with specific reference to infections such as rinderpest, 'foot and mouth' disease, blue tongue and theileriosis. Immunosuppression in rinderpest and theileriosis may have great significance as that virus and the theileriosis protozoa show a specific affinity for lymphoid tissue. Since immunoprophylaxis is a strategy adopted for effective prevention and control of many diseases, the role of immunosuppression and deficient states is important. This is particularly true in developing countries, where the cost of

treatment, under the rural situation, is prohibitive and the only recourse available to the farmer is preventative vaccination."

M. Rajasekhar (India): "Resurgence of rinderpest in South Asia) and many African countries during the 1980s has caused serious concern about the effectiveness of the national eradication programs practiced in these countries. The initiation of a massive Pan African Eradication Campaign in 1986, supported by FAO and the EEC countries, indicates the growing international concern about rinderpest."

Editor's note: The papers from which these excerpts were extracted are contained in the "Proceedings of the CwVA Bangalore (1989) seminars. For further information write to: Dr. S. Abdul Rahman, No. 123, 7th Main Road, IV Block (West), Jayangar, Bangalore 560 011, India.

Seminar dealing with Health Assistants

from page 10

some of the best elements of many AHA training and working systems and added some promising innovations of their own. It may well be said that Papua New Guinea, a developing island state, has taken the lead in putting into practice valuable lessons from such conferences, as the CwVA's International AHA seminars. It is hoped that it will be possible to reproduce Dr. Nunn's paper in its entirety.

Also from the South Pacific came Dr. Niunuaia Tabunakawai of Fiji. Although Fiji is no longer a member of the Commonwealth Dr. Tabunakawai was welcomed as an old friend and unofficial observer. He spoke on the AHA situation in Fiji, making a worthy contribution to the seminar.

One very interesting feature of the seminar was saved until the last morning, a visit to an animal health camp. We enjoyed a comfortable bus ride through the colourful streets of Bangalore to its outskirts. From there we travelled some 15 miles on a main highway before turning off onto a dirt road. Five miles through a varied and fascinating rural landscape brought us to Ramasagara, a village of 500 families with a total population of about 2500.

The animal health camp concept is, as far as this writer can find out, an innovation of the Indian Veterinary Association, and one of which they can be justly proud. Headquarters, manned by animal health personnel, are established in villages. An attempt is made to locate health camps in such a fashion that most livestock owners are within three miles of a camp. They have been operating for several years now and their success is mirrored by their popularity with the village and rural stockowners, whom they serve. The demand for such service has resulted in a steady springing up of more and more animal health camps across India's vast countryside.

The patients are brought to the animal health camp headquarters, where help is always waiting. If veterinary assistance is needed, a veterinarian will be sent for and one will respond to the call. If the patient is unable to be brought to the animal health camp, professional and/or paraprofessional help will go to it.

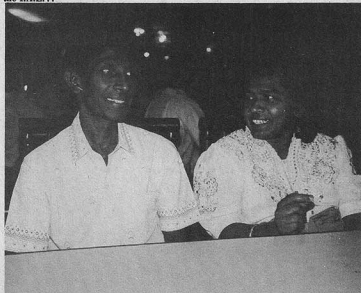
These camps are the centres where successful vaccination and testing programs are carried out. There AHAs and veterinarians work hand in hand, in a manner that maximizes to the utmost

the use and talents of available human resources. At these animal health camps lectures and discussions on general husbandry and livestock and poultry production are held. Questions are answered, advice is given and practical demonstrations are always popular. The term animal health camp tends to bring to mind a first aid animal health post, but they are much more.

They are practical and sensible centres, of animal health and livestock production extension work, in needy developing rural areas. With these camps, Indian veterinarians have established models which could be profitably copied by many developing regions and states of the Commonwealth.



From left to right: Dr. Girija Prem, president of the Kamataka chapter of the Indian Association of Lady Veterinarians and Dr. Sakhubai Ramachandran, president of the I.A.L.V.

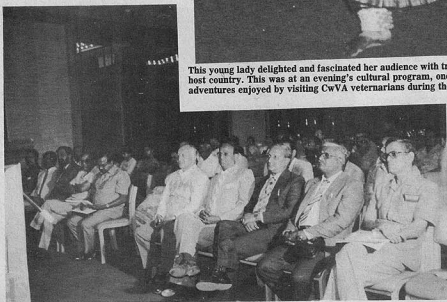


Enjoying a break in proceedings- left, Dr. D. J. Weillgama and Dr. Lenani Godwin, both from Sri Lanka.

India,
a gracious
host to all



This young lady delighted and fascinated her audience with traditional dances of the host country. This was at an evening's cultural program, one of the many pleasant adventures enjoyed by visiting CwVA veterinarians during their stay in Bangalore.



An attentive audience at one of the many sessions of the CwVA Bangalore meetings.

Canada's newest veterinary college

The Atlantic Veterinary College (AVC) at the University of Prince Edward Island, Charlottetown, Prince Edward Island is Canada's fourth (4th) and newest school of veterinary medicine. It was built at a cost of nearly forty million (\$40,000,000) and is a regional facility for the four eastern (Atlantic) Canadian provinces.

The first class of 50 students was accepted in September 1986 and the school was officially opened in May of 1987.

The new school is a very modern facility featuring the latest equipment in laboratories, diagnostics and clinical areas.

Areas of emphasis are herd health management, epidemiology and fish

health. Part of the epidemiology division is a computer based information gathering network known as APHIN (Animal Productivity and Health Information Network), which is being developed at AVC and links livestock producers, veterinary practitioners, laboratories and processors. Production and health data are collected, analyzed and used for decision making by producers and their veterinarians.

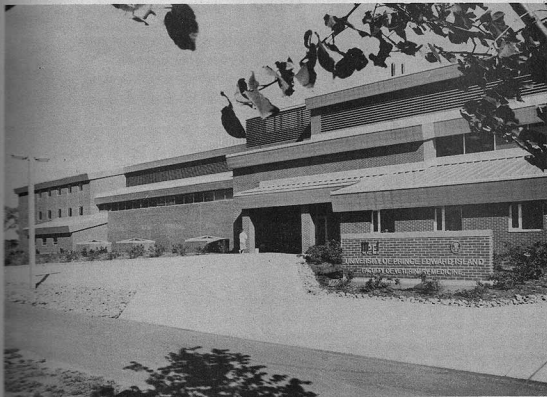
A large fish health unit with both fresh and salt water systems is one of the highlights of the new school and provides research and diagnostic services to the aquaculture industry, Government Departments of Fisheries and pharmaceutical industry.

When fully operational the school will have more than sixty faculty members, approximately two hundred undergraduate students and fifty graduate students.

The Master of Science (M.Sc.) program was begun in 1987 and the first student completed the requirements for the degree (Epidemiology) late in 1988.

The Veterinary Teaching Hospital (VTH) (consisting of a large animal hospital, a small animal hospital and an ambulatory service) opened in January 1988. The Ambulatory service will begin during the summer of 1989.

Ten student positions (seats) are reserved for students from outside the region including overseas students.



*International development:***Canadian Veterinary Medical policy**

The CVMA International Development Committee recognizes, on behalf of the CVMA, the responsibility of the veterinary profession in Canada to provide advice and assistance in support of activities designed to improve animal health and production in developing countries.

One of the prerequisites involved in international development opportunities is to establish a resource base of qualified interested individuals.

While initially it is likely that veterinarians would be in greatest demand, there is no doubt that in the future para-veterinary staff such as animal health technicians, primary product inspectors, laboratory technologists and others would be invited to participate.

The CVMA International Development Committee invites individuals interested in international development assignments to submit their names and relevant data. Information required would include previous international experience; field of expertise; willingness to serve for how long/where; restrictions; formal training/education etc. Anyone submitting their name would receive in due course a more detailed questionnaire. Veterinary students in their final year are also welcome to submit their names.

The Committee would like to hear from undergraduate veterinary students who would be interested in participating in a "twinning" or "buddy" system for foreign students. More information on this project will be sent to student organizations at each of the veterinary colleges.

The terms of reference for the CVMA International Development Committee are:

1. To be identified as the official veterinary advisory body in Canada for International Development programs;
2. To cooperate with all agencies (NGO, provincial, national and international) responsible for implementing programs which involve veterinary expertise by conducting feasibility reviews, assisting with recruitment services, evaluating results, and providing professional advice or management services;
3. To develop and maintain an up-to-date file of members of the Veterinary profession in Canada who have requisite experience and are genuinely interested in international development work;

4. To establish an information bank of animal health related projects and needs in developing countries;

5. To stimulate and encourage CVMA members to undertake international development work by providing them with current information on international development activities, concerns and opportunities;

6. To act as an advisory body to other organizations on the educational or training requirements for persons involved in international development animal health and production projects;

7. To be responsible for managing travel or interchange programs supported or approved in whole or in part by the CVMA;

8. To annually advise the CVMA Executive Committee and Council on all matters relating to international development;

9. To inform CVMA membership about development issues and CVMA initiatives.

COMMITTEE MEMBERS:

Dr. Dick Julian
Dr. Myron Mills
Dr. Simon Carrise
CHAIRMAN:
Dr. Bert Stevenson
P.O. Box 1430
Sackville, N.E.
E0A 3C0

Source: Can Vet J. Dec./88

IMPORTANT NOTICE**A new CwVA newsmagazine***Coming in January 1990*

Support and assist your new editor:

Dr. S. Abdul Rahman, c/o Indian Vet. Assoc.
No. 123, 7th Main Road, IV Block (West) Jayanagar,
Bangalore - 560 011, INDIA.

Help from above

The efforts of Dr. Joseph L. Robinson brought this about, not just figuratively but literally. Dr. Robinson, known to his many friends as Robbie, is Antigua's CwVA council member and the CwVA regional representative for the Caribbean/Canada Region.

Four hundred pounds of textbooks, journals and periodicals, collected in Canada under CwVA's Book & Journal program, were destined for Guyana. There, during the XVI Canada/Caribbean Congress (Nov/88), they would be distributed among veterinarians of the Commonwealth Caribbean Islands.

The shipment would be shipped from Toronto, Canada, to the Caribbean Island of Barbados via Air Canada. From there it would be taken by Liat Airlines to the Republic of Guyana. Robbie, alarmed at the cost, decided to see what could be done. He went to the Area Manager for Air Canada and the

Manager of Liat's Customer Service, both in Antigua, and told them of CwVA's Book & Journal program. He explained that these textbooks and journals were urgently needed gifts, from veterinarians in Canada, for distribution among veterinarians of the Caribbean.

A positive and understanding response was forthcoming from both Liat and Air Canada, and both agreed to carry this shipment free of charge. The shipment reached Guyana and its textbooks, journals and periodicals their sundry destinations within the Caribbean area.

The generosity of Liat and Air Canada and the efforts of Dr. Robinson resulted in a very substantial saving to CwVA's Book & Journal program. The effects of this were felt in other parts of the Developing Commonwealth for with that saving other books and journals were sent abroad to other areas.

Spirocerca Lupi infestation in Trinidad

by Mervyn D. Campbell
D.V.M.

INTRODUCTION

Spirocerca lupi belongs to a very complex group of parasites. For simplicity it will be stated here that this species belongs to the super-family Spurioidea.

S. lupi is distributed between 40° north and 40° south latitudes, in predominantly the underdeveloped and developing countries of Africa, South-East Asia, South and Central America and the Caribbean. In countries where it is endemic, the distribution is primarily rural. The definitive hosts are dogs and wild carnivores.

LIFE CYCLE

The adults live in large nodules in the oesophagus and stomach. The oesophageal lesions may range from chronic inflammation to fibrosarcoma and osteosarcoma. Eggs are passed via small fistulae which lead from the nodule.

Several genera of coprophagous beetles ingest the eggs which develop to L₁ within the body cavity. The beetle containing the infective larvae may be ingested directly by the definitive host or by paratenic hosts such as lizards, birds, mice, etc. which may then be ingested by the definitive host.

The L₁ are released, by digestion, in the stomach of the dog and migrate via the gastro-epiploic and the coeliac arteries of the wall of thoracic aorta. About three months later, the larvae migrate across the thoracic cavity to the wall of the oesophagus where they develop into adults. The cycle is about five months.

PATHOGENESIS

Depending on the stage of infestation, various lesions may be seen. Sudden death is caused by the rupture of an aneurysm formed by larvae in the wall of the aorta. Very often, the animal is otherwise healthy and no other lesions may be found. Where the disease is chronic and oesophageal lesions are well established, osteosarcomas are quite common. Other lesions such as hypertrophic pulmonary osteoarthropathy (HPOA), ventral spondylitis of the thoracic vertebrae, and thrombosis of the lower abdominal aorta may be found. Some aberrant larvae may cause inflammatory fibrous lesions in the lungs and mediastinum, and nodular lesions in the rectum.

CLINICAL FINDINGS

As was stated previously sudden death may follow internal haemorrhage from an aortic aneurysm in an otherwise healthy dog. A common

history is one of recent exercise or excessive physical activity followed by sudden depression and death. Poisoning is usually suspected by the owner.

Where adults have developed in the oesophagus, the nodular lesions produced may be sufficiently large to cause obstruction and to prevent the passage of solids. Vomiting, shortly after eating, often occurs. Dysphagia develops and the animal becomes emaciated. HPOA, when it occurs, produces symptoms of diffuse enlargement of the shaft of the long bones of the limbs. Spondylitis often results in severe pain of the cervicothoracic vertebrae and ventral flexion of the neck is difficult.

DIAGNOSIS

Faecal examination for the small, elongated eggs is frustrating due to the long prepatent period and the intermittent passage of eggs from the oesophageal nodule. In most cases, lesions associated with spirocercosis are incidental findings as post-mortem.

Clinical signs discussed above plus x-rays and/or positive faecal results are diagnostic. In cases where aortic aneurysms are present, diagnosis can only be made at post-mortem.

CONTROL

Control is difficult in endemic areas. Regular removal of faecal material from the environs, and periodic treatment of susceptible dogs with dinitrophenol (DNP) will reduce the incidence of infestation. Complete eradication may be accomplished by rearing dogs on concrete or some other impervious surface since the coprophagic beetles in Trinidad burrow into the soil and live there.

Source: Vet-News (Trinidad/Tobago) V3 N2 1987.

About the author - Dr. Campbell is the editor of the Vet-News. A publication of the information and training section of the Ministry of Food Production, Marine Exploitation, Forestry, and the Environment.

Sugarcane Feeds Centre

The Sugarcane Feeds Centre in Trinidad, was established in 1976, through Canadian International Development Agency funding until 1981. Working on the use of sugarcane as an animal feed, it has developed practical feeding systems for ruminant production. Through its economic evaluation, it has been found most feasible to promote animal production utilizing sugarcane integrated at (a) farm level and (b) the national level.

Local products and by-products of agriculture and agro-processing have been used increasingly over the past seven years in feeding systems. As agricultural production for domestic consumption becomes a national priority, more resources are becoming available. In Trinidad and Tobago, as in other territories, available and/or potentially useful material is not fully utilized while importation of feeds and final products (meat and milk) continues, placing a burden on local economies. Caribbean sugar production is beset by falling production, reduced international prices, declining market quotas and rising costs. Since the mid 1960's, there has been deepened interest in utilizing sugarcane as an animal feed.

Last September (1988) a five-day

workshop, on "Sugarcane, its derivatives and other potential feeds for commercial livestock production", was held at the Univ. of West Indies campus in St. Augustine, Trinidad. The workshop was a project of the Government of Trinidad and Tobago, and was organized by the Sugarcane Feeds Centre, the Caribbean Animal Production Society and the Dept. of Livestock Science of the Faculty of Agriculture, Univ. of the West Indies.

The workshop was intended to:

1. Provide complete documentation on technical aspects of the Centre's work over the years with economic evaluations of its ruminant feeding systems.
2. Allow workers from other parts of the world, utilizing sugarcane and by-products of sugarcane and other crops/industry, to share information on their work with ruminants and non-ruminants.

The workshop brought together representatives, of various institutions and farming organizations in the Caribbean and other countries, to share information on the use of sugarcane and other local products in practical feeding systems for commercial livestock production.

Source: J.L. Robinson, Council member - Antigua.

Official aims of CVMA

(a) to cultivate and advance the art and science of veterinary medicine and surgery and to maintain the honour and interests of the veterinary profession;

(b) to conduct, direct, encourage, support or provide for exhaustive surgical and medical veterinary research;

(c) to elevate and sustain and improve the professional character and education of veterinarians in Canada;

(d) to promote mutual improvement and good will among members of the veterinary profession;

(e) to enlighten and direct public opinion in relation to surgical and medical veterinary science and to promote the public health in connection with such science;

(f) to publish veterinary journals, reports and treatises;

(g) to establish an examining board to examine candidate for admission to the veterinary profession and to grant certificates of qualification;

(h) to establish qualifications in

veterinary science so that the holders thereof shall be acceptable and privileged to practice in any of the provinces of Canada or throughout the whole of Canada, subject only to the provisions of registration in any of the provincial associations;

(i) to establish a master register for Canada of veterinarians and to publish and revise the same from time to time;

(j) to make grants of money out of the funds of the Association for the promotion of veterinary medicine and allied sciences in such manner as may from

time to time be determined;

(k) to be a national body, representing the profession as a whole and among other things to represent the profession as adviser and arbitrator with regard to employment and working conditions for veterinarians; and

(l) to do all such other lawful acts as are incidental or conducive to the attainment of the foregoing objects and without being limited by the foregoing to promote the general welfare of the veterinary profession in Canada.

COMING CONVENTIONS

1989	Ottawa/Hull	July 9/12
1990	Halifax	July 8/11
1991	Winnipeg	July 7/10
1992	St. John's, Nfld./T.N.	July 5/8
1993	Edmonton	July 11/14

For more information write Canadian Veterinary Medical Association/339 rue Booth Street/Ottawa/Ontario/Canada/K1R 7K1.

News from the Caribbean

The Caribbean Veterinary Congress and the Caribbean/Canada Regional (CwVA) Meeting were held in Guyana in November, 1988. The four-day conference was well-attended. Among overseas participants were CwVA president, Trevor Blackburn from the U.K., and Canada's CwVA council member, Bert Stevenson. The next such congress is scheduled for 1990 in Antigua.

Dr. Keith Amiel, CwVA council member, is now president of the Jamaica Veterinary Association.

Dr. Gary Swanston, CwVA council member, is now president of the Montserrat Veterinary Medical Association.

Dr. Edward P.I. Cazabon is the new CwVA council member for Trinidad and Tobago. He succeeded Dr. Holman Williams.

A planned tick-eradication program, sponsored by USDA/USAID, for Antigua has now been approved. The first section of an associated wildlife study was conducted in November of last year (1988). It was anticipated that the

actual tick-eradication procedures would begin early this year (1989).
Source: Communication from CwVA Regional Representative J.L. Robinson.

Did you know that

In most species of turtles only females are produced at high temperatures, and only males at low temperatures. The opposite is true in many species of crocodylians (crocodyles and alligators). This phenomenon is referred to as E.S.D. (environmental sex determination).
Source: PNG Newsletter Nov/87

VETERINARIAN REQUIRED

Well-equipped small animal practice desperately seeking full-time veterinarian.

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South End Veterinary Hospital
L-140 Meadowood Drive
Winnipeg,
Manitoba
Canada - R2M 5L8.

These things happen in the best of families

Extracted from the *Livestock Inspection Branch Newsletter, Fall/1988* (Prov. of Ontario, Canada) a portion of an article, entitled *The Investigative Unit*, by Douglas Grout.

Not everyone is aware of the existence of an Investigative Unit within Quality and Standards Division, but it has existed for over a quarter of a century and has its roots in the old Veterinary Services Branch, enforcing the Dead Animal Disposal Act. This Act came into being on July 1st, 1960 and was the first legislation of its kind in Canada. It was designed to regulate the disposal of dead animals by licensing of persons handling dead animals and requiring the maintenance of plants and records. It soon became evident that legislation such as this, without supervision, was not effective. Some of the new licensees were not of high calibre and by 1961 were under active investigation by the RCMP for passing deadstock meat into the human food chain. It was an embarrassment, at least, when six of them, together with other Ontario residents, were charged. They eventually received jail sentences.

As a result of all this, it was recognized that an enforcement staff was essential and in 1962 two former police officers joined the Ministry for this purpose. It wasn't much, perhaps, but it was a beginning. When the need for dead animal control became evident through a survey in 1959, the same survey also pointed to the lack of a uniform system of meat inspection across Ontario. The introduction of the Meat Inspection Act in January 1965 and the inspection program across the province from 1965 to 1969 increased the investigative workload if only to supervise those exemptions! A third investigator was taken on strength in 1967.

In 1969, it was suspected that a considerable amount of deadstock meat was disappearing into the Province of Quebec and some Ontario licensees once more came under suspicion. That was bad enough, but when in late 1971 some of it was traced to a chain store's weekly special of ground beef, it was easier to justify the addition of an investigator to the staff.

