



Editor

Dr. S. Abdul Rahman

Editorial Board

Dr. Robin Yarrow
Dr. Bert Stevenson
Dr. W.J. Pryor
Dr. (Mrs.) HMSP Herath
Dr. Jeff Cave
Dr. Collin Boyle
Dr. W.O. Ogara
Dr. Richard D. Suu-Ire
Dr. Charalambos Kakoiyannis

All communications for the editorial department should be addressed to
The Editor, Journal of Commonwealth Veterinary Association, 123, 7th 'B' Main Road, 4th Block (West), Jayanagar, Bangalore 560011 INDIA
Tel/Fax. 91 80 2663 5210
Email. shireen@blr.vsnl.net.in

Further information about the *Journal of Commonwealth Veterinary Association* can be found on website at: www.commonwealthvetassoc.org

Advertisement should be sent to President at: president@commonwealthvetassoc.org

Printed by

Mrs. Shireen Rahman
Intervet Publishers
123, 7th B Main Road
4th Block (West), Jayanagar
Bangalore 560011 INDIA

Typesetting

Mr. K.K. Anubhavi
#379, 12th 'A' Main, Sector-A
Yelahanka Newtown
Bangalore 560064, INDIA.

One of many Commonwealth Professional Associations supported by the



CONTENTS

	<i>Page</i>
President's Column	2
Book & Journal Programme	5
CVA Study Fund	6
General Articles	
Women's Issues in Veterinary Employment – Jeanne Löfstedt	7
Sustainable Food Safety Programs - The Belize Experience – Michael De Shield	12
Biosecurity and Island States - An Australian Perspective – David Banks	21
Veterinarians' Contribution To Food Safety – Francis Kunadu-Ampratwum	23
Veterinary Profession In Malaysia - Scenario And Future Challenges – A.A Saharee and Matta Abdul Rahman	28
The Veterinary Profession in Trinidad & Tobago – John Fernandes	32
Regional News	
Asia	34
Australasia/Oceania	39
Canada Caribbean	44
East, Central and Southern Africa	47
West Africa	53
U.K. Mediterranean	54
Abstracts	57
Calendar of Events	58

The Principal Sponsor of Commonwealth Veterinary Association is





COMMONWEALTH VETERINARY ASSOCIATION

- Patron** : **Sir Dawda Jawara**
Former President, Republic of The Gambia.
- Hon. President for Life** : **Dr. J.T. Blackburn**
Cambridge, U.K.
- President** : **Dr. Robin Yarrow**
GPO Box 15411
Suva, FIJI.
Fax: (679) 3384980
Email: yarrow_r@usp.ac.fj
- Secretary** : **Dr. S. Abdul Rahman**
123, 7th 'B' Main, 4th Block (West),
Jayanagar, Bangalore 560 011, INDIA.
Tel/Fax: (91 80) 26635210
Email: shireen@blr.vsnl.net.in; drwahaj@hotmail.com
- Treasurer** : **Dr. W.J. Pryor AO**
Galwiji, 309 Pryor's Road, Scotsburn
Victoria, AUSTRALIA 3352
Tel: (61 3) 53 413397; Fax: (61 3) 53 412273
Email: commvet@netconnect.com.au
- Immediate Past President** : **Dr. Bert Stevenson**
99 Celtic Lane E, Keppoch-Kinloch, Stratford
Prince Edward Island C1B 1L4, CANADA
Tel: (1 902) 5692894
Email: bertstevenson@eastlink.ca

Regional Representatives

ASIA

Dr. H.M.S.P. Herath
CVA Councillor, Sri Lanka
15/4 Sudharmarama Mawatha
Bowela, Kandy
SRI LANKA
Tel/Fax: (94 1) 505799
Email: hmspherath@hotmail.com

EAST/ CENTRAL/ SOUTHERN AFRICA

Dr W.O. Ogara
PO Box 43837, 00100
Kabete, KENYA
Tel: (254) 2 2713537
Fax: (254) 2 631325
Mobile: (254) 722 719828
Email : cva_ogara@pacificafrika.com
waogara47@hotmail.com

AUSTRALASIA/ OCEANIA

Dr. Jeff Cave
Department of Primary Industries
1, McKoy Street, Wodonga
Victoria 3689, AUSTRALIA
Fax: (679) 3384980
Email: jeff.cave@dpi.vic.gov.au

WEST AFRICA

Dr. Richard D Suu-Ire
CVA Councillor, Ghana
PO Box 143
Legon, GHANA
Tel : (233 21) 772553 (O); 782177 (R)
Fax : (233 21) 776021
Email: suuire@hotmail.com

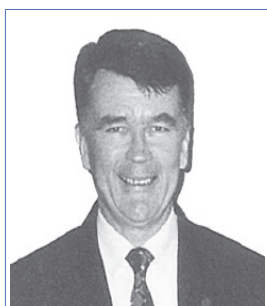
CANADA CARIBBEAN

Dr Collin Boyle
CVA Councillor, St. Vincent
PO Box 1135, Kingstown
ST. VINCENT, West Indies
Tel: 784 456 4981; Fax: 784 456 5964
E-mail: menzo@caribsurf.com

U.K. / MEDITERRANEAN

Dr Charalambos Kakoyiannis
CVA Councillor, Cyprus
Head of Central Veterinary Laboratories
Veterinary Services
1417, Nicosia, CYPRUS
Tel: 357 22 805187; Fax: 357 22 332803
E-mail: vet.services@cytanet.com.cy

President's Column



2004 has been an especially busy year, featuring an Executive Committee and 3 Regional Conferences, with the latter all taking place between August and November. The Regional Conferences were held in Zambia, Papua New Guinea and Trinidad and Tobago respectively.

The Zambia Conference for the Eastern, Central and Southern African region was hosted at the excellent facilities of the School of Veterinary Medicine at the University of Zambia in Lusaka. The theme of the conference was "Towards Sustainable Livestock Production and Food Safety: The Global Challenge".

The 11th Australia/Oceania Regional Workshop took place in Papua New Guinea's 2nd largest city of Lae and focused on the "Threats of emerging diseases to sustainable livestock production and the role of women in the production process". This Workshop was held in conjunction with PNG's largest agricultural Show and Singing, a diverse cultural event, which served to give visitors a unique insight into this large island country. An especially pleasing feature was the active participation of a partner organization, the intergovernmental Secretariat of the Pacific Community [SPC].

The Regional Conference in Trinidad was staged jointly with the 23rd Biennial Caribbean Veterinary Medical Association Conference and had as its theme "Emerging Trends in Veterinary Medicine". The Conference was held in Port of Spain and the Guest of Honour was the nation's President, HE Dr Williams.

All three Conferences were each attended by over 80 participants and this was most encouraging. I was fortunate to be present at each Conference and therefore speak first hand. The individual themes reflected key emerging issues and high quality presentations provided a platform for excellent discussion and interaction at the Conferences.

Successful regional CVA Councils were also convened at each location and these permitted discussions to be undertaken on regional issues and needs. In Trinidad, the Council endorsed Barbados as the region's choice to host the 4th Pan Commonwealth Conference scheduled for 2007.

An Executive Committee meeting preceded the Zambia Conference and was held in Cape Town, coinciding with the South African Veterinary Association Biennial Congress. A major decision taken by the Executive Committee in Cape Town was to retitle our CVA News to Journal and to increase the technical content. A very constructive meeting was held by the CVA Officers with the President and Executive of the South African Veterinary Association. A proposal for South African veterinarians to assist more in adjacent CVA members on a voluntary basis was strongly endorsed.

As we look ahead to what will already be the 6th year of this new millennium, our profession is facing several major challenges, although these are not all shared equally across our vast CVA region. One very significant common threat is that of emerging and re-emerging diseases, many of which are transmissible to humans.

While some areas such as parts of the Caribbean have a surplus of veterinarians, the opposite is true in the Pacific Island sub-region for example, where veterinarian numbers are declining. This latter development has given stimulus to a region-wide Para veterinary training initiative, by the SPC. At the same time, the livestock sector and in particular livestock/veterinary services, are receiving insufficient priority and resources in many developing countries. This appears partly parallel to the worrying trend in some developed CVA states such as UK and Australia, where fewer veterinarians are working with farm animals. Increasing urbanization is also leading to larger numbers of food animals in closer proximity to human populations. This is presenting a further set of concerns which include the public health aspects of increasing quantities of animal waste.

On the other hand, the steadily increasing consumption of livestock products by developing countries is presenting new opportunities in which veterinarians could play an important role. These include the scope to increase production of marine products from culture methods which have a good deal in common with intensive pig and poultry systems. In addition there is significant potential for greater veterinary involvement in the value-adding of livestock products and in veterinary public health as well as in biotechnology.

I must recognise the sterling support I have received during my first year in office from the Treasurer, Dr William Pryor, Secretary, Dr Abdul Rahman and Past President, Dr Bert Stevenson on one hand and all Regional Representatives on the other.

Journal of Commonwealth Veterinary Association

Intructions to Authors

The JCVA publishes original articles, case reports, short contributions and review articles. Please contact the Editor if you plan to write a review.

Send your manuscripts to:

Dr. S. Abdul Rahman
Editor, JCVA
#123, 7th "B" Main Road
4th Block (W), Jayanagar
Bangalore 560011, INDIA

Covering Letter

Manuscripts must be accompanied by a letter to the Editor, signed by all coauthors.

Copyright

Submission of a manuscript will be held to imply that it is the unpublished original work of the author(s) and, if accepted, will not be published elsewhere in whole or in part without permission. Copyright, including the right to reproduce the article in all forms and media, is assigned exclusively to the JCVA.

Animal Welfare

The handling and use of animals in experiments must conform to the International Code of Practice for the care and use of animals for scientific purposes.

Manuscript

Submit the manuscript in duplicate. Type it on one side of A4 paper, with 10 cpi font, leaving a left-hand margin of 3 cm and numbering every fifth line. Use double spacing throughout, including title page, abstract, text, acknowledgments, references, tables and legends for illustrations. Do not underline anything. Number all pages.

Alternatively a version can be provided on a computer diskette, preferably in PC format. Acceptable word processing programs are WordPerfect and MS Word. If you use a Macintosh send your manuscript as an email attachment or on a PC formatted disc. An email attachment can also be sent to shireen@blr.vsnl.net.in

Title

The title should be concise, specific and informative but should not make an assertive claim about the conclusions of the study.

Authors' Names And Addresses

Give initials and surnames in capitals without stops. Separate the authors' names with a comma, except the names of the penultimate and ultimate author, which are separated with 'and' in lower case letters. If a single postal address is applicable, type it in full below the authors' names. If there is more than one address, provide all as footnotes. An Email address may be included. The first named author is assumed to be the author for all correspondence, including requests for reprints. Kindly include your qualifications mentioning the degrees obtained.

Layout

Articles should have a structured abstract of no more than 250 words. The subdivision is up to the author, but should encompass the Objective, Design, Procedure, Results and Conclusion. Write subheadings in lower case bold letters, followed by the text on the same line. List nonstandard abbreviations and their explanations after the abstract. Use only the abbreviated form in the text. Avoid use of abbreviations in the abstract. The main headings, following an untitled introduction, are Materials and Methods, Results, Discussion, Acknowledgments and References. The introduction should state the purpose of the study. The contents of Materials and Methods should enable others to reproduce the work. Present the findings in Results concisely and logically. Evaluate and interpret the findings in the Discussion, but do not present new data. If possible, write the main conclusions at the end of the Discussion. Headings may vary from standard if the variation makes the article more informative.

Tables

Type each table double-spaced on a separate page. Number tables in Arabic in the order they are referred to in the text. Each table should have a concise title that describes its content adequately. Information in the table must not be repeated in detail in the text. Do not use vertical lines. Use horizontal lines to separate the table from the title, and footnotes and column headings from data.

Figures

Both black and white and colour photographs are encouraged to a maximum of five only. Figures can be submitted in digital form as separate files. They should be saved as TIFF, JPEG or EPS files with a resolution of 300 dpi. EPS files must be saved with the preview option. Illustrations provided as MS Word files will not be accepted. Write legends for figures and explanations of symbols on a separate page. Legends should contain enough information to make the figure comprehensible without reference to the text.

References

Cite only those publications that are essential for the understanding of the study. Number text references consecutively, in the order in which they are mentioned, by superscript Arabic numerals. Write and number the reference list in the sequence of the references in the text. References to journals, books, conference proceedings, organisational papers, anonymous editorials, foreign language articles and internet web sites, respectively, are written as follows:

1. Gibson KT, Hodge H, Whittam T. Inflammatory mediators in equine synovial fluid. *Aust Vet J* 1996; 73: 148-151.
2. Peterson ME, Randolph JF, Mooney CT. Endocrine diseases. In: Sherding RG, Editor. *The Cat: Diseases and Management*. 2nd edn. Churchill Livingstone, New York, 1994: 1403-1506.
3. Rhodes AP. Infectious bovine keratoconjunctivitis vaccination. In: *Proceedings of the 23rd Seminar, Sheep and Beef Cattle Society*, New Zealand Veterinary Association, June 1993.
4. Australian Veterinary Association. Tethering of sows and sow stalls. In: Greenwood PE, editor. *Members' Directory and Policy Compendium*. 1997: B5.
5. Where do we stand on manpower? [editorial] *Vet Rec* 1995; 137: 1.
6. Homberger FR. Mäusehepatitis-Virus. *Schweiz Arch Tierheilkd* 1996; 138:183-188.
7. Council of Docked Breeds. The case for docking. <http://www.cdb.org>. 1992. Retrieved 15 October 2001.

List all authors if there are five or fewer. When there are more than five authors, list only the first three and add 'et al'. Write titles of books, journals and other publications in italics. Capitalise only the first letter of the book titles. Do not underline or use bold letters. The abbreviation of journals follows that of Serial sources for the BIOSIS previews database. Cite references to unpublished work only in the text, with a notation of (personal communication) or (unpublished). Please send a copy of any cited work that is included in the reference list as 'in press'. It is the authors' responsibility to check the accuracy of reference citations.

Acknowledgments

Only acknowledge significant intellectual, technical and financial contributions. A short work warrants short acknowledgments.

Articles of General Interest

Articles of general interest, experiences in treating of clinical cases, country reports, success stories in animal production, using innovative approaches and where possible enhancing the contribution of women and also using sustainable methods are also encouraged.

Review Articles

Reviews on a specific topic usually are written by invitation. Other authors wishing to submit a review should first enquire of the editor whether the topic is of interest to the Journal. A synopsis of the proposed article often will be requested before the writing of the full version is commenced. Reviews should provide a critical assessment of published works that have contributed to the development or understanding of the chosen topic. The soundness of experimental evidence and the validity of conclusions and recommendations in cited articles should be assessed. Conflicting observations and interpretations should be examined and evaluated.

~ Editor

2

**Contacts: Dr. J.B. Derbyshire, Coordinator, CVA Book Programme, Department of Pathobiology
Ontario Veterinary College, University of Guelph, Guelph, Ontario, Canada N1G 2W1.
E-mail: jderbysh@uoguelph.ca**

**Dr. Jeff Cave, CVA Councillor, Australia, Department of Primary Industries, 1 McKoy Street
Wodonga, Victoria 3689, Australia
E-mail: jeff.cave@dpi.vic.gov.au**

CVA Book Programme

The CVA Book Programme is coordinated from the Ontario Veterinary College at the University of Guelph by Dr. Brian Derbyshire, assisted by Mr. Jim Brett, the College Librarian. A depot is also maintained in Australia by Dr. Jeff Cave. Books are donated by veterinarians in Canada and Australia, and they are available for distribution free of charge to graduate veterinarians, but not veterinary students, in CVA member countries in good standing. Priority is given to requests from institutional Libraries, such as veterinary schools and veterinary associations, and requests from individuals are met as funds permit. Because of budgetary constraints and increasing mailing costs, the number of books which can be shipped is normally restricted to up to 30 titles for institutions, and up to 5 titles for individual veterinarians in any one year. Requests for books should indicate the required subject areas and/or preferred titles where possible, and they should include the mailing address to which the books should be sent. The latter should be abbreviated as much as possible in order that it may be accommodated in the limited space provided on the customs declaration. It is suggested that those wishing to submit a request should first obtain a copy of the current inventories of books available by contacting, preferably by e-mail, either Dr. Derbyshire or Dr. Cave (see above for contact information). Shipments are made by surface mail, and may take several months to reach their destination. The recipients are requested to acknowledge the safe arrival of the books.

During the period July to December, 2004, 158 books were sent from Guelph to 6 Commonwealth countries as follows: Nigeria (51 books), Pakistan (66 books), Fiji (12 books), Barbados (9 books), Jamaica (11 books) and Tanzania (9 books). Six of the shipments were to institutions,

and 8 were to individual practicing veterinarians. During the same period, 79 books were shipped from the Australian depot to 3 countries as follows: Nigeria (48 books), Fiji (26 books) and Barbados (5 books). These figures represent a significant increase over the shipments made in the corresponding period in 2003.

The current inventory at Guelph comprises just over 500 titles and close to 1,000 volumes, while the Australian depot holds close to 250 volumes. Most areas of veterinary medicine are covered. These include anatomy, anesthesia, animal science, avian, fish, laboratory animal & wildlife medicine, biochemistry & biology, equine medicine & surgery, farm animal medicine & surgery, histology & hematology, immunology, microbiology, parasitology, anatomic & clinical pathology, pharmacology, physiology, public health, zoonoses & epidemiology, radiology, small animal medicine, small animal surgery, theriogenology and toxicology, as well as miscellaneous titles such as veterinary dictionaries and indexes. The most extensive stocks are in small animal medicine and surgery, in which the greatest number of donations are received, and in anatomy & histology. Most of the books were published during the last 20 years; older editions are discarded each year.

December, 2004

**J.B. Derbyshire
Coordinator
CVA Book Programme**

CVA STUDY FUND

The Fund

This fund has been established by the Commonwealth Veterinary Association (CVA) in conjunction with the Commonwealth Foundation to honour the contributions made by Mr. John Anderson and Dr. L.P.E. Choquette in establishing and promoting the activities of the Commonwealth Veterinary Association.

Financial support to match the funds contributed by the Commonwealth Veterinary Association and the several national and local veterinary associations throughout the Commonwealth may be provided by the Commonwealth Foundation.

1. Purpose

Its purpose is to provide financial assistance to:

1. Veterinarians who are members in good standing of their respective national associations to undertake short term study visits to schools, institutions or to undertake short term study courses in veterinary medicine, animal production or related areas in other Commonwealth countries.
2. Animal Health Assistants recommended by the appropriate CVA Council Member and Regional Representative, to undergo further short-term training at a school or institution in another Commonwealth country.

It is expected that such visits will promote professional and para-professional contacts and provide grantees with new knowledge and expertise in their respective fields of interest. Study proposals which will directly benefit the rural poor and disadvantaged will receive sympathetic consideration. All proposals will be expected to describe how they will benefit the home institution, veterinary organization and community. The visit is also expected to result in a broadening of cultural experience and horizons and to promote Commonwealth understanding.

2. Guidelines

1. Grants will be limited to persons with field experience and not holding senior positions.
2. The awards are not normally available for University academic or research staff.
3. Preference will be given to related regions with 'south-south' movements being encouraged. In exceptional cases, visits to institutions outside the regions qualifying under south-south arrangement will be considered as long as the cost of the visit does not exceed the allocated fund award (Aus \$ 3000). In exceptional circumstances and where approved by the President grantees may receive training in a non-Commonwealth country within that Region.
4. The study period should be preferably between 2-3 weeks.
5. Awards will normally be distributed equally amongst Regions, however, on occasion, the President may authorize additional awards to a particular Region in any one year.
6. The study visits will be financed at a maximum of Aus \$ 3000 including a prepaid air ticket for the least expensive and most direct route.
7. Grants are provided only for periods of concentrated study or training on a particular topic or activity and cannot be made

for attendance at conferences, meetings etc., nor to underwrite a tour of visits to a number of institutions.

8. A report must be submitted to the Secretary CVA within three months of the completion of the study visit. At the completion of the study visit, the participant must receive a letter of release, which should clearly indicate duration of stay, and satisfactory completion of course. The letter should also confirm that at the time of departure, the participants have not left any debts unsettled. This requirement must be conveyed by the Regional Representative or Programme Director to the host institution before arrival of participant.
9. It will be necessary for the host institution to agree to assist in arranging suitable accommodation etc. affordable by the applicant.
10. Grantees will be expected to give one or two lectures at the host institution or veterinary association on aspects of animal health and production activities in their home country. These lectures should emphasize how their studies in the host country will benefit the rural poor and disadvantaged as well as their impact upon the environment.
11. These lectures and the discussions of topics, both professional and social, with the staff of the host institution or veterinary association will serve to further the aims and objectives of the Commonwealth Veterinary Association.

3. Applications

- i) There is a set Study Application Form/Application. Forms are available from the CVA Secretary, or through the CVA Website.
- ii) Applications should be submitted to the appropriate Regional Representative for processing, at least 6 months prior to the proposal visit.
- iii) The applicants should provide the following:
 - a) A complete curriculum vitae to the Regional Representative
 - b) Two passport size photographs
 - c) A letter of acceptance from the person who will supervise the study program in the host country
 - d) Evidence that the study has the support of his/her home institution or national association

4. Administration

- i) The Study Application Form with supporting documents must be sent to the appropriate Regional Representative
- ii) The Regional Representative will review the application and make a recommendation to the Secretary, CVA.
- iii) The Secretary, CVA will make a recommendation to the CVA President, who will make the final decision.
- iv) The Secretary, CVA will then inform the Regional Representative who will inform the candidate.

Last date of submission of request to Council Members / Reg. Rep. is 30th Oct. 2005. RRs to submit their recommendations before 30th Nov. 2005 to the Secretary, CVA.

General Articles

Women's Issues in Veterinary Employment*

Jeanne Löfstedt

*Associate Dean of Academic Affairs and Professor of Health Management
Atlantic Veterinary College, University of Prince Edward Island
550 University Avenue, Charlottetown, Prince Edward Island, C1A 4P3
Canada*

Veterinary medicine, which until recently has been a traditionally male-dominated profession, has experienced a world-wide increase in the number of women studying at veterinary colleges and practicing in all fields of the profession. In Canada and in the United States, women constitute over 80% of the veterinary college student population. Forty three percent of practicing veterinarians in Canada are now female, and women are predicted to represent the majority of the veterinary profession by 2007. In 2001, women represented 36% of the practicing veterinarians in the United States (U.S.). The percentage of women veterinarians in the U.S. is expected to reach 50% by 2004, and 67% by 2015, if current veterinary college admission trends remain unchanged.

Women's interest in animal health has a history that can be traced back to the Middle Ages in Europe, and to colonial times in the United States. As was the case for other professions, women were excluded from veterinary medicine, based on gender, when it first emerged as a profession in the 19th century. Marie Karpiewich, a Russian, was the first European woman to graduate from veterinary school. Karpiewich, who attended the French school at Alfort under special license, graduated in 1896. The majority of European schools, however, excluded women from veterinary medical education until well into the 20th century. In the late 19th century, most university-affiliated schools in the U.S. still denied women admission, but several private proprietary schools did not. Therefore, six of the first seven U.S. female veterinary graduates were educated at private veterinary schools.

The typical view of women who wished to enter the field of veterinary medicine was expressed in one 1897 editorial in which the author stated that: "*no lady . . . would like to*

perform those operations which are almost daily work of the veterinary practitioner. . . [unless she] is prepared to unsex herself completely." Also in 1897, a British writer acknowledged that women would make good "pet doctors" while at the same time expressing his disapproval of this type of veterinary practice: "*If the practice of veterinary surgery consisted in making a round of visits among lap-dogs. . . and simply diagnosing their diseases. . . then, and only then, the profession might be a suitable one for women possessed of any delicacy of feeling.*"

Cultural prohibitions, as well as discrimination against women's participation in the veterinary profession, persisted for the first half of the 20th century. Even as late as 1967, only 277 women were engaged in the practice of veterinary medicine in the United States. By the 1970's and 1980's however, the number of women graduating from veterinary colleges reached well into the thousands. Since then, the participation of women in the veterinary profession has grown more rapidly than participation of women in any of the other traditional professions.

Is there a problem with the veterinary profession having become so feminized? Some say it will lead to declining veterinary incomes and establishment of practices primarily centered on small animals. Others have expressed the concern that women will not participate fully in professional life because they will become wives and mothers. This paper discusses the attractiveness of veterinary medicine as a career choice for women, the effects of feminization on the economics of the profession, and on practice participation.

The Attractiveness of Veterinary Medicine as a Career Choice for Women

* Paper presented at, and published in the Proceedings of the Third Pan Commonwealth Veterinary Conference, 27th - 30th June, 2003, Wellington, New Zealand. pp 105-113. Editor, S. Abdul Rahman

In the U.S. and Canada, women outnumber men in undergraduate colleges and increasing numbers of women are majoring in sciences. This phenomenon will lead to continued growth of eligible female candidates for veterinary colleges in North America.

Over the past 15 years there has been a considerable decline in the percentage of men applying to veterinary colleges in the U.S. and Canada. In the U.S., men comprised 44% of the applicant pool in 1985; declining to 28% by 1999. The decrease in the proportion of male applicants has been attributed to both an absolute decrease in the number of men applying as well as a dramatic increase in the number of women seeking admission. In 1985, a total of 2204 men and 2757 women applied to U.S. veterinary colleges, while in 1999 a total of 1846 men and 4849 women applied. The gender composition of classes admitted to U.S. and Canadian veterinary colleges mirror the gender distribution of the applicant pool.

The reasons for the relative decline in the attractiveness of the veterinary profession for male applicants, and the increased attractiveness of the profession for women, are speculative at this point. Simplistic explanations that have been put forth for the feminization of the veterinary profession include: (1) discrimination based on gender has been eliminated from the application process and women compete well when selection is based on objective criteria; (2) tranquilizing drugs and improved facilities for animal restraint have overcome the perceived/real physical limitations of women; (3) there are enough female role models engaged in the physically challenging aspects of the veterinary profession to encourage others to participate; and (4) the desirability of the profession has been enhanced for women because of the caring image portrayed in popular books and on television programs, e.g., *James Herriot* of the 1970's. Feminization has also been attributed to a trend effect, i.e., as women enter the veterinary profession in ever increasing numbers, it decreases the profession's prestige as a male occupation and exacerbates feminization.

To explain female penetration into formerly male dominated occupations, Reskin and Roos state that disparate recruitment and retention of women into a profession is the product of changes in how employers select workers and how workers select their job/profession. How employers select workers is considered to be a minor to non-existent force driving the feminization of the veterinary profession.

In examining how workers rank jobs it is important to understand the characteristics of a job that determine an individual's selection of that job. Most workers, regardless of gender, list the following job characteristics as important to them: income, autonomy, social standing, job security,

interesting work, congenial working conditions, and the potential for advancement. Men may have less interest in the veterinary profession because of stagnation in veterinary incomes over the last several years. This was the reason cited for feminization of clerical workers and as well as the teaching profession. Men may be less willing to join a profession if income is low relative to comparable professions with similar educational requirements. Although there is a disparity between the incomes of men and women upon entry into the veterinary profession, this disparity is less than for other professions. This may increase the attractiveness of the veterinary profession for women as compared to other professions.

Decreased autonomy and opportunity for advancement, associated with a decrease in the number of practice owners and increase in the number of employed veterinarians over the last two decades, may also have contributed to a decrease in the attractiveness of the veterinary profession for men. The recent proliferation of corporate practices may also have influenced the gender distribution in veterinary medicine, however, it is important to recognize that significant feminization of the profession occurred well in advance of the establishment of corporate practices. Although the corporate practice environment may seem to be more attractive to men because of the potential for advancement, that environment may also be less attractive because of the lack of autonomy associated with such practices. The corporate practice environment, with its structured hours and the opportunity for part-time work, may increase the attractiveness of veterinary medicine for women who enter the profession in their childbearing years.

The reasons proposed for the feminization of the veterinary profession and other occupations seem to suggest that women, as a whole, are willing to put up with circumstances (loss of autonomy, low incomes relative to other professions) that men, as a whole, would not be willing to accept. It also suggests that women, as a whole, value other aspects of the profession (interesting work, congenial working conditions, etc.) more than men. However, this appears to be at odds with the position of Reskin and Roos who state that "workers rank jobs on a variety of characteristics on whose importance men and women generally agree".

The value that women place on aspects of the profession other than money and autonomy is substantiated by the experiences of Dr. Peggy Rucker, past president of the AAHA. In interviewing approximately 100 recent graduates about their first job experience (1-5 years post graduation) Dr. Rucker found that men discussed salaries, bonus schedules, and new tools and "toys" first, whereas women first spoke about their employer and about their relationships

with the practice staff and clients. Only after this, would women discuss the "toys" available in the practice and then, perhaps their salary. In an Australian study of veterinary students and recent graduates, the factors that influence career choice were found to be similar between genders, but some differences came to light. The factors that were of more importance in influencing the decision of males to study veterinary medicine were a desire to be independent of supervision and the financial attractiveness of veterinary practice. Factors that were of more importance to females in choosing a career in veterinary medicine included a 'love' of animals, the image of veterinarians as portrayed in television programs, an interest as a child in living things, and the scientific study of disease. Interestingly, these findings parallel the literature in relation to human medicine where women generally placed more emphasis on relationships with their patients and less emphasis on high income and status than men. They also scored lower on dominance and higher in nurturance than men.

Feminization and the Economics of the Profession

According to the U.S. Bureau of Statistics, veterinarians earned a mean annual income of \$ 57,130 in 1998, compared to \$ 102,000 earned by their physician counterparts, and \$ 92,350 earned by dentists in the same year.

To study the reasons for stagnant real incomes of veterinarians, a coalition consisting of the American Veterinary Medical Association (AVMA), American Animal Hospital Association (AAHA), and the American Association of Veterinary Medical Colleges commissioned an economic study of the entire US veterinary profession. This study, termed "*The Current and Future Market for Veterinarians and Veterinary Medical Services in the United States*", and often referred to as the KPMG LLP study, or "Megastudy", listed six critical issues that needed to be addressed to improve the economic health of the veterinary profession in the U.S. One of these was the economic impact of large numbers of women in the profession.

On the issue of the economic impact of women in the veterinary profession the study concluded that: women are rapidly becoming the majority of the profession. It showed that, on average, women work 3-4 hours less per week than men do; they have lower earning expectations than men; they are not as interested in practice ownership as men are; they have a tendency to price lower than men; and in private practice they have lower self evaluation of business management and financial skills than men. Finally, the study also showed that female veterinarians that were not in private practice had a lower self-evaluation of communication,

personnel management, business management, and marketing skills compared to their male counterparts.

A second U.S. study (Brakke Management and Behaviour Study, 1998) revealed that women with the same ownership status, years of experience, and hours worked earned dramatically less than their male counterparts. Male practice owners earned an annual income of \$74,347 while female practice owners earned \$54,550, a 26.6% difference. Male associates earned an annual wage of \$54,550 compared to \$ 43,265 for female associates; a wage gap of 20.7%. Half of the female veterinarians and only 16% of the male veterinarians earned less than \$ 43,000/annum whereas 33% of the male veterinarians and only 9% of the female veterinarians earned more than \$ 85,000/annum.

Detailed analyses of the data from the same study revealed that differences between the incomes of men and women could not be attributed to:

- Discrimination against women-the greatest income gap was between male and female practice owners who are able to determine their own salaries
- Fewer hours worked by women-women practice owners work the same number of hours/week as men, whereas female associates work approximately 1 week/year less than their male counterparts, but few are part time (73% of female and 86% of male associates work > 40 hours/week)
- Lower number of years in the profession for women-the wage gap persisted when women and men with the same levels of experience and working the same number of hours were compared

What then, are the reasons for women earning significantly less than their male counterparts?

- Job and personal satisfaction-veterinarians across the board appear to be satisfied with lower earnings than other professionals make. Female practice owners and associates report being highly satisfied with significantly lower earnings than their male counterparts (e.g. female practice owners report high satisfaction with an average salary of \$ 58,911 whereas males do not report even moderate satisfaction until their incomes reach \$ 75,529).
- Business knowledge-the Brakke study indicated differences in the level of financial acumen between men and women. The study asked practice owners 5 questions designed to measure financial knowledge; only 13% of respondents answered 3 or

more questions correctly. Fifty percent more male than female owners answered 3 or more questions correctly and 36% more females than males did not have a correct answer for any of the questions.

- Earnings expectations—there is evidence in the psychology literature that, given equal qualifications, applicants who request higher salaries are given more money. Demanding a higher salary may be more difficult for women than men. It is generally more acceptable professionally and socially for men to negotiate aggressively. Such men are viewed as being "strong" and "determined" while a woman doing the same may be labeled as being "pushy" or "unreasonable."
- Productivity level—there are no published veterinary studies that have measured productivity levels, however, one researcher in the field of gender earning differences, believes women physicians may produce less because they spend more time with their patients. This may also be the case for women in the veterinary profession..

Should one be concerned about the economic impact of feminization of the veterinary profession? It is a fact that women's incomes in the U.S. lag seriously behind those of men in the veterinary profession, and that the income of men is already less than optimal. In the U.S. women continue to accept lower salaries than men and this may affect the incomes of all veterinarians based on the principle espoused by economists that low incomes become the measuring point for all incomes. Given the same set of circumstances, women on average, (including practice owners) price their services 9% lower than men. Women appear not to place income high enough on their list of expectations and express higher levels of satisfaction with much lower salaries than men.

Why are women generally satisfied despite these statistics? It is speculated that women in general judge their career satisfaction not so much by objective criteria (salary), but by more subjective criteria such as relationships with colleagues, staff, and clients. The caring and nurturing nature exhibited by women should be considered to be healthy and desirable in both sexes. However, women need to build on their knowledge of business management and the financial challenges associated with the practice of veterinary medicine. It is important for all veterinarians, but particularly women, to recognize that compassion and caring, and business acumen and success, are not mutually exclusive.

Practice Participation—Food Animal Practice

The decreased participation of veterinarians in food animal/rural practice has been a topic of hot debate and study in a number of countries, including Australia, the U.S. and Canada. Opinions abound as to the reasons for the lack of interest of veterinary college graduates in food animal practice. Some of the reasons cited include: the increasingly urban backgrounds of students admitted to veterinary colleges; the increasing number of women in the profession; the emphasis on grades at admission versus non-cognitive criteria; the notion that veterinary curricula do not prepare graduates adequately for food animal practice; the physical and time demands of food animal practice; the lack of spousal employment opportunities and amenities for the "veterinary family" in rural areas; and the lack of adequate compensation in food animal practice in the face of high student debt loads.

Results of the 2001 AVMA survey of graduating veterinary medical students tends to support the notion that fewer female than male graduates enter large animal practice careers upon graduation. It also indicates that women have a preference for small animal practice careers. Only 4.4% of female veterinary college graduates of the class of 2001 in the U.S. entered "large animal exclusive" or "large animal predominant" practice compared to 13.4% of male graduates who entered these fields. In a similar vein, only 8.6% of female (but 14.2% of male) graduates entered mixed animal practice. In contrast, 55.8% of 2001 female veterinary college graduates entered "companion animal exclusive" or "companion animal predominant" practice versus only 40.1% of male graduates.

In Australia, the number of registered female veterinarians increased from 15 to 39% between 1981 and 2001 as did the number of female practicing veterinarians in rural areas. The numbers of females in rural areas increased by 35/year between 1981 and 1991 and to 36/year by 2001. In contrast, the number of males in rural practice increased by 33/year between 1981 and 1991, but only by 10/year over the next decade. A study conducted to review rural veterinary services in Australia found that, on average, there was no difference in the duration of time males and females remain in rural practice jobs, however, in longitudinal surveys, 73% of males but only 48% of females were working full time after 10 years.

These findings suggest decreased participation by women in food animal practice. They also suggest that fewer women than men remain in rural practice on a full time basis in the long term. Feminization of the veterinary profession may therefore be one of the factors affecting the delivery of veterinary services to the food animal sector and in rural areas.

Practice Participation—Practice Ownership

Authors of the KPMG study asked early stage veterinarians about practice ownership and discovered that the majority (86% of men and 71% of women) were interested in owning a practice. However, the study also demonstrated that over time the desire for practice ownership decreased, particularly among women. Only 38% of established female veterinarians compared to 61% of established male veterinarians desired practice ownership. Therefore, feminization of the veterinary profession, together with women being less drawn to practice ownership than men, may have significant implications for practice owners. Selling a small hospital may become more difficult and practice mergers may become commonplace. Veterinary practices are likely to grow larger and more flexible, making it possible for partners to enter and exit with smaller financial commitments.

Conclusions

The veterinary profession has undergone dramatic feminization and this trend is likely to continue for some time. Fortunately, women appear to be attracted to the caring and nurturing aspects of the veterinary profession but unfortunately, expect and accept lower salaries than men. This may undermine the income potential of all veterinarians, both women and men. Women need to recognise that sound financial management and relationship-building are not mutually exclusive, and that both are cornerstones of successful veterinary practice. Inadequate incomes will decrease the vitality of the veterinary profession and may hinder the attraction of high quality individuals into our profession.

Whenever a group driven by certain traits (in this case men) is discouraged from considering a profession, the diversity of that profession is decreased. With lack of diversity comes change. Feminization of veterinary medicine has changed the profession in a number of ways. Many of these changes have been desirable, others less so. The challenges to female veterinarians have been discussed already. An additional challenge is to attract more men to the profession.

Key References

Brown J. P. and Silverman J.D. The current and future market for veterinarians and veterinary medical services in the United States. *J Am Vet Med Assoc* 215: 161-183, 1999.

Cron W.L., Slocum J.V., Goodnight, D.B. and Volk, J.O. Executive summary of the Brakke management and behavior study. *J Am Vet Med Assoc* 217, 332-338, 2000.

Felsted K.E. and Volk J. Why do women earn less? *Vet Economics* 41, 33-38, October 2000.

Felsted, K.E. Gender shift on the horizon. *Vet*

Economics 42, 18-20, Summer 2001.

Frawley, P.T. Review of rural veterinary services. Department of Agriculture, Fisheries, and Forestry and the Commonwealth Department of Education, Science and Training, Australia, January 2003.