That made four, but by this time other branches of the ministry had learned that these guys were around so they were called upon from time to time to help out with some of their programs. The additional investigator was even-

tually shown to be worth his considerable weight when eight current and former licence holders were charged with fraud in selling deadstock meat for human consumption. Six of them went to jail for periods up to three years after one of the longest trials in Canadian legal history.

Extracted from the *Australian Veterinary Journal, Sept./88*, the summary of an article by R.J. Rogers, C.K. Dimmock, A.J. de Vos, and B.J. Rodwell:

Contamination of a batch of tick fever (babesiosis and anaplasmosis) vaccine with bovine leucosis virus (BLV) was detected when a herd, in the final stages of an enzootic bovine leucosis (EBL) accreditation program, developed a large number of seropositive cattle following use of tick fever vaccine. Investigations incriminated a single calf used to produce Anaplasma centrale vaccine from which 13,959 doses were distributed.

The failure of this calf to give a positive agar gel immunodiffusion (AGID) test before use was not fully explained. A total of 22,627 cattle from 111 herds receiving contaminated vaccine was tested to validate claims for compensation. Results showed infection rates of 62% and 51.8% in vaccinated dairy and beef cattle, respectively, compared with 6.1% and 1.5% in non-vaccinated cattle in the same herds. The results also indicated that infection did not spread from vaccinated to non-vaccinated in-contact cattle. Heavy reliance is now placed on purchase of calves for vaccine production from EBL accredited-free herds and on transmission tests from the calves to sheep to prevent a recurrence of contamination. The need for a BLV antigen detection test, with the sensitivity of the sheep transmission test but simpler and faster to perform, is evident.

Editor's note: There are lessons in both these excerpts.

Job opportunities with CFTC

The Commonwealth Fund for Technical Co-operation (CFTC), operating from within the Commonwealth Secretariat, provides technical assistance - advice, expertise and training - to Commonwealth developing countries.

It is a unique mechanism for development co-operation, set apart from traditional aid agencies by being a system of mutual assistance. Its resources, expertise and training facilities as well as money, are contributed by both developed and developing countries; the latter play a dual role as donors and recipients.

At present there are two CFTC job openings in Botswana. These are:-
(1.) Senior Veterinary Officer (Forensic Pathology) for two years at Gaborone, Botswana.

Botswana, as a third world country, exporting beef to the EEC is expected to comply with the EEC member countries directive prohibiting the use of hormones and thyrostats as growth promoters. These substances were banned from the country in 1979, but despite this the directive requires that any meat entering the EEC markets should be certified free from these substances. This means that tests should be per-

formed on live animals and carcasses. For this specialized work a Forensic Pathologist is needed at the National Veterinary Laboratory. It should be understood that failure to do this may cost the country the loss of export licence to this very important market.

Required qualifications include a degree in Veterinary Medicine (Science), and specialization in Pathology, with special emphasis on Forensic Medicine.

Required experience includes a minimum of five years in the laboratory dealing with forensic analysis for residues of chemicals and for drugs in food and carcasses.

(2.) Veterinary Epidemiologist for two years at Gaborone Veterinary Headquarters, Botswana.

Required minimum qualifications include a Veterinary degree followed by at least two years of postgraduate training in Preventative Medicine and Epidemiology. The applicant must also be a computer scientist.

For complete details interested parties may contact Mrs. R.M. Odiachi, Executive Officer, Identification Section, Commonwealth Secretariat, Marlborough House, Pall Mall, London SW1Y 5HX, England.

Report on Malawi Conference

The 1988 Malawi Veterinary Association (MVA) Annual Conference was held in September at Chancellor College of the University of Malawi in Zomba. The delegates to this Conference were accommodated at the Government Hostel some 4 kilometres from Chancellor College.

The two-day conference was attended by delegates from Kenya and Mozambique who had primarily come to attend the East Coast Fever (ECF) Immunization Workshop organized and funded jointly by FAO and ILRAD at Lilongwe Hotel in the capital. Among the very important persons were Dr. W. Masiga, the Director of OAU/IBAR based in Kenya, Dr. Kairuki, the Director of Kenya Research Institute Muguga, and Dr. Mazibe, head of Protozoology at Central Veterinary Laboratory in Mputo.

Local participants included veterinarians in government employment, University staff and those in private practice. There were also present the representatives of drug companies and Grain and Milling, the major feed processing subsidiary.

This year's theme "The Organization and functions of Veterinary Associations" was introduced by MVA then followed by British Veterinary Association through Dr. R. Edelman. The Kenya Veterinary Association summarized their state of affairs through Dr. W. Masiga, who had been previously Chairman of KVA for 7 years continuously. The presentations were discussed openly, differences and similarities were noted in order to give guidance to MVA.

Scientific papers were drawn from a wide sphere ranging from animal nutritionists to feed producers. Bilateral aided projects gave their progress reports and government veterinarians gave summary of their Master of Science degree thesis.

The Conference was officially closed by Dr. G.A.A. Thyangathanga, the Chief Veterinary Officer, on behalf of Government of the Republic of Malawi at a dinner hosted by MVA in honour of visiting delegates.
Source: Dr. S.P. Kamwendo, Chairman - Malawi Veterinary Association

Lesotho Veterinary Association

The 1988/89 executive committee of the Lesotho Veterinary Medical Association included:
Chairman - Dr. O.L. Letuka
Vice Chairman - Dr. N. Lebajoa
Treasurer - Dr. C.A. Marrero
Secretary - Dr. C.Q. Cometa
Council Member - Dr. L.A. Lerotholi

This executive was elected on March 31st, 1988, at the LVMA's annual general meeting. The term of office is one year.

LVMA's address is Lesotho Veterinary Medical Assoc., c/o Livestock Department, P/B A 2, Maseru 100, Lesotho.
Source: Communication from Dr. Cielito Q. Cometa, LVMA Secretary.

Zimbabwe Veterinary Journal

The Zimbabwe Veterinary Journal is an excellent publication and it certainly merits the attention of any institution or individual concerned with or interested in animal health in Central and Southern Africa.

It is owned and published quarterly by the Zimbabwe Veterinary Assoc. Its editor-in-chief is Prof. J.A. Lawrence of Mount Pleasant, Harare. All correspondence should be addressed to the Publishing Manager, Zimbabwe Vet. Journal, P.O. Box A 195, Avondale, Harare, Zimbabwe.

The Zimbabwe Veterinary Journal is supported by the J.F. Kapnek Charitable Trust and receives assistance from the following sponsors: Bayer Zimbabwe (Pvt) Ltd., Cattle Producers' Assoc., Ciba-Geigy, Cooper (Zimbabwe) Ltd., MSD Agvet, National Assoc. of Dairy Farmers, National Foods Ltd., Pig Industry Board, and Shell Chemical Co. of Central Africa Ltd.

The address of the ZVA is P.O. Box 8387, Causeway, Zimbabwe.

News from Zimbabwe

Dr. Carole Nyereyegona is the new editor of the Zimbabwe Veterinary Association newsletter, the ZVA News. She succeeds Dr. Francois Flanagan of Chinhoyi.

The inaugural meeting of Zimbabwe's Wildlife Practitioners Group was held last October (1988). A steering committee, with Dr. Morna Knottenbelt as chairperson and Drs. A. Taylor, M. Kock, A. Huelin and F. Flanagan as members, was elected. Along with other responsibilities, the committee was asked to establish a Wildlife Group, establish veterinary requirements for capture drugs, assemble and disseminate wildlife information via the ZVA News, organize regular meetings and practical demonstrations of wildlife capture and handling, supply group members with names and addresses of sources of useful information and assistance.

As of December 1988 the Zimbabwe Veterinary Association had 91 active members, seven Honorary Life Members and seven associate members. Dr. Charles Waghorn of Greencroft, Harare, is president of the ZVA. The University of Zimbabwe has

a Veterinary Faculty, many of the veterinary students are student members of the ZVA.

The 1988 ZVA Congress, held in Harare, was an unqualified success. The excellence of the papers was matched by the enthusiastic participation of a large number of members and visiting representatives of several other veterinary associations. The very substantial support that the ZVA receives from outside sources is indicated by a list of 17 sponsors of the '88 Congress. These are: Agricura (Pvt) Ltd., Bayer Zimbabwe (Pvt) Ltd., CAPS (Pvt) Ltd., Cattle Co-op Ltd., Cattle Producers Assoc., Cooper Zimbabwe Ltd., Datlabs (Pvt) Ltd., Hoechst Zimbabwe (Pvt) Ltd., McDonalds Scientific (Pvt) Ltd., Milbrow & Co. (Pvt) Ltd., National Assoc. of Dairy Farmers, Reckitt & Coleman (Pvt) Ltd., Rhone-Poulenc Zimb (Pvt) Ltd. M & B, SmithKline Animal Health (Pvt) Ltd., Surgimed (Pvt) Ltd., Thoroughbred Breeders' Assoc., and Windmill (Pvt) Ltd. It is also of interest that the publication of the ZVA News is assisted by May & Baker (Rhone-Poulenc Group) and by

RM (Rhone Merieux) Veterinary Biologics and Pharmaceuticals.

Beef production in Botswana

The Botswana Beef Digest, the official publication of the Botswana Meat Commission, is a very attractive and informative publication. From its Anniversary Issue of October, 1986, the CwVA News takes pleasure in extracting the following items:

BMC (UK) Holdings and its European subsidiaries have become the largest single importers of beef in the EEC. One of the main contributory factors to this development was the appointment of the BMC to be the marketing agents for Zimbabwe beef in the EEC.

BMC Abattoir

Within three years of its establishment the BMC Maun abattoir has achieved an annual turnover of P10-million and remains the largest single industrial concern in the whole northern district.

A statement released by the abattoir recently reviewing progress since the start of operations in 1983 says the fastest growth has been achieved in the engineering section where one of the major developments has been the reconstruction of the effluent stabilization system.

The effluent project comprises two earth-walled ponds which are interconnected through a system of pipes so that the water can be reclaimed and retreated for use on certain operations within the factory grounds such as watering the gardens and cleaning the lairages.

The statement adds: "The engineering section has been solely committed since the plant was commissioned in 1983 to provide both plant maintenance and development services."

BMC Tannery

The BMC tannery in Lobatse has come a long way since it was established in 1978.

From small beginnings as a joint venture between the BMC and the British company, Leonard Jowett Limited, the tannery has grown threefold in capacity from the initial 600 green hides per day to the present output of 1800 hides per day.

What is more, says tannery manager, Mr. Sven Johnsson, plant development is forging ahead and will soon see the

tannery go beyond the present wet-blue stage to process hides to the crust stage.

The story of Ecco beef

The brand name ECCO was coined as an abbreviation of the company name Export and Canning Company (Pty) Limited which was formed in 1961 to produce corned beef at the Lobatse abattoir.

Today ECCO has come to be the brand name of all beef products of the Botswana Meat Commission - canned and frozen or chilled. This association is quite apt since 'export' is the operative word and throughout its history which goes back to the 1800's, the marketing of Botswana beef has been an endless quest for export markets.

From the early 1900's the Botswana cattle producers were involved in the sale and barter of cattle in the open market. Although the internal organization of the cattle trade was characterized by indiscriminate, unregulated and anarchical buying and selling of cattle, for over 40 years the Bechuanaland Protectorate supplied markets in South Africa, the Rhodesias, the Congo and Angola.

Botswana was divided into four marketing zones. The most important market was the South African market, supplied by Central and Southern Botswana by rail and road via Ramatlabama.

The Ngamiland-Chobe area served the Northern Rhodesia and Congo markets via Kazungula into Livingstone. Sometimes Congo-bound cattle passed via Southern Rhodesia through Pandamatenga. The third zone was in the Francistown area and served Southern Rhodesia, especially Bulawayo. The Ghanzi zone served South Africa and overseas markets through Gobabis and Walvis Bay.

Trade between Botswana and its most important market South Africa went back to the 1880's when the mineral revolution there created a large demand for beef. In 1910 the two countries signed a Customs Union Agreement which allowed Botswana duty-free access to the South African market.

Botswana's cattle trade came to depend almost entirely on South Africa. The Imperial Cold Storage and Supply

Company became a major buyer of Botswana beef and had contracts to supply the South African gold mines. Between 1920 and 1925 Botswana supplied an average of 23,000 head of cattle to South Africa annually. From 1926 to 1934 exports dropped substantially hitting a mere 715 cattle in 1933. However from 1935 onwards cattle exports rose considerably.

The Northern Rhodesia and Congolese markets were the second largest in terms of volume of trade. Botswana penetrated the Northern Rhodesia market between 1915 and 1921 when its reliance on the thriving Barotseland (Lozi) cattle abruptly collapsed. The Lozi herd had been reduced by pleuropneumonia and an embargo on export remained until 1947. With the expansion of the Copperbelt mine labour throughout the 1920's and 1930's, Northern Rhodesia became a major consumer of Botswana's beef. Import figures averaged 12,000 head of cattle annually and increased as mining activities on the Copperbelt expanded. The Second World War increased the regional shortage of beef; by increasing the demand for copper, it increased the labour force. Between 1939 and 1947 the Northern Rhodesia market imported more than ever before, and the demand for Botswana beef continued until the opening of the abattoir at Lobatse in 1954.

The Congolese market developed with the expansion of the copper mines at Katanga. Between 1926 and 1929 an average of 5,000 head a year were exported. The market went through a depressed period in the 1930's but increased again after the outbreak of World War Two.

Botswana's cattle exports to Angola were shortlived, undeveloped and uneconomic. The average number of cattle imported was 300 a month. Cattle were herded along the route via the Caprivi strip, across the Cunene River into Southern Angola. Under an agreement signed between the two colonial authorities in 1926, mobs of one thousand were sent to Angola at a time.

Although the Southern Rhodesia market is often described as 'traditional', Botswana's cattle trade with this partner was constantly threatened by the increase of settler-owned cattle in Southern Rhodesia. The establishment of an abattoir in Bulawayo by the Imperial Cold Storage also retarded Botswana's exports to this market.

In 1954 the Lobatse Abattoir was

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Heartwater in Zimbabwe

Heartwater (*Cowdria ruminantium* infection) is an acute, non-contagious, tickborne disease of ruminants. It was first recognized 150 years ago in South Africa and for most of this century has been considered one of the most important livestock diseases in Africa. In Zimbabwe it causes significant losses in commercial cattle herds of the lowveld where the main vector, *Amblyomma hebraeum*, is not rigidly controlled by intensive dipping. Further north, in the Zambezi drainages, the principal vector is *Amblyomma variegatum*. There is now a realization of the need to reduce reliance on expensive chemical acaricides and, at the same time, to exploit naturally acquired immunity to tickborne diseases through integrated and selective control of ticks and pathogens.

Control of ticks and tickborne diseases in Zimbabwe has in the past been based on intensive dipping programmes, which, while highly suc-

cessful, strain foreign currency reserves, stress livestock and create herd susceptibility to tickborne diseases (enzootic instability). When intensive dipping is interrupted for any reason, resurgence of ticks and tickborne diseases can be expected. Enzootic stability can be achieved by allowing tick populations to increase to a predetermined level and controlling them at that level with acaricides (selective dipping). However, during the transition, as tick levels increase, losses are bound to occur and herds must be protected by vaccination. This combination of selective dipping and vaccination (integrated control) permits repeated exposure to naturally infected ticks with maintenance of immunity in the herd (enzootic stability). Enzootic stability of heartwater has already been observed in southern Zimbabwe.

Source: Zimbabwe Vet J Dec/88 pgs. 25 & 26. Author C.E. Yunker.

Rabies in northwestern Zimbabwe

The first case of rabies for 25 years was recorded in the Chinhoyi veterinary region of northwestern Zimbabwe in September 1980. An epidemic in jackals, with associated cases in cattle, spread rapidly northward through the commercial farming areas. Within 18 months the front had moved 180 km from the probable point of entry of the disease. One case was diagnosed a further 30 km to the northwest. Following a comparatively quiet period in 1982 a second epidemic, this time in dogs, developed and spread back 100 km southeastward during the second half of 1983. Dogs were a more serious threat to human beings than jackals and only two known human cases occurred in late 1983.

Source: Zimbabwe Vet J Dec/88 p. 36
Author: D.J. Kennedy.

Did you know that

In A Tanzanian District

A study of socio-economic factors affecting goat production and marketing was carried out in three villages of Mpwapwa District between April and May 1980. Goats were kept by farmers as a subsidiary enterprise as more priority was given to crop production and cattle rearing. Extensive goat husbandry characterized by variable flock sizes between farmers was the common practice of goat keeping. Goats were enclosed at night in small bomas within the main cattle bomas or inside the owner's house. Controlled mating practices were not carried out as both age groups were kept together and different flocks were grazed at common grazing grounds. Superior and healthy bucks were castrated for fattening purposes while weak bucks were kept for breeding. Grazing times varied from season to season and from one family to another depending on Labour availability. Control of diseases and parasites by vaccination, dipping were irregular or not carried out at all. Long distances to veterinary services, lack of facilities and higher charges, compared to the economic values of the goat were some of the factors which discouraged farmers from carrying routine disease control practices. Lack of handling facilities at the auction: long distances, low prices paid by

traders and disease quarantines discouraged farmers not to sell their goats at auction markets.

Source: Tanzania Vet Bulletin
Apr/83

Author: D.S. Sendalo

Goats would be the animal of choice for meat production in India, where the land holdings are small and per capita income is limited. Goats make up 19.4 per cent of total domestic livestock in India, and contribute 280 million kilograms of meat (41.85 per cent of India's total meat production) and 72 million skins per annum.

Source: Ind Vet J Oct/87. p. 866

In the Charles Dickens story "David Copperfield", Tommy Traddles: quote "lived (for awhile) in a little street near the Veterinary College at Camden Town (London), which was principally tenanted, as one of our clerks who lived in that direction informed me (David Copperfield), by gentlemen students, who brought live donkeys, and made experiments on those quadrupeds in their private apartments. The inhabitants (of the street) appeared to have a propensity to throw any little trifles they were not in want of, into the road: which not only made it rank and sloppy, but untidy too, on account of the cabbage leaves. (Also) the refuse was not wholly vegetable."

Ecco beef

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established by the Commonwealth Development Corporation and in 1960 its name was changed to Bechuanaand Protectorate Abattoir Limited (BPAL). The following year an agreement was reached between BPAL and the Hurvitz Company of South Africa to establish a canning company. The main object of the Export and Canning Company (from which the BMC brand name ECCO was coined) was to debone and pack canned meat products from the abattoir.

Four years later, at Independence in 1966, the Botswana Meat Commission was established and took over the assets and liabilities of the BPAL and ECCO. However, the brand name stuck. And today, 25 years later the name ECCO has come to be associated not just with canned beef but with all beef products of the BMC.

Major CwVA seminar a victim of Bangladesh floods

Catastrophic and costly floods of last year (1988) in Bangladesh resulted in the postponement of the very important CwVA Asian seminar. This seminar had been scheduled to be held in Dhaka during late 1988. Postflood conditions made it impossible for the Bangladesh Veterinary Association to carry out the extensive plans they had made for that CwVA meeting.

The urgent need for that CwVA Asian seminar, along with financial considerations, made it inevitable that the venue be changed to Bangalore and the seminar be held concurrently with the CwVA AHA seminar. This decision was made with regret as the CwVA executive, and all CwVA workers, were well aware of the time and effort that Bangladesh council member Dr. Fazul Hoque and his colleagues had put into preparations for hosting the meeting.



Representatives of the Bangladesh Veterinary Association at the CwVA Bangalore Seminars include Dr. A.F.M.



Hatemazzaman, Dr. Fazul Hoque, Dr. Mannan Miah and Dr. Wazed Ali Khan.

In Bangalore the strong and active delegation from the Bangladesh Veterinary Association made everyone very conscious that Bangladesh was anxious and capable of playing a vigorous and active role in the Commonwealth Veterinary Association. This was later officially confirmed by Dr. Hoque at the CwVA Asian council meeting.

In all CwVA meetings, much is learned by many about the Commonwealth and the work of col-

leagues in various parts of the Developing World and Bangalore was no exception. All participants, and there were many, who had the opportunity of meeting and socializing with Drs. Hoque, Hatemazzaman, Miah and Wazid Ali Khan knew that they had made four new and good friends. To all it was obvious that meetings in Bangladesh would be successful and productive, and that visitors would meet gracious and unlimited hospitality.



Dr. V.S. Alwar at the CwVA Bangalore Seminars

Dr. V.S. Alwar, editor of the Indian Veterinary Journal, was present at the CwVA Bangalore meetings, where he played an active role at one of the early press conferences. Dr. Alwar is a real veteran of the CwVA. He represented India at the founding meeting at Southport, England, in 1967, and attended the 1982 CwVA executive meeting at Banjul (then Bathurst) in The Gambia. At that time he was Asia's CwVA regional representative, being India's first CwVA council member and Asia's first regional representative.

News from India

The CwVA News is pleased to reproduce the very interesting and informative editorial of the January/88 issue of the Indian Veterinary Journal. Quote:

Our Sixty-fifth Volume

The Indian Veterinary Journal enters with pride in its sixty-fifth volume with the satisfaction of having served the profession to the best of its ability during 1987. As a slight increase in the annual subscription rate and advertisement tariff made earlier has been found inadequate to lessen the financial stress, it has become imperative to effect a

marginal increase in both with effect from January 1988.