Heath, T.J. and A. Lanyon. A longitudinal study of veterinary students and recent graduates 4. Gender issues. *Aust Vet J* 74: 305-308, 1996.

Jones S.D. Gender and veterinary medicine: global historical perspectives. *Argos* 23, 119-123, 2000.

Miller, G.Y. Earnings, feminization, and consequences for the future of the veterinary profession. *J. Am Vet Med Assoc* 213, 340-344, 1998.

Reskin B.F. and Roos P.A. Job queues, gender queues. Philadelphia: Temple University Press, 1990.

Rinesch P. Pioneer women veterinarians in European society. *J Am Vet Med Assoc* 212, 182-183, 1998.

Rucker, M.J. Gender changes and the future of our profession. *J Vet Med Educ* 29, 63-65, 2002.

Slater R.S. and Slater, M. Women in veterinary medicine. *J Am Vet Med Assoc* 217, 472-476, 2000.

Smith C.A. Gender and work: what veterinarians can learn from research about men, women, and work. *J Am Vet Med Assoc* 220, 1304-1311, 2002.

Wise, K.J. and Gonzales, M.L. Employment of male and female graduated of US veterinary medical colleges, 2001. *J Am Vet Med Assoc* 220, 600-602, 2002.

Sustainable Food Safety Programs - The Belize Experience*

Michael De Shield

*Director - Food Safety Services
Central Investigation Laboratory
Belize Agricultural Health Authority
St. Joseph Street, P.O. Box 181, Belize City
Belize - Central America*

Introduction

Globalisation of Trade in Food

Many countries have increasingly multi-ethnic/cultural populations leading to a demand for food products which are not indigenous to the importing countries thus fostering a dramatic increase in the number of countries, particularly those that are less developed, involved in production of food for export. This "internationalization of food taste and habits" and increased globalization creates the potential for foodborne contaminants to be exported as well.

As early as 1983, a joint FAO/WHO Expert Committee on Food Safety concluded in its report "The Role of Food Safety in Health and Development" that disease caused by contaminated food is one of the most widespread threats to human health, and an important cause of reduced economic productivity.¹ It is estimated that up to 30% of the population in developed countries may be affected from foodborne disease each year² - what about the incidence in less developed countries??

Foodborne disease outbreaks and food contamination has caused food safety to become a major focus of public health policy, making regulatory authorities revisit their food control systems to ensure that the programs are effective and sustainable.

Consumer Expectations

A major driving force for the implementation of effective food safety control programs are consumers who expect governments to operate effective food control systems and to provide them with a safe, nutritious, high quality, abundant, affordable and varied food supply. Consumers also expect imported food to be produced to acceptable standards, comparable to domestic products.

Traditional Food Control Profile of Developing Countries

Unfortunately, the traditional food control system profile for a number of developing countries does not meet the expected criteria for to be considered an effective and sustainable system. Typically, there is no national food control strategy, legislation is frequently outdated and inadequate, there is a lack of clear allocations of responsibilities, coordination and cooperation amongst food control agencies, and the laboratories (where they exist) are inadequately funded and equipped to support inspectorates and sanitary programmes.

Industries' Traditional View of Food Control Regulators

The private sector and those involved in the food industry have their own views about food safety regulators and food safety programs. Traditionally, food control officials are often seen as "the enemy", someone to try to avoid or to argue with. Industry may see that the implementation of regulatory staff duties can be "adjusted" by political officials and use this to their advantage. For many in the industry, the application of sound sanitary controls may be seen as a hindrance to marketability (profitability) of products with no clear incentive for the added effort in improving and maintaining appropriate sanitary programmes. The industry thus may have minimal confidence in the food control agency's ability to monitor the safety of food - particularly imported food.

Strategy for Sustaining Effective Food Safety Programs in Belize

To protect human health from foodborne diseases and contribute to sustainable development in developing countries, the World Health Organization (WHO) in its report of the meeting of Interested Partners of the Food Safety Programme held in Geneva in June 2000³, stated that WHO will increase its technical cooperation with Member States in areas including:

1. Development of a formal national food safety

* Paper presented at, and published in the Proceedings of the Third Pan Commonwealth Veterinary Conference, 27th - 30th June, 2003, Wellington, New Zealand. pp 89-104. Editor, S. Abdul Rahman

policy

2. Upgrading of food control systems
3. Improving laboratory infrastructure
4. Improving food safety education programmes
5. Strengthening programmes for surveillance, investigation and control of foodborne diseases.

The following is the Belize situation with respect to food safety and the achievement of the above stated goals:

1. Development of a formal national food safety policy

Belize formally launched a Food and Nutrition Security Policy on 20th February 2001. This policy, developed largely through the efforts of the Ministry of Agriculture, Fisheries and Cooperatives, with collaboration from the Ministry of Health, the Ministry of Human Development, and other government and non-government partners, has food safety as one of the 6 program areas that make up the national policy.

The food safety programme (Programme 5) supports the development of national standards for food products, adherence to national and international standards and the development of monitoring mechanisms. It also includes the education of the public in matters relating to food quality and safety. The objectives are to regulate and control the safety and quality of food products according to the established norms of Codex Alimentarius and World Health Organisation (WHO). It also seeks to improve the mechanisms for quality control and monitoring the safety of food products, to develop national standards for food labeling and safety and to disseminate information on food quality and safety to the Belizean public.

The **Belize Agricultural Health Authority (BAHA)** is a Statutory Body in Belize established by legislation (The Belize Agricultural Health Authority Act of 1999) under the Government of Belize "Modernization of Agricultural Health Services" project funded by the Inter-American Development Bank (IDB). The main objective for the creation of BAHA was for the enhancement of the competitiveness of Belizean agricultural products, especially in foreign markets, by strengthening the animal (including fisheries) and plant health services with increased participation of the private sector, and for the reduction of losses from diseases, and for ensuring the safety and quality of agricultural products for domestic and foreign markets. The consolidation of the functions of the plant and animal health services of the Ministry of Agriculture provided for the efficient administration of agricultural health

programmes in Belize. BAHA is the competent authority for animal and plant health in Belize, plays a lead role in the implementation of the food safety policy objectives, and is increasingly being recognized nationally as well as internationally as the competent authority with respect to food safety issues in Belize.

2. Upgrading of food control systems

Food control is still largely under the Ministry of Health in Belize. Traditionally, the Ministry of Health, largely through the under-funded and overburdened department of public health, was responsible for the inspection of food establishments (including processing establishments) as well as for performing meat inspection duties. With the establishment of BAHA, legislation empowered BAHA officers to regulate and establish cost recovery mechanisms in all food processing plants with respect to sanitary measures and designated BAHA as the sole authority for the regulation of Hazard Analysis and Critical Control Points (HACCP) systems in Belize. A number of recently enacted Statutory Instruments further expanded the role of BAHA in food safety.

BAHA's Regulatory Mandate For Food Safety

BAHA ACT, 1999

- o Regulates importation of food;
- o Prescribes fees for inspection, services and treatment;
- o Prescribes measures regarding the issue of sanitary and phyto-sanitary certificates;
- o Prescribes procedures for carrying out risk analysis and HACCP;
- o Regulates the inspection, approval and certification for all food processing plants;
- o Designates the Authority as the sole organization responsible for inspecting food and plant processing industries for compliance with HACCP; and
- o Gives designated officers powers of entry, inspection, collection of samples, and enforcement measures, including closing down of premises.

Food Safety Regulations (Statutory Instrument No. 25 of 2001)

Designates BAHA as the Competent Authority in Belize with responsibility for monitoring, inspecting, approving and controlling food safety systems in respect of all enterprises

that produce or process food for export from Belize or for consumption within Belize. Other relevant regulations that impact on food safety recently passed by the Government of Belize include the following:

- * The Belize Agricultural Health Authority (Food Processing Plants) (Potable Water) (Minimum Standards) Regulations, 2001
- * The Belize Agricultural Health Authority (Fish and Fishery Products)(Inspection) Regulations, 2001
- * Belize Agricultural Health Authority (Biological Residues) Regulations, 2001
- * The Belize Agricultural Health Authority (Veterinary Drug) (Registration) Regulations, 2001
- * National Standards (e.g. milk, honey, street-vended food, bottled water, fresh-meat, pasta), drafted 2001

Regulatory Mandate Internationally (Codex Alimentarius & SPS Agreement)

In addition to local regulations, Belize also has an international regulatory mandate through the Codex Alimentarius and the Sanitary and Phyto-sanitary Agreement (SPS agreement) to develop food standards based on international standards that protect the health of consumers, and whose imposed sanitary measures are based on risk assessment thereby ensuring fair practices in food trade.

Belize Compliance with Codex Standards

Belize has referenced (adopted) a number of codex standards, guidelines and codes of practice under its sanitary (food safety) legislation and through a number of national food standards which, if effectively applied, will give the consumer the necessary assurance of food quality and safety.

Codex based standards, code of practices and guidelines in effect in Belize include:

- * HACCP Guidelines
- * General Principles of Food Hygiene
- * MRL`s for Certain Veterinary Drug Residues
- * Labeling Standards
- * Code of Hygienic Practice for fresh Meat
- * Code of Practice for Street Vended Food
- * Bottled (packaged) Water Standard

Notwithstanding these legislative achievements, and with the exception of BAHA's major role in the regulation of the fish and fishery products processing industry, (BAHA has recently been favourably audited by the Food and Veterinary Office (FVO) in the European Union (EU) and Belize has been recommended by EU inspectors to be upgraded to List 1 status with respect to the placing of fish and fishery products on the EU market), BAHA has not expanded to the regulation of other food processing industries as efficiently and effectively as is needed, leaving much of the regulation to the Public Health Department. Training of food safety inspectors/regulators in food safety inspection or audit procedures that reflect current risk avoidance or mitigation measures is still needed - especially in the meat and poultry sectors. Training is currently being done with funding from BAHA, IDB and the relevant industries who have contributed through mechanisms established by BAHA.

BAHA does work closely with the Public Health Department and the Bureau of Standards (The Codex Contact Point in Belize) in developing sanitary standards for the various food industries as well as working to develop hygienic standards for food vendors - particularly in the tourist industry. Sanitary measures (Good Agricultural Practices) to be employed by farmers for the production of safe fruits and vegetables are also being developed by BAHA.

3. Improving the laboratory infrastructure

A National Food Control Laboratory has been established. A 556 m² food testing laboratory has been established through the renovation of the veterinary laboratory complex in Belize City. This Laboratory (Central Investigation Laboratory- CIL) is the only food testing laboratory in Belize. The lab currently has a functional staff of 7 technicians who are active in processing food samples taken as part of the inspection and regulatory procedures of the Food Safety Services of BAHA. The laboratory operates on a cost recovery basis, and the majority of samples processed come from the Fishery sector. The laboratory recently purchased residue testing equipment and has expanded the capability of the range of testing that it can offer to the various food industries. A residue-screening laboratory has also been established at the CIL complex in Belize City, and BAHA is now able to screen for residues in food such as Aflatoxin, Chloramphenicol, veterinary drugs, pesticides, (organophosphates and carbamates). Establishing a well-equipped residue lab that will be able to perform more sophisticated chemical analysis will give consumers and international trading partners the confidence in the safety of food products imported into, or exported from Belize. Staff has received IDB funded and BAHA sponsored training in

analytical procedures and the laboratory has enrolled in an internationally recognized quality assurance and proficiency testing program to assure the various industries of the validity of reported results.

4. Improving foodsafety education programmes

Food safety education is done minimally in Belize.

An objective of Program 5 (Food Safety) of the Food and Nutrition Security Policy for Belize calls for the dissemination of information on food quality and safety to the Belizean public. The Public Health department, through their weekly food handler's clinic does disseminate basic food safety info to those people seeking a food vendor's certificate. This is insufficient and inadequate. The food safety program of BAHA will need to devote a significant component of its overall programme to food safety education - utilizing a number of media and collaborative efforts, particularly with those international organizations or regulatory authorities recognized for their expertise in this area e.g. WHO, FAO, PAHO, INNPAAZ. In addition, BAHA will need to be kept updated in food safety issues and along with the international community, get involved in the standard setting process by participating in relevant meetings such as those involving Codex Alimentarius. It is encouraging to see the WHO/FAO trust fund established to financially support delegates of developing countries attendance and involvement in the international standard setting process being launched at the twenty-fifth (Extraordinary) session Codex Alimentarius Commission.⁴

5. Strengthening programmes for surveillance, investigation & control of foodborne diseases

Foodborne disease surveillance programs in Belize are inadequate. It is estimated that around the world almost 2 million children die annually from food or water-borne pathogens and even in developed countries up to 1 out of 3 consumers contracts disease from food-borne pathogens every year⁴. Keeping track of the incidence of foodborne diseases requires collaborative efforts and significant resources in order to put in place effective preventative measures that will reduce the risk to public health.

Belize currently lacks such an effective food borne disease surveillance system and will require international technical cooperation from such institutions as PAHO, CAREC, INNPAAZ or CDC in order to develop a workable system that is effective. Effective surveillance is especially important in the areas of the spread of new and emerging disease such as BSE.

A major concern to Public Health Officials is the ability to perform (pay for) necessary laboratory testing if there is

a disease outbreak or for surveillance activities related to the "public good". Since BAHA operates on a cost recovery basis, such testing will have to be funded by the Ministry of Health but such "public good" testing can also be subsidized by funds received from industry by offering other laboratory services such as nutritional analysis for processed food or providing chemical analysis for environmental monitoring as part of industries' Environmental Compliance Agreement with the Government of Belize.

From the foregoing it is clear that it will take much collaborative effort with our international trading partners and colleagues in the areas that have been delineated by WHO to help ensure that consumers at home and in the global marketplace will have access to safe food irrespective of origin.

Mechanisms for Effective Foodsafety Control

Impact of Food Safety on Trade in Belize

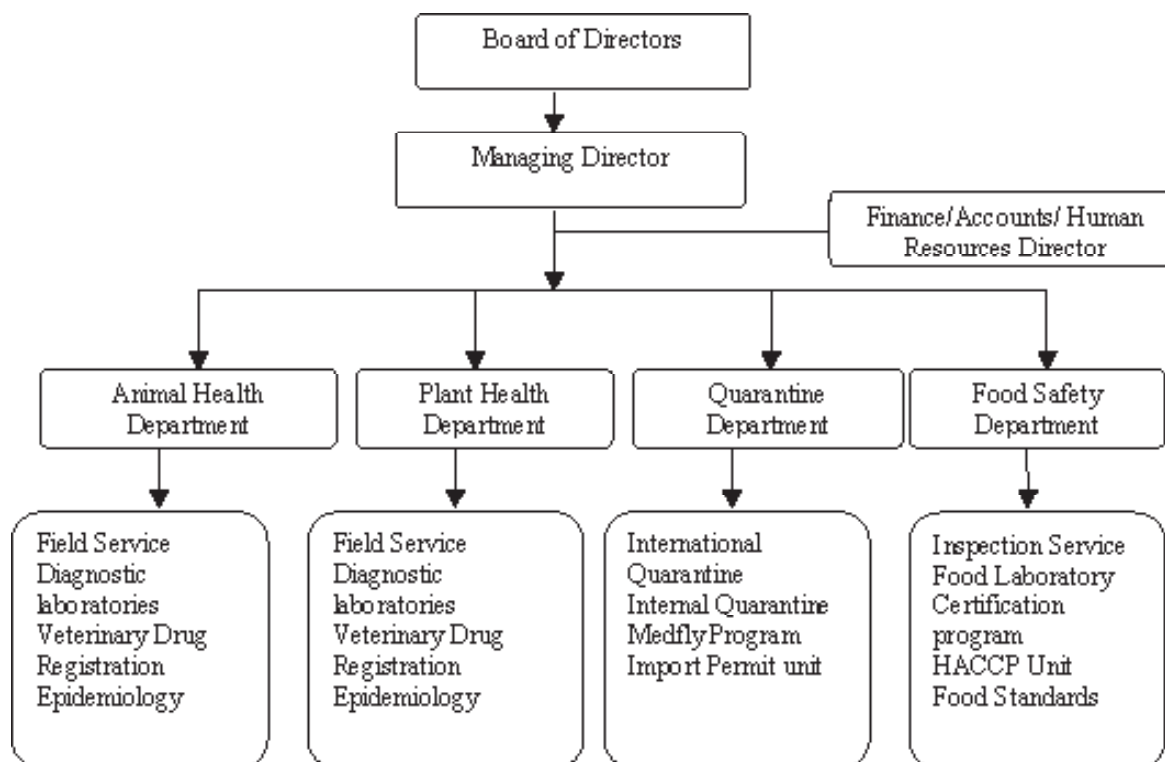
The exportation of primary agricultural commodities and fishery products from Belize represents a significant percentage of the country's exports (21 % of GDP) 5. Rejection of these products due to non-conformance with internationally accepted biological/chemical standards as recommended by CODEX will be a tremendous burden to Belize's economy, stability and development.

Providing safe, wholesome and nutritious food is recognized as a necessity under the World Trade Organisation (WTO) agreements such as the *agreement on the application of sanitary and phyto-sanitary measures (SPS)* and the *agreement on technical barriers to trade (TBT)*. Belize is a member of WTO and thus is committed to uphold these agreements which require that member countries harmonize sanitary and phyto - sanitary measures employed in the country with that of international standards, guidelines, codes of practices and recommendations.

The Belize Agricultural Health Authority (BAHA) was established in Belize to meet the country's obligations under the WTO. BAHA is thus Belize's Competent Authority on Animal Health, Plant Health, Quarantine and Food Safety Issues.

The Food Safety Department of BAHA plays the lead role in the implementation of the National Food Safety Policy objectives and is increasingly being recognized nationally as well as internationally as the competent authority with respect to food safety issues in Belize. The specific stated goal of the Food Safety Services of BAHA is outlined below:

"To ensure that imported and Belizean food products made available to consumers are safe and wholesome,



Structure of BAHA

thereby expanding the market and trade in these products, which will increase agro-processing, improve food security and safety and provide for a better socio-economic and nutritional standard of the Belizean people."