The year 1987 is a landmark in the history of the Indian Veterinary Journal as during the year it moved into its own building, small but elegant, thus fulfilling the aspiration of the profession for the past half a century. Contributions are solicited for putting up the first floor.

During the year Dr. R. Krishnamurti relinquished the Editorship after a glorious tenure for nearly 25 years. Dr. V.S. Alwar has

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News from India

from page 21

assumed charge as Editor of the journal.

Another notable event of the year is the acquisition of a building in New Delhi for the Indian Veterinary Association.

The Indian Veterinary Council is yet to be set up even though the enactment was made in 1984 itself and a good number of States have already opted for the Central Act. We look forward to the Animal Husbandry Commissioner with the Government of India for its establishment in 1988.

Kerala joined the states that have equalized the pay scale of the veterinary graduates with that of medical graduates at the entry level.

The report of Das Gupta Committee on the amalgamation of the Department of Animal Husbandry and Veterinary Services has been submitted to the Government of West Bengal and we anxiously await the implementation of its recommendation.

It was a welcome news that the Government of Tamil Nadu took the initiative for starting a Veterinary University. The entire profession in the country longs for the fruition of the move as it will encourage other states to emulate Tamil Nadu in the matter.

It is gratifying that the Indian Veterinary Association has been readmitted as a member of the

Kudos to the Indian Vet Journal

"Research and Publishings Trends in Cattle Reproduction in the Tropics", by J.M. Russell and C.S. Galina, rates the Indian Veterinary Journal highly for the number of reports pertaining to cattle reproduction, that it has published. The IVJ has published the greatest number of studies among the journals included in the 1986 Science Citation Index. India ranks as the country publishing the greatest number of research articles of the ten countries identified. All publications were in the English language.

Source: IVJ March/88.

World Veterinary Association on a nominal affiliation fee, thanks to the efforts of Dr. Abdul Rahman, General Secretary, Indian Veterinary Association who briefed its case before the world body when he visited Montreal, Canada to attend the World Veterinary Congress.

It was an honour to the Indian Veterinary Association that its General Secretary visited Male on an invitation from the Government of Maldives for professional discussion.

We welcome the proposal to hold the Pan Commonwealth Veterinary Meeting in India as discussed at the meeting of the Executive Committee of the Commonwealth Veterinary Association held at Banjul, The Gambia.

The Indian Veterinary Association for the first time sponsored the publication of the book entitled "Cultivation and immunological studies on pox group of viruses with special reference to buffalo pox virus" financed by the Department of

Science and Technology, Government of India, New Delhi.

The bringing out of the News Letter of the Indian Veterinary Association by the General Secretary has fulfilled a long felt need.

We thank the Indian Council of Agricultural Research, New Delhi for their continued financial assistance of Rs. 20000/- for the year 1986-87 as publication grant. We also thank the generous contributors from India and abroad for the IVJ Building Fund.

We realize that we are not able to satisfy the contributors by publishing their articles early. We receive nearly five hundred articles while we could publish only about three hundred. We entreat our contributors to bear with us in the matter.

We acknowledge with thanks the invaluable help received from our subscribers, advertisers, referees, reviewers and the professional colleagues and in all humility we rededicate ourselves to the noble task entrusted to us.

Ticks of cattle and buffaloes

Cattle and buffaloes are very important components of livestock in Karnataka, since they contribute substantially to the economy of the region. The cattle and buffalo population is greater in the transitional and dry regions than in the coastal and Western Ghat regions. North Karnataka forms a part of Deccan Plateau. The climatic conditions and vegetation vary from place to place. Rainfall is heaviest - 700 cms along the coastal and Western Ghat regions and lowest - 40-100 cms in the east. Most of the cattle and buffalo population are owned by agriculturalists and by lowland nomadic tribes.

Distribution and rate of infestation of ticks of cattle and buffaloes in Northern Karnataka were studied. *Boophilus microplus* and *Haemaphysalis bispinosa* are most common in the coastal and Western Ghat regions. In northern transitional regions *H. bispinosa* is predominant over *B. microplus* representing 39.20% and 32.8% respectively. In the dry region *Hyalomma marginatum issaci* and *H. a. anatolicum* are present to the tune of 49% and 45% respectively. *Hyalomma hussaini*, *H. brevipunctata*, *Rhipicephalus*

haemaphysaloides, *haemaphysaloides Haemaphysa* is *intermedia*, *H. spinigera*, *H. kysanurens* s, *H. corniger shimogai*, *H. papuana kinneri*, *H. aeuleata*, *H. turturis*, *Amblyomma intergrum* and *Nosomma monstrosus* are other species of ticks of cattle and buffaloes in North Karnataka. *Ornithodoros savignyi* occurs in dry regions where the soil is dry and sandy.

Source: IND. Vet J Jan/88. Pages 18-22. Authors: L.S. Hiregoudar and Sarvamangala Harlanur

Did you know that:

Zebu cattle cannot hold as much food in their digestive tract as can the temperate breeds, and therefore they need to move about and feed more often than do temperate cattle.

Source: First Steps in Veterinary Science.

Zebu cattle require considerably less water than do the temperate breeds.

Source: First Steps in Veterinary Science.

Spin off from a CwVA project

Of interest is the friendship of a Tanzanian veterinarian and a Canadian veterinarian. This friendship is a spin off from the CwVA 'Book and Journal' program. The two are Dr. M.E. Shayo, Principal of the Livestock Training Institute Buhuri at Tanga in Tanzania, and Dr. Roger Thomson of the Kincardine Veterinary Clinic in South-Western Ontario in Canada.

The following are quotes from some of Dr. Shayo's letters to Dr. Thomson:-

"I wish to express my deepest thanks to you for donating your journals to me. Your offer came when it was badly needed. You may be aware that for us in the Third World it has been difficult to secure funds for the purchase of these valuable journals. Indeed your gesture has been exemplary and I do hope that you will not hesitate to convince other colleagues to do the same."

"Let me assure you that your letters and parcels have arrived safely and express my appreciation for all your help and interest. Before going into too many things let me introduce myself to you. My first name, which is very long, is Mungubariki. It is a Swahili word which means 'God Bless'. I am the second born of a family of seven. My mother is dead, but my father is still

living and is about 70 years old. I obtained my Bachelor of Veterinary Medicine from the University of Nairobi in 1972 and then spent some years as a teacher with the Ministry of Agriculture. Since 1980 I have been Principal of one of the Ministry's 15 training institutes. My wife, Elizabeth, is also a veterinarian. She is a graduate of Sokoine University. We have two daughters, Helen and Grace."

"My Institute specializes in practical training in dairy cattle management. Our courses are of short duration, 2 to 4 weeks, and the greater portion of the trainees are farmers."

"Many greetings to you and your family. Your heavy parcels of books and journals are now taking up space on our shelves. They are of great use to our staff, and also to my wife and to me. I particularly enjoyed the Special Edition of the Proceedings of the Symposium on Reproduction."

"Unlike last year (1987), this year we have enjoyed very favorable weather. Our pastures have been green since March. Our institution herd has been doing well, although with occasional outbreaks of anaplasmosis, trypanosomosis and East Coast fever. This disturbs me, as we do work hard at preventative measures."



Dr. M.E. Shayo



Left Dr. Bert Stevenson with Dr. Rick Pattie



Dr. Roger Thomson of Kincardine, Canada, seen cleaning up after a farm call.

Generous assistance

The New Brunswick* Veterinary Medical Association at its 1988 Annual Meeting voted to donate \$300 to the Commonwealth Veterinary Association's Journal/Book/Audio-visual Program. Shown receiving the cheque from Dr. Rick Pattie (R), Secretary-Treasurer of the N.B.V.M.A. is Dr. Bert Stevenson (L), CwVA Council Member for Canada and Co-ordinator of the CwVA Journal/Book/Audio-visual Program.

The CwVA instituted the program some years ago and it is now functioning with varying degrees of success in all Regions. Anyone wishing to donate or receive material through this program, should contact Dr. Stevenson, c/o Health of Animals Laboratory, Agriculture Canada, P.O. Box 1410, Sackville, N.B. CANADA E0A 3C0. Recent editions of veterinary texts and standard reference works are particularly needed.

*New Brunswick is one of Canada's east coast maritime provinces.

CwVA pan-Commonwealth Conference September 10-14, 1990

The 23rd birthday of the Commonwealth Veterinary Association will be marked by the holding of the first ever pan-Commonwealth veterinary conference. The Zimbabwe Veterinary Association was chosen from a strong field of over twenty possibilities to host this very important and unique CwVA meeting. It will be held at Harare in Zimbabwe. Zimbabwe is a member of the CwVA East/Central/Southern Africa Region.

A call for papers along with more details of the conference will soon be going out. The conference will be divided into three main areas: livestock production, disease control (with particular reference to tickborne diseases), and education. The basic theme in all cases being

how to improve animal production at the village level and to assist rural citizens of the developing Commonwealth.

Veterinarians from everywhere in the Commonwealth are encouraged to support this historic and important function. It is hoped that as many wives as possible will accompany their husbands. Veterinarians and wives from outside the Commonwealth are welcome. To avoid disappointment early enquiries should be made. Contact your CwVA council member or a member of the CwVA executive. (see below).

A 14-day package tour will be made available for overseas visitors. This will include the 5-day conference followed by visits to Victoria Falls

(the eighth wonder of the world), and to Zimbabwe's famous game parks. Those who might wish to extend their visit to Africa should feel free to contact the host, the Zimbabwe Veterinary Association, for advice and suggestions.

For info

For information about CwVA's 1st pan-Commonwealth Conference contact: Your CwVA council member or CwVA President J. Trevor Blackburn c/o British Veterinary Assoc. 7 Mansfield Street, London, England - W1M 0AT or CwVA Sec/Treas. James Archibald 35 Lynwood Place Guelph, Ontario, Canada - N1G 2V9.

Harare

World-renowned conference and tourist center. Excellent hotels and restaurants. Traditional and modern shopping. A city of beauty and culture. Home of the National Ballet of Zimbabwe.

In September of 1986 Harare was host to some 15,000 visitors during the 8th Summit Conference of the Non-Aligned Movement Group. The NAM Group has over 100 members, 32 of these are Commonwealth countries. That meeting, chaired by Prime Minister Robert Mugabe of Zimbabwe, included the Heads of State, their senior advisors with their clerical and domestic entourages. Prime Minister Mugabe is currently Chairman of the NAM countries. Included in the thousands of visitors was a wide variety of observers, special guests, journalists and photographers. This important 1986 event enhanced and confirmed Harare's reputation as an open city of friendship and hospitality.

First call for papers

Persons wishing to submit papers for the CwVA 1990 pan-Commonwealth Conference please write to the chairman of the scientific sessions committee: Dr. W.J. Pryor, 'Galwiji', Pryor's Road, Scotsburn, RMB 141, Buninyong, Victoria, Australia 3357.

Zimbabwe's council member

David Batchelor, of Causeway, is the Zimbabwe Veterinary Association's representative on the CwVA East/Central/Southern Africa Regional Council. There is little doubt that he will be among busier Zimbabwe veterinarians as the ZVA prepares to host the 1990 CwVA pan-Commonwealth Veterinary Conference, the first ever pan-Commonwealth veterinary meeting.

The Zimbabwe Veterinary Association has regularly been one of the major contributors of news to the CwVA News. The ZVA publishes two professional publications, the Zimbabwe Veterinary Journal and the ZVA News. Members of the ZVA play vital roles in Zimbabwe's large livestock industry, which is an important supplier of EEC beef. The ZVA is a strong active organization, prepared, equipped and well-qualified to host a pan-Commonwealth meeting.

The choice of the Zimbabwe Veterinary Association, as host, bodes well for the success of that 1990 conference. There is no doubt whatsoever that the accomplishments of that meeting will rank with its importance. Those who attend CwVA's 1990 pan-Commonwealth Conference will, for many years after 1990, look back upon it



with satisfaction and for them the mention of Zimbabwe will awaken fond memories of a very pleasant and exciting adventure.

Dr. Batchelor's address is P.O. Box 8387, Causeway, Zimbabwe.

1989 Message from Her Majesty

COMMONWEALTH DAY reminds us year by year of all that our unique association of nations stands for and does. Many Commonwealth activities are of value chiefly to the members themselves. But we also form a distinctive element in a world which grows more and more interdependent and which more than ever needs tolerance and co-operation to deal successfully with its problems.

Perhaps nothing during the past year has underlined this in-

terdependence more forcefully than the dramatic growth in our awareness of the serious dangers to the environment posed by man's own activities. The threat to the environment takes many forms, of which some are so far-reaching that it is difficult to grasp them. We hear, for example, of the possibility of radical changes in our climate leading, among other things, to a rise in the sea level, with all that would mean for small islands and low-lying regions.

The Commonwealth has a particular part to play in facing up to such issues as these. A concern for the resources we share in common means partnership not only across the oceans but also between generations. A recognition of what our predecessors have bequeathed to us increases our responsibility to transmit these gifts unspoilt to the

future inhabitants of our planet.

Our concern to safeguard long-term prospects for our children and their children does not conflict at all with the pressing need to come to grips with the problems of the present, like poverty, illiteracy, disease, unemployment and underdevelopment. Rather the present and the future are brought together and linked by our efforts to deal with all of these problems together in a realistic way. We must all pray that diminished political tension, particularly among the world's great powers, will provide opportunities for better international co-operation and swifter progress in dealing with environmental, political and economic problems within the Commonwealth and beyond.

13th March, 1989 ELIZABETH R.

Source: Commonwealth Currents
April 1989

Our Commonwealth Secretary-General

Commonwealth Secretary-General Siridath Ramphal was among a group of leading figures recently honoured by a British university for significant contributions in different fields.

Mr. Ramphal, a former Foreign Minister and Minister of Justice of Guyana who succeeded Canadian Arnold Smith as the second Secretary-General of the Commonwealth in 1975, was awarded the honorary degree of doctor of laws by Warwick University.

The university said that since assuming his present office Mr. Ramphal "has played a distinguished role in international diplomatic life and in the process has become a well-liked public figure."

When Mr. Ramphal received his degree he was following in the footsteps of another prominent Caribbean figure - Sir Hugh Springer, Governor-General of Barbados.

Sir Hugh, a former Secretary-General of the Association of Commonwealth Universities, was awarded an honorary degree by Warwick University a few years ago.

The award to Mr. Ramphal, 60, known to his friends as 'Sonny' and as 'SG' (short for Secretary-General) to the staff of the Commonwealth Secretariat which he heads, gave him an opportunity to renew his links with the university, established in 1965 when he launched its Centre for Caribbean Studies.

The centre, believed to be the only one of its kind at a British university, promotes research on the Caribbean and maintains links with those in government, industry and education.

Mr. Ramphal was presented to the congregation by the centre's director Professor Alistair Hennessy who said the Secretary-General's commanding presence and geniality was familiar to millions the world over.

Noting his Indian ancestry - his great-grandmother migrated to Guyana from Bihar in eastern India in the 19th century - Professor Hennessy said: it was appropriate that Warwick University should be honouring him in 1988. This year marks the 150th anniversary of the introduction of indentured labour into the Caribbean by India.

As Secretary-General of the Commonwealth he had earned great respect as "a master-builder of that remarkable but puzzling institution," said Professor Hennessy. "If one person can be said to have given continuity to the Commonwealth idea, that person is before us now," he told his attentive audience. "Negotiating difficulties, resolving crises is the stuff of diplomacy and to be expected of an international civil servant. What is noteworthy in Sonny Ramphal's case is the role he has played in bringing before the international community the moral dimension in the thinking of Com-

monwealth heads of government. It is a dimension which he symbolizes - and nowhere more so than in his determination to support Commonwealth leaders in the vanguard of the struggle against apartheid."

Source: Commonwealth Feature
Sept/88

Foundation's membership

Maldives joined the Commonwealth Foundation in July, bringing the association's membership to 43 countries.

The Foundation, established in 1966 to promote closer co-operation among the professions in member countries, provides valuable support in strengthening links and raising standards in many socially and economically important disciplines. In 1983, it was reconstituted as an international organization and its brief was broadened to support grassroots NGO links, encourage the arts and promote Commonwealth understanding.

Funded by its member governments, the Foundation's target income is currently 1.61 million pounds, of which some 1.2 million pounds is available for grants in 1988.

Source: Commonwealth Currents
Oct/88

Action, not talk

Over the years, the Commonwealth has devoted much attention to both broad issues and practical development concerns. It may not be immodest to claim that we have developed a leadership role in exploring the special problems of small states and in sensitizing the wider international community to them. Commonwealth concern with small states was first given formal expression at a meeting of Commonwealth Finance Ministers in 1977 in Barbados. In considering the special characteristics and problems of small island economies, Ministers urged the international community to adopt a more flexible approach to their requirements and special measures to assist them. But the Commonwealth was not content with asking the international community to do more. It developed a special program of assistance for small member states, and this emphasis on small states and their problems has continued. The result today is that the Commonwealth Fund for Technical Co-operation, the technical assistance arm of the Secretariat, devotes more than 50 percent of its resources to technical support for these states as I have said, most of them islands. Source: Commonwealth Secretary-General Shridath Ramphal, extracted from address given at "Islands '88" Conference.

Commonwealth Facts

Thirty of the 48 Commonwealth member countries, are categorized as small states. Twenty-six of these have a population of less than one million. Included are 15 island states with a population of under 200,000.

Commonwealth principles

We believe in the liberty of the individual, in equal rights for all citizens regardless of race, colour, creed or political belief, and in their inalienable right to participate by means of free and democratic processes in framing the society in which they live. We therefore strive to promote in each of our countries those representative institutions and guarantees for personal freedom under law that are our common heritage.

We believe that the wide disparities

in wealth now existing between different sections of mankind are too great to be tolerated. Our aim is their progressive removal. To this end our aim is to achieve the freest possible flow of international trade on terms fair and equitable to all, taking into account the special requirements of the developing countries, and to encourage the flow of adequate resources, including governmental and private resources, to the developing countries. Source: Declaration of Commonwealth Principles - Singapore 22nd of January 1971.

Useful information

Extracted from a book review by Prof. J.A. Lawrence in the Dec/88 Zimbabwe Veterinary Journal: "Plant Poisonings and Mycotoxicoses of Livestock in Southern Africa". Authors: T.S. Kellerman, J.A.W. Coetzer and T.W. Naude. Publisher: Oxford University Press, Cape Town, South Africa, 1988, pp243, illustrations 429, ISBN 0 19570488 6.

One of the most exciting contributions to the veterinary literature of southern Africa in recent years is this comprehensive account of plant poisoning and mycotoxicoses of livestock. The authors are senior personnel in the fields of toxicology and pathology at the Veterinary Research Institute and the Faculty of Veterinary Science at Onderstepoort and they have gathered the wealth of knowledge that exists on this important topic into a single authoritative and beautifully illustrated volume.

Any veterinarian who has been engaged in providing a clinical or diagnostic pathological service for grazing animals in Africa is only too well aware of the importance of plant and fungal poisoning and of the difficulties that exist in making a diagnosis. For the first time since the publication of Steyn's classic work in 1934 we have a comprehensive reference book to help us through our difficulties.

Publications

The Commonwealth Secretariat publishes a range of information material on the Commonwealth and its activities. It also publishes research studies, reports of meetings and seminars, journals, handbooks

and directories covering many areas of Commonwealth activity and interest. For complete information write to: Commonwealth Secretariat Publications, Marlborough House, Pall Mall, London SW1Y 5HX, Great Britain.

Fellowships

The Commonwealth Program for South Africans, which became fully operative in late 1986, assists South Africans, who are disadvantaged by apartheid, to continue their studies in Commonwealth countries. Known as 'Commonwealth Nassau Fellowships', the Program's awards take their name from the Commonwealth leaders' October 1985 summit at Nassau in the Bahamas, where they reached their historic Commonwealth Accord on South Africa aimed at ending apartheid, and also decided to enlarge the training program for South Africans which stemmed from the previous New Delhi summit of 1983. After the Nassau meeting, detailed plans by the Commonwealth Secretariat were approved in October 1986 by the Commonwealth Committee on Southern Africa which represents all member governments.

The fellowships are both bilateral and multilateral. Donor countries offer the bilateral scholarships, which are mainly for study within those countries. The multilateral awards, which are mostly for study in Commonwealth developing countries, are administered by the Secretariat's Fellowship and Training Program. For more information write to: The Director, Fellowship and Training Program, Commonwealth Secretariat, Marlborough House, Pall Mall, London SW1Y 5HX, Britain.

Conference on Children

In early April, (1988) a book vividly documenting the conference, called Children of Resistance: Statements from the Harare Conference on Children, Repression and the Law in Apartheid South Africa was launched at the Commonwealth Secretariat in London. Later that month, a further conference on the subject was held at London's City University. In March, (1988) leading musicians, writers and artists took part in a Unicef symposium on Southern African children, again in Zimbabwe. Source: Commonwealth Currents June/88.