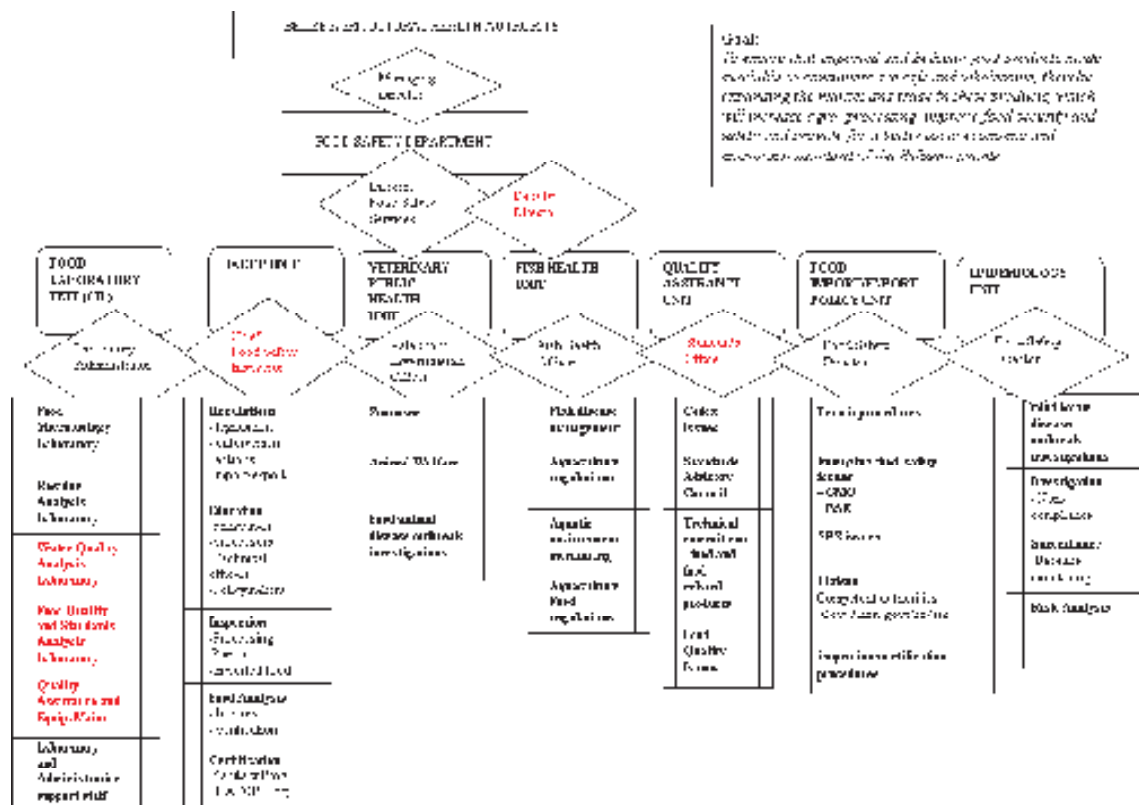
The role BAHA plays in achieving the above stated goal can be outlined in the 4 broad areas listed below:

1. Promoting awareness of food safety issues;
2. Improving the planning, financing, provisioning and maintenance of food safety services infrastructure;
3. Improving food safety services and inspection capabilities through adoption of appropriate technologies to facilitate the regulation of the food industry in Belize; and
4. Disseminating "best practices" examples such as Good Agricultural Practices (GAP), Good Manufacturing Practices (GMP), Standard Sanitary Operating Procedures (SSOP), Hazard Analysis and Critical Control Points (HACCP) within the various food industries in Belize - using a "Farmer's Gate to Consumers' Plate" approach.

Brief History of the Foodsafety Services of BAHA

The Food Safety Services of BAHA grew out of the established Animal Health program of BAHA, where a number of issues of animal health activities were impacting on human health. There was a widespread recognition of the need for microbiological and chemical testing of food of animal or plant origin as a necessity to ensure that consumers were receiving food products that are safe and wholesome.

The **Belize Agricultural Health Authority Act of 1999** gave provisions for the establishment of regulations that created a unit (Food Safety) that would be able to effectively put in place, the necessary regulations and controls that would allow BAHA to deal with the issues where food affects human health. The restructuring of the technical and support staff at the Central Investigation Laboratory in 2001 (then the Central Veterinary Investigation Laboratory) to become a part of a **Food Safety Department** of BAHA increased the staff from a core group of two people (a Veterinary Investigation Officer and a food safety officer) to 18 members (laboratory administrator, food safety officers, laboratory technicians, residue analyst, chemical analyst and support staff) by the end of 2002. This change reflected the increasingly important role the assurance of food safety has commanded both at the international level as well as at the local level.



Structure of the Foodsafety Services of BAHA

Services

The food safety services of BAHA can be broadly classified under the following headings:

1. **Regulations** (imports, exports, legislation, enforcement actions)
2. **Education** (policy makers, technical officers, producers, consumers)
3. **Inspections** (producers, processors, imported products)
4. **Laboratory Support** (food microbiology, veterinary & chemical residues)
5. **Certification** (sanitary programmes (GMP, SSOP, HACCP), food products, establishments)
6. **Investigations** (foodborne disease outbreaks, zoonoses)
7. **Risk analysis** (new or novel importations, high risk food products, international sanitary audits)
8. **Liaisons** (foreign competent authorities, government and non government departments, international organizations)

BAHA Food Safety Service Structure

These services are accomplished under the structure of 7 functionally inter-related units that characterize the Food Safety Services of BAHA (See organogram)

The functional organization of the Food Safety Department was developed via a log framework which had the following Purposes and Activities:-

Purpose (BAHA Food Safety Services)

1. To clearly define the role and purpose of the regulatory authorities who assess food safety in Belize.
2. To provide for more efficient use of inspection resources.
3. To create a food importation policy that is transparent, efficient and risk-based.
4. To improve hygiene in food processing plants.
5. To provide the laboratory infrastructure so that regulatory and private industry can test food, feed, water and veterinary samples for diagnostic, audit or investigative purposes.

6. To decrease product recall, rejection or product destruction due to non-compliance with respect to safety concerns.

Activities (BAHA Food Safety Services)

1. Train competent authority personnel in inspection and audit procedures.
2. Perform inspection and audits of food processing establishments.
3. Perform testing of food samples from selected establishments.
4. Establish a food safety service office.
5. Develop legislation, standards and manuals for the regulatory functions of the food safety service as the competent authority for HACCP.
6. Perform foodborne disease outbreak investigations.
7. Public awareness campaigns.
8. Establish "User Groups" in key food industries.
9. Develop training materials; facilitate the training of regulatory and industry personnel in food processing establishments.
10. Renovate and restructure specific areas of Central Investigation Laboratory (CIL) to facilitate the establishment of three distinct areas (Residue lab, Food Microbiology Lab and Water Quality Lab) and hire and train laboratory technicians to work in these areas.
11. Establish a Veterinary Drugs and Biologicals registration office.

Current Status

Overview of progress against schedule

- o On-track in inspections (fish), user group consultations
- o Established laboratory testing services and initiated laboratory proficiency testing
- o Initiating residue monitoring
- o Ahead in food safety legislation
- o Behind in Public awareness campaigns

Unexpected delays or issues

Much of the Food Safety Department's activities during

the past year have focused on the process of developing the necessary legislation and sanitary controls to meet the European Union criteria in order to access that market for Belizean fishery products. Other pending issues include the US Food and Drug Administration's assessment of the competence of BAHA and the Bioterrorism Act of 2002 registration requirements of food exporting establishments in Belize.

Fostering sustainable food safety programs through BAHA

Health hazards in foods can arise from the raw materials used, from handling and through all the stages involved in the processing, transportation, storage and sale of the food. Major food hazards include: microbial contamination (Salmonella, Shigella, Listeria, Hepatitis, Norwalk virus, etc.) Pesticide residues and veterinary drugs (organochlorines, dioxins, chloramphenicol, anabolic agents, etc.), food additives (authorized or misuse), environmental contaminants (cadmium, arsenic, lead, mercury, etc.) and others (mycotoxins, filth, etc.).

Belize Agricultural Health Authority (BAHA) has the mandate, and the legislation, through the Belize Agricultural Health Authority Act and its subsidiary regulations such as the Biological Residue Regulation (Statutory Instrument No. 183 Of 2001), the Veterinary Drug Registration and Control Regulation (Statutory Instrument No. 184 Of 2001), the Fish and Fishery Products Inspection Regulations (Statutory Instrument No. 173 Of 2001) and the Belize Agricultural Health Authority (Food Safety) Regulations (Statutory Instrument No.25 of 2001) to monitor food for the presence of foodborne pathogens and contaminants. The program of monitoring and surveillance for these agents and contaminants is effected through the Food Safety Services of BAHA.

BAHA coordinates these activities with its partners of other regulatory administrators, statutory bodies and Government agencies such as the Public Health Department, the Pesticide Control Board, the Coastal Zone Management Authority and Institute and the Environment Department. These agencies also have their own legislation that gives them the authority to monitor environmental contamination with microbiological, chemical runoffs or wastes, and to develop programmes that safeguard contact of these agents and products with primary food sources.

The food processing industry and retailers are becoming more interested in food safety programs not only because of the realization of the cost of food-borne illnesses and possible financial disaster that could be associated with their implicated product, but also because of consumer demands.

This is becoming more of a factor especially in the tourist sector. Food retailers are requiring third party inspection of farms that supply produce and certification of Good Agricultural Practices and processing plants that have GMPs and HACCP systems in place. Growers and processors have to absorb the costs of these inspections and programs. Regulators have to be more responsive to processors' needs and consumers' demands by providing the necessary food safety programs to suit industry needs.

Lessons learnt from foodborne disease outbreak investigations show that most outbreaks are preventable, and effective food control systems that have a monitoring and training component could have prevented such outbreaks. Abuse of time and temperature control is the most common problem and timely investigations by competent authorities can find the cause so as to effect appropriate controls⁶. Enhanced surveillance and outbreak investigations have identified new control measures, and focused attention on preventing food borne diseases.

Regulatory - Industry Relationship in Food Safety Control

Food safety is a responsibility to be shared between all - regulators, producers, importers, processors, distributors, retailers (including the service industry e.g. restaurants, caterers, street food vendors) and consumers. The relationship that regulators like BAHA have in the assurance of food safety with industry is through those food safety programs administered by the competent authority in the country. Typically these span the range from the producer to the consumer (i.e. farmer's gate to consumer's plate) and include farm controls such as the promotion of Good Agricultural Practices / Good Veterinary Practices (GAP/GVP), import controls (import permits), processing controls (Good Manufacturing Practices, Standard Sanitary Operating Procedures, HACCP), implementation of packaging and labeling standards, good hygienic practices and industry standards. Because BAHA has a presence on the farm as well as in processing plants, and is involved in the standard setting process, food safety programs can be implemented from the farm to the retailer, giving good regulatory oversight and less bureaucracy for the producers/processors since they only need to deal with the one agency.

Food Safety Management Recommendations actively promoted by BAHA with industry support

1. Promotion of Good Agricultural Practices and Good Manufacturing Practice on the farm and in the industry.

2. Implementation of Sanitary Standard Operating Procedures (SSOPs) in the food processing industry.
3. Promotion of the Hazard Analysis Critical Control Point (HACCP) approach to food safety.
4. Good record keeping and documentation of controls applied.
5. Upgrade national food safety regulations.
6. Introduction of a food safety & sanitation standard in key Industries (e.g. Tourism)
7. Establishment of an effective Food borne disease surveillance system
8. Facilitation of personnel (regulatory and industry) training (capacity building).
9. Provision of a supportive environment
10. Commitment to continuous improvement
11. Foster strategic partnerships to sustain food safety programs

Mechanisms for Effective Partnerships

1. Formation of "user groups"

One of the most effective mechanisms that BAHA has found to assist in the carrying out of its mandate for food control is via the establishment of "User Groups" i.e. industry or users of BAHA services made into consultative groups according to similar interest or commodity.

These stakeholder groups are informal but meet regularly with BAHA (and other regulatory personnel such as the Bureau of Standards and Public Health Department) to discuss regulatory issues, cost recovery options, comments on services rendered or for general problem solving purposes. The meetings also serve as a forum for training, industry or regulatory updates and discussion on market access strategies. Memorandums of Understanding (MOU's) may be established with these groups and fees for services rendered agreed upon.

User groups formed in Belize include representatives from the Fishery Industry (2 groups- aquatic animal health and fishery products processing), the Poultry Industry, Meat Processors, Fruit and Vegetables (Growers/Importers/Exporters), Dairy Industry, Bottled Water and Juices Industry, and the Tourism Industry.

2. Collaborate with those International organizations that have a food safety focus

e.g. WHO/PAHO, FAO/CODEX, IICA, OIRSA

By seeking out and collaborating with those international organizations that have a similar focus, food control agencies in an individual country can dovetail their work program to complement /augment what food safety programs or tasks need to be done in the country with less duplication of roles and effect conservation of scarce financial resources.

3. Lobby for and provide industry funded training for regulatory personnel

In countries that have little or limited access to educational institutions or costly means of gaining continuing education or training for capacity building, food control agencies can lobby for support from those industries that will benefit from having a trained regulatory personnel. An added benefit is that training in conjunction with industry personnel provides for transparency in the execution of regulatory duties. In those instances where the food control agency is the beneficiary of external expertise training, invitation for industry to participate at a cost can provide a source of financial support to fund further training. Caution must be exercised, however, in the degree of dependence on this partnership - the regulators must always be aware of the possibility of collusion (real or perceived) when collaborating with industry.

4. Develop specific MOU's with other regulatory departments to ensure that their food safety services are budgeted and provided for

A number of services performed to protect consumers may not be able to be fully cost recovered. However, certain "public good" services can still be achieved on some cost recovery basis if food control agencies can access international financial support to effect those services or if governments can budget for them from their tax base. Where other collaborating agencies have a food safety component in their mandate (e.g. Public Health Department, Bureau of Standards, Environmental Health, etc.), specific MOU's can be developed to ensure that funds are budgeted to provide the specific services (e.g. laboratory testing) for those departments that may not have the infrastructure or personnel to provide the services required by that department.

Summary

In Belize, BAHA is taking the lead in the assurance of food safety and it does this in a manner that fosters effective partnerships. The establishment of a food safety unit in BAHA with the capability of implementing cost recovery mechanisms has helped both regulatory and industry personnel to effectively deal with the food safety issues

affecting international trade and consumers in Belize. To continue to protect human health from food-borne diseases and contribute to an effective food safety service in Belize, BAHA will pursue sustainable development in the key areas identified by WHO:

1. Continued development and implementation of the national food safety policy
2. Upgrading of food control systems
3. Improving the laboratory infrastructure and services
4. Initiating and improving food safety education programs
5. Establishing and strengthening programs for surveillance, investigation and control of food borne diseases

Strategies that effect the achievement of the above stated goals will not only improve food safety for the consumer but will also provide for capacity building in BAHA and encourage a robust demand for BAHA food safety services.

References

1. The Role of Food Safety in Health and Development. Report of a Joint FAO/WHO Expert Committee on Food Safety (1984). TRS 705 WHO Geneva 1984
2. Food Safety and Food Borne Illness Fact Sheet No. 237, March 2000. <http://www.who.int/inf-fs/en/fact237.html>
3. Report of the Meeting of Interested Partners, Food Safety Programme, World Health Organization, 29 June, 2000, Geneva www.who.int/fsf
4. Joint FAO/WHO Food Standards Programme Codex Alimentarius Commission, Twenty-fifth (Extraordinary) Session, Geneva, Switzerland, 13-15 February 2003
5. Statistical Office, Ministry of Agriculture, Fisheries and Cooperatives, Government of Belize, 2002
6. CDC. Preliminary Food Net Data on the incidence of Foodborne illnesses-selected sites, United States, 2001, Mortality and Morbidity Weekly Report, MMWR 51(5); 325-9.

Biosecurity and Island States - An Australian Perspective*

David Banks

*Biosecurity Australia
PO Box 858, Canberra
Australia*

Introduction

There is a tendency for island nations to regard the surrounding ocean as a quarantine barrier that will protect them from incursions of exotic animal disease. The confidence that this produces is illusory. It is hoped that a few Australian examples will demonstrate how vulnerable island nations are to natural incursions over long distances, hitch-hikers on shipping, aircraft and cargo, as well as accidental or illegal imports at air and sea ports.

Natural long-distance incursions

Bluetongue

There is good evidence (Melville et al. 1997) that different genotypes of bluetongue virus have migrated from Indonesia to Australia within the last decade and it has been postulated that inter-continental migration over much greater distances has also occurred (Daniels et al. 1997). It is most unlikely that these genotypes were transferred through the movement of susceptible host species, and it is probable that infected *Culicoides* spp vectors carried on high-altitude wind currents were responsible. Bovine ephemeral fever is

thought to have entered Australia from SE Asia in a similar manner in the 1930's (Seddon 1966).

Japanese encephalitis

The rapid movement of Japanese encephalitis virus through eastern Indonesia, into PNG and thence to the Torres Strait islands in 1995 caught Australian quarantine authorities by surprise. Since then there have been regular incursions into the Strait islands including one that extended into Cape York peninsula in 1998. Fortunately the virus does not appear to have become established there yet, but the risk of it doing so is high. Recent work by Queensland's Tropical Health Unit (Ritchie and Rochester 2001) strongly suggests that the incursions are due to the effect of cyclonic activity blowing infected mosquitoes from PNG rather than from migratory birds.

Avian influenza

Australia has experienced five outbreaks of avian influenza since 1976, the last occurring in 1999. Epidemiological investigations of the outbreak have in each case identified either direct or indirect contact with

* Paper presented at, and published in the *Proceedings of the Third Pan Commonwealth Veterinary Conference, 27th - 30th June, 2003, Wellington, New Zealand. pp 114-117. Editor, S. Abdul Rahman*

waterfowl as the source of virus. Although up to 30 million birds of over 300 species migrate to and from Australia each year, serological evidence suggests that migratory waterfowl present the greatest threat, particularly along the main flyways, some of which extend to New Zealand.

These potential routes of entry apply equally to many island nations in the Pacific.

Hitch-hikers

Swarms of bees on shipping are a constant threat to the Australia environment and the apicultural industry. The environmental effects of the bee species themselves if they became established is difficult to estimate, but the exotic mites that these swarms frequently carry - Varroa spp, Tropilaelaps clareae and Acarapis woodi - are major pathogens of domestic European bees (Apis mellifera). Eleven swarms have been detected, either en-route to or at port in Australia on vessels and their cargoes, over the last 9 years. These have comprised Apis cerana (7 cases), A. dorsata (2 cases) and A. mellifera scutellata (2 cases); there have been two incidents involving A. dorsata arriving on vessels so far this year. In all cases, the swarms have been destroyed and there is no evidence that other swarms have escaped detection. However, the frequency with which bee incursions occur suggest that there remains an ever-present risk of establishment.

Apart from bees, a variety of other species, mainly arthropods have been detected on aircraft, sea vessels and cargo entering Australia since 1986 (Table 1).

Table 1. Detections of exotic insects and vertebrates on aircraft, vessels and cargo entering Australia since 1986

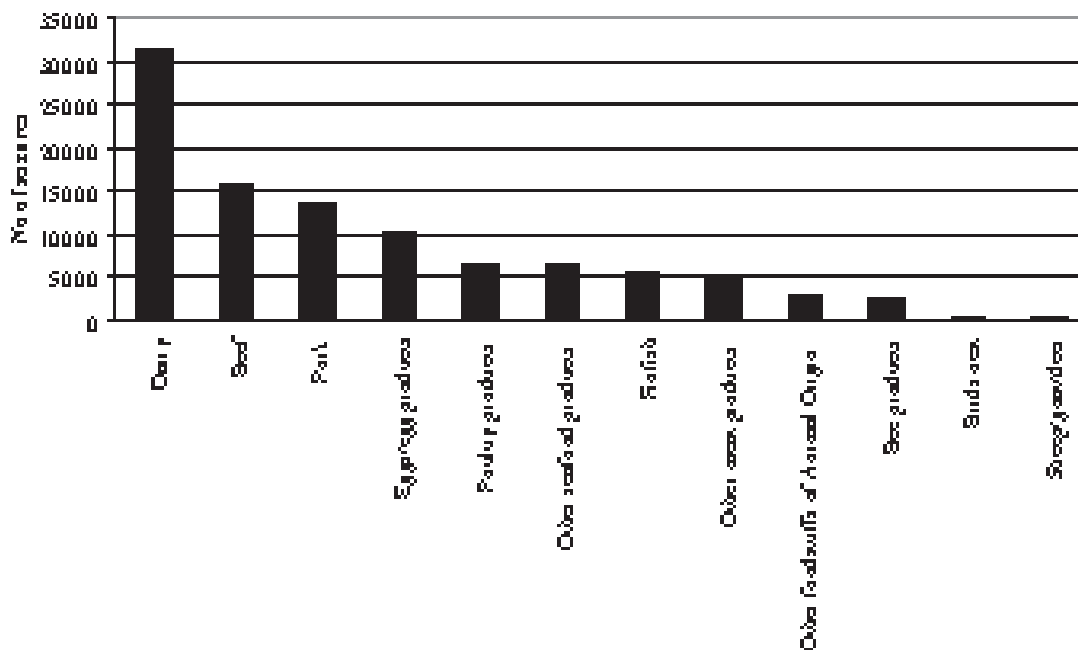
	<i>Ants</i>	<i>Mosquitoes</i>	<i>Other arthropods</i>	<i>Vertebrates</i>
Aircraft	170	8	2997	12
Vessels	1	19	189	2
Cargo	106	21	5459	12
Total	277	48	8645	26

The vertebrates have included reptiles, amphibians, rodents, birds and even cats, all of which represent potential quarantine threats.

The human element

Australia receives approximately 9.5 million incoming airline passengers each year; all are subject to varying levels of screening for goods of quarantine concern. Until recently, only a third of passengers received full screening that included search or x-ray examination of baggage. A recent increase in funding of border operations as a result of the outbreak of foot and mouth disease in Europe resulted in an increase in the level of screening, so that since March 2001, 97% of incoming passengers now have their baggage checked. Table 2 demonstrates the volume of potentially dangerous material introduced by incoming passengers and also the effect that full screening has made on seizure rates.

Figure 1. Annual seizures of goods derived from animals at Australian airports (April 2002 to March 2003)



It also provides an indication of the volume of undeclared goods of quarantine concern that had previously been entering the country undetected.

Table 2. Total annual seizures of goods of animal origin before and after the introduction of full screening

Product	Jul-Dec		Increase
	2000	2002	
Foodstuffs animal origin	34618	48131	39%
Live animals/genetic material	55	180	227%
Other animal products	5764	6903	20%

A broad range of goods of animal origin are seized at Australian airports by quarantine authorities each year. Those most commonly intercepted are listed in Figure 1.

Conclusion

Even though island nations have a great advantage in being able to maintain their animal biosecurity more easily than those with land borders, long-range natural incursions, hitch-hikers and goods accompanying incoming passengers continue to be threats that need to be assessed if food security and trade in animal products is to be protected.

References

Daniels, P.W., Melville, L., Pritchard, I., Sendow, I., Sreenivasulu and Eaton, B. (1997). A review of bluetongue viral variability along a south Asia - eastern Australia transect. *Arbovirus Research in Australia* 7: 181-186.

Melville, L.F., Pritchard, L.I., Hunt, N.T., Daniels, P.W. and Eaton, B. (1997). Genotypic evidence of incursions of new strains of bluetongue viruses in the Northern Territory. A review of bluetongue viral variability along a south Asia - eastern Australia transect. *Arbovirus Research in Australia* 7: 66 - 71.

Ritchie, S.A. and Rochester, W. (2001). Wind-blown mosquitoes and introduction of Japanese encephalitis into Australia. *Emerging Infectious Diseases*, 7; 900 - 903.

Seddon, H.R. (1966). Diseases of domestic animals in Australia. Part 4. Protozoan and virus diseases. Commonwealth of Australia - Department of Health Service Publications Number 8. p 119.

Veterinarians' Contribution To Food Safety*

Francis Kunadu-Ampratwum

xx
xxx
x

Introduction

Food safety embraces all the measures necessary for ensuring the wholesomeness, and soundness of food at all stages from its production to its consumption. Food safety has again gained importance throughout the world, not least due to the BSE crises and other diseases of foods of animal origin. This is a field of growing importance as a result of:

- The rapidly increasing population of the world with its ever greater demand for food;
- The increase in the urban populations with a corresponding decrease in the rural populations (which stimulate increased production of processed

or semi-processed foods);

- Advances in food technology that have been responsible for new and more "sophisticated" presentations of food, the handling of which may not be properly understood by the consumer;
- Increase national and international commerce with the food industry, which includes the transport of basic food materials from sources in which hygienic standards may be less than satisfactory.

To be able to guarantee the safety of food of animal origin in particular, an integral monitoring system from

* Paper presented at the 15th Congress of the Ghana Veterinary Medical Association from 16-21 November, 2004, Ghana.

stable to table is absolutely necessary. The main objective is to produce healthy animals, which can then serve as starting-points for healthy food. From this point of view great significance must be attached to the public health veterinary services for the protection of the consumer. Only quality assurance in primary production, which particularly covers the areas of feeding, husbandry conditions, hygiene of animal housing, disease surveillance and the use of medication, can guarantee a qualitatively impeccable raw product. These areas belong to a large extent the responsibilities of the veterinary services and therefore to the veterinarian. The early recognition of the importance of foods of animal origin in the etiology of food-borne outbreaks placed special public health responsibility on the veterinary food specialists.

Specific Activities in Veterinary Food Hygiene

- Prevention and control of zoonoses and other diseases transmitted by food of animal origin;
- Inspection of food premises, their operations and products, including processing, storage and distribution;
- Ante-mortem and post-mortem meat and poultry inspection;
- Prevention and control of chemical (hormones, toxicants/toxins, pesticides acaricides) residues in food including veterinary drug residues;
- Supervision of the export and import of foods of animal origin from hygienic view point.

Pre-Harvest Food Safety

- Improving public health by reducing food borne illnesses requires a farm-to-table approach based on risk analysis (i.e. consisting of risk assessment, risk management and risk communication) with a sharing of responsibility between various segments to reduce hazards associated with foods of animal origin.
- There are examples of positive correlations between the levels of food borne pathogens in food animals and the incidence of food borne illness in humans.
- Pre-harvest programmes have contributed to the overall control of classical food born zoonoses such as bovine brucellosis, tuberculosis, trichinosis in pigs, Salmonellosis in eggs and poultry etc. in many industrialized countries.

- There are strong linkages between animal health management systems and pre-harvest food safety. Veterinary practitioners have expertise and responsibility in pre-harvest food safety (in addition their animal health responsibilities)

Residues

- A large number of drugs used to control or prevent infections or to promote growth are considered essential in modern animal production system. Additional Chemicals may be added to food to ensure maximum utilization and to delay deterioration
- Almost all chemicals administered knowingly to animals result in some trace residues remaining in the carcass
- Even when drugs are used according to recognized dosages and routes of administration and when pre-slaughter withholding times are observed, other parameters, e.g. disease conditions (Baggot, 1977), age of animal and husbandry practices, can result in violative tissues residues at slaughter.
- Drugs are also sometimes administered to food-producing animals at a dose rate in excess of that recommended (Hoffsis and Walker, 1984), by unauthorized routes or at more frequent intervals than specified. In all cases these therapies can alter the withholding time required to ensure that all tissues are clear of residues (Mercer et al., 1977).
- Veterinarians can administer drugs, approved for in one country but not in another to deal with local disease problem.
- Successful response to these treatments may lead to further use in areas where the information on withholding times is readily available.
- When drugs are used in the prevention or treatment of diseases for which they are not approved, few guidelines are available.
- Antibiotic residues are considered undesirable for several reasons:
 1. They may interfere with further food processing if this depends on fermentation reaction
 2. They may cause allergic reactions in highly sensitized consumers.
 3. There is also considerable concern regarding the creation of resistant bacteria in farm animals which may then pass to consumer.

Antimicrobial resistance

Antimicrobial resistance emerges in primary food production in response to antimicrobial selective pressure

Movement of animals, animal manure, food and by-products facilitate the spread of resistance.

Some resistance bacteria that have emerged in food and animals can cause human infections, whereas others can pass their resistant determinants, by horizontal transmission to human pathogenic bacteria

Evidence

AWHO Consultation in Geneva focusing on human health risk associated with the use of FLUROQUINOLONES in food animals has concluded that the use of fluroquinolones in food animals has led to the emergence of fluroquinolone-resistant *Campylobacter* and of *Salmonella* with reduced susceptibility to fluroquinolones.

Similar conclusions have been presented to two committees of Codex Alimentarius Commission: the Codex Committee on Food Hygiene (CCFH) and the Codex Committee on Residues of Veterinary Drugs in Foods (CCRVDF).

Since these consultations and reports, additional evidence of the association between use antimicrobial agents in food animals and antimicrobial resistance among bacteria isolated from humans has been published.

The association is most evident for *Salmonella* and *Campylobacter*, less so for enterococci *E. coli*. This has been by several lines of evidence from numerous studies including:

1. Outbreak investigations
2. Epidemiological investigations
3. Field studies
4. Case reports
5. Ecological and temporal associations
6. Molecular sub typing

Pesticides

Several agrochemicals based on phenols are used as preservatives of herbicides

Although these are not used on food crops or livestock, they pose residue problems when treated products are used as bedding.

When absorbed by animals or poultry they cause disagreeable flavors in meat and egg products

Although they are not individually highly toxic, they have derivatives that are regarded with suspicion.

Use of organochlorines and the occurrence of bioaccumulation in various food chains eventually result in their banning in the 1970's

Role in Meat Hygiene, Milk Hygiene and Seafood Hygiene

Meat Hygiene

Meat-borne disease is a particular concern of the veterinarian, and many basic principles of food sanitation were first developed through the veterinarian's interest in meat hygiene

Inspection of animals prior to slaughter (ante-mortem inspection) ensures among others that : (1) the public is protected against bacterial, viral and chemical hazards through consumption of unfit meat. (2) The meat industry and public are assured against meat of inferior quality and that there is no wastage of valuable commodity.

Ante-mortem inspection is of great value in the detection of animals suffering from infectious diseases which are difficult to detect in the carcass and organs after slaughter. Ante-mortem is also of value in the prevention of food poisoning outbreaks, many of which can be traced to the consumption of meat from animals slaughtered while obviously ill but whose carcass or organs showed little noticeable change on post-mortem.

Post-mortem inspection has the main purpose to detect and eliminate abnormalities including contamination, thus ensuring that only meat fit for human consumption is passed for food. Many of the abnormalities affecting animals are not evident on ante-mortem inspection but may be detected at post-mortem.

Indeed modern meat hygiene and inspection is over 150 years old and the basis was created by German parasitologists who in the 19th century demonstrated the transmission of *Taenia saginata*, *Taenia solium* and *Trichinella spiralis* to man via meat.

Seafood Hygiene

There are a variety of agents found in fish and other food products taken from natural waters that may induce illness in the consumers. Some of these agents such as those producing puffer poisoning in Japan and paralytic shell fish poison of North America, Japan and elsewhere, are not destroyed by ordinary cooking temperatures. Spoiled

fish without detectable bacteria or toxins sometimes cause intestinal upsets. Veterinarians are directly concerned with such problems as one facet of their overall interest in the diseases of man which are associated with lower animals.

Veterinarians have been concerned for a long time with diseases of fish and fish hygiene. Moreover, recent developments in the fish industry (including fish "farming" in ponds, lakes and the sea), and in fisheries technology, have resulted in the veterinarian becoming involved to an increasing extent in the hygienic control of the production, harvesting, processing and distribution of fish and shellfish. This is carried out in close collaboration with the marine biologists and other professional groups concerned with fish and shellfish production.

Milk Hygiene

Milk is an efficient vehicle for a great variety of disease agents. The source of infection or contamination of milk may be (1) the dairy animal (2) human handlers (3) the environment-contaminated vessels, polluted water, flies, dust etc. Some infections of animals that can be transmitted to man are:

1. Tuberculosis
2. Brucellosis
3. Streptococcal infections
4. Staphylococcal enterotoxin poisoning
5. Salmonellosis
6. Q fever

The safety and keeping quality of milk are related to its microbial content. The first essential in the production of clean and safe milk, therefore is a healthy and clean animal.

Secondly, the premises where the animal is housed and milked be sanitary.

Milk hygiene has as its purpose the production of clean, wholesome milk which is free from bacteria or other disease causing organism, and the maintenance of this condition from farm to consumer. Of first importance is the necessity that milk for human consumption is obtained only from healthy animals. To minimize milk contamination, the milking animals should be kept in clean environment, the teats and hide of the animals should be clean. The milk collecting equipment and receptacles in which the milk is collected should all be clean Adequate cooling and heat treatment (pasteurization) has been successful in controlling most of the diseases transmissible to human beings through

milk. An area of concern to veterinarians is the use of various antibiotics and sulphonamides in milk animals. Public health hazards associated with the consumption of antibiotic contaminated milk and milk products include (1) allergic responses, (2) changes in intestinal flora, and (3) development of antibiotic resistant pathogenic bacteria. The control of drug, in particular, the contamination of foods by drugs, is a special field that has engaged the attention of veterinarians for many years.

Egg

Although the majority of fleshly laid eggs are sterile inside, the shells become contaminated by fecal matter from the hen.

Microorganisms including pathogenic Salmonella can penetrate a cracked shell and enter the egg. Salmonella is also transmitted vertically from an infected laying hen to the. Thus eggs are laid already infected.

The Veterinarian by eliminating Salmonella infection in the laying flock through Salmonella testing helps in preventing Salmonella infection through the consumption of eggs.

Fruits and Vegetables

Fruits and vegetables constitute another important source of spread of pathogenic organisms, protozoan organisms and helminthes.

These infections are a serious menace to public health where sewage is used for growing vegetables

The vegetables which are consumed raw in the form of salads pose a problem in food safety

Role in Disaster Situations

Natural disasters (e.g. storms, floods, tidal waves, earthquakes, volcanic eruptions) and man-made disasters (e.g. wars, industrial and nuclear disasters) usually call for considerable Veterinary Public Health support. When disasters strike, animals are involved, and those animals are one of the primary natural resources of the affected country. In other to get a developing nation affected by a disaster back on its feet one has to get the animals back on theirs. This include all industries which produces foods of animal origin, such as fish, meat, milk, cheese, eggs, etc. The sanitation and wholesomeness of food in a disaster is also critical.

Responsibilities of the Veterinarian

- Ensuring the provision of safe food of animal

origin;

- Arranging for the care or slaughter of injured animals;
- Re-establishing sanitation procedures for food safety, such as food cooking and milk boiling;
- Restoring slaughtering, meat inspection, milk collection, processing and storage and distribution;
- Controlling environmental pollution by animals, animal products and foods of animal origin;
- Restore all foods of animal origin, locally if possible, others imported ensuring their safety and wholesomeness.
- Begin a programme to disinfect contaminated places or places at risk for contamination such as stores, stables, slaughterhouses, camps, etc.

5. Annual Report 2000 of the Federal Veterinary Office Switzerland.

Conclusion

It is clear that man's physical and mental well being has been the ultimate concern and beneficiary of the veterinarian's efforts. This has been achieved in part by improving the quantity and quality of available foods. Because in many developing countries these important veterinary contributions to human health and welfare are carried out through Ministries of Agriculture, they tend to be isolated to an undesirable degree from the mainstream of public health efforts, as a consequence, public health workers are poorly informed about them.

By virtue of their training veterinarians have many advantages over most people in many areas of food safety. Food safety is clearly a team activity, and the veterinarian is an established member of that team.

Sources of Information

1. Veterinary Medicine and Human Health by Calvin W. Schwabe
2. Meat Hygiene (Ninth Edition) by J. F. Gracey and D. S. Collins
3. Joint FAO/OIE/WHO Expert Workshop on Non-Human Antimicrobial Usage and Antimicrobial Res: Scientific Assessment Geneva 1-5 December, 2003.
4. The Veterinary Contribution to Public Health Practice Report of a Joint FAO/WHO Expert Committee on Veterinary Public Health 1975.

Avian influenza in zoo tigers in Thailand

Chicken carcasses fed to tigers in a zoo in Thailand are thought to be the probable cause of an outbreak of highly pathogenic avian influenza (HPAI) which has resulted in the deaths of 30 tigers and the infection of a further 25, according to a report from the Office International des Epizooties (OIE).

In its disease information report for the week ending October 22, the OIE reports that the outbreak was first detected on October 11, when the animals began to show weakness, lethargy, respiratory distress and fever; death occurred within three days of the onset of clinical signs. The diagnosis was confirmed on October 18, with the causal agent being HPAI virus type A, strain H5. The affected animals were aged between eight months and two years.

The OIE reports that the tigers in the zoo had been fed chicken carcasses for many years. Preliminary investigations had shown that the tigers were fed with fresh chicken carcasses from a local slaughterhouses and also with whole chickens from other sources in the area. It says that the whole chickens are thought to be the potential cause of infection. The zoo has been under quarantine since October 19.

~ Vet Record, October 30, 2004

Veterinary Profession In Malaysia - Scenario And Future Challenges*

A.A Saharee and Matta Abdul Rahman¹

*CVA Councillor, Malaysia
Faculty of Veterinary Medicine
Universiti Putra Malaysia, 43400 Serdang
Selangor, Darul Ehsan
Malaysia*

Historical Milestones

The veterinary profession in Malaysia is fairly young compared to other nations. It was only after independence in 1957 that the return of young Malayan veterinarians from overseas was witnessed to lay the foundation of national veterinary service in Malaysia.

In the sixties and seventies emphasis was given to provision of infrastructure for services, production and research. Veterinary centres and sub-centres were established in all states and districts. In order to accommodate the growing needs of the profession and industry, more infrastructure such as the ASEAN Poultry Disease Research and Training Centre, quarantine centres at strategic locations in the country, the National Biotechnology Institute, Veterinary Public Health laboratories and the Animal Waste Laboratory were built in the 80's.

Veterinary Education

Emphasis was also given to building up of human resources at all levels by providing training, i.e. in-service, undergraduate and at post graduate level. In the early days before independence, most of the veterinary training was undertaken in India, Pakistan, United Kingdom and Australia. It was soon realised that the country needed its locally trained graduates with its veterinary education tailored to its own manpower needs for the expanding livestock industry. The Faculty of Veterinary Medicine was then established at Universiti Putra Malaysia (UPM) with the first in take of 15 students in 1973. It is the only university in Malaysia that provides courses for the veterinary degree and animal health diploma. It has now produced about 600 graduates so far and currently, the faculty graduates about 50 students per year.

The scope of DVM training in UPM prepares graduates for a wide range of job opportunities. According to a survey carried out, the majority (83.3%) were employed in veterinary related fields either in government or in the private sector. Changes are however taking place in the veterinary employment trend, moving from the civil service

to the private sector and self-employment. A decade ago, small animal practice was found only in the bigger towns. The number has grown to approximately 138 recently and they are distributed throughout the Peninsula. There is also a significant increase in the number of females being absorbed into the profession. Thus, necessary changes are being made to the curriculum to better prepare graduates so that they can serve better the needs of the profession and industry.