An interesting problem in Swaziland

I examined a five year old Brahman bull at the Msisi Farm. Its tongue was badly swollen, over half of it was sticking out of the left side of the mouth. The face around the muzzle and eyes was swollen, as was also the skin in the area of the intramandibular space. The bull was unable, or unwilling, to move the tongue and therefore was not eating or drinking. The underside of the tongue had some abrasions, probably from the teeth. At the right side of the tongue, extending from about halfway back to beyond the root of the tongue was a large hard swelling, about the size of a fist. Suspecting an allergic condition I gave the bull some cortico along with some penicillin as a cover.

At 4 p.m. that afternoon there was no change. However at 11 a.m., the next morning, there was a slight improvement, I gave the bull some antihistamine. Then at 4:30 that after-

noon, as there was little change, I decided to open the swelling. I was surprised when about half a pint of clear, stringy thick fluid (the consistency of molasses) ran out. I cleaned out the cavity, which was large enough to contain my hand. I could now shove the tongue back inside the mouth.

Three days later I revisited the farm. The bull was drinking a little but not eating. His tongue was still swollen and sticking out of the mouth. I then cut out the tissue which comprised the shell of the swelling, a piece about 13 cm long by 1 cm thick. The bull still could not keep his tongue in his mouth. As long as the tongue hung out of the mouth it was obviously going to remain swollen. I decided on the following: I put two strong nylon mattress stitches in the lips on the left side. This kept the tongue in the mouth and actually allowed for a bit of movement. Then, after drenching

the patient with some molasses, we offered him some dampened calf meal, which he did try to eat.

The swelling in the intramandibular space was now more defined and harder, and an exploratory puncture produced more of the same type of fluid. I then proceeded to lance it and a good cupful of fluid ran out. Some of the fluid was saved for laboratory examination.

The next day the bull was much improved and was drinking and even eating a little. Two days later everything was progressing well and I removed the stitches. Four days later I revisited the farm and found the patient feeling his old self and drinking and eating just fine.

Source: Swaziland Newsletter March/88. Author's name not given.

Case report on rare tail abnormality

Various types of congenital anomalies involving different body organs are well documented in literature. Certain anomalies of the tail, such as partial or complete taillessness, have been reported in equines, cattle and felines. Congenital supernumerary tail associated with an unusual tumorous growth in its vicinity appears to be a rarity. The present report documents this rare case in a bullock.

Case Report

A 3-year-old working bullock afflicted with abnormal tail was brought to the veterinary clinics. On clinical examination, an accessory tail was found located at the lower third of the main tail. The tuft of hair on this accessory tail was markedly denser than its main counterpart. A little below the point of its emergence, a soft, oval, un-

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pigmented, hairless and doughy tumour like outgrowth was present. It was attached with a tail trunk by a thin chordlike pedicle.

The deformity of tail was stated to be present since very birth but the outgrowth was much smaller. This supernumerary tail was a blemish due to which the sale value of the animal was markedly reduced and moreover

the utility of the tail was greatly hampered.

The animal was placed in a trevis. Under local infiltration anaesthesia, an elliptical skin incision encircling the root of the supernumerary tail was made. The skin was dissected back to make flaps. The accessory tail was excised close to the surface of the main tail. The bleeders were crushed and cutaneous wound was closed by interrupted sutures using monofilament nylon.

The supernumerary tail was devoid of coccygeal vertebra and was completely muscular throughout its length. Histological examination confirmed the outgrowth to be a soft fibroma. The wound was dressed with nitrofurazone ointment and the cutaneous stitches were removed on 10th day.

Source: Ind. Vet J Oct/87

Clinical pharmacology of ivermectin

The action of ivermectin is mediated via the neurotransmitter gamma-aminobutyric acid (GABA).

The effects of the drug are irreversible and prolonged and although paralysis of the parasites is its main action, reproductive suppression may also be important.

The bioavailability of ivermectin approaches 100% when administered by most routes except intraruminally. Although, ivermectin is rapidly absorbed into body tissues and has a prolonged half-life, the interval between ad-

ministration and destruction of all susceptible parasites may be prolonged. For example, it required more than 9 days to kill psoroptic mites in cattle, 2-3 weeks for *D. immitis* microfilariae in dogs and 5-6 weeks for *S. vulgaris* larvae in the horse. The liver and fat contained the highest residues, with a withdrawal of 35 days before slaughter being recommended for cattle. No withdrawal time has been established for milk. The toxic effect of ivermectin may not be noticeable until 2-3 days post-administration and at least ten

times the therapeutic dose is required to produce GABA effects in clinically normal animals. There is no adverse effect on the reproductive performance of animals following ivermectin administration. Collies are especially susceptible to toxic effects of ivermectin. In cattle, a 1% solution of ivermectin given subcutaneously at a dose rate of 200 mg/kg has shown to be at least 99% efficacy against most internal and external parasites (both adults and larvae).

Source: Vet News (Trinidad/Tobago)

Fulfill legal responsibilities when dispensing

Veterinarians should take care to fulfill legal responsibilities when dispensing Schedule 4 drugs (restricted substances) especially for use in food-producing animals.

Legal responsibilities include correct labelling of containers and clear directions to the owner or manager, especially on withholding periods after treatment.

The prescribing veterinarian's label should not cover any of the original label that the manufacturer applied to the container, unless any information that is covered is repeated on the veterinarian's label. This is particularly important regarding withholding periods.

AVA withholding advice forms should also be filled in and issued to the owner or manager to reinforce the importance of observing the withholding period. All veterinary practices should use these forms and continue to use them, so that everyone involved in the livestock industry becomes well aware of withholding periods and the need to observe them.

If a client is not adequately advised about withholding periods, the veterinarian involved may be liable for any financial loss suffered consequent upon his inadequate advice.

Some veterinary practices use duplicate prescription forms for dispensing Schedule 4 drugs, which are signed by the client at the time of dispensing. This procedure gives the veterinarian maximum protection against any claim of inadequate advice.

When a Schedule 4 preparation is dispensed, sold or supplied for an animal patient, the label attached to the container must state (Regulation 1018):

- NAME of the person in charge of the animal
- NAME or the species of the animal
- DATE
- NAME, address and telephone number of practice
- NAME, strength and form (tablets/capsules) of the medication
- DIRECTIONS for use and the words "KEEP OUT OF REACH OF CHILDREN" in red capital letters.

The above information is taken from a circular Notes for Veterinary Surgeons distributed by the Veterinary Board of Victoria in November 1986 and from those parts of the Drugs, Poisons and Controlled Substances Act and Regulations, Victoria that apply to veterinarians.

L.R. Coghlan
Chairman,

Sub-committee on Therapeutics

Source: Aus Vet J Apr/88 AVA News.

Case report-testicular teratoma

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Various testicular neoplasms in bovines such as Sertoli cell tumors, interstitial cell tumor and seminoma have been reported. However, reports of testicular teratoma in bovines are not found and hence it is intended to bring on record a clinical case of testicular teratoma in a bullock.

Case History and Clinical Examination

A non-descript bullock of about 12 years of age with a swelling in the right inguinal region was referred for treatment in one of the surgical campus. The bullock had been castrated at the age of 3 years by Burdizzo method and a gradual enlargement giving an appearance like an udder was noticed by the owner since last 4-5 months.

On clinical examination two huge

extra-scrotal swellings were found in the right inguinal region. The anterior one was smaller and softer as compared to the succeeding tumorous mass. Puncture of the anterior swelling revealed frank arterial blood at one place, while a straw coloured fluid oozed out at another place. Puncture of the hard posterior portion did not reveal anything. Scrotum was normal, and as no diagnosis could be arrived at it was decided to carry out an exploratory operation.

Surgical Technique

The bullock was tranquilized by giving 60 mgs. of trifluromazine intravenously. Anaesthesia was achieved by infiltration of 2% lignocaine locally. A single elliptical incision was made involving both the swellings. The anterior one was found to be result of a big clot with the straw coloured fluid, indicating a recent injury. The posterior enlargement was found to be the enlarged testicle with intact tunics. The

Turn to page 29

Suspected cutaneous actinobacillosis in camels

Three weak and debilitated camels (*Camelus dromedarius*) were referred to the clinic for examination. Their lips were hard and swollen, and in one camel, the lower lip was perforated from the exterior cutaneous surface to the inner labial mucosa. There were inflamed areas with small pyogenic foci beneath the labial mucosa. Hard, cutaneous, large granulomatous swellings were also present on both sides of the upper part of the neck, just posteroventral to the mandible with ulceration, necrosis and exudation of pus. There was no tongue involvement and the lesions were limited to the mouth, face and neck region and were similar to those which occur in actinobacillosis of sheep and cattle. The swellings were progressive and had been present for 6 to 12 months. Pleomorphic gram-negative rods were observed in smears of pus, but no recognized pathogens were isolated. 'Rosettes' or 'club colonies' were observed in wet preparations of cutaneous lesions.

Stab incisions were made to the swellings and the pus was drained out. After removing the necrotic tissue, the wounds were packed with gauze, soaked in strong tincture of iodine, and dressed on alternate days. Boroglycerine was applied over the inner aspect of the lips and on the gums for a soothing effect; 40 to 50 ml of Lugol's iodine solution was injected intravenously per day for 7 days and streptomycin (1,500,000 units of procaine penicillin G, 500,000 units sodium penicillin G and 2.5 g streptomycin sulphate) was injected intramuscularly each day for 9 days. The camels were given liquid food for at least one week because they had difficulty in eating. By 5 and 7 weeks the discharge had ceased and the lesions had regressed markedly leaving a minimum degree of subcutaneous thickening.

contribution.
Authors: N.R. Purohit, R.K. Purohit, D.S. Chouhan, R.J. Choudhary, P.K. Mehrotra, & R.N. Sharma of Sukhadia Univ., Rajasthan, India.

Source: Aus Vet J Jan 88

Acute oxalate poisoning of sheep

Buffel grass (*Cenchrus ciliaris*) is a valuable pasture species planted widely in drier areas of tropical and subtropical Australia (Davies and Hutton 1970; Jackson and Jacobs 1985). Oxalate was first detected in buffel grass by Jones and Ford (1972a). The largest total and soluble oxalate concentrations so far reported in this grass are 4.2 and 2.2% of the dry matter respectively (McKenzie et al 1981; Walthall and McKenzie 1976). It is difficult to define precisely a soluble oxalate content above which plants are toxic, but when sheep are hungry, plants of any kind with more than 2.0% of their dry matter as soluble oxalate are probably capable of poisoning them acutely (Mathams and Sutherland 1952). We record here 3 incidents in the Warrego pastoral district of south-western Queensland where acute oxalate poisoning of sheep by buffel grass was strongly suspected or confirmed. Buffel grass has not been reported to cause this syndrome previously.

The first incident occurred in January 1976 after 1900 Merino ewes had been mustered from an eaten-out paddock and yarded for crutching on 11 January. They were released on 13 January into a lane containing a nearly pure sward of young buffel grass. More than 100 sheep died over the next 5 days, beginning less than 12 h after their release. Affected sheep had dyspnoea, staggered, collapsed, became comatose and died without struggling. A necropsy by the owner revealed a rumen full of buffel grass. No material from the affected sheep was available for laboratory examination. Buffel grass (aerial parts) sampled from the lane on 19 January contained 2.5% soluble oxalate in the dry matter and 3.1% total oxalate.

The second incident occurred in May 1986 after 5000 yearling Merino wethers were transported by truck, shorn, dipped and released on 22 May into a paddock of lush buffel grass. Fifty had died and 10 were ill when the flock was examined on 27 May. Affected sheep were stiff-gaited, collapsed when chased, seemed hypersensitive to touch and died without struggling. Necropsy of an affected sheep revealed swollen kidneys with pale cortices. It was marginally hypocalcaemic (serum calcium 1.97 mmol/L) and hypermagnesaemic (serum magnesium 1.34 mmol/L) and had marked elevations of serum creatinine (985 μ mol/L) and serum urea (65.1 mmol/L). Histologically, the kidneys were nephrotic with necrosis of some cortical

tubules, dilation of most tubules, hyaline casts and many rosettes of birefringent calcium oxalate crystals in tubular lumens and oedema of the interstitium. No buffel grass was submitted for analysis.

The third incident occurred in February 1987 after a mixed flock of 1100 Merino sheep had been held in yards for 2 days, then released into a lush paddock containing mostly buffel grass. The first deaths occurred on 28 February. About 200 had died and 40 were ill when the flock was examined on 2 March. Affected sheep had a stiff-legged gait, staggered, collapsed and died, mostly without struggling. Necropsy of 2 affected sheep revealed pale swollen kidneys and mild liver congestion. Serum from one of these sheep was markedly hypocalcaemic (0.73 mmol/L), slightly hypermagnesaemic (1.43 mmol/L) and had marked rises in creatinine (696 μ mol/L) and urea (56.8 mmol/L). Histologically, this sheep's kidneys contained many calcium oxalate crystals in the cortical tubules. Some tubular epithelium was necrotic and hyaline casts were present in some distended tubules. Some mild focal rumenitis and fatty change in the liver were also seen in this sheep. The second sheep necropsied had fewer crystals but severe dilation of cortical and medullary tubules and Bowman's spaces with extensive interstitial fibrosis, thickened Bowman's capsules and some lymphocytes and neutrophils present. Fatty change was seen in the liver. Buffel grass sampled on 10 March contained 1.8 to 2.9% (mean 2.3% from 4 samples) soluble oxalate in the dry matter and 2.7 to 4.0% (mean 3.5%) total oxalate. The upper 20 to 25 cm of the plants were collected and analyzed.

The findings in all 3 incidents are consistent with acute oxalate poisoning of ruminants (James 1978; Seawright 1982). The renal fibrosis in the second sheep necropsied from the third incident may suggest an insult previous to that from buffel grass in its case. The amounts of soluble oxalate found in buffel grass from these incidents are higher than those previously recorded. The only other grass associated with acute oxalate poisoning of ruminants is *Setaria sphacelata* (Seawright et al 1970), which can contain up to 6% soluble oxalate (Jones and Ford 1972b). Clearly, sheep which are held without feed for 2 or more days and then given access to lush buffel grass are at risk of acute oxalate poisoning. In these circumstances, sheep should be released onto alternative pasture or fed hay in

the yards before having access to the buffel grass.

Source: Aus Vet J Jan/88. Short contribution.

Authors: R.A. McKenzie, A.M. Dell & G.J. Storie of Animal Research Institute, Yeerongpilly, F.J. Keenan, K.M. Cornack & S.G. Grant of Vet. Services Branch, Charleville.

Did you know

During the V-Bomb Blitz in 1944-45 there was, on a back street in London, a goat who established a world milk production record. At that time she was being fed largely on greengrocers' waste.

It takes a bottle-fed baby 10 days longer to reach the mental milestone of learning to walk than it does a breast-fed baby.

At two years of age the human brain has reached 70% of its full size. At seven years it has reached its full size. After that the best you can do is make better use of what you have, rather than waste your time wishing for more.

Case report

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testes were incised, the testicle was found to be free from tunics and was removed by ligating the spermatic cord at two places and severing it distally. Skin was sutured by mattress type of sutures. Post-operatively Streptopenicillin 2.5 gms. was given intramuscularly for five days.

Results and Discussion

The bullock made an uneventful recovery. Histopathology of this testicular tissue revealed presence of hyaline cartilagenous plate in many places. Cartilagenous islands also revealed areas of active multiplication. Neoplastic cells appeared rounded or pleomorphic. Nuclei of the neoplastic cells appeared very prominent with distinct nucleolus. The cells were arranged in the form of sheets. At some places fibrous stroma was found separating the neoplastic cells. Because of the presence of cartilagenous plates with active areas of multiplication the tumor was classified as malignant teratoma.

Source: Ind. Vet J Oct/87.

Lumpy skin disease in Zanzibar cattle

Summary

Lumpy skin disease (LSD) was first reported in cattle in Zanzibar in 1982. Clinical picture indicated that it was LSD and this was later confirmed serologically and by isolation of Neethling type virus in Veterinary Laboratories in Kabete, Kenya and Temeke, Dar es Salaam.

Epidemiological study indicated that the source of infection was from Tanzania Mainland in Shinyanga Region, where beef cattle had been imported to the Island. Morbidity rate was low 5.7%, with higher incidence in exotic dairy breeds (21.5%) than local zebu breeds 4.7%. Mortality rate was very low averaging 1.7%, in exotic and 0.5% in Zebu cattle.

Introduction

Lumpy skin disease is a sporadic viral disease of cattle characterized by fever, cutaneous nodules and generalized lymphadenitis. It is caused by a pox virus (the Neethling type) and a herpes virus (the Allerton type). It is believed to be arthropod-borne, main vectors being unknown. The Neethling virus which causes the most acute form of the disease is immunologically related to pox viruses of sheep and goat.

The disease had never been reported in Zanzibar before the 1982 outbreak and initially it was designated as "Skin disease of cattle of unknown etiology". The first case reported was of a dam and its calf grazing in the vicinity of the holding ground of beef cattle recently imported from Shinyanga. None of these imported animals showed any LSD clinical symptoms for the period they were kept in the holding ground before slaughter (normally 2 weeks).

Bacteriological examination did not reveal any *Dermatophilus* spp. thus streptococcosis was ruled out. Further investigation was carried by collection of specimen which was sent to Central Veterinary Laboratories in Temeke and Kabete, Kenya for virological examination for lumpy skin disease.

Epidemiology of the Disease

The first case occurred in a cow and her calf grazing near Zanzibar town at the holding ground for beef animals imported from Shinyanga region. The disease later on spread to nearby state owned dairy farms and individual farms to a radius of 35 kilometres in Zanzibar, but not to its sister Islands of Pemba and Tumbaku.

In the affected farms all ages and breeds of cattle suffered from the

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disease. Breeds affected were Friesian, Jersey their crosses and local Zebu. Clinical cases examined showed intradermal nodule formation whose size ranged from 1-4.5 cm in diameter and these nodules appeared on the flanks, forelimbs, thighs and on the perineal areas. In some of the acute cases nodules appeared all over the body, showed systemic involvement, with low fever, depression, inappetence and swelling of lymphnodes. Some animals died as a result of respiratory track involvement. It was observed that in the animals which recovered many of the nodules resolved completely. Few nodules thickened and became necrotic and then dried into a hard and scabby form, the sitfast, which healed after four weeks resulting in a scar.

Morbidity and mortality rates observed and recorded from the different farms under study indicated that they were higher in exotic cattle than in the local Zebu cattle. The highest infection rate for the disease in the local zebu cattle which was reported in the North area of Zanzibar where out of 123 cattle, 35 were affected giving morbidity rate of 28.46%. In the South and Central areas of the Island the morbidity rate for the Zebu cattle 12.68% and 12.49% respectively. Mortality rate was below 2%. In exotic breeds the morbidity rate ranged from 0.93 to 76.32%. Mortality rate ranged from 0 to 3.76%. More calves died of the disease as compared to adults.

Laboratory Diagnosis

Isolation of the Virus:

Suspension of material from fresh nodules was inoculated into primary cell cultures from calf kidney. After fourteen days of incubation, on second passage cytopathic changes were observed. These included rounding up of cells, death, and detachment of cells and basophilic intracytoplasmic inclusion bodies.

Serology:

Serum samples collected during the acute and convalescent stages of the disease were sent to Kabete, Veterinary Investigation laboratory, in Kenya. Serological results sent by telex

confirmed the condition as being caused by the Neethling type of Virus.

Discussion

It is interesting to note that the Island never experienced Lumpy skin disease before 1982 despite that it imported livestock from LSD endemic areas in Kenya and Tanzania mainland.

The source of infection was definitely the livestock from Shinyanga, as the first case occurred seven days after their arrival. However, the Shinyanga group did not show LSD clinical symptoms but being from endemic areas they could have been carriers of the virus or suffering from inapparent infection. The spread to other farms from this focus could be due to insects.

The clinical picture observed in this outbreak is in agreement with those reported elsewhere. Mild systemic involvement coupled with multiple skin nodules were also reported by Robertson (1976), Namathe (1978) and Buxton and Fraser (1978). In addition, in 1948, deBoon reported that lesions in the respiratory tract were often followed by pneumonia and secondary bacterial infection which led to death of the animals.

Laboratory diagnosis carried at CVL, Temeke indicated that the virus had to adapt itself on calf kidney monolayers before typical CPE could appear. The cytopathic changes observed of rounding up of cells and intracytoplasmic inclusion bodies were also reported by Plowright and Witcomb (1959). Serology could also aid in diagnosis as the virus is known to produce neutralizing antibodies (Weiss 1963) which could persist for 5 years in recovered animals.

Source: Tanzania Vet Bulletin Apr/83

Did you know that

Agriculture dominates PNG's economic life. It provides the main source of livelihood for 85% of the population, employs 75% of the labour force, produces 40% of the total export revenue, and contributes 35% of the gross domestic product. As such agriculture is considered the major force towards economic growth.