Legislation

To ensure a proper direction and to empower veterinarians to undertake measures in performing their functions, animal legislation, animal rules and orders were introduced. Some of the Acts, rules and regulations were the Animal Ordinance 1953, Veterinary Surgeons Acts 1974, Food Act 1983, Poisons Act 1953, Pesticide Act 1974, Meat Inspection Rules 1985, Livestock Development Corporation Act 1972, Control of Pig Rearing Enactment, Cattle Registration Enactment, Animal Feeds Act etc.

Livestock Production

While the poultry sector grew rapidly and moved towards vertical integration, and contract farming being introduced involving peri-urban farmers, the beef and dairy sectors are still practising traditional primitive methods used by small holders. Efforts are being made to encourage these small holdings to be developed into large commercial and self reliant units. The introduction of contract breeding of Sahiwal-Fresian crossbred dairy cattle with Australia and New Zealand in 1977 was an effort to increase the number of female dairy cattle for distribution to farmers. Milk Collecting Centres (MCC) were established across the country to support the growth of the dairy units. There were also innovation and discoveries resulting from research and development. The use of palm kernel cake (PKC), a by-product of the palm oil industry was made a commercially viable commodity for supplementation for the dairy animals and feed lot activity.

The initiation of the DVS-GTZ Databank project was

* Paper presented at, and published in the Proceedings of the Third Pan Commonwealth Veterinary Conference, 27th - 30th June, 2003, Wellington, New Zealand. pp 156-161. Editor, S. Abdul Rahman

¹ Department of Veterinary Services, Kuala Lumpur, Malaysia

a step towards computerised management of DVS farms, laboratory and veterinary institutions.

Animal Welfare

As other basic issues were organised, animal welfare issues became a concern among veterinarians and the public. The first animal welfare week was organised and launched in 1985 to stimulate consciousness among the general public for better care and concern for animals. This initiative slowly led to the formation of the Malaysian National Animal Welfare Federation (MNAWF)

Veterinary Association of Malaysia

The Veterinary Association Malaysia (VAM) was officially formed in 1989 through the amalgamation of Malaysian Veterinary Association (founded in 1939) and Association of Veterinary Surgeons Malaysia (founded in 1963). The official business is executed by a thirteen member Executive Committee elected by the members during the Annual General Meeting of the Association. VAM is an umbrella body with other affiliated/special interest groups under it viz SAPAM, MEVA, MAFAF, MNAWF. In order to foster and maintain international links, VAM is also a member of a number of local and international organisations such as Commonwealth Veterinary Association (CVA), Federation of Asian Veterinary Association (FAVA), World Veterinary Association and the Malaysian Professional Centre (BIM). To date, VAM has approximately 550 ordinary members. The official journal of VAM is Jurnal Veterinar Malaysia, launched in 1989. It is available on sale or can be obtained in exchange with other national journals.

Future Challenges

The transformation of the animal industry into a modern, dynamic and competitive sector has always been the aim of animal scientists and veterinarians in Malaysia.

The main livestock subsectors in Malaysia are the broiler, egg, pig, beef and dairy industries which contribute about RM 5.2 billion to Malaysia's GDP. The local livestock sector is dominated by the broiler, egg and pig industries, which contributes 55.7%, 21.1% and 17.4% respectively or 94.2% of total livestock production. Malaysia is self sufficient in poultry meat and eggs and in 1999, an estimated RM 310 and RM 128 million of poultry meat and eggs respectively were exported to Singapore by contract. The country imports 80% and 95% respectively her beef and dairy needs but these sectors are expected to witness a higher rate of growth in the present decade due to the readily available domestic market and growing demand.

Before the economic crash in September 1997, many entrepreneurs went into more lucrative industries, especially manufacturing in faster return areas. Agriculture was seen to be fading and many were talking about agriculture as being the 'sunset' industry. The fever penetrated so far that even the University was finding it difficult to attract students to do agriculture and they had to repackage the curriculum to make it attractive.

Today things are different. Agriculture is making an about turn. Three years ago, the government declared that agriculture would be the third engine of growth and warranted an urgent review of all aspects of agricultural practice including livestock production systems, related downstream activities and livestock product marketing strategies. All these are done to reduce the staggering RM 5 billion food bill and to gain global access for Malaysian - produced agricultural commodities.

As early as 1970, Malaysia already had a net food import deficit of RM 407.8 million. The food import bill has been growing steadily ever since and reached an all time high of RM 5.55 billion in 2001. However to every one's surprise, the food deficit declined slightly to RM 5.01 billion last year. It was due to the fact that food exports rose by RM 900 million, while food imports rose by only RM 100 million. This salutary change came about due to an overall increase in productivity throughout the agriculture industry. This is the trend that the country wants to maintain.

In the era of globalisation with WTO Agreement on Agriculture committed to a more liberalised trade in agriculture, the WTO Agreement on Sanitary and Phytosanitary Measures (SPS) allows WTO member countries to enforce measures to protect animals, plant and human health or life from diseases and pest. Similar principles apply to trade in Agriculture including livestock and livestock products within the ASEAN Free Trade Area (AFTA). In exercising these provisions, Malaysia is vigorously addressing the issues of competitiveness, infra-structural and institutional support, development and transfer of new technologies, human resource development and market access. The relevant transformation process is being addressed all along the value chain, involving commercialisation of food production, compliance to good agriculture practices and acceptance of international food safety standards.

The paradigm shift in agricultural development has triggered widespread revamping of livestock production and products processing system. This involves the accreditation of farms and processing plants based on Good Animal Husbandry Practices (GAHP), Good Manufacturing Practices (GMP) and Hazard Analysis and Critical Control

Point (HACCP). The commercialisation of the various livestock sectors evolves around the utilisation of new technologies in production methods and environmental control. Simultaneously, the current veterinary laws are to be amended to provide sufficient legislative backup to ensure compliance to accepted international practice and standards.

The various strategies and plans contained in the Third National Agricultural Policy and Second Industrial Master-plan to transform agriculture have very profound effects on the delivery of veterinary services, both in the public and private sectors, and also on the veterinary profession. Having an important and crucial role in national development, the Department of Veterinary Services (DVS) has reassessed its organisational responsibilities and capabilities to bring them more in line with national targets and expectations.

As a matter of strategic management, DVS resources will be focused on five main areas of activities:

- * Increased meat production through integration of animals with plantation crops
- * The transformation of a smallholder farmer to a commercial farmer
- * Establishment of disease-free zones
- * The implementation of quality and food safety programs
- * Enhanced efficiency and delivery of various veterinary services

Livestock production (cattle, buffaloes, goats and sheep) will now be integrated alongside plantation crops and through feedlot operations, preferably in areas gazetted as livestock production areas. Establishment of halal food processing zones in various parts of the country will help to rationalise intensive efforts to gain access to global halal food markets. It is also expected that new incentives provided by the government to commercial entities will help to further boost the development of the livestock industry.

Successful implementation of the various livestock development programs calls for greater involvement of veterinarians in both the public and private sectors. With the formulation of the new Veterinary Act in place of the Animal Ordinance 1953 and the relevant amendments to the Veterinary Surgeons Act 1974, private veterinarians will have a greater role in veterinary certification and government auditing activities. It is envisaged that in the area of farm and processing plants accreditation and disease control, expertise from private veterinarians will compliment those in the public sector to bring about good sustainable veterinary

governance. Other than the legislative approach, the DVS has also established a consultative council comprising esteemed veterinarians from the private sector, thereby creating an important channel for invaluable contribution towards not only livestock development strategies but also in the field of animal welfare, equine medicine and sports and capacity building in the veterinary profession.

Today, the scenario in agriculture has changed and the community is highly threatened by socio-ethical concerns, namely environmental issues, food safety concerns and animal welfare. Following this development, efforts are made to include these topics in curriculum reviews. In line with Vision 2020, Malaysia aims to provide enough human resource and to raise the status of the veterinary profession to greater heights to accommodate the rising demand for professional veterinary services in the country and its role in the production of safe foods for local consumption and exports. The government has given veterinary education a boost by the potential construction of a new and complete Faculty of Veterinary Medicine complex costing RM 55 million. With the ISO 9001 award to the Faculty in June 2000, the Faculty will be able to produce quality veterinary graduates in greater numbers and who are capable to deliver competent services to the farming community and the general public. This will also complement the effort by DVS to deploy in several phases veterinarians at all the district veterinary offices throughout the country to provide better professional services. At the regional level, veterinary graduates from ASEAN and Asian countries have been given places to pursue their post-graduate studies (MVSc and PhD) in various disciplines.

The needs of R & D have been addressed over the last three decades. The major portion of the funding is provided by the Ministry of Science, Technology and Environment (MOSTE) under the Intensification of Research Priority Area (IRPA) programme. Livestock R & D in Malaysia is carried out by public institutions such as Malaysian Agricultural Research and Development Institute (MARDI), Veterinary Research Institute (VRI) and Universiti Putra Malaysia (UPM). There has been an increasing trend towards collaborations between the commercial poultry sectors and public founded institution to enhance poultry production and produce high quality produce through contract research.

Malaysia imports most of its feed ingredient's and feed contribute about 70% of the total production costs for poultry meat and eggs production. The over-dependence of imported feed ingredients greatly affected the competitiveness of the local industry compared to other ASEAN countries. Thus the biggest challenge of R & D in the poultry sector is to search for an alternative source to reduce the cost of feed. Production efficiency is another important factor to reduce

cost of production. Production of designer food or functional food, production systems, improving bio-security, laboratory procedures to detect drug and pesticide residues, developments of vaccine to control diseases and development of techniques to speed up the identification of pathogen are some of the other research areas being carried out in poultry.

Even though much effort have been put into R & D to overcome the problem of insufficient breeding cattle and low productivity, the self sufficiency rate has declined from more than 80% to about 20% over the last 30 years. Research have focused on introducing new genetic materials to enhance beef production. The proper management of cattle and the available feed resources under oil palm plantations is being vigorously pursued. Under the oil palm plantation integration system, the study on efficient multiplication of breeding stock and feeding management system is being carried out.

The major constraint of the dairy sector is the mediocre quality and supply of quality of breeding animals as well as high cost of quality feed. The major programme of importing breeding Friesian Sahiwal cows from Australia and New Zealand has not created much impact on the production of milk nor increase the number of dairy cattle in the country.

The R & D focus into several priority areas is expected to significantly enhance the overall growth, resilience and competitiveness of the local livestock industry and help in some way towards meeting the challenges of AFTA and WTO.

World Milk Day Celebrations at a refugee village in Sri Lanka

Sri Lanka Veterinary Association (SLVA) celebrated the World Milk Day June 01 for the first time in Sri Lanka with refugee children, in a remote rural village situated on the sea coast in the North Western Province. 250 young girls and boys of the age groups 5 to 12 years, displaced in 1996 out of their ancestral homelands in the Northern District of Mannar from the ravages of the war received a packet of Nestle milk to mark the World Milk Day.

Sri Lanka Veterinary Association in collaboration with the leading private sector milk company Nestlé's Lanka Ltd. Elders of the refugee camp, a village philanthropist, the state sector officials in the district and well wishers gathered for this ceremony. It was revealed that the refugees are unable to do agriculture or animal husbandry as land is a limitation and dependent on food rations. The average family exceeds 6 children and majority at a young age between 5 to 12 years have no access to milk or high quality animal proteins. The community elders stressed the need of

milk for growing children, as traditionally they raised dairy goats and cattle in their homelands to nurture children. The President SLVA stressed the importance of milk in the daily diet of growing children. The Divisional Secretary delivered the key note address on the importance of developing local dairy farms to increase the availability of fresh milk to school children and pledged his support to the Veterinary officials to increase productivity of dairy cattle and buffaloes in the rural villages by optimizing the resource use.

The Secretary of SLVA delivered the vote of thanks

~ Dr. Tissa Jayatileka, Secretary, SLVA



The Veterinary Profession in Trinidad & Tobago*

John Fernandes

*CVA Councillor, Trinidad & Tobago
19-25, Fran Street, Cocoyea Village, San Fernando
Trinidad & Tobago, West Indies*

Trinidad & Tobago is a Republic with a population of 1.2 million people. The population of Tobago is about 48,000. There are 150 veterinarians registered to practise in the country. Of these, approximately 100 vets reside in the country, with about 90 who are either practising Veterinary Medicine or are involved in the administration of Veterinary Medicine of some sort. Three of these Veterinarians are stationed on the island of Tobago.

The control of the practice of Veterinary Medicine is done by a Veterinary Registration Board. Upon presentation of one's credentials a decision will be made on whether one will be allowed to practice in the country. This Board is made up of three people, the Chief Veterinary Officer and two other Veterinarians appointed by the Government.

The Veterinary Profession can be divided up into three broad categories as follows:

- Government Veterinarians
- Private Veterinarians
- Academic Veterinarians

Government Veterinarians

There are about 12 to 14 veterinarians working in the Government services. There is at least one vet stationed in each of the eight counties of Trinidad and three in Tobago. These Veterinarians are split into two groups.

A. Those employed in the Ministry of Agriculture

They are responsible for all the regulatory work of the country and the subsidized Veterinary services provided to the farmers. This includes the importation and exportation of animals, the quarantine station, the investigation and reporting of reportable diseases and the provision of daily Veterinary services to farmers.

B. Those employed in the Ministry of Health

They are responsible for Veterinary Public health. There are two Vets in this category. This includes meat inspection, zoonotic disease monitoring and control. They also sit on

the committee of the Food and Drug Commission, which controls the importation of Foods and Pharmaceuticals.

Private Veterinarians

Private Veterinarians number about fifty. They practise in Private Clinics throughout the country. Their practice consists mainly of Small Animals, Exotics and horses. Few of these Veterinarians do Farm Practice on a small scale as part of a mixed Practice.

- A. Small Animal Companion Practice is responsible for the largest group of Veterinarians. Most of the Government Vets will also have a part time Small Animal Practice in the evenings. In the Small Animal Practice, dogs are the main species seen.
- B. Equine Practice. There is one horseracing track in the country. The Equine Veterinarians work out of this track. All the Equine Vets have Mobile Clinics and may use the facilities at the School of Veterinary Medicine for their complex surgical cases. These Vets also cover the small Stud Farm and Broodmare work. There is a very limited but growing pleasure horse practice.

Academic Veterinarians

Trinidad and Tobago is fortunate to have a School of Veterinary Medicine. This school is affiliated to the University of the West Indies (UWI). The Veterinary program runs for 5 years, after which a Doctor of Veterinary Medicine degree is obtained from UWI.

My definition of an academic veterinarian is one who is hired by the Veterinary School in either some form of teaching or administrative capacity.

Currently there are about twenty-five veterinarians in this capacity at the school. There are on average fifteen students in each year, which puts the enrollment at approximately seventy-five. There is a very good teacher to student ratio of 1 to 3.

About five students from each year are Trinidadian and

* Paper presented at, and published in the *Proceedings of the Third Pan Commonwealth Veterinary Conference, 27th - 30th June, 2003, Wellington, New Zealand. pp 202-205. Editor, S. Abdul Rahman*

the rest come from the English speaking Caribbean.

There are some concerns about the Veterinary School as follows:

- That the region may be oversubscribed with veterinarians in the near future.
- That the small class size is producing a cash flow problem and the school will have to be heavily subsidized on a continuous basis

One of the suggested solutions is to attract students from outside the region. This will alleviate both of the above concerns. There will be increased class sizes. The extra-regional students will return to their respective countries and not add to the perceived over-population of veterinarians in the Caribbean Region. The discussion on the viability of the veterinary school in the region is beyond the scope of this article.

The Role of the Trinidad & Tobago Veterinary Association (TTVA)

The TTVA was established in 1934 and may well be the oldest association in the region. It is an amalgam of the veterinarians from the three categories above.

It started out as a social gathering of veterinarians on a regular basis.

These social meetings were punctuated by business meetings where the problems that affected the profession would be discussed. Today the TTVA stands as the voice of the Veterinary Profession in Trinidad and Tobago. It meets approximately every 2 months.

The TTVA enhances the profession in a number of ways as follows:

It provides the opportunity for continuing education for its members. This is done by:

- a. Obtaining sponsors for meetings where a guest speaker would present a topic in Veterinary Medicine to the general body.
- b. Hosting from time to time the Biennial Caribbean Veterinary Association meeting.
- c. Working together with the Veterinary school and on occasion arranging a visiting Professor to give a lecture.

It provides for the education of the public in different

areas of Veterinary Medicine. This is achieved by staging an annual Veterinary Awareness Week. During this week public seminars are held around the country. Newspaper articles are released educating the public on different aspects of the profession.

The TTVA will also act on any problems facing Veterinarians and the Profession at large.

The Commonwealth Veterinary Association (CVA)

The Councillor for the CVA is chosen by the general body of the TTVA at their Annual General Meeting. Election of officers is done every two years. Being on the Executive of the TTVA, the correspondence from CVA is passed, by myself, to the membership on a timely basis. The CVA has provided now and in the past, assistance for the councillor to attend their meetings. This provides a great opportunity for that person to interact with people from throughout the Commonwealth and to share with them ideas on how to improve the status of the profession in their state.

Summary

The size of Veterinary Profession in Trinidad & Tobago and the Caribbean region is growing rapidly, especially since the starting of the School of Veterinary Medicine in Trinidad. There will be an excess of veterinarians in the region in the near future. It is the opinion that we need to look to the extra regional Commonwealth countries and world at large to provide some of the students for the School. In this way the school enrolment could increase without adding to the over subscription of veterinarians in the Caribbean Region.

~ Dr. John Fernandes
CVA Councillor, Trinidad & Tobago

Report on International Training on Latest Techniques in Clinical Medicine: Diagnostic and Treatment Procedures

A training programme for two weeks from 29th September to 10th October 2004 on latest techniques in Clinical Medicine: Diagnostic and Treatment Procedures was organized by the Chittagong Government Veterinary College Bangladesh for the staff of Department of Medicine and undergraduate students under the sponsorship and continuing support of Commonwealth Veterinary Association as a programme for capacity building of undergraduate veterinary students. **Dr. S. Yathiraj**, Professor and Head, Department of Clinical Veterinary Medicine, Veterinary College, Bangalore, India was sponsored by CVA as a resource person for the training



programme was to develop basic skills and competence in the area of Anamnesis in relation to different clinical cases, clinical examination, common infectious diseases in pet animals, ultrasound as an aid to diagnosis, ECG, rumen fluid examination, hematological and biochemical interpretation, common problems in sheep and goat, clinical examination and restraining of zoo animals etc, and to make the students learn the techniques.

This was the fourth successive year that the CVA has supported the Chittagong Government Veterinary College

in organising this kind of international training programme.

The training programme was planned in consultation with Dr. Matin Prodhan, Professor of Medicine and Surgery and other faculty members working in Clinics.

The training programme was formally inaugurated on 30-09-2004. by Dr. N.C. Debnath, Principal, Chittagong Government Veterinary College (CGVC).



The training programme was held for a period of two weeks. Each day there was lecture between 8 to 9 a.m., and was followed by practical demonstrations in 2 batches, with three contact hours. Evening hours between 6 p.m. to 7.30 p.m. was devoted for discussion with faculty members. The discussion with faculty members revolved around the syllabus, lecture outline, practicals, facilities available, internship programme etc. In the training programme the students were updated on the following topics:

I Lecture

1. Role of Anamnesis in clinical diagnosis
2. Common infectious diseases and techniques of

clinical examination in pet animals.