Source: PNG S.A.P. Newsletter Feb/88

1988 activities of the Singapore Association

SVA lectures

During the year, SVA was able to get a number of distinguished visitors to give lectures. The lectures were well attended by members and they covered a wide range of topics. They were as follows:-

Jan. 19, 1988 - Mr. Stephen Ford of the British School of Falconry, Canterbury, England spoke on "Birds of Prey". Mr. Ford spoke on the different species of birds of prey and the methods he employed to train them.

Mar. 4, 1988 - Dr. Chris Hutson, a small animal clinician from California gave a talk on "Oncology in Small Animals". Dr. Hutson provided some very interesting insights on tumours and advances in therapeutic measures in Oncology.

Mar. 12, 1988 - Prof. Sumner Smith from Guelph University, Ontario, Canada gave a lecture on "Principles of Stabilization of Fractures". Prof. Sumner Smith's talk was accompanied by an interesting presentation on video of dogs in motion and the diagnosis of lameness in dogs.

Mar. 29, 1988 - Prof. R.S. Wyburn from Murdoch University, Perth, Australia, gave a lecture on "Radiographic Diagnosis of Thoracic Disease in Small Animals".

Apr. 15, 1988 - Dr. James Forbes, an equine practitioner from Perth, Australia, spoke on "Radiation Treatment in Horses and Small Animals". Dr. Forbes introduced a novel method of treating lameness in horses and dogs using radiation therapy.

Sept. 15, 1988 - Dr. R.S. Jones, a reader in Veterinary Anaesthesia, University of Liverpool, UK, delivered a short refresher course on "Veterinary Anaesthesia".

Sterilization Campaign

Members of the SVA played an active part in the campaign to encourage sterilization of bitches. This was a joint campaign with the local Society for the Prevention of Cruelty to Animals and the Primary Production Department, Ministry of National Development. The objective of the campaign was to educate the public on the benefits of sterilizing their dogs.

News About Members

Two members of the Association were given high appointments by the Singapore Government. Dr. B.Y. Lee was promoted to Senior Minister of State, National Development and

Home Affairs and Dr. T.F. Cheng was appointed Singapore's Ambassador to Japan.

Annual Conference

The Singapore Veterinary Association held its annual conference on Oct. 21-23, 1988 at the Goodwood Park Hotel, Singapore. It was a very successful scientific meeting centred around the theme "Challenges Ahead for the Veterinary Profession in Singapore".

Papers presented ranged from "Three Years of Serological and Epidemiological Results After a Rabies Dog Vaccination Campaign in Lima/Peru" to a highly exotic one entitled "Differentiation of Genuine

and Imitation Shark's Fin: A Preliminary Study". The latter is an original research of the Veterinary Public Health Laboratory, Singapore, and is believed to be the first time that a laboratory is able to distinguish between genuine shark's fin and imitation ones which are coming into the market. Since shark's fin soup is an expensive delicacy in eastern cuisine, the availability of such a test is important for consumer protection. A copy of the program for the scientific session is enclosed.

Source: Communication from council member C.H. Giam.

Successful conference

The Papua New Guinea Society of Animal Production (PNGSAP) enjoyed a very productive five-day inaugural conference during June of 1988. It was held at the PNG University of Technology in Lae. Twenty-nine papers were presented during sessions, covering the following fields: ruminant nutrition, monogastric nutrition, soils and pastures, animal health, farming systems research and economics, education, genetics, and policy and aid programs.

The fourth day was filled by a broad-scoped and fascinating field trip. Among locations visited were a small-holder broiler farm, a table birds processing plant, a crocodile farm, a Priangan crossbreeding sheep project, a cattle ranch, a small-holder beef cattle project, and a piggery. The fifth and last day of the meetings included a discussion panel and the 1st Annual General Meeting of the PNGSAP.

Two CwVA workers played an active role at the conference. These were Mike Nunn, CwVA Council Member for Papua New Guinea, and Bill Pryor, CwVA Council Member for Australia. Dr. Nunn, representing the National Veterinary Laboratory at Kila Kila, presented two papers, one dealt with "The interaction of animal husbandry and health in Papua New Guinea" and the other with "Training for animal health in Papua New Guinea". Dr. Pryor, who is also CwVA Regional Representative for Australasia, represented the Australian Centre for International Agricultural Research and was chairman of the session on education. Dr. Pryor, who incidentally is the Immediate Past-President of the Australian Society of Animal Production, addressed the gathering at the beginning of the session on 'policy and aid programs'.

Source: Working Abstracts of the inaugural PNGSAP conference.

Zimbabwe

Zimbabwe - a few of its many attractions: World-famous game parks. Countless exotic birds. Large and thriving herds of elephants. The wild rhino of Africa making a successful stand for survival. Victoria Falls (the 8th wonder of the world). The Zambezi river. Kariba - the largest man-made lake in the world. Excellent safaris at reasonable prices.

A tribute to Australia

In his address to the "Islands '88 Conference", held at the University of Tasmania last May (1988), Commonwealth Secretary-General, Shridath Ramphal, referred to "Australia's abiding interest in small states, and its positive approach and proud record in responding to their problems".

Extracts from abstracts

The following excerpts have been extracted from the 'Working Abstracts' of the 1988 PNGSAP Conference. The author or authors are indicated in brackets at the end of each excerpt.

Digestibility coefficients were consistently higher for goats (than for sheep) on all diets. (Suggested) was a longer retention time of ingesta in goats (and) hence their lower intakes and higher digestive efficiencies as observed. It was concluded that goats are able to digest low quality forages more efficiently than sheep, and that leucaena may be used with confidence to upgrade native pastures in Papua New Guinea. (M. Komolong & N. Skiskandarajah)

(For growing pigs) the feed cost in Kina value per kg of diets containing copra declined as the level of copra meal was increased. Carcass quality, in terms of lean and fat composition, was not effected by increasing levels of copra meal in pig diets. (K. Wenge & W. E. Nano)

Sulphur, boron and a low rate of phosphorus, when applied together, would maximize clover production at Menifo Sheep Research Centre but further evaluation is necessary to establish optimum fertilizer rates under grazing. (S. Sivasupramaniam, J. A. Pitala & A. K. Benjamin)

Papua New Guinea enjoys an enviable animal health status and remains free of the major infectious diseases of animals. Diseases that are endemic are largely able to be prevented and controlled by existing veterinary technology where this can be delivered accurately, quickly and cost-effectively. (M. J. Nunn)

Livestock production in Papua New Guinea consists of three subsectors or systems for each species, village subsistence, small-holder, and commercial. The system of husbandry practiced has a major influence on the health problems that occur. The diseases that are significant, for each species, are quite distinct in each of the three subsectors. (M. J. Nunn)

A parasitic disease which is mainly a medical responsibility but likely to be a problem to meat inspector services in the future is human and por-

cine cysticercosis. Bee mites are also likely to be of concern to Pacific Island veterinary authorities in the next few years. (D. J. Banks)

Where animals are raised with any intensity they must be protected from the effects of internal parasites. As these thrive in the warm humid climate, they result in heavy losses in production and mortality if allowed to go unchecked. Frequent drenching has recently led to the development of anthelmintic resistance. In the long run it is vital that small ruminant industries in the Pacific Islands move away from the almost total dependence on anthelmintics for parasite control. (D. J. Banks)

The suppressive use of drugs to control internal parasites has increased the cost of production and, more importantly in the long term, it has led, in some areas, to the development of drug-resistant strains of parasites. If this trend continues it is likely that resistance to all the presently available broad spectrum anthelmintics will be seen within the next few years. Before this occurs, alternative methods of control, which do not rely on suppressive drenching, need to be developed. (D. J. Banks & R. Singh)

Investigation into mortalities in ranched crocodiles was undertaken at two locations in Papua New Guinea. Examination of records, of tagged crocodiles, revealed that less than 25% of deaths, in introduced animals, occurred in the first 30 days on the crocodile farm. Nevertheless, more crocodiles died within the first five days on the farm than during any other five day period. Lesions were detected in most organs, brain, lung, liver, kidney, skin, stomach, intestine, rectum, spleen, blood, eye, muscle and bone. The specific aetiology of many of these lesions was not established, although coccidia, bacteria, nematodes and trematodes all produced pathology. The range of lesions seen varied between the two locations. (L. D. Sims & P. W. Ladds)

On the average (smallholder broiler) farms made adequate income to pay the loan and interest and earned a net income per day which was higher than the minimum rural wage rate per day. As the farm

sector is required to provide more income and employment opportunities, it is desirable to extend the coverage of the smallholder poultry program. (D. K. Das)

The semi-subsistence farmer represents a significant 87% of the rural sector. An approach, which centres on the development of the large human resources in the rural sector, is needed, (along) with the organizational structure to deal with this objective. (N. Skiskandarajah & D. J. Underwood)

Livestock numbers in Papua New Guinea are, by Asian standards, low. Papua New Guinea is remarkably free of major diseases of animals. Animal nutrition and husbandry are the major constraints to animal production and productivity. (M. J. Nunn)

The efficient use of scarce professional (veterinary) manpower, expatriate and indigenous, is possible only by developing strong supporting para-veterinary or auxiliary staff, both field and laboratory. (M. J. Nunn)

The ewe productivity rate in purebred Priangan sheep in the lowlands of Papua New Guinea is high, with multiple births ranging from 30 to 40%. The heritability of multiple births is around 20%. Therefore selection within breeds for higher fecundity is likely to be low. However, there is an appreciable inherited influence on the lifetime lambing performance of the ewe, so that selection based on repeated records would be effective in improving litter size. (R. C. Malik)

As the Braham content, in Braham-crossed cattle, increased birth weight decreased and growth increased. Within a genotype there was a negative maternal effect of high Braham content on birth weight and a positive effect on growth. Afrikaner calves were heavier at birth but grew more slowly. As expected, bull calves were always heavier, heifer calves lighter, and mature cows bore and reared heavier calves. High grade Brahams were superior to lower grade ones in growth, and Brahams were superior to Afrikanders in pre- and post-weaning growth and their equal in reproduction. (J. H. G. Holmes, M. J. McKinnon, G. W. Seifert & J. H. Schotter)

Proposed rodent control strategies

(i) Restricted use of acute rodenticides in control activities except when there is an outbreak or threat of an outbreak. The use of anticoagulants should continue where other methods prove inadequate.

(ii) Manipulating the environment to accommodate low populations of rodent pests especially in the outbreak foci. This should include the following:

(a) Reducing or removing any source of food available to rodents in farms and stores. This is likely to reduce the population size of the pests since adequate food is essential for both reproduction and survival of the pests. Such undertaking can be accomplished by removing all crop remains in the field after harvesting and burning them immediately, early harvesting, rodent-proofing of food stores and weeding farms at the right time.

(b) Altering the environment so that it

becomes less favourable or less habitable to rodents. The rodents will therefore lack appropriate shelter. This can be accomplished by (1) Clearing the farms and the neighbouring areas in time because any remaining crop stubbles conceal the hiding places for rodent pests. (2) Clearing areas with dense vegetation which normally form the breeding areas for rodents. Trapping in the Chunya outbreak foci showed that such areas were occupied by *P. natalensis* and *Tatera robusta*. Many burrow systems were also very common in these areas than on bare land. This indicated their importance as breeding zones.

(iii) Use of adaptive methods or technologies depending on local conditions, e.g. the use of electronic gadgets (producing ultra-sonic sound waves) which have effects on the Central Ner-

vous System. This is to be recommended for use in stores.

(iv) Use of biological control methods if and when established to be effective.

(v) Use of livestock especially cattle and goats to reduce rodent populations. Livestock will be highly effective because they clear and trample the ground and this disrupts the habitats and breeding places of the pests.

Finally, control of rodent pests is a responsibility of the farmers. Therefore the most appropriate approach towards solving the rodent pest problem is to mobilize the farmers to get more involved in control activities in the problem areas. Control campaigns in which the peasants are not fully involved is bound to fail.

Source: Tanzania Vet Bulletin Apr/83

Author: R.H. Makundi

Our land needs help

from the Australian Veterinary Practitioner

Australian soils are said to be the oldest in the world. Most are fragile and infertile.

When the early settlers came to this land they had little understanding of the different ecology, harsh climate, the unique plants and wildlife. They cleared extensively and introduced farming techniques based on the very different European conditions. They brought foreign animals and plants. Later, agriculture and mechanization developed on a scale undreamed of in Europe.

Today we know the consequences of this. Over half of our farmland has been damaged. Much has been severely degraded. It's a problem which will affect every Australian if it goes unchecked. Our soil provides the food we eat, the clothes we wear, the houses we live in. 35% of our exports come from agricultural products. Without healthy soil, Australia's economy will suffer.

Yet, if things go the way they are, there could be a third less top soil per person by the end of the twentieth century. It's a problem that will concern every Australian. And every person can help.

Why Do We Have This Problem?

When the first white settlers came to this country many set about recreating Europe. Unlike the Aboriginal people, the Europeans saw the landscape as hostile, strange, uncomfortable and ugly.

An example of this attitude is that of Major Robert Ross, Lieutenant-Governor of the colony in its first year, who wrote: "The general impression is dismal. The hills are thrown together in a monotonous manner and their clothing is very unpicturesque, a mere sea of harsh trees. There is a dreary uniformity of form and colour. Where are the blue-veined violets? Harebells, buttercups, daisies, soft silken primroses? Where are the lions, tigers, elephants, hippopotamus and other noble quadrupeds?"

Many Europeans saw great opportunity in exploiting the land. New crops and new animals were introduced. Vast areas of native vegetation were cleared for farming. To meet the ever increasing demand for sheep, cattle and crops.

The results of the way the land was used were often disastrous. Paddocks were left bare leaving fragile topsoil to be washed or blown away. Problems of

salinity arose when the trees were cleared.

Unlike the soft-footed native animals the hard-hooved sheep and cattle trampled the fragile native plants and compacted the soil. Sheep ate the plants right down to the roots, exposing the land to erosion.

The problems were compounded by the overstocking and overgrazing which are still a problem today in some areas.

Where Does This Lieve Us Today?

The main problems are erosion, salinity and acidity. They have been caused by four types of mistreatment.

Overclearing

This has caused the most widespread damage.

Overgrazing

Too many grazing animals remove the vegetation leaving the soil exposed.

Misuse of Fertilizers

Artificial fertilizers, when added to the soil may cause acidity.

Overcropping

When crops are sown too frequently the soil has no time to restore itself. It loses its fertility and the soil structure breaks down.

Pulmonary Auscultation

The purpose of this paper is to emphasize the importance of pulmonary auscultation for the clinician. It suggests a clarification and simplification of the terminology to be used which would be helpful to veterinary students and allow better communications between veterinarians. The interpretation of these sounds and the relationships to conditions and diseases of the lungs in cattle, horses, sheep and goats are discussed.

Lung Sounds

Pulmonary auscultation is the science and art of listening to and interpreting sounds from the lungs and airways. Rene Laennec is generally credited with inventing the stethoscope and he published a book in 1819 which described normal and abnormal lung sounds in man. The techniques of auscultation and the terminology employed were gradually adopted and modified by veterinarians who have many species to examine. It is perhaps not surprising that confusion developed. Confusion in the terminology used to describe normal and abnormal sounds exists even in man. There is also confusion in attempting to relate abnormal lung sounds to specific diseases involving the lungs of animals.

This confusion may have caused many veterinarians to replace auscultation with radiography and other sophisticated, and often expensive laboratory and/or diagnostic procedures. Such techniques are extremely useful in dogs and cats and are being widely employed in examining the respiratory tract of horses. However, auscultation and other physical examination techniques such as percussion are the most cost-effective diagnostic methods in clinical practice.

Consequently, we believe that the science and art of pulmonary auscultation must be taught to veterinary students and used routinely in veterinary practice.

Several excellent papers dealing with lung sounds have been published in recent years. These have attempted to clarify the terminology and the interpretation of lung sounds. They provide important information on the mechanisms of sound production from the respiratory tract and should be compulsory reading for veterinary students and clinicians. However, we believe that additional clarification and simplification of the terminology and the interpretation of lung sounds in cattle, horses, sheep and goats is possible.

The actual techniques of pulmonary auscultation with the proper

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ABSTRACT

stethoscope have been adequately described. It should be emphasized that proper auscultation requires a systematic routine with careful attention to what one is hearing rather than a careless, ritualistic approach.

The terminology which we suggest for normal and abnormal lung sounds and the terms which they have replaced are listed in Table I.

Normal Lung Sounds

Normal breath sounds are used to

describe the sounds from the lung which vary in quality depending on where the stethoscope is placed over the respiratory tract. They are loudest over the trachea and base of the lung and quietest over the diaphragmatic lobes of the lung. Normal breath sounds are loudest on inspiration because inspiration is an active process in contrast to expiration which is passive in normal animals. Normal breath sounds are often difficult, if not impossible, to hear in obese animals or in noisy surroundings which are common under field conditions. The term alveolar sounds should not be used since it has been demonstrated that this area of the lung is a quiet zone or a silent zone and that the velocity of gas flow is likely too low to generate audible lung sounds.

TABLE I

Terminology for Normal and Abnormal lung and chest sounds

TERMS

Normal Lung Sounds

Normal breath sounds

Increased Breath sounds

Abnormal Lung and Chest Sounds

Increased bronchial sounds

Crackles

Wheezes

Pleural friction rub

Absence of breath sounds

Miscellaneous Sounds from Thoracic Area

Expiratory grunt
Heart sounds
Rumen sounds
Skin sounds
Peristaltic sounds

Terms Which Have Been Replaced

Alveolar sounds
Vesicular sounds
Bronchovesicular sounds
Bronchial sounds/tones

Moist rales
Discontinuous sounds
Coarse crackles
Fine crackles
Crepitations

Dry rales
Rhonchi
Continuous sounds

Silent lung

Pulmonary Auscultation

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Since vesicular sounds have also been described as alveolar sounds, this term should be dropped as should bronchovesicular sounds. Bronchial sounds could be used to describe normal breath sounds but we suggest that the term, normal breath sounds, is the simplest.

Increased breath sounds are heard in normal animals with increased respiratory rate and depth of respiration. This can occur for physiological reasons such as unaccustomed exercise, excitement, or a high environmental temperature. They can also occur in abnormal states such as fever, acidosis or pulmonary congestion in early pneumonia or myocardial disease.

Abnormal Lung and Chest Sounds

We suggest that the term abnormal lung sounds is better than adventitious sounds. There is not a sharp line of demarcation between increased breath sounds and increased bronchial sounds. Many clinicians are prepared to use the latter term when the lung sounds are harsh and approximate the sounds heard over the trachea. They are heard on both inspiration and expiration but become louder on expiration in abnormal states such as consolidation. Any disease in which the bronchial lumen remains open and the surrounding lung tissue has been replaced by cells and tissues (consolidation), which transmits sound better than air, will result in increased bronchial sounds.

Crackles are abnormal lung sounds described as clicking, popping, bubbling sounds. A crackle is probably a more descriptive term than a rale in the English language. For many years these sounds were thought to be due to bursting bubbles of fluid in the airways and were referred to as moist rales. The term moist should not be used since the same sound (crackle) can also be caused by airways which are dry but which remain closed for a portion of inspiration, and then suddenly open to produce crackles. In man, the fluid, bubbling type of sounds have been designated as coarse crackles and higher pitched sounds as fine crackles. It is worth noting that in man no one so far has been able to determine, in many different disease states, the range of intensity and frequency content in coarse versus fine crackles. We do not find it useful to use these qualitative adjectives in the domestic animals we examine because distinction between coarse and fine crackles are difficult to make with certainty. Likewise, a crackle should not be designated as a discontinuous sound since this is simply

a description of the waveform and in some abnormal lungs in animals the sound seems continuous. It is recognized that coughing may stop a crackle or move it to another area of the lung. Crepitation should not be used to describe sounds originating from the lung. The term could be used when air which has escaped from damaged lung, and travelled through the mediastinum, becomes trapped under the skin over the thoracic cavity (subcutaneous emphysema).

Wheezes are whistling, squeaking sounds caused by vibration of airway walls or air passing through a narrowed airway. The term is used to refer to those sounds previously described as rhonchi and dry rales. The narrowing of the bronchial lumen is often due to tenacious exudates adhering to the wall of the lumen. However, they may also be narrowed by bronchospasm, abscesses, or by metaplasia of air passages. Wheezes are best heard in the horse on expiration but can frequently be heard in late inspiration or expiration in cattle. Wheezes should not be designated as continuous sounds which is a description of the waveform only, since tenacious material can be dislodged and the wheeze will stop.

Loud, wheezing-type sounds which are loudest over the trachea during inspiration (inspiratory dyspnea) are called stridor and are caused by obstruction of the larynx or trachea usually caused by an inflammatory process (e.g. bovine diphtheria) and occasionally by laryngeal paralysis or a tracheal mass. Stridor is commonly audible without a stethoscope; they may be heard from some distance away from the animal.

Pleuritic friction rubs have been described as "sandpaper" like sounds from the chest. They are caused by severe inflammation in the pleural cavity and the rubbing together of visceral and parietal pleura. It is interesting to note that pleuritic friction rubs are not commonly heard, even in the horse, where pleuritis is a common condition. The parietal and visceral pleurae may be adherent in severe pleuritis or the presence of an effusion will prevent rubbing.

The absence of breath sounds is not a common finding on clinical examination. It does occur when something is obstructing the transmission of normal lung sounds. This may be due to fluid (pleural effusion) or air (pneumothorax).

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TABLE II
ABNORMAL LUNG AND
CHEST SOUND AND
EXAMPLES OF WHEN
THEY OCCUR

Abnormal Lung Sounds	Examples
Increased bronchial sounds	Severe pneumonia in cattle, sheep and goats with consolidation. Chronic obstructive pulmonary disease in horses (expiration).
Crackles	Acute atypical interstitial pneumonia in cattle. Pulmonary adenomatosis in sheep.
Wheezes	Chronic obstructive pulmonary disease in horses. Chronic atypical interstitial pneumonia in cattle.
Stridor	Bovine diphtheria. Infectious bovine rhinotracheitis (respiratory form).
Pleural friction rub	Pneumonic pasteurellosis in cattle (advanced cases). Pleurisy in horses (rarely). Acute atypical interstitial pneumonia in cattle.
Absence of breath sounds	Pneumothorax. Pleural effusion. Space occupying mass in thorax.

Epidemiology: swine fever in Britain

Rees (1987) uses the recurrence of swine fever in Britain in 1986 to highlight the continuing vulnerability of that island country to the introduction of exotic diseases.

Swine fever was eradicated from Britain in 1986 and the country remained free (except for three small related outbreaks in 1971) until April 1986. The 1986 outbreak involved 10 farms, and it is believed that 3 were primary and the rest secondary spread from one of the primary outbreaks. The 3 primary outbreaks were linked to the importation of products of any one of 3 continental European bacon factories. Although Britain has "strict controls on the processing and feeding of waste food" exotic disease outbreaks in recent years have "almost invariably" involved imported waste food. The 1986 outbreaks of swine fever were caused by the illegal feeding of unboiled table scraps to pigs and did not involve licensed processing plants: "As a result, the law has now been amended and the feeding of all table scraps to livestock or poultry, whether or not they have been boiled, is now forbidden unless they have been processed in a licensed plant".

Although it is difficult to see how such a regulation can be enforced, Britain, as a major trading nation importing and exporting meats and livestock, obviously sees the need to strengthen barriers to prevent the introduction of ex-

otic diseases through imported foodstuffs. The risk is not confined to swine fever, and is probably greater for African swine fever, currently occurring in Spain and Portugal. These countries are popular tourist destinations for Britons, as is Italy, where foot and mouth disease is endemic (eg: more than 150 outbreaks in the first four months of 1987). The risk is not merely theoretical: "a tourist returning to Belgium from Spain in 1985 threw a meat product bought in that country into the boar pen of a neighbouring farm, and so initiated a series of 12 outbreaks

of African swine fever and the slaughter of 7000 pigs."

Rees concludes that "so long as the threat of importing exotic disease remains it is essential that we maintain strict and effective import controls on all animal products". Although written with reference to Britain, the same conclusion applies to P.N.G. which enjoys both an excellent animal health status and the natural quarantine barrier of being an island nation.

Reference: Rees, W.H.G. (1987), *B. vet. J.*, 143, 386-387.

Source: PNG Newsletter Nov/87.

Did you know that

Did you know that the FAO estimates that more than 100 million more cattle could be raised in Africa if complete tsetse control was effected in the seven million square kilometres or so which are occupied by the tsetse fly. That potential rapid increase, in the cattle population, is a source of worry to some people. They argue that the tsetse fly is an effective conservation factor, without which big game parks would be nonexistent.

Source: TVA Bulletin Jan/83

A cut-and-carry goat production system in East Java is based for nine months of the year on feeding leucaena

leaves. The leucaena trees are used as shade for coffee trees. Branches are cut of the leucaena trees and hung inside the goat pens. The leftover sticks are then dried and used as firewood. The manure is stored for several months under a platform inside the goat pen and is then used as fertilizer. This goat keeping system results in good production performance and it shows the potential of goat production as a complementary component to upland plantation systems and to energy production systems.

Source: PNG S.A.P. Newsletter March/88

NEW COMPUTER COURSE

CTVM students now have the advantage of a computer course, which was developed by the Centre of Tropical Veterinary Medicine, the University of Edinburgh and Tropag. Consequently students, taking M.Sc/Diploma courses at CTVM, now leave the centre 'computer literate'. They are able to use the machines for word processing, data base handling, statistics, studies of epidemiology and 'least cost rationing'.

CAMPAIGNS

It is reported from the Inter-African Bureau of Animal Resources, in Nairobi, that the Pan-African Rinderpest Campaign co-operation team is involved in full scale Rinderpest control operations in Burkina Faso, Ethiopia, Mali, Nigeria and Sudan. It is also reported that emergency campaigns in Uganda, Kenya and Togo have been supported. Source: CTVM Newsletter No. 45.

Pulmonary Auscultation

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diaphragmatic hernia, obesity and space occupying thoracic lesions. Shallow breathing associated with pain, weakness, or central nervous system disorders (meningoencephalitis) may be responsible for decreased breath sounds.

A much more common problem in auscultation of the lung is the interpretation of miscellaneous sounds. Great care must be taken to make sure that one is listening over the lung field the size of which varies from species to species. Failure to do this may cause confusion with intestinal borborygms or rumenal sounds. Careful examination should also differentiate the sounds coming from the skin and hair and from abnormal heart sounds (e.g. pericardial friction rubs). Expiratory dyspnea caused by consolidation of the lung or emphysema may cause an expiratory

grunt. Careful examination is necessary to distinguish this grunt from that caused by abdominal pain (e.g. diffuse peritonitis).

The abnormal lung sounds and some examples of diseases in which they are heard are listed in Table II. We suggest that the best means of becoming more proficient on lung auscultation is to make it part of the routine physical examination in all cases. In addition, every opportunity should be taken to do a necropsy on those animals which have died from respiratory disease. The correlation between what was heard and what is seen in the lungs at necropsy is useful, sometimes humbling, and will undoubtedly make one a better diagnostician.

Source: *Can Vet J.* 1966: 27: 170-172. Reproduced with permission of the Canadian Veterinary Journal.

Treatment of bovine tropical theileriosis

In Zimbabwe the following results have been achieved in theileriosis research in the past three years:

1. To learn more about the characteristics of the *Theileria* spp in Zimbabwe, parasites were isolated by establishing schizont infected lymphocyte cell lines. These cell lines were tested with a range of monoclonal antibodies (mAb) at ILAAO, Nairobi.

When mAb profiles of *T. parva* (bovis) were compared with the ones of *T. parva* (parva) and *T. parva* (lawrencei), no characteristic differences were found.

2. Secondly parasites were isolated in ticks by applying clean nymphs on sick cattle which had been collected from infected farms. After checking the infection rate, the ticks were used to prepare stabulates and were stored in liquid nitrogen. Five stabulates were titrated in cattle. The recovering animals were used for cross immunity trials. From the titration we learned that a small dose (0.1 tick equivalent) could successfully immunize an animal, without causing a major reaction. Some isolates caused a high mortality at doses of 10 TE. In the cross immunity trials it appeared that 4 out of 5 isolates tested were fully cross protective. Only one mildly reacting isolates did not give enough protection to withstand the Boleni stock.

3. A serological survey was done on 4 commercial farms. Over a period of 1 year sera were collected from 3 different age groups once every month in the rainy season and once every two months in the dry season. The sera were tested for antibodies in the indirect immunofluorescence test, using *T. parva* (bovis) antigen. Positive sera were found on all farms even on one farm with no history of *T. parva* (bovis) infection. This is probably due to cross reaction in the IFA test with *T. taurotragi* or maybe another unidentified but related mild theileria parasite. On some farms the serum titres started to rise before the rainy season, suggesting an exposure to *Theileria* during the period of nymphal tick feeding. *T. taurotragi* is known to be transmitted by nymphs.

4. Animals recovered from *T. parva* (bovis) infection will continue to be carriers of the parasite for at least 7 to 10 months. We were able to prove this in a number of cases by tick transmission. In several other cases we transmitted a theileria from a carrier animal, that probably was *T. taurotragi*. Serological testing for *T. taurotragi* of the recipient

animals has not been completed.

5. Evidence from the field suggests that nymphs of *Rhipicephalus appendiculatus* do not transmit theileriosis, because outbreaks only occur in the rainy season when adults are active. In the laboratory, it has been possible to infect animals with nymphs. As stated under 4, this could be important in boosting the immunity of the herd or in exposing the new calf crop, on an infected farm.

6. In a field trial at Willsbridge farm, immunized animals were exposed to natural challenge. Thirty animals had been immunized at the laboratory with a dose equivalent to 1 TE without applying any prophylactic treatment. The reaction turned out to be too severe, probably due to variation in susceptibility of animals. The results of the exposure on the farm were promising. The immune animals did not have major reactions, while 7 out of 10 control animals became ill and two died of theileriosis.

7. Observations made in the field, strongly suggested that young calves are more resistant to *T. parva* (bovis) than older animals. In a trial at the

laboratory, calves from dams with no history of *T. parva* (bovis), were infected at 1, 4, 7, 10 and 13 months of age. In groups aged 4 and 7 months more animals died than in 10 and 13 month old calves. However, the one month old group calf had clearly milder reactions than all other age groups. We might have found results better reflecting the field situation, if we would have used calves from immune dams. Another reason for the higher resistance of calves in the field, might be the significantly lower numbers of ticks carried by calves compared to adult cattle.

Acknowledgements: The work was sponsored by the Danish Aid Organization (DANIDA) through the (FAO). Valuable advice has been received from staff of ILRAD, farmers, Dept. of Veterinary Services (Field) and practitioners have been most helpful.

Source: ZVA News June-July/88
Authors: H.T. Koch, J.G.R. OCAMA, R.A.I. Norval, L. Kambeva, F.C. Munatswa, S. Masaka, Vet. Research Laboratory, Harare.

BOOK REVIEW

"Emergency Radiology In Small Animal Practice" C.S. Farrow; B.C. Decker, Toronto, Philadelphia, 1988. 375 pp \$64.00 (Can.)

In the preface, the author concludes "that there is no simple, universally acceptable definition of a medical emergency". Accordingly, some of the abnormalities described may not be seen as emergencies by some.

The book is divided into three sections: thorax, abdomen and skeleton. Within these three sections, specific abnormalities are described under the headings: general considerations, major radiographic observations, diagnostic strategy, pitfalls and alternative diagnoses. A short list (up to four or five) of references is given after each abnormality. Radiograph(s) and a legend accompany each description.

The written text is brief and to the point. Diagnostic strategy suggests other radiographic studies which might be helpful (or contraindicated).

Radiographic reproduction is generally excellent and the use of arrows complements the legend for most figures.

To effectively use the book, the clinician should have a radiographic diagnosis in mind. Trying to match one radiograph with another to reach a diagnosis has drawbacks, which the author tries to minimize under the headings pitfalls and alternative diagnoses.

In many instances, only one view instead of two is presented, presumably because the extra view would add little to the diagnosis, while contributing to the bulk and cost of the book.

This book would be a useful addition to the library of the small animal practitioner.

The reviewer is Dr. P.W. Pennock, Professor of Radiology, Ontario Veterinary College, Canada.

Notes from Zimbabwe

Depot neuroleptics or long-acting tranquilizers are indicated in human psychiatry for the treatment and control of a wide range of psychoses. The advantage of using anti-psychotics with a prolonged duration of action is that the patient need not be treated daily, as is the case with the ordinary neuroleptics. They are also useful for treating patients who cannot be relied upon to take their oral medication regularly. As far as is known, the use of depot neuroleptics in animals has not been recorded in veterinary literature in South Africa and it is only recently that they have been used on a small scale in wild antelope.

Benefits: The necessity for investigating the benefits of depot neuroleptics arose when high mortalities were experienced in some antelope species that had to be confined for a few days after capture and before relocation. Confining recently captured wild antelope in small enclosures is a stressful situation to the animals. In their attempts to escape they frequently injure themselves, often fatally by fighting, wear themselves down by constant walking and running and they seldom settle down. They refuse food and water and rapidly lose condition. Tranquilizers can be useful to alleviate anxiety and tension and modify behaviour but have a short duration of efficacy. Using neuroleptics with prolonged activity could be a great advantage in mood modification to make the new environment more acceptable, especially if a single injection could last several days or weeks.

Confinement: In the National Zoological Gardens some species such as impala, sable, gemsbok, springbok, waterbuck, lechwe and nyala have been particularly difficult when relocated. Two depot neuroleptics perphenazine enanthate (trilaforenanathate - Sherag) and pipothiazine palmitate (Piportil Depot - M&B) were successfully used to calm the animals to accept their new environment.

It was noted that although both drugs are phenothiazine derivatives in sesame oil for depot release there were quite marked differences in onset of action and duration of effect. The former caused calming in 16-18 hours after I.M. injection. Maximum effect was reached after 72 hours and lasted for 7-10 days. With Piportil the onset was slower, beginning after 2-3 days but lasted longer - 17-28 days. The simultaneous use of short acting tranquilizers like azaperone, ACP, xylazine or

haloperidol was advantageous due to overlapping effects.

It is important to note that the animals ate and drank whilst under the effects of the drugs, although with zoo animals the diet is unchanged whereas with wild game the food and containers are strange and require familiarization.

Both depot drugs have been used on free-living red hartebeeste, Lichtenstein's hartebeeste, tsessebe, black wildebeeste, impala, sable, roan, and springbok. In the case of the hartebeeste and tsessebe loading and transportation, even by air was simplified due to their acceptance of close confinement and proximity of humans.

Advantages: With neither depot drugs was deep sedation noted although

this did occur with another.

Disadvantages: Individual adverse reactions may occur like extrapyramidal parkinsonian-like symptoms, from overdosage or idiosyncrasy. Paradoxical effects like agitation, anxiety, excitement and restlessness could occur, sometimes only being manifest some 2-5 days post injection. Strict professional veterinary supervision and monitoring is essential.

Other depot neuroleptics like Modecate (Squibb), Haldol (Janssen), Fluanzol and Clopixol (Lundbeck) are registered for human use in S. Africa but are as yet have not been evaluated on wildlife.

Author: Dr. H. Ebedes, National Zoological Gardens, Pretoria. Vet News August 1987.

Source: ZVA News Oct. - Nov./87.

Fenvalerate poisoning

Due to the large number of cases of fenvalerate poisoning recently encountered by practitioners, the following data from the Drug and Toxicology Information Service of the University of Zimbabwe is offered to members.

Although a lot of this material is for human medical use it can be modified for use in animals.

Fenvalerate (Sumitak - Shell Chemicals) is a pyrethroid-like chemical which acts on axons to cause first a repetitive discharge, then an increase in negative potential and finally a conduction block. The LD50 is 450mg/kg but it is only moderately toxic to mammals when ingested. It is very toxic parenterally and skin contact or inhalation may cause allergic dermatitis or anaphylaxis.

Fenvalerate contains an aromatic hydrocarbon base to form an emulsion. This is probably of more concern in cases of ingestion as hydrocarbons cause local irritation as well as CNS stimulation and subsequent depression. After absorption, elimination of the hydrocarbon is probably by expiration through the lungs.

Symptoms of

Fenvalerate Poisoning

- Numbness of lips and tongue, sneezing, nausea, vomiting and diarrhoea.
- Headache, restlessness, tinnitus, incoordination, clonic convulsions, stupor and prostration.

c. Death due to respiratory paralysis.

Treatment

- Activated charcoal, then gastric lavage.
- Prompt washing of skin.
- Further symptomatic and supportive therapy.

Symptoms of

Hydrocarbon Poisoning

- After ingestion burning sensation in mouth and stomach with nausea, vomiting and salivation.
- Substernal pain, coughing and hoarseness.
- Headache, giddiness, vertigo, ataxia and tinnitus.
- Confusion, stupefaction and coma.
- Motor restlessness and hyperactive reflexes but rarely convulsions.
- Death from sudden respiratory failure or ventricular fibrillation.
- Contact erythema and blisters.

Treatment

- Cautious gastric lavage with warm water - care must be exercised as aspiration is a real danger.
 - Sodium or magnesium sulphate (15-30mg in water) as a saline cathartic.
 - Supportive therapy - parenteral fluids, oxygen etc.
 - AVOID adrenaline as myocardium has been sensitized by HCl.
 - AVOID fats and alcohol which will increase HCl absorption.
- Source:** ZVA News Dec/87-Jan 88-Report by Dr. Colin Skinner.

Just for your pleasure

The Australian Veterinary Practitioner, published by the Australian Small Animal Veterinary Association, is an excellent journal and it always contains at least two articles of general interest. For the pleasure of readers, who don't have access to that journal, we reproduce, from the June/88 issue, a portion of one such article. It was entitled "A Profession At Large". We have taken the liberty of giving the portion, we reproduce here, another title: -

Alf Wight, A

Commonwealth Veterinarian Beloved By Many

Alf Wight is a magician. He conjures magical moments between humans and animals and sets them against a backdrop of some of the most beautiful scenery in the world.

Alf who? Millions of dedicated fans know him better as James Herriot, the literary vet and creator of TV's *All Creatures Great and Small*. The latest series of 'Creatures', as it is known to its legions of admirers throughout the world, has recently finished on ABC and again charmed viewers with its rare blend of humour, animal magic and scenic beauty. Most importantly, however, it provided those all too rare TV moments known as family entertainment.

The Herriot books, TV series, and spin-off tourist industries have created a media phenomenon probably unequalled in modern times. However, unlike most success stories, this one was not motivated by greed but spawned by a genuine love of animals and the desire to amuse.

To understand Alf Wight is to understand the success of the Herriot books and the TV series. He is a charming, modest man with a gift for understanding and observing ordinary, everyday life.

The fact that his books revolve around his work and passion — animals — is at times immaterial. It is his simple approach to characters and situations, no matter how mundane, that entrances his audience. Although English by birth, Alf was brought up in Glasgow and the twinkle in his eye and lilt in his voice still betray the earthly humour of that gypsy city.

If anyone had suggested to him in those early days that he would develop a world-wide cult following by writing books and wandering the Yorkshire Dales as a vet he would probably have said them to go jump in the River Clyde.

Yet, it was on the hillsides outside the industrial bleakness of Glasgow where the future destiny of one mythical James Herriot was formed.

As a schoolboy he tramped those hills, often up to thirty miles a day, with his trusty Irish setter by his side. He was intrigued by dogs and on these long walks he decided he should devote his life to doing everything he could to help them; what better way than to become a vet?

It was 1930, the veterinary profession was still in the dark ages and seemed to be dying. Young Alf wasn't in the least scientific — his subjects at school were English, French and Latin — but a visit to his school by the principal of the Glasgow Veterinary College gave him hope.

He poured out his heart to the wily old principal, especially his love for dogs, and was assured that as long as he achieved the matriculation standard of two higher and two lower certificates, the college doors were open.

His adventures as a naive 16 year-old battling his way through the almost medieval jungle of veterinary science would make an hilarious novel in itself.

Alf tells the story of one lad who had been at college for 14 years but had only graduated to the second year. When he eventually left to join the police force the old lecturer pointed at an empty stool and moaned, "he sat there for eleven years, it's going to be very strange without him."

The Veterinary School of Glasgow University is now one of the best in the world but when an optimistic young lad like Alf Wight enrolled it was mainly staffed by old, deaf and short-sighted practitioners whose idea of "teaching" was reading, often disjointedly from a text book. Needless to say, young Alf soon fell in with the wayward ways of his older fellow students. "We used to play cards around a grand piano and I soon decided that poker was fascinating. The only snag was that I lost and asked for credit after my travel and dinner money ran out. Riddled with guilt I avoided the card games and started a strict regime of financial economy."

Alf was soon to need those lessons in thrift because when he qualified, those college fun days were immediately replaced by the harsh realities of the 30's Depression.

"Being a qualified vet in 1937 was like taking out a ticket for the dole queue. Agriculture was depressed by a decade

of government neglect and the draught horse, which had been the mainstay of the profession, was fast disappearing," he said.

There was almost no work for vets, some were actually working for bed and board only, and even qualified surgeons were earning a meagre thirty shillings a week.

Just when it looked like young Alf might have been heading for the job queue on the Clydeside shipyards he was offered an interview for a post in the Yorkshire Dales. It was the beginning of a love affair of the most special kind and of an intensity that only nature and the environment as their majestic best can provide.

Alf Wight got that job in Thirsk, a small market town on the fringe of the Yorkshire Dales and the practice he joined was to become his "family" for the next 48 years. The TV and book family as the world knows them are headed by vets Siegfried Farnon and his younger brother Tristan. In real life they are Donald and Brian Sinclair. I caught up with Alf Wight in the same surgery he and his partners have been using since a fresh-faced Scots lad stepped off the train at Thirsk railway station all those years ago.