3. Use of ultrasound as an aid to diagnosis of diseases in pet animals.
4. Diagnosis of digestive disorders in ruminants.
5. Skin diseases in pet animals and their differential diagnostic techniques.
6. Diseases of respiratory system in ruminants.
7. Common clinical problems of sheep and goat in the tropics and their techniques of diagnosis.
8. ECG, as a diagnostic tool.

II Practical Training

1. Collection of history and its relation to different clinical cases in large ruminants, small ruminants



and pet animals, including restraint of animals.

2. Examination of horses for soundness and cattle, sheep, goat and dogs for health certification.
3. Recording of ECG in dogs was demonstrated.
4. Rumens fluid collection and its evaluation.
5. Fecal sample collection and its evaluation for diagnosis of different digestive disorders.
6. Demonstration of ultrasound
7. Interpretation of hematology and biochemical parameters in relation to specific disease conditions in dogs.
8. Herd health monitoring

1. During practical hours demonstration was done by Dr. S. Yathiraj and students were made to practice the same in presence of faculty members

III. Students were taken to two private dairy farms on different days and were put on hands on exercise for clinical examination, to evaluate the animals as a part

of herd health monitoring.

IV. Visit to Chittagong Zoo

Visited the zoo with students along with faculty



members and had detailed discussion regarding clinical examination and restraining of zoo animals.

Dr. S. Yathiraj had interaction with students after the day long sessions to understand the needs of the students and on 9.10.04 had a special interaction session with students for 2 hrs and discussed about various aspects in clinical medicine.

V. Faculty Seminars

As the faculty member of CGVC actively participated in the training programme. they expressed that there should



be certain lectures by Dr. S. Yathiraj for faculty members of CGVC. Accordingly, Dr. S. Yathiraj delivered lectures on following topics for faculty members

1. ECG recording and its interpretation
2. Interpretation of hematological and biochemical findings in clinical cases

VI. Seminars by Dr. S. Yathiraj

1. Dermatological disorders in dogs-students and faculty members participated
2. Diagnosis and therapeutic management of common digestive disorders in ruminants. -Faculty members and field veterinarians participated in the programme
3. Small animal practice in India- A scenario- Faculty members, field veterinarians, students, dog owners and dog breeders participated in the programme
4. Care and management of dogs - Faculty members, field veterinarians, students, dog owners and dog breeders participated in the programme

VII. Dr A.K.M. Saifuddin, Vice Principal took Dr. Yathiraj around the campus and visited all the departments and met faculty members and had discussions regarding facilities available and research projects.



After two weeks of training students did develop practical proficiency in different areas of clinical medicine.

Valedictory function

A formal valedictory function was organized on 9.10.2004. The chief guest was Mr. Yusuf Chowdary, president of Local Dairy and Poultry Farmer's Association. Dr. Debnath presided over the function with all the faculty members and students as participants. Dr. M. Ashiqur Rehman, faculty member of Department of Medicine and Surgery presented a report on training programme. The chief guest expressed his happiness over the programme, as such programmes improve the proficiency and skills of the students. Dr. Debnath, Principal, CGVC expressed his gratitude to CVA and to Dr. S. Abdul Rahman, Secretary CVA for kind support of the programme and also for sponsoring Dr. S. Yathiraj as a resource person for this programme.

The trainee students and faculty members expressed their heart felt gratitude and thanks to Dr. S. Yathiraj for making this training programme an excellent one. Dr Debnath Principal, CGVC and Dr. A.K.M. Saifuddin, Vice Principal and all faculty members and students expressed their joy satisfaction and appreciation to Dr. S. Yathiraj for conduction



this programme in an excellent and exemplary way.

In the valedictory function, Dr. S. Yathiraj in his response thanked Dr. Debnath Principal, Dr A.K.M. Saifuddin Vice Principal, Dr. M.A. Matin Prodhon Professor of Medicine and Surgery and his team, faculty members, students and people of Bangladesh for their wonderful hospitality and kindness. In his address he stated that success of these programmes are because of student's active involvement, zeal and enthusiasm to learn and also appreciated the facilities provided by CGVC for the veterinary students. He also expressed his opinion that there should be short term training programmes for the faculty members as well as for DVM graduates for acquiring knowledge on latest developments in different branches of clinical veterinary medicine.

Finally, I thank the Commonwealth Veterinary Association for sponsoring me to this programme as a resource person.

~ Dr. S. Yathiraj
Professor and Head
Department of Medicine
Bangalore Veterinary College
Bangalore, India

Sri Lanka

CVA Study Fund Report

Report by Dr M.L.A.N.R. Deepani

*Lecturer, Dept. of Clinical Sciences, Faculty of Veterinary Medicine and Animal Science
University of Peradeniya, Sri Lanka.*

Training in Advance Veterinary Surgical Techniques

Introduction

The Commonwealth Veterinary Association awarded me with this precious study fund to visit Veterinary College, Bangalore University, Hebbal, Bangalore, India from 17th November 2004 to 3rd December 2004. I am deeply honoured and happy to have received this award.



I am very grateful to Sri Lanka Veterinary Association (SLVA) especially Dr. (Mrs) H.M.S.P. Herath, Dr. T. Jayathilake and Dr. Thula Wijewardena for all their encouragement. I am also thankful to Dr. D.D.N. De Silva, the Head of the Department and Prof. H. Abeygunawardena, the Dean of the Veterinary Faculty of Sri Lanka for recommending me for this training.

The Veterinary Faculty at Peradeniya where I am attached is the only Veterinary Faculty in Sri Lanka. All veterinarians in Sri Lanka graduate from this faculty and serve in various parts of the country. The Teaching Hospital attached to the Veterinary Faculty, Sri Lanka is the final

referral centre and we receive many surgical referrals from all over the country for opinion and management. Therefore a training in advance veterinary surgery is of utmost importance to the institute and to our country.

The Objective of the Training



1. To obtain new knowledge and skills in advance surgical techniques
2. To utilize acquired knowledge and skills at home institution/country in order to provide best possible care.

The Training Programme

Overall co-ordinator and advisor of my training programme was Dr. Abdul Rahman, Secretary, CVA and Former Dean of the Veterinary faculty at Bangalore. He was very kind and supportive. He had arranged everything so perfectly for me. I take this opportunity to thank him and his wife Mrs Shireen Rahman for everything.

The in charge trainer of my surgery training program

was Prof. Vasantha Shetty, Professor of Surgery at the Bangalore Veterinary Faculty. He was kind enough to train me in all aspects of surgery. I underwent training in General Veterinary Surgery, Anesthesia, Radiology, Orthopaedic Surgery, Ophthalmic Surgery including Cataract Surgery, and Dentistry. The Ophthalmic techniques I learnt will indeed be useful in the management of ophthalmic surgical cases in Sri Lanka.

In addition, I was exposed to the Department of

as Cryosurgical Unit, Sterility, Quality Control, Infection Control and Safety Maintenance of a Surgical Theatre is remarkable.

Under Prof. Yathiraj, Professor of Medicine, I was exposed to advance equipments such as haemodialysis unit and many medical cases too. I visited his busy private clinic and obtained knowledge on various aspects of out patient management. Further, I learnt reading and interpretation of ECG of animals under Prof. Yathiraj's guidance.



Gynecology and Obstetrics.

I visited an Animal Welfare Organization (CUPA) engaged in various animal welfare activities including Animal Birth Control Programs and animal rights.



Upon my own interest and Prof. Yathiraj's kind gesture I was able to be exposed to Veterinary Ethics, Jurisprudence and Animal Rights, under him.

The staff and the students at the Bangalore veterinary college were very friendly and cooperative. Dr. Rahaman, Mrs Rahaman, Dr. Vasanth Shetty, Dr. L. Ranganath, Dr. Nagaraj, Dr. Ravi Raidurg and all the staff of the Department of Surgery, Prof. (Mrs) Girija and Prof. (Mrs) Jamuna made every thing possible to make my stay comfortable and homely. Apart from this technical training I had the opportunity to go for shopping, city visits, cultural events, to an Indian wedding, Indian restaurants and also to a meeting of the Karnataka Lady Veterinary Association. I am thankful to them indeed. I could experience Indian culture, music, arts and food.

The training and experience I obtained, undoubtedly improved my professional standards. I have a strong determination to use all what I learnt in India to improve health and welfare of animals in Sri Lanka.

~ Dr. M.L.N.R. Deepani
Sri Lanka

My exposure to an extensive training on Theatre Discipline, Theatre Management, Equipment Handling such

Australasia/Oceania

Australia

New Regional Representative for Australasia/Oceania

Dr Jeff Cave has been elected as the Regional Representative for Australasia/Oceania at the Australasia/Oceania Regional Meeting held at Lae, PNG recently. He replaced Dr Robin Yarrow, the President of CVA. For the past two and a half years Jeff has been CVA Councillor for Australia.



Jeff also manages the Australian component of the CVA book program in conjunction with Dr Brian Derbyshire of Canada.

Jeff graduated with BVMS(Hons) from Murdoch University, Perth, in 1988. Immediately after graduation he worked for two years in mixed practice in the Adelaide Hills before travelling extensively throughout Eastern and Southern Africa. Following this, Jeff completed a coursework M.Sc in Tropical Veterinary Science at James Cook University of North Queensland.

Jeff then worked for two years in Vanimo, Papua New Guinea with the Department of Agriculture and Livestock as part of the Australian Volunteers Abroad Program. Following this, Jeff worked for three years in the Cook Islands with the Ministry of Agriculture once again as part of the Australian Volunteers Abroad program. During his time in the Cook Islands, Jeff was CVA Councillor for the Cook Islands.

For the past six years Jeff has been District Veterinary Officer in Wodonga, Victoria, Australia with the Department of Primary Industries. Jeff is also a member of the Australian College of Veterinary Scientists epidemiology chapter.

It is anticipated that the Australian Veterinary Association will appoint a new CVA Councillor for Australia in the near future.

New Zealand

New NZVA President

Dr Ross Woods has been elected as the President of New Zealand Veterinary Association (NZVA). He replaces Dr. Lewis Griffiths.



Vanuatu

New CVA Councillor for Vanuatu

Dr Frederick Peter Hoyle has been nominated as the new CVA Councillor for Vanuatu. Dr Peter obtained BVSc from Massey University, New Zealand in 1996 and he was the Member of Australian College Veterinary Scientists (Epidemiology Chapter) in 1992. His address is,



Dr Frederick Peter Hoyle
PO Box 266, Santo
Vanuatu
Ph. 678 36417; Mob. 678 43211
Email. joyle@vanuatu.com.vu

Case of Bat Rabies in Surrey

Initial tests on a juvenile female Daubenton's bat submitted to the Veterinary Laboratories Agency - Weybridge have given positive results for European bat lyssavirus type 2, a strain of rabies virus, according to DEFRA. Confirmatory tests are ongoing. The bat was found on the ground in an alley off Thames Street in Staines, Surrey, and was moved under cover by a member of the public. It remained on the ground between September 17 and 21 before it was taken into the care of experienced bat handlers. It died on September 23. Pet owners who believe that their animals may have had direct contact with the bat are asked to contact DEFRA on 020 7904 6222. Any person who had direct contact with the bat should contact the Health Protection Agency on 020 8200 6868.

~ Vet Record, October 2, 2004

Papua New

11th Australasia/Oceania Regional Workshop, Lae Papua New Guinea.

This Workshop was held in PNG's second largest city, Lae, which is located on the Huon Gulf where the large and fertile Markham Valley, the centre of the country's expanding livestock sector, meets the ocean. The theme of the Workshop was "Sustainable Livestock Production and Food Security - the Role of Women and the Threats of Emerging Diseases" and the over 80 participants, 60 of whom came from outside PNG, made it one of the largest gatherings of livestock personnel ever in the Pacific Island region. The last CVA Workshop in this region took place in Vila in Vanuatu in 1999.

Veterinary and paraveterinary representatives of all 13 CVA members in the region [including Timor Leste] attended the Workshop and in addition, there were participants from India and Japan.

The Workshop was deliberately timed to coincide with PNG's largest Agricultural event, the Morobe Agricultural Show and Singing [cultural gathering] which is attended by over 100,000 people. This provided an additional perspective of the livestock sector as well as an exposure to the highly diverse and fascinating culture of PNG.

The Workshop, which was organised by the PNG Veterinary Association, enabled a comprehensive update to be received on the emerging diseases of animals, a sharing of progress in the Pacific Island region on livestock production, a regional perspective of food security, a review of the role of women in livestock production and an update on food safety issues. In addition, a strategic framework for the management of stray dogs was produced, using working groups and a facilitator with considerable experience from Australia, including working with indigenous rural communities. A presentation was also made by the Secretariat of the Pacific Community [SPC] on the Paraveterinary Project, an innovative undertaking which aims to build the capacity of sub-professional veterinary staff across the entire region. In the process, the problem of low numbers of veterinarians is being addressed.

Field visits were made to 2 large livestock agribusinesses, one a beef cattle venture and the other a crocodile farm which carries over 20,000 animals and is reputed to be the largest of its kind in the world. The beef cattle venture run by TRUKAI, works closely with indigenous smallholder beef producers by providing breeding bulls on exchange, technical advice



and marketing outlets in a model which could have significant potential for the future. The crocodile venture also provides a market outlet for naturally-grown crocodiles harvested from the wild under by indigenous communities, under strict guidelines approved and monitored by CITES.

The Workshop produced a Conclusions statement which draws attention to a number of priority areas for future focus, including possible regional initiatives, and also stresses the need to assign higher overall priority to the livestock sector. This is in line with the Resolution of the inaugural Conference of Pacific Ministers of Agriculture and Forestry, held in Fiji in September, 2004 under the auspices of the SPC.

The Workshop received significant funding support from the Commonwealth Foundation, AusAID, NZAID, the SPC, a valued partner of the CVA and from the Australian Council for International Agricultural Research [ACIAR] In addition, excellent local support was received from the PNG National Agriculture Quarantine and Inspection Authority [NAQIA] the University of Technology in Lae, the PNG National Agricultural Research Institute[NARI] and from



the private sector in Lae.

Conclusions of the Regional Workshop

The workshop endorsed and strongly supported the resolution of the recent meeting of Pacific regional ministers of agriculture (held in Fiji on 9th and 10th September 2004) that a significantly greater focus be given to animal health and production in the region.

Note that in this document, the term 'animal' includes livestock (including poultry and other domesticated species such as bees), companion animals, wildlife and aquatic animals (including finfish, molluscs and crustaceans); the term 'animal health' includes animal welfare. For the purposes of this document, the 'region' comprises Australasia and the Pacific island countries and territories (PICTs), plus Timor Leste, which participated in the workshop.

The agreed conclusions of the meeting were:

- Given the increasing dependence of countries and territories in the region on imported animals and animal products, leading to significant and growing negative budget implications, that a greater focus be given to animal health and livestock production in the region.
- Given the importance of agriculture (including animal production) in the region, that each country and territory develops a ten-year vision and policy, and three- to five-year strategic plans, for animal health and livestock production.
- Given the increasing trend for youth to migrate from rural to urban areas, that greater attention be given to rural development to improve social and economic opportunities for communities in rural areas.
- Given the need for accurate data for sound strategic planning at both national and regional level (as identified in the recent report of the Eminent Persons' Group), that each country and territory in the region ensure that censuses be conducted and used to estimate animal population numbers and the amount of animal protein consumed (to assess the contribution of livestock to subsistence consumption and nutrition, import replacement, and to exports where these occur).



Ilagi addressing the Workshop at the opening ceremony with Secretary for Agriculture and Livestock, Matthew Kanua in the background

- Given the important contribution of women to livestock production, that priority be given to gathering the necessary economic and physical data to document women's contribution to the livestock sector.
- Given the increasing risk of outbreaks of emergency animal disease in the region, due to both incursions of disease and newly emerging diseases, greater resources be directed to improving animal health services and biosecurity in the region.
- Given that many animal diseases (and most emerging diseases) can affect humans, that greater focus be given to animal health (particularly veterinary public health) and its interaction with human health in the region.



response activities (including exercises), and that priority be given to identifying and delivering appropriate training programs in emergency animal disease preparedness and response.

- Given that an outbreak of an emergency animal disease would overwhelm the response capacity of many individual countries and territories, that consideration be given to collaborative arrangements for deploying animal health personnel within the region with experience in emergency animal disease investigation and response to ensure more effective management of outbreaks.
- Given the limited veterinary diagnostic resources available within most countries and territories in the region, that laboratory networks be established and supported in the short term to provide specialist diagnostic and reference laboratory services, with a view to enhancing in-country laboratory diagnostic capacity in the longer term.



- Given the importance of early detection and reporting to ensure a prompt response to outbreaks of emergency animal diseases, that increased support be provided for surveillance and reporting of animal diseases, including reporting to neighbouring countries and territories and to regional and international organisations.
- Given the potentially catastrophic economic, social and environmental consequences of outbreaks of emergency animal diseases, that regional cooperative arrangements be developed for preparedness and
- Given the increasing expectations of the public for safe food, that animal health services in the region pay greater attention to veterinary public health, particularly meat inspection, standards (such as those of the Codex Alimentarius), and hazard analysis and critical control point procedures, to ensure the safety of animal products.
- Given the recognised need for veterinary and paraveterinary field staff to support and implement livestock production and health policies, that

increased human and financial resources be provided to ensure an adequate level of field animal health services in each country and territory in the region.

- Given the critically low numbers of animal



health professionals in the region, that veterinary and paraveterinary training, scholarships and placements be allocated and coordinated to ensure satisfactory coverage of the region.

- Given the relative lack of professional veterinarians in many countries and territories, that the role of paraveterinarians be recognised as an important part of animal health services in the region and that increased support be provided for paraveterinary training at the regional level.
- Given the increasing trend for veterinarians to



leave the region and the difficulty of recruiting and training veterinarians, consideration be given to reviewing the remuneration of veterinarians in the region.

- Given the important role of women in traditional and commercial livestock production and industries in the region, that they be given appropriate

recognition and reward for their input.

- Given the need to ensure women's enhanced participation in livestock production that appropriate strategies be formulated to address training opportunities, confidence-building, representation in decision-making, exchange of information, and networking.
- Given that women are particularly important in the subsistence and smallholder livestock sector, that economic policies of the countries and territories



of the region be organised to support this sector.

- Given its relatively poor efficiency and the paucity of resources available for livestock production, that increased resources be provided for rural research and development and to improved information, communication and technology (ICT).
- Given the difficulties in the transition from subsistence to commercial livestock production, that entrepreneurial people in rural communities be encouraged to succeed and that their successes be promoted.
- Given the social, environmental and economic effects of stray dogs, that each country and territory in the region develop and implement an appropriate management plan for dogs.

Canada/Caribbean

Canada

Dr. Keith Campbell Sworn in as President

Dr. Keith Campbell was sworn in as the CVMA's 58th President at the CVMA Convention in Quebec City.

Dr. Campbell graduated from the Western College of Veterinary Medicine in 1976. He established the Dakota Veterinary Hospital in Winnipeg in 1978. Today, the hospital has one part-time and two full-time veterinarians, five animal health technologies, and one-kennel attendant.

A native of Morden, Manitoba, Dr. Campbell was President of the Manitoba Veterinary Medical Association (MVMA) from 1982-1983. He also served on the CVMA's Practice Committee from 1986-1988, and has represented Manitoba on CVMA Council from 1997 to the present time.

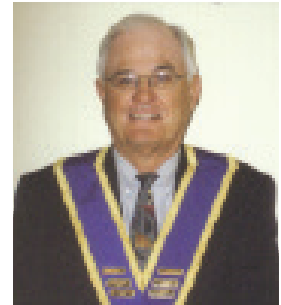
As Chair of the MVMA's Public Relations Committee, Dr. Campbell established the Great Manitoba Dog Party in 1994. In 2003, he received the MVMA's Veterinarian of the Year Award for his role in this celebration. He continues to be on the Organising Committee.

He was a member of CVMA's Animal Welfare Committee from 1997-2001, during which he was the first representative to take part in the American Veterinary Medical Association's Animal Welfare Committee meetings. In conjunction with his duties on the CVMA Animal Welfare Committee, he also went to Newfoundland and the Magdalene Islands to observe the seal hunt.



Dr. Bert Stevenson Retires

Dr. Bert Stevenson of Charlottetown, Prince Edward Island, retired in June 2004 after a long and distinguished career in veterinary medicine. He fulfilled a family tradition, in that his grandfather and father were, and his brother is, in the veterinary profession. His father was a founding member of the successful pharmaceutical firm Stevenson, Turner, and Boyce, which was subsequently purchased by an international company.



Dr. Stevenson graduated from the Ontario Veterinary College in 1963; he then did graduate studies, including obtaining his PhD from the University of Edinburgh in 1968. During these studies, he worked as a veterinary pathologist at the renowned Moredun Research Institute. Upon returning to Canada, Dr. Stevenson became a research scientist and then Director at the Federal Government's Animal Pathology Laboratory in Sackville, New Brunswick. During those years he was President of New Brunswick Veterinary Medical Association and, later, President of Canadian Veterinary Medical Association (CVMA) at a time of increasing influence of the national association, as reflected through the creation of the CVMA-sponsored Pet Food Certification Program and the CVMA Research Trust Fund.

Throughout his career, Dr. Stevenson has served in roles beyond his daily duties. He chaired the Organising Committee for the Maritime (later Atlantic) Provinces Veterinary Conference for 23 years. He was an active member of the Commonwealth Veterinary Association and served as the President of this organisation, which includes 52 member countries. He was recognised for his professional and community service with the Commemorative Medal for the 125th Anniversary of the Confederation of Canada.

The Stevenson family consists of 3 grown children and several grandchildren, so retirement promises to be different but no less busy.

Can Vet J., Vol.45, August 2004

Report on the 23rd Caribbean Veterinary Medical Conference

The 23rd Caribbean Veterinary Medical Association Conference on the theme "**Emerging Trends in Veterinary Medicine**" was held during 8-12 November 2004 at Crowne Plaza, Port of Spain, Trinidad.



The Conference was officially opened by the President of the Republic of Trinidad & Tobago, His Excellency Professor George Maxwell Richards. The welcome address was given by Dr. Saed Rahaman, President of the Trinidad & Tobago Veterinary Association (TTVA). The distinguished guests present at the Head table were Dr. Robin Yarrow, President of the Commonwealth Veterinary Association (CVA), who brought greetings from the CVA. Dr. Tim Greet, President of the British Veterinary Association (BVA), who brought greetings from the BVA. The Permanent Secretary in the Ministry of Agriculture of Trinidad and Tobago, Mr. Trevor Murray, brought greetings on behalf of the Minister of Agriculture. Dr. John Fernandes gave the vote of thanks to end the opening ceremony.

In keeping with the Theme of the Conference the Keynote Address



was given by Professor Paul Gibbs and his topic was "**Epidemics of the 21st Century**". Here he covered epidemics such as SARS, West Nile Virus, Mad Cow Disease and Avian Influenza. It was a very stimulating paper especially from the point of view that many of these emerging diseases are Zoonotic. He pointed out the need for and the importance of surveillance on the animal population, for these diseases by the Veterinary Profession.

Delegates were treated to approximately 40 hours of continuing education over the 4 days of the Conference. There were topics in Equine Medicine and Surgery, Small Animal Medicine and Surgery, Poultry, Johne's Disease, Tropical Medicine and Wildlife. This was the first time, for this conference, that Wet Labs were held. The topics were Equine Surgical Procedures, Small Animal Surgery - Perineal Hernia and Small Animal Cardiology. Participants received hands on experience with live cases. The Labs proved to be very enlightening and will be included on the program in the future.

Dr. Robin Yarrow addressed the participants on the workings of the CVA and about the programmes offered by the Association. The CVA also had a display booth where projects from around the world were displayed.

There was a meeting of the Councillors of the region where the problems of each territory were discussed. Dr.



Yarrow was present at this meeting and gave some valuable advice in dealing with some of these problems.

The TTVA is very grateful to the CVA for their financial assistance in sponsoring a speaker and also the Councillors from around the Canada / Caribbean Region. We look

forward to closer ties with the CVA in future Caribbean Conferences.

The venue for the next Conference of the Caribbean Veterinary Medical Association (CBVMA) was chosen at a meeting of the CbVMA. It will be held in Grenada in 2006. The Veterinary School at St. Georges University in Grenada has pledged their full support to this Conference.

~ John Fernandes
Conference Chairman, and
CVA Councillor, Trinidad & Tobago

Veterinarian receives Order of Canada

Earlier this year, Her Excellency the Right Honourable Adrienne Clarkson, Governor General of Canada, announced 102 new appointments to the Order of Canada. Included among these awards was a well-known veterinarian **Dr. Otto M. Radostits**.

Dr. Radostits edited a number of definitive textbooks on large animal medicine and served as a mentor to generations of students at the Western College of Veterinary Medicine (WCVM). Dedicated to food safety and animal welfare, he has been a prominent advocate of biosecurity practices among livestock owners to prevent the spread of disease. In addition, his wise counsel on the issues facing veterinary medicine has been sought after nationally and internationally.

Can Vet J., Vol.45, April 2004

Ontario Veterinary College Dean Steps Down

Dr. Alan Meek completed a 10-year term as Dean of the Ontario Veterinary College (OVC) on May 14, 2004, with an impressive list of accolades from friends and colleagues at the University of Guelph, and from the wider veterinary community. Dr Carl Ribble, Department of Population Medicine, is interim Dean of the OVC until August 31, 2004.

Can Vet J., Vol.45, August 2004

During a career spanning over 4 decades,

Late News from Singapore

SVA Annual Conference

The Singapore Veterinary Association held its Annual Conference on November 27, 2004. It was held at the NUSS Kent Ridge Guild House.

At its Annual General Meeting held on 28 Nov 2004, the following office bearers were elected.

President	Dr Tan Hwa Luck
Vice-President	Dr Yap Him Hoo
Hon Secretary	Dr Charlene Fernandez
Hon Treasurer	Dr Bryan Oon

And three office members.

Continuing Education

During the year, the following events took place

- Dr Ian Dunbar gave a talk on "*Management of Companion Animals*". Dr Dunbar is a well-known animal behaviourist.

- Dr Mandy Burrows from Murdoch University, Australia, spoke on "*Current Trends in the Management Demodex, Sarcoptic, and Otodectic mange in Dogs and Cats*" via video teleconference from Australia, and
- Dr Karen Staudte gave a talk on "*Cruciate Surgery*" via teleconference.

National Day Honour

Dr Chua Sin Bin, a Past-President of SVA and the Deputy Chief Executive Officer, Agri-food and Veterinary Authority, Singapore, was conferred the **Public Administration Medal (Gold)** by the President of the Republic of Singapore, on the occasion of the National Day of Singapore 2004.

~ Choo Hoo Giam
CVA Councillor, Singapore

East, Central and Southern Africa

South Africa

Report on FAMACHA Project in ECS Region

BACKGROUND

An amount of AUD6000 was set aside for this project. The aim was to facilitate the implementation of the FAMACHA© system in countries of the Eastern, Central and Southern African Region of the CVA. The system was developed and extensively tested in South Africa and has also been tested and implemented in many other countries, particularly the Americas. Financial constraints have however limited its distribution and use in Africa. Essentially the FAMACHA© system enables farmers of any level of education to examine their sheep and goats for the degree of anaemia which they may have. The anaemia is most commonly due to the blood-sucking worm *Haemonchus contortus*, so instead of blindly treating all livestock, only those needing treatment are drenched. This not only reduces treatment costs dramatically, it also reduces selection for drug resistance in the worm populations as only a few animals normally need treatment at any given time of examination. Because resistance and resilience to worms in sheep has been shown to be heritable, implementation of the system, by enabling farmers to identify livestock needing treatment repeatedly, also helps identify the animals which should be culled from the breeding programme. There are a number of lesser but valuable advantages to the system. From the viewpoint of developing countries, it is of particular value because it can easily be learned and implemented by persons of any educational background, even if functionally illiterate. The system is easy, cheap and reliable. A summary is provided in the Addendum.

VISIT TO UGANDA

It was decided in consultation with the ECS African RR to send one of the developers of the system initially to Uganda to train as many veterinarians as practically feasible in its use. From 24 to 29 November 2003 I was in Uganda at the request of the Uganda Veterinary Association (UVA), and was fully funded by CVA.

FAMACHA TRAINING

A Paper was delivered on the background to the development of this system in South Africa and training was undertaken on the implementation of the FAMACHA© system in Uganda, at the UVA symposium from 27-28 November 2003. Approximately 60 participants were trained, and FAMACHA sets were presented to UVA with supporting scientific data (FAO Technical Reports), 10 training videos and 10 CDs. There was much interest in the system and enthusiasm for its implementation. There was a request for more FAMACHA© sets to enable its further distribution and more widespread use. Uganda has many goats but few sheep, so the demonstration was held using some local goats which had to be rented from various owners for the pre-training examination and evaluation as well as the demonstration/training session. It was quite a problem getting sufficient goats to central Kampala for the training session. Some goats had to be partially bled to create visible anaemia according to a set protocol. The role of CVA in funding this training and visit was emphasized.

SYMPOSIUM AND AGM (27-28 November)

Attendance of the symposium and UVA AGM held at Lugogo, Kampala was part of the visit. The theme was "**Revitalising the Livestock Sector towards the Export Market**". I conveyed our SAVA President's greetings and best wishes to the UVA President, Dr Benjamin Asiimwe, and members. The UVA has a regional structure and a number of committees (executive; private practice and welfare, publications and conferences; finance and development; welfare, ethics and government policy; education, training and research) which attend to various aspects of their activities. They have a specific Veterinary Privatisation Project and are looking to SAVA for assistance in the form of facilitating visits by aspiring private practitioners to successful practices in South Africa. Alternately SAVA could consider sending appropriate practitioners from South Africa to Uganda (funded by CVA) and thus reach many more potential beneficiaries. SAVA has been asked if it will be possible for the LHPG (or other groups) to help UVA

private practitioners achieve sustainability.

Dr Samuel George Okech, UVA's councillor for the CVA, delivered a comprehensive report on CVA activities. The CVA's role in facilitating and funding the FAMACHA training session was again emphasized.

The UVA secured a number of high profile contributors to their meeting, including an opening address by the Minister of State for Agriculture, Animal Industry, and Fisheries, The Hon. M. Mugenyi. A number of initiatives and programmes were outlined, illustrating the government's support for the livestock sector. Information on the Symposium and AGM is available from UVA.

FACULTY ACTIVITIES

Since I had to be in Uganda early to prepare animals for the training session, I paid a visit to the Faculty of Veterinary Medicine, Makerere University, Kampala. I was invited to deliver a guest lecture on 26 November to faculty on the FAMACHA© system and an effective approach to on-farm diagnostics. I also had time to see some teaching methods, the facilities and to have discussions with several lecturers. This revealed areas of potential cooperation with South Africa.

FARM VISITS

The air transport costs and rules were such that it cost less to stay in Uganda for a week than return immediately. The extra time was used to add value to the trip. I visited the University's farm at Namulonge, 20 km from Kampala, and discussed a trial on verminosis with Dr Kenneth Okello-Lapenga, visited a commercial goat farm (Katebe Farm) belonging to Brigadier Kale Kayihura in the Rakai district about 200km from Kampala, as well as a government research farm (Njeru Stock Farm) near Jinja, about 100km from Kampala. It is clear that livestock production has huge potential for expansion in Uganda. Our South African boergoats have adapted well and are sought after by commercial farms.

THE USE OF REMAINING FUNDS

It was decided in consultation with the CVA executive and the RR that funds not used in the Uganda training exercise be used in training ECS African and especially Zambian delegates to the regional Conference (Lusaka, August 2004) and distributing as much material (cards, pamphlets, CDs, videos) as was possible using the funds yet unspent. ECS countries were to be requested to assist with introducing the concept in their countries, and distributing the available material.

TRAINING IN ZAMBIA

The Zambian Veterinary Conference, combined with the CVA ECS Regional Conference, was held from 3 to 6 August 2004 in Lusaka. The organisers had set aside an opportunity for a formal lecture to give the participants the background and scientific work which led to the development and establishment of the FAMACHA system. This also allowed for a practical demonstration on how they could effectively train farmers within a relatively short period, without resorting to technical terms which could create uncertainty or confusion. This lecture also generated a lively debate and many questions. The approximately 40 participants were persuaded of the value of the underlying concept (only treating animals which need it) and of the folly of intensive, simultaneous treatment regimes, which can lead only to widespread multiple anthelmintic resistance in sheep and goat worms. After the lecture, participants were taken to the area where the Faculty sheep and goats were housed and were given practical demonstration on the ease, speed and reliability of FAMACHA evaluations. Finally they were invited to practice the technique themselves and confirm its practical applicability for on-farm situations. The participants left confident and convinced of its value in their respective regions and countries.

Following the training sessions, a lot of discussion could be heard between participants during breaks at the conference. This was an indication of the impact the FAMACHA system had made.

Subsequent to the conference, at a meeting of CVA ECS African region councillors, FAMACHA sets (cards, documents, pamphlets) were distributed to those attending the meeting. In addition, videos, compact disks, and scientific reports were handed out according to the attached table. Namibia (via Dr S. Miller), Swaziland (via Dr Gumede) and Botswana (via Dr Mpitse) received their allocations after conference, direct from South Africa.

The role of the CVA in facilitating and enabling the training session as well as the distribution of material was given particular emphasis.

CONCLUSION

While the long-term impact of this project lies beyond the scope and term of this report, it can safely be said that, judging by the impact in numerous countries in the French Caribbean, in North, Central and South America, and elsewhere, the usefulness of this project to all active ECS African regional members of CVA should be beyond question. Already the impact in Uganda has been indicated by the feedback from Uganda's CVA Councillor, Dr S.G.

Okech. I am convinced that the CVA's contribution was well spent and will prove of long-term benefit to the Region. I thank the former RR, Dr Jaumally, for his support in getting this project approved. I also thank the current RR, Dr Ogara, for his support and assistance in its implementation, as well as the respective councillors for Zambia (Dr Minyoi) and Uganda (Dr Okech) and their national veterinary associations for making the training possible. Finally I thank the CVA Executive for their support and assistance in approving the project and facilitating its implementation.

RECOMMENDATIONS

The FAMACHA system has worked so well around the world that the CVA should consider facilitating its implementation in all CVA countries where *Haemonchus contortus* is an economic problem in sheep or goats.

Training sessions and distribution of material could now be considered for the Caribbean, Asian, and Pacific member countries at their regional meetings.

Due to the limitations placed on the numbers of FAMACHA sets which can be distributed, caused by financial constraints, the developers of the system are actively pursuing ways to reducing the unit cost. The developments currently under evaluation are a considerable reduction in the size of the card, and changing instruction pamphlets to black and white, to be printed by the target country instead of shipping heavy full colour pamphlets at great cost.

Another strong recommendation, if CVA decides on further involvement, is for CVA to assist with the interpretation of the pamphlet and supporting documents into appropriate vernacular languages. This would be very valuable to get maximum use of the system.

If the CVA is willing to assist with further projects (outside the ECS African region) then a method of co-branding can be considered - giving CVA credit by means of a statement of its role in the pamphlet, as well as the display of its logo.

Another proposal worth considering is funding the distribution of additional batches of FAMACHA card to CVA member organizations which have already had the training. While not so much applicable to countries with viable commercial farming systems, this could enable developing countries to help their farmers at an affordable cost.

~ GF Bath
CVA Councillor, South Africa

Zambia

Report on the Zambian CVA Conference

A total number of 84 delegates attended the conference of which 17 were foreign. The foreign delegates came from Uganda (1), Kenya (2), Malawi (1), Mauritius (1), Swaziland (2), South Africa (4), Tanzania (1), Nigeria (1), Fiji (1), Botswana (2) and Australia (1).

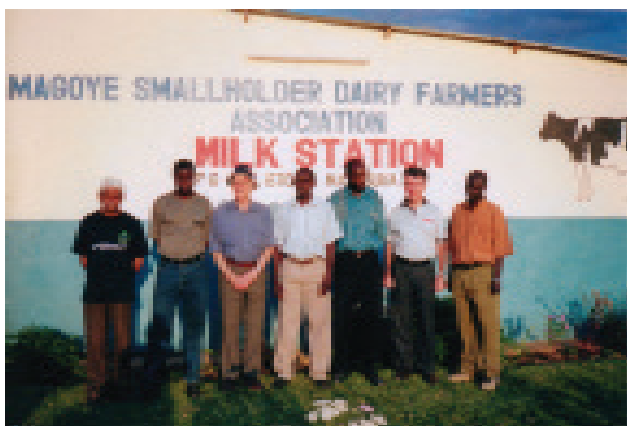
There were only 15 women who attended the conference (1 from South Africa and the others from Zambia). This is an indication of the low number of women veterinarians in the region (Gender imbalance).



On the proceedings, the editor is still working on them. He is currently out of the country but he has promised me that he will put all his efforts on the work once he returns.

Report on Kalya Uzumanana Women's Club Goat Project

At the beginning of August CVA President, and Treasurer Dr. Robin Yarrow and Dr Bill Pryor flew into Zambia from South Africa to be met by Professor Pandey for a very memorable three days in the rural area of Choma in Southern Zambia.



other invited guests, including veterinarians, Regional Representatives, GART Director and the Parliament Member for the Choma area were welcomed by the attractively dressed women of the Kalya Uzumanana Club. Twelve women in the group have been given goats to rear within enclosures near to their own huts. The goat project aims



Professor Pandey is a Veterinarian and Project Manager for Golden Valley Agricultural Research Trust (GART). The CVA members were fortunate to be guests of GART in their guest house for three days. This is part of a fully operational dairy farming project that assists in training farmers. The reason for this visit by CVA Executives was the official launching of a joint goat project for the women, who are all windows of the immediate area, sponsored by the CVA, the Zambian Veterinary Association, and GART.

to eventually give these women an income. Initially each woman farmer is required to return to the nursery pen the first kid born from each goat. These are passed on to another woman farmer who is also a club member. The funding for the goats has all come from the sponsoring organisations.

On a beautiful sunny morning CVA Executives and



Guests walked a short distance across the open grassland to view the nursery