The two-storey terraced house stands in Kirkgate, a side street just off the marketplace of the bustling little town. Although still a rural setting those expecting the beauty of the Yorkshire Dales and the quaint surgery of the TV series would be disappointed.

This is Alf Wight's real-life practice but for his books and television he created the fictional town of Darrowby among the splendor and starkness of the Dales.

When I say I caught up with Alf Wight, this is perhaps too flippant a term. Although an extremely friendly man, he also is a very private person and virtually stopped giving Press interviews about ten years ago.

Alf now works part-time at the practice on Wednesday afternoons. Forearmed with this knowledge, I travelled the half-hour by train from the beautiful historic city of York the day before and set up camp in the pub opposite. Playing dominoes with the landlady and her regulars to one o'clock in the morning (English market town pubs still retain the healthy tradition of closing the doors on licensing laws, as can be seen in one or two of the

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TV episodes), I learned a little more of the real James Herriot.

"We just accept him as 'vitinary'. It's hard to believe all the fuss he's caused," said bubbly Pat, landlady of The Cross Keys pub. "But it's great what he's done for the town and the area. People come from all over the place just to take pictures of the surgery and queue for his autograph on a Wednesday afternoon.

"He's a nice man; always was. All the fame and the money means nothing to him and we're told by some of the old stagers that he hasn't changed a bit throughout the years. He still enjoys walking around the town and talking to people.

"But he's very wary of protecting his home life. He lives in the Dales not far from Thirsk. Most people in the town know where his house is but won't tell exactly where because they respect his wish for privacy."

On the Wednesday morning I entered the rather ordinary looking surgery to find a young female receptionist sitting at a little table in a room resembling a teachers' staffroom.

Pleading my case for an interview I was pleasantly told that, unfortunately, nowadays Mr. Wight doesn't do interviews. However, if I cared to queue with the rest of the tourists outside the surgery from 2 pm onwards I would at least have a chance to meet the grand old vet in person.

Consoling myself with a lunchtime beer in the pub opposite I saw from the window an erect and sprightly looking figure heading for the surgery. I recognized the ruddy Herriot profile from his book covers and, giving him fifteen minutes to settle in, decided to take the vet by the horns.

There were three or four vets in the 'staffroom' when I popped my head around the door and the first to approach me was Alf Wight. I explained by earlier conversation with his receptionist. She was right. He didn't do interviews anymore. However, perhaps it was my Scottish accent and the fact that I'd travelled all the way from Australia but he had a spare half hour before surgery and suggested a chat 'out the back' in one of the treatment rooms.

The first thing you notice about Alf Wight is his youthful appearance and serene approach to life. Years of tramping the Dales give him the look of a man of 50, rather than a grandfather of 71. One can just imagine his soft Scot-

tish burr soothing a distressed animal on a wild night on the Dales.

"You know, I haven't done an interview like this for years," he murmured as we settled down on either side of an operating table. "When I first started writing the books I was here, there and everywhere promoting them. But they sell so well by themselves now that I don't really have to bother.

"I've been to the United States a couple of times but it nearly killed me over there. They tried to get me to Australia but the distance was just too far. But I'm finished with all that promotional stuff now. The books are going like a bomb without me going anywhere."

Surprisingly, his Scottish accent is still strong, with little trace of any Yorkshire dialect. This amuses most people who meet him for the first time and expect an accent similar to that of his TV character, played by Christopher Timothy.

"The funny thing is I was favourably impressed when I first came to Yorkshire. I was surprised when I first came here that Yorkshire people actually like Scottish people.

"When I arrived here 48 years ago the Scottish education system was so far in advance of the English system. We had higher certificates and bursaries and things like that. Nearly all the doctors and all the vets around here were Scot-

tish. So I was nothing unusual around here.

"We had two Scottish doctors in the town and when I first went to a meeting of the Yorkshire Vets they all had Scottish accents, from the far north of the Isle of Skye, right down to the Borders.

"Then suddenly an Englishman got up to speak and everyone turned round to look at him. You could hear them thinking, 'how the devil did he get in'. So there was no question of me being unusual in this part of Yorkshire."

Alf fell in love with the Yorkshire Dales right from the very early days. "It was love at first sight. Like most Scotsmen I believed there was no place like home. But as soon as you see the Yorkshire Dales you fall in love.

"I was amazed. The exact moment it dawned on me that Yorkshire was a magical place was one day when we had a cow in labour on the Dales. I pulled my car off over the road which leads from Leyburn over Bellerby Moor to Grinton. I looked back over the moorland to the valley of the Swale where it nears Richmond. I was bitten by the beauty there and then.

"There was everything, woodlands and solitude. No one had ever told us about Yorkshire. In fact, I'm the first one, I think, who has ever told anyone about the beauty of Yorkshire."

BOOK REVIEW

Special Veterinary Pathology, Edited by R.G. Thomson. Published by B.C. Decker Incorporated, Toronto. 1988. 661 pages.

Special Veterinary Pathology successfully fulfills its editor's stated purpose of providing a comprehensive, yet concise textbook for undergraduate veterinary students. This multi-authored, single volume text is organized into 15 chapters, each dealing with the pathology of a specific anatomic system. The authors are recognized experts in their fields and address the subject matter in a concise and authoritative manner and provide thorough but not exhaustive references. A novel and welcomed addition is a chapter devoted to dental pathology, a topic that has often been neglected.

With a few exceptions, each chapter begins with a lucid discussion of the general mechanisms of reaction and pathophysiology of the specific body system. Methods of gross and microscopic examination of the tissue

are then described. Following this, the gross and microscopic lesions and pathogenesis of specific diseases are addressed. A section on appropriate techniques for obtaining and submitting tissues for histopathology is included in the chapters on the muscular and integumentary systems. It would be beneficial if the remaining chapters emulated their example. Information of this type is particularly germane to students and practitioners, because the chances of receiving a helpful diagnosis are greatly increased if a tissue sample is chosen carefully and submitted correctly.

A major strength of this book is the liberal use of excellent diagrams and photographs that complement the narrative. Informative tables succinctly summarize the pathophysiology, etiologies or features of specific diseases encountered by domestic animals. For example, the tabulated characteristics of cutaneous neoplasms

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provides the veterinarian with readily accessible and practical data regarding some of the more commonly occurring tumors. Including diseases of the mammary gland in the integumentary system, however, is a departure from the traditional approach of addressing the subject with the diseases of the female reproductive system. Although comprehensive histologic descriptions of mammary tumors are not given and are not necessary for the intended audience, more attention should be given to the biologic behaviour of these tumors and the differences between dogs and cats in this regard.

Irregularities between chapters are evident in the style of composition, which may be intrinsic to a multi-authored text. There is, however, a considerable lack of uniformity between chapters concerning the depth to which the subject matter is discussed and the

range of species that are included. Most chapters deal solely with diseases of food-producing and companion animals whereas laboratory animals or non-human primates are included in the cardiovascular and gastrointestinal chapters. Although these are well-documented, there should be consistency in the scope of species that are included in the text. Diseases of people such as chronic atrophic gastritis are irrelevant in a book of veterinary pathology and should be omitted. Bacteriologic nomenclature should also be standardized throughout the text: manifestations of the same equine disease were attributed to the preferred term, *Rhodococcus equi*, in diseases of the respiratory system but to *Corynebacterium equi* in the chapter on the gastrointestinal system.

The index is relatively complete but there is no listing for Swine Dysentery,

Treponema hyodysenteriae, *Actinomyces pyogenes*, or *Fusobacterium necrophorum*; feline viral rhinotracheitis is listed twice. Minor typographical errors are present, but are inconsequential.

Overall, Special Veterinary Pathology is an excellent textbook. The quality of the text and illustrations have not suffered for the sake of brevity. This textbook is highly recommended to undergraduate veterinary students, the faculty teaching them and to veterinary practitioners who want a concise, pertinent account of the diseases of domestic animals.

Reviewer - Beverly J. McEwan
D.V.M., M.Sc., Dip. A.C.V.P., Department of Pathology, Ontario Veterinary College, University of Guelph, Guelph, Province of Ontario, Canada.

Conservation: invertebrates

It is easy to arouse and maintain public sympathy and concern for the plight of cuddly vertebrates such as pandas or koalas. It is not so easy to arouse public, or even scientific, sympathy for invertebrates. As Wilson (1986) notes: "If human beings were not so impressed by size alone, they would consider an ant more wonderful than a rhinoceros. That adjustment may never take place, but insects and other small creatures nevertheless deserve far more admiration and protection than they get. An ant, worm, or snail is more complicated than any machine devised by man, having been engineered autonomously during millions of years of evolution to survive in environments that are hellish by our standards. Each contains enough genetic information to fill many sets of encyclopedias ... We need these creatures more than they need us because they, not we, run the world. If *Homo sapiens*, a newly evolved mammalian species, were to self-destruct, it would cause scarcely a ripple in the ecosystems of the planet. Perhaps *Gala*, the whole of the living world, would sigh with relief. On the other hand, if invertebrates were to become extinct, I doubt that we would last ten years."

It is estimated that some 500,000 species of invertebrates are in danger of extinction, primarily because of habitat destruction, overcollecting, and predators introduced by man. Invertebrates comprise nine tenths of life on Earth and form the foundation of

ecological relationships. They are an integral part of the food chain and serve as sensitive barometers of the health of an ecosystem. Earthworms and other burrowing insects till and enrich the soil; bees and moths pollinate plants. And many invertebrates are important to industry and medicine.

Efforts to preserve endangered invertebrates are gaining momentum worldwide. New Jersey has established a preserve for moths. In New Zealand and Japan entomologists have succeeded in moving colonies of giant wetas (fist-size crickets) and wood ants from threatened environments to safe ones. And the Nature Conservancy, a private funded conservation group, and the Xerces Society, an organization of insect fanciers, have purchased preserves for invertebrates and funded research in entomology... And the disappearance of some invertebrates will rob us of some of the most beautiful species on Earth. Hawaii's Oahu tree snails, for example, have conical shells that resemble jewels: various patterns and shades of red, orange, yellow, brown, green, grey, blue, white, and black. No two shells are alike. But populations of some of this unusual snail group have dropped to only 100 individuals. Worldwide populations of horseshoe crabs, the living fossils that fascinate children at the beach, are also declining. Dating from the Triassic period, 225 million years ago, these armored arthropods provide an unrivaled glimpse of the earth's prehistoric past. The horseshoe crab and its eggs pro-

vide food in some countries. In the United States the animal is valued for its medical applications. But our appetites could threaten their existence. Millions of horseshoe crabs are killed each year by clam diggers because the horseshoe crabs eat clams." (Montgomery 1986).

One project in Papua New Guinea has received wide praise for its conservation of invertebrates and its socioeconomic effects - the farming of butterflies, now operated by the Livestock Development Corporation. "The world trade in swallowtail butterflies is worth about \$100m. They go to zoos, dead but whole to collectors (rare species can fetch \$2000 or more) and to tourists as pieces of wing embalmed in plastic souvenirs... The centre of this trade is Taiwan, which handles up to 500m butterflies a year. Brazil, Indonesia, Madagascar are also big exploiters. Most of the butterflies are caught in the wild. Unscrupulous collectors are seriously threatening the most sought-after species, such as Queen Alexandra's Birdwing from New Guinea" (Anon 1986). In P.N.G., emphasis has changed from hunting-gathering to ranching butterflies.

"Ranching differs from farming in that the animals spend some of their lives in the wild. The promoter of this village industry is Papua New Guinea's Insect Farming and Trading Agency, which, as the entomological answer to Europe's common agricultural policy, provides a guaranteed price to the pro-

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'Twinning' scheme to improve Commonwealth vet links

by Asif Khan
Lancaster

Sri Lankan students studying veterinary science in Scotland have been invited to spend a few days with veterinarians in the Lake District in England. Meanwhile, consignments of text books have arrived in Sri Lanka, Tanzania and Zimbabwe for vets there—a gift from their colleagues in Britain.

These are among the initiatives taken under a pilot scheme to help improve veterinary services in the Commonwealth by promoting mutual co-operation and personal links between vets.

Several Commonwealth countries are taking part in the scheme launched nine months ago by the Commonwealth Veterinary Association (CwVA) of which Alhaji Sir Dawda Jawara, President of The Gambia, is the patron. Sir Dawda, a qualified vet, played a key role in the formation of the association 21 years ago.

The scheme is run by the British Veterinary Association (BVA) on behalf of the CwVA in conjunction with other national associations in participating countries.

Various BVA divisions, or branches, have been 'twinned' with national veterinary associations in these countries.

The scheme aims to encourage exchange of information and communication between vets, promote veterinary science, attendance at congresses or other meetings and exchange visits by Commonwealth vets to share knowledge and experience.

The provision of text books and equipment to vets in Commonwealth developing countries who are unable to acquire them because of lack of finance or foreign exchange controls, is another objective. A long-term aim is to facilitate the movement of veterinary students and graduates within the Commonwealth.

Countries taking part in the scheme are Bangladesh, Britain, The Gambia, Ghana, Kenya, Malawi, Malaysia, Sierra Leone, Sri Lanka, Swaziland, Tanzania and Zimbabwe.

Commonwealth Caribbean countries are participating through their regional body - the Caribbean Veterinary Association. It is hoped to extend the scheme eventually to all the 48 Commonwealth countries as well as associated states and territories.

A progress report on the scheme was

given by Trevor Blackburn, president of the CwVA, to the annual congress of the BVA in Lancaster in northern England last month (Sept/88).

Mr. Blackburn, a 57-year-old Yorkshireman who has worked in Kenya and Tanzania but is now a government meat hygiene adviser based in the English university town of Cambridge, emphasized that the scheme was neither paternalistic nor patronizing.

"It's an equal partnership between like-minded people," he said. "It is not a case of a developed nation telling people in developing countries what to do. Developing countries do have something to offer that we don't possess in developed nations."

He added: "Twinning does not have to be between developed and developing countries. Any countries could be paired together - India with countries in Africa, Trinidad and Tobago in the Caribbean with the Solomon Islands in the Pacific - to find out what they have in common and whether their problems are similar."

Among those at the congress were Dr. Muthusamy Kopalasantharam and Dr. Ted Shacklady, presidents respectively of the national veterinary associations of Sri Lanka and Canada, both of which are members of the CwVA.

Dr. Kopalasantharam, 56, described the twinning scheme as "wonderful" and said he would like to see more contacts with the BVA as well as others of the CwVA.

Dr. Shacklady, 40, from Toronto, who runs a private practice near Calgary in Alberta, said: "It's a very interesting scheme. It would be appropriate for Canada to be involved."

Dr. Hans Kruger from Australia's Department of Primary Industries and Energy, based in Harvey, Western Australia, also welcomed the scheme. "I think it's a great idea," he said. "We would be particularly interested in pairings with Malaysia and Singapore."

The twinning scheme is one way in which the CwVA promotes contacts between Commonwealth vets. It holds regional meetings and workshops and publishes a newsletter to keep members abreast of developments.

The CwVA has 41 members. It describes itself as "a creative Commonwealth partnership of small and large veterinary associations searching

for pragmatic responses for the problems of its members, working co-operatively so that developing partners may become self-reliant."

The decision to form the CwVA was taken at a meeting during the 1967 annual congress of the BVA in Southport on the northwest coast of England, attended by leading vets from 15 Commonwealth countries.

The initiative was supported by the Commonwealth Foundation, established a year earlier by Commonwealth leaders to promote professional co-operation in the Commonwealth. The Foundation has continued to support the association ever since.

That historic meeting in Southport was chaired by Sir Dawda Jawara, who led The Gambia to independence and was then the West African country's Prime Minister.

Sir Dawda, now one of the Commonwealth's longest-serving leaders who qualified as a vet in Scotland, was elected the first president of the CwVA. As its patron, he continues to take a keen interest in its affairs.

At last month's congress in Lancaster he was made an honorary member of the BVA, established in 1882 to promote the interests of its members and the animals in their care. With more than 8,000 members it is now one of the largest and oldest organizations of its kind in the world.

The CwVA is particularly proud of its links with Sir Dawda. As Mr. Blackburn, a former president of the BVA, said: "Not many professional associations can boast that their first meeting was chaired by a serving Prime Minister."

Further information about the CwVA or its twinning scheme is available from Mr. Trevor Blackburn, President, Commonwealth Veterinary Association, c/o BVA, 7 Mansfield Street, London W1M 0AT, Britain.

Comment

There will be people who, by reading Asif Khan's article on the CwVA twinning scheme, become aware for the first time of the existence of the Commonwealth Veterinary Association. Gratifying as it was to see the CwVA featured in a Commonwealth publication, it was, in the opinion of this editor, a little sad that some small hint of the broad scope of CwVA activities was not included.

made aware of how veterinarians, of

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A unique adventure

During his mid-nineteenth century travels throughout East Africa, Dr. David Livingstone was mauled by a lion. His own comments about the event are very interesting.

Quote: "I heard a shout. Starting, and looking half round, I saw the lion just in the act of springing upon me. I was upon a little height; he caught my shoulder as he sprang, and we both came to the ground below together. Growling horribly close to my ear, he shook me as a terrier does a rat. The shock produced a stupor similar to that which seems to be felt by a mouse after the first shake of the cat. It caused a sort of dreaminess in which there was no sense of pain nor feeling of terror, though quite conscious of all that was happening. It was like what patients partially under the influence of chloroform describe, who see all the operation, but feel not the knife. This singular condition was not the result of any mental process. The shake annihilated fear, and allowed no sense of horror in looking round at the beast. This peculiar state is probably in all animals killed by the carnivores; and if so, is a merciful provision by our benevolent creator for lessening the pain of death."

Source: The White Nile by Allan Moorehead.

The 'Centaur'

Chiron the centaur, mythical inventor of medicine for animals and humans, and emblem of numerous veterinary associations worldwide, is possibly an historic personality of the prehomeric period (ca 1300 B.C.), c. 500 to 700 years later did the legend form that centaurs (in antique Greek: "hunters on horseback of the wild bull") were wild creatures, half horse and half man, and associated with uncontrolled libido and its socially destructive forces. According to tradition, Chiron taught his medicine to the ruling class of his time in a specially prepared cave in the Pelion Mountains (the healing mountains) of Eastern Thessalia. Following leads from ancient authors and local traditions, a cave fitting the location and description was discovered in 1981 by Dr. and Mrs. Walter Haussmann.

Source: Can Vet J Oct/88. Extracted from the Veterinary History section.

Enthusiasm

Enthusiasm is said to be what makes your hopes rise, what puts the swing in your gait, what puts the grip in your hand and what puts the sparkle in your eyes. All that is true, enthusiasm does make a difference, but in order to keep it you must pass it on. With enthusiasm you can accomplish things. If the things accomplished are less than perfect, just remember, that even the errors of enthusiasm will be of a value that the indifference of self-absorption and self-assurance can never be.

Source: Henry Ford I, Robert Frost, Rev. Edward Everett Hale & others.

It's the same the whole world over

Well not quite, but, it certainly is the working world of many development workers. From the PNG Vet. Assoc. Newsletter of May/86 we quote: "Neal Shaw, Yuni Yunamu and Steve Blakeway each spent several weeks at Urimo, in East Sepik Province, conducting tuberculosis testing on the cattle and buffalo there. Poor fences, inadequate mustering and the usual constraints of working in a difficult and remote environment continue to frustrate the testing program to eradicate this last focus of bovine tuberculosis."

'Twinning' scheme

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small island states and of the developing countries, work within their respective CwVA regions to help each other out. Possibly, also, he was unaware of the active and constructive work of veterinarians of such developed Commonwealth countries, as New Zealand, Australia and Canada, and of the positive and cooperative efforts between these veterinarians and their colleagues in the developing Commonwealth.

The strength and the future of the CwVA rest with it having a true "COMMONWEALTH CHARACTER", and future support may hinge on public knowledge of this. Let us never forget the words of our Secretary-General, Shridath Ramphal, "THE COMMONWEALTH HAS NO CENTRE AND NO PERIPHERY".

Signed: Brock Cleland, Editor of the CwVA News.

Did you know

Did you know that milk production, in the Republic of Tanzania, is playing an important role in better nutrition of the people. In the Kilimanjaro region there are favourable climatic conditions for dairy production, and, among small scale farmers, keeping dairy cattle is practiced as a traditional form of animal husbandry.

Source: TVA Bulletin July/83

IMPORTANT NOTICE

A new CwVA newsmagazine

Coming in January 1990

Support and assist your new editor:

Dr. S. Abdul Rahman, c/o Indian Vet. Assoc.
No. 123, 7th Main Road, IV Block (West) Jayanagar,
Bangalore — 560 011, INDIA.

Ciguatoxin and Ciguatera Toxicity

Ciguatoxin is a product of some marine dinoflagellates normally found in the vicinity of coral reefs. Herbivorous fish feeding on dinoflagellates accumulate ciguatoxin in their liver, gonads, skin and flesh. Piscivorous fish feeding on herbivorous fish which have accumulated ciguatoxin accumulate the toxin in the same way, so the toxin passes up the food chain. The toxin is harmless to fish, but may cause clinical toxicity in other species (including man, dog and cat) which consume fish containing sufficiently high levels of the toxin.

A possible incident of ciguatera toxicity occurred in Port Moresby earlier this year.

Two dogs were presented with unusual nervous signs of sudden onset. Signs included continuous groaning (relieved only by general anaesthesia) and ataxia (with poor placing reflexes and some torticollis). No fever, pupillary abnormalities, hyperaesthesia or other signs were detectable. The signs persisted acutely for several days, and intermittently for about two weeks, during which the groaning and ataxia gradually ceased, although a few episodes of 'padding' convulsions were reported. The owners volunteered the information that the symptoms began a day after the dogs consumed a (cooked) reef fish, probably a coral trout. The owners consumed some of the same fish and complained of subsequent dizziness, cramps, fatigue, headaches, 'itchiness' and intermittent numbness of fingers. (The owners' general practitioner treated them symptomatically and the signs passed in three days.)

Ciguatoxic fish are found in tropical or subtropical seas, especially around coral reefs, and more than 400 species have been shown to accumulate the toxin. Concentrations of ciguatoxin sufficiently high to induce toxicity in mammals consuming affected fish are usually reached only in larger piscivorous species such as snapper, coral trout, Spanish mackerel and Chinaman fish. Affected fish show no abnormalities of flavour, texture or colour. Reported signs of ciguatera toxicity in man include paraesthesia of the face and limbs; vomiting, diarrhoea and abdominal pain, dizziness, headache and musculoskeletal pain. In cats signs include salivation, vomiting, diarrhoea, dyspnoea, ataxia and

muscular weakness, especially of the limbs, and, in severe cases hind limb paralysis and prostration. Mild cases may occur with ataxia and dragging their hind limbs. Clinical signs develop within six hours of consumption of affected fish. Few cases have been reported in dogs, but signs similar to those seen in cats have been described. Diagnosis is based on history (ingestion of reef fish within the previous 24-36 hours) and clinical signs. In human cases, a bioassay may be run by feeding the suspected fish to cats, which are quite sensitive to the toxin. (If the bioassay is positive, the cats develop the signs described above. No biochemical test is currently available.)

Affected animals (including man) recover spontaneously in less than two weeks. Supportive treatment

may include induction of vomiting or use of gastric lavage (to remove source of toxin) and parenteral fluids (eg glucose saline) and B group vitamins (to bolster reserves which may be quickly depleted in anorexic animals).

Cats are reported to sometimes regurgitate affected fish before any signs of toxicity occur, so that the signs may be seen in man or dogs without signs in cats which are thought to have ingested the same fish.

There are no published reports of ciguatera toxicity of man in Papua New Guinea, but the signs of toxicity in man are fairly non-specific so that cases could easily be misdiagnosed. Source: Aust Vet Practitioner Dec/87. The AVP's source was a PNG Vet Assoc Newsletter.

An intradermal test

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Skin tests are employed for diagnostic and epidemiological studies. The skin reaction is an antigen-antibody reaction of the immediate type characterized by erythema and wheal formation. In cattle and buffaloes, nasal schistosomiasis caused by *Schistosoma nasale* is commonly encountered in India and its epizootiology has been reviewed by Anantaraman (1981). The disease is characterized by a clear to mucopurulent nasal discharge, difficulty in breathing with a snoring sound and a varying degree of granulomatous growths (Rao, 1933). In this study an intradermal test was developed to diagnose this infection in cattle.

The intradermal test was conducted on fifty cattle having typical symptoms of *S. nasale* infection, ten positive animals which did not show typical nasal granulomatous growths and five noninfected cattle. *Schistosoma japonicum* antigen (National Institute of Health, Tokyo) was used after reconstituting with veronal buffer saline. One hundred

microlitres of this antigen was injected underneath the base of the tail. The appearance of erythema and a wheal at the site of injection 10-20 minutes later was considered as a positive reaction.

In all the known positive cases, both those with typical nasal granulomatous growths and those without well defined growths, the dimensions of the wheal was 0.7 cm x 2.7 cm by 0.8 cm to 2.3 cm, the mean dimension being 1.65 cm by 1.55 cm. The control noninfected animals showed wheals of only 3 mm in diameter.

The heterologous intraderma test appears to be useful for diagnosing nasal schistosomiasis in cattle without apparent clinical signs. It is therefore of potential value for screening buffaloes which are known to harbour only subclinical infections and are epizootologically latent reservoirs. The use of intradermal test in the diagnosis of *S. japonicum* infection in human beings was extensively studied (Ishizaki, 1970). In the present study, *S. japonicum* antigen was useful in the detection of cases positive for *S. nasale* infection with or without apparent clinical signs in cattle. It is likely that *S. japonicum* shares certain antigens with *S. nasale*. Hence *S. japonicum* antigen could be used for the serodiagnosis of clinical and subclinical infection of *S. nasale* until its antigen is made available.

Source: IVJ, March/88.

Streptothricosis research

A.N. MORROW AND I.D. HERON

The association between the occurrence of *Amblyomma variegatum* ticks and that of a severe form of streptothricosis was studied on the Caribbean island of Antigua during the early part of the wet season (1987). Although the prevalence of mild lesions remained static during the three month period (May-August) there was a steady increase in the prevalence of severe lesions as the level of infestation with *A. variegatum* increased as indicated by total tick counts carried out on over 300 head of cattle.

The occurrence of streptothricosis in Antigua was compared with that found in St. Lucia where *A. variegatum* are confined to part of the island. The prevalence of streptothricosis was much higher in Antigua where *A. variegatum* occurs throughout the whole island than in the *Amblyomma*-free areas of St. Lucia. Although the prevalence of streptothricosis was higher in the *Amblyomma* infested areas of St. Lucia than elsewhere on the island cases were seen in cattle, sheep and horses in areas free of the tick.

The observation that tick control greatly reduced the prevalence of streptothricosis on both Antigua and St. Lucia and other reports on the same topic raises the question if some acaricides have a bacteriostatic/bacteriocidal effect on *D. congolensis* or if the reduced

prevalence of skin lesions was the result of tick control. Also there is the question if *D. congolensis* could be transmitted in contaminated dip tanks - as suggested by some farmers and supported by a number of reports in the literature. Samples of the various acaricides used on the islands visited were tested for their effects on the survival and growth of *D. congolensis* and although there was considerable variation it was considered of doubtful significance.

D.J. HADRILL,
A.N. MORROW AND
I.D. HERON

The distribution of lesions on animals affected with streptothricosis in Antigua was noted. Lesions were not confined to the predilection feeding sites of adult *A. variegatum* and in many cases appeared to have started on the dorsal surface. The reported suggestion that biting flies are involved when lesions are found at sites other than the predilection sites of *A. variegatum* was studied in Antigua where large populations of *Haematobia* biting flies are found on cattle. Groups of over 30 animals were treated with a pyrethroid insecticide which controlled the fly population but had little effect on the occurrence or distribution of lesions on animals compared with those in the untreated control group over a two month observation period.

Source: CTVM Newsletter No. 45, Dec. 1987.

Did you know that

It is now established that species of *Sarcocystis* occur in buffaloes. *Sarcocysts* of *Sarcocystis fusiformis* obtained from the naturally infected buffaloes were easily visible to the naked eye as white spindle shaped structures and measured 0.38 mm to 22.0 mm by 0.082 mm to 7.0 mm, with a mean of 5.908 mm to 1.947 mm. However, they were seen in two sizes depending upon their development and were accordingly designated as partially mature and mature sarcocysts. The partially mature sarcocysts contained both merozoites and bradyzoites, whereas mature sarcocysts had bradyzoites only.

Merozoites were oval or irregular in shape and were smaller than bradyzoites. The bradyzoites were seen in two forms either as banana shaped structure or as crescentic forms. The former were predominant in partially mature sarcocysts and the latter in mature sarcocysts.

Source: IVJ Mar/88 pgs 196-199.

Authors: S.B. Ehsal, S.C. Joshi and H.L. Shrh.

A syndrome in cattle, of diarrhoea and death associated with enteric *Yersinia pseudotuberculosis*, occurred during winter and early spring in adult cattle grazing pastures, waterlogged by recent flooding and persistent heavy rain. Antibody therapy was effective early in the course of the syndrome. At necropsy there was severe acute enterocolitis, and bacteria consistent with *Y. pseudotuberculosis* were observed in the lesions. This organism could usually be isolated from the intestines of affected animals but was recovered less often from other organs. Representative isolates were identified as *Y. pseudotuberculosis* serotype III.

Consistent features, of this syndrome affecting adult cattle, include a history of access to pasture waterlogged by recent flooding or rain, an acute and often fatal clinical course characterized by diarrhoea, pyrexia and hypoproteinaemia, and macroscopic lesions of enterocolitis. The association of this syndrome with waterlogged pastures and low temperatures suggest that these conditions favour transmission of *Y. pseudotuberculosis* infection in cattle.

Source: Aus Vet J Jan/88 pp 8 & 10.

Did you know that

International Conference on the Application of Biotechnology to Livestock in Developing Countries to be held at the University of Edinburgh, Center of Tropical Veterinary Medicine from the 4th to 8th of Sept. 1989.

Objectives of the Conference

Recent years have seen some exciting advances in biotechnology and the prospects for their application in many fields of science appear limitless. In developing countries, however, day-to-day problems are often of a mundane nature and it is sometimes difficult to see how these advances will have any impact in the poorer parts of the world. The broad aims of the conference are to attract people involved with livestock development (animal health and production) in developing countries, to in-

form them of the recent rapid advances in biotechnology and explore with them the practical application of these advances. Workers who are acknowledged authorities are each being invited to present a comprehensive review paper on their own speciality. As with previous CTVM conferences, it is hoped to attract speakers and delegates from all parts of the world and it is expected that a comprehensive review of the subject will be achieved. The sections of the conference will be held consecutively so as to enable delegates to attend all the papers presented.

For information write: Mr. A.G. Hunter, Conference Organizer, Centre for Tropical Veterinary Medicine, University of Edinburgh, Easter Bush, Roslin, Midlothian EH25 9RG, Scotland, U.K.

Excerpts from letters to the editor, 1986-89

From Tanzania: "I find the CwVA News very informative, educational, useful and something not to miss. I therefore request a copy regularly so as to keep myself up-to-date with what is happening within the Commonwealth countries as far as the veterinary profession is concerned" signed Dr. Leon Mboera.

From the Fiji Islands: "The articles (in the CwVA News) are indeed interesting and informative since the tone throughout is lighthearted without technical jargon" signed Dr. N. Tabunakawai.

From New Zealand: "My compliments on the CwVA News, which we receive via our CwVA representative, Eric Shortridge" signed Glyn Pathchett.

From Nigeria: "May I thank you for your effort, and congratulate you on the impressive magazine you have caused to be published" signed Tom A. Aire.

From the Commonwealth Human Ecological Council: "I am moved to drop a line to say how much interest I found in the CwVA News - a vigorous newsy paper" signed Zena Dayish.

From Guyana: "We (the Guyana Vet Assoc.) all found the CwVA News informative and easy to read" signed Dr. R.R. Surujbally.

From Bangladesh: "I have gone through your wonderful publication, the CwVA News, which is dedicated to the professional upliftment of the veterinary profession of Commonwealth countries. I would like to congratulate you all for this dedicated and noble effort" signed Dr. M. Ahmed Mannun.

From the Inter-American Institute for Cooperation on Agriculture (Costa Rica): "I have found the CwVA News extremely interesting and I congratulate you for its publication" signed Hector Campos.

From Canada: "I like the style (of the CwVA News) and I endorse the purposes of the Commonwealth Veterinary Association. This type of publication brings the much-needed human element into international information exchange" signed Dr. Barbara Kingscote.

From India: "A few days ago I found a copy of the CwVA News on the table of a friend. I have gone through it and found it very useful for veterinarians of the Commonwealth. I appreciate the efforts of the editor in compiling such good information in one magazine. May I request a regular copy" signed Dr. Aditya Kumar.

From the Commonwealth Nurses

Federation: "We receive your journal and I am most impressed by it. Regrettably, we are unable to produce such an excellent journal. Keep up the good work" signed Margaret A. Brayton.

From the Ontario Ministry of Agriculture & Food (Canada): "Please accept congratulations as Editor for putting together such an interesting publication, and convey to the Commonwealth Veterinary Association appreciation on behalf of the staff at the Disease Investigation Centre** in Jogyakarta" signed Dr. L.G. Coleman. (**an overseas development project).

From Ghana: "I would like to be on your mailing list and receive a copy of the CwVA News for myself. Thank you, and your work at the Secretariat (Newsbureau) is much appreciated" signed Dr. J.B.B. Ansah.

From Nigeria: "I am a practicing veterinary clinician in Imo State. I wish to receive your nice, articulate and dynamic newsmagazine. The CwVA News enables me to visualize the progress and research made in the field of veterinary medicine and practice in many Commonwealth countries" signed Dr. Osunka O. David.

From Canada: "Congratulations on your fine job. The CwVA News reflects what the CwVA stands for and what it is trying to do." - "(At the Gambia meetings) you certainly made a lot of acquaintances, which I hope will develop into fruitful associations that will be useful in your work as editor" signed Laurent Choquette.

From Guyana: "On behalf of the Guyana Veterinary Association, thank you for the great work you did with the CwVA News in 1987" signed Steve Surujbally.

From Papua New Guinea: "I am delighted that the CwVA News included material from r.v.n.z." signed M.J. Nunn.

From Canada: "I would be extremely grateful if you would kindly send me the CwVA News and keep me on your mailing list" signed Dr. Colin F. D'Souza (formerly of Kenya).

From Ghana: "I am writing to acknowledge, with thanks, the receipt of our copies of the CwVA News. The contents are really excellent and colleagues here are full of praise for its quality. On behalf of the Executive of the Ghana Veterinary Medical Association, and on my own behalf, CONGRATULATIONS" signed Dr. Willie Amanfu, Hon. Sec. GVMA.

From Auburn University (U.S.A.): "I recently received a copy of the CwVA News. I appreciated it very much" signed Dr. Jan Steils.

From Sri Lanka: "I receive the CwVA News. I wish to congratulate you for the very impressive newsmagazine that you have produced" signed Dr. D.D. Wanasinghe.

From Nigeria: "I have found the CwVA News very educational and informative. In fact it is of immense value to the veterinary profession within the Commonwealth and the world at large. I would be grateful if you can please include my name on the list of those who do obtain regular copies. Long live the Commonwealth Veterinary Association and more grease to your elbows" signed Dr. Francis A. Ogunji.

From the Commonwealth Secretariat: "I am writing to acknowledge your letter to the Secretary-General and to assure you that he will be pleased to send you a message for your 22nd anniversary (of the CwVA) edition (July/89)" signed Patsy B. Robertson, Director of Information.

From Nigeria: "Recently, I came across the Jan/88 CwVA News. I am quite impressed and fascinated by your efforts at bringing together and homogenizing the practice of veterinary medicine within the Commonwealth of Nations." signed Dr. O.L. Obasi.

From Ghana: "The above association (Veterinary Students Association of Ghana - Established 1988), on whose behalf I am writing, do wish in all sincerity to be considered for a subscription to your esteemed and popular educational magazine of which we are ardent admirers and readers." signed Moses Okine, President of VSAG.

From the United Kingdom: "I see from the January/89 CwVA News that you are handing over your responsibility of Editor. During the past two years I have enjoyed receiving copies of the News and have been pleased to pass them onto my colleagues who have an interest in Commonwealth veterinary matters." signed Peter Robinson, U.K. Agricultural Training Board.

From Canada: "I have recently read my first CwVA News, volume 3, no. 2. Although I have been interested and tried occasionally to

Turn to page 47



CwVA President Trevor Blackburn under whose leadership the Commonwealth Veterinary Association has, in the past year and a half, held four very productive seminar/meetings. Two of these conferences were held in Asia,

one in the South-west Pacific and one in the Caribbean. These milestones of achievement have blazed the trail to the 1990 CwVA pan-Commonwealth Conference to be held in Zimbabwe.

Excerpts

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find out more about the CwVA, this is my first success. How does one become more involved and receive regular communications?" signed Dr. David J. Meyers.

From the United Kingdom: "I was very interested in reading the CwVA News and would be grateful if you could send me future copies as they are published, so that in turn I can pass them along to other members." signed David Daniel, Hon. Sec. Council for Education in the Commonwealth.

From Australia: "Brock - You are about to complete service as Editor for the CwVA. I'd like to say what a fine job you have done. From my travels I know that the CwVA News is very well received. You have given it life and it will go on indefinitely fulfilling a most valuable role. You were far more faithful than many of your correspondents such as me and I admire you for not giving up. Well done and faithful....". signed W.J. Pryor.

About this and that

During these early years the CwVA News has striven to attract interest and to promote a spirit of creative and constructive partnership. Its philosophy has been that understanding and friendship would follow a greater knowledge of one another.

Let us never be likened to the old lady who lived in a hamlet, in a valley deep in the mountains. When asked what she knew about the different peoples of the world, she replied: "I know all about them, There's us what lives here, and then there's them other bug-gers what don't."

Conservation: invertebrates

from page 41

ducers, minus 25% to pay for the marketing. A typical butterfly ranch is Papua New Guinea has a few acres of goat-proof garden where villagers cultivate plants that attract butterflies. The butterflies come on to the ranch from the forest to feed and lay their eggs. Their caterpillars grow on the cultivated plants and are collected, as chrysalises, by the villagers - many escape to replenish the wild population. From the chrysalises emerge pristine adults (specimens caught in the wild are usually damaged) to face immediate death and head for the cabinets of rich Japanese and western enthusiasts." (Anon 1986) Montgomery observes that "gram for gram, butterflies are more valuable than cattle, and the newly formed butterfly farms help preserve a spectacular national resource as well as exploit it. Today several formerly threatened butterfly species are thriving, and butterfly farmers export 10,000 specimens a month to collectors and students. A butterfly farmer may earn \$1,200 a year for his work - many times the average rural per capita income of \$50. The farms also preserve native cultures and the rain forests that nurtured them. The Conservation Monitoring Centre (Cambridge, U.K.) believes that ranching birdwings boosts their wild numbers and gives villagers "a much-needed reason for not cutting down their rainforests".

But butterflies are attractive to man - what of all the other endangered invertebrates that are not so attractive. Montgomery (1986) concludes that "Perhaps we have not yet reached the point where we can see splendour in a worm, a louse, or a beetle. Perhaps science has not yet uncovered the role of all species on Earth or the possibilities that lie hidden in them. But we must hold these animals in trust as a token of our belief in the future. Many scientists believe we cannot put a price tag on endangered invertebrates. While removing invertebrates from certain habitats might be defended on economic grounds, as E.O. Wilson says, it's like burning Renaissance paintings to cook dinner".

Source: PNG Newsletter July/87.

THE COMMONWEALTH VETERINARY ASSOCIATION

Serving in the Commonwealth for 22 years.

A creative Commonwealth partnership, of small and large veterinary associations, searching for pragmatic responses for the problems of its developing members, large and small.

Working cooperatively so that developing partners may become self-reliant and developing countries self-sufficient.

The thought behind the Commonwealth

Abou Ben Adhem (may his tribe increase!)
Awoke one night from a deep dream of peace
And saw, within the moonlight in his room,
Making it rich, and like a lily in bloom,
An angel writing in a book of gold: -
Exceeding peace had made Ben Adhem bold,
And to the presence in the room, he said,
"What writest thou?" - The vision raised its head,
And with a look made of all sweet accord
Answered, "The names of those who love the Lord."
"And is mine one?" said Abou. "Nay, not so,"
Replied the angel. Abou spoke more low,
But cheerily still; and said, "I pray thee then,
Write me as one that loves his fellowman."
The angel wrote, and vanished. The next night
It came again with a great wakening light,
And showed the names whom love of God had blessed,
And lo! Ben Adhem's name led all the rest.

Source: Can Vet J Apr/88. Taken from a profile of "Larry Smith" * by N. Ole Neilsen.
*Larry Smith was a Canadian veterinarian, an educator and a gentleman in every way. His concern for his fellowman was such that all who knew him, even ever so slightly, felt the loss of a true friend, when Dr. Smith passed on.

SUPPORT THE CwVA AND ITS DEVELOPMENT PROJECTS.

IMPORTANT NOTICE FOR ALL VETERINARIANS

Attend CwVA's 1990 pan-Commonwealth Conference.
Meet colleagues from all over the Commonwealth.
Learn more about Commonwealth development.
Actively participate in discussions on development.
See some of the wonders of Africa.
See rural Zimbabwe and meet its peoples.
Don't miss this unique opportunity.
Enjoy a truly broadening experience.
Come to Zimbabwe in 1990.

ATTENTION - VETERINARIANS' WIVES

Don't be left behind - come to Zimbabwe.
Special ladies' programs during pan-Commonwealth Conference.
Experience Harare - its beauty and its culture.
Enjoy new shopping experiences.
Excellent hotels and restaurants.
See a little bit of Africa.
Enjoy a never-to-be-forgotten experience.
Come to Zimbabwe in 1990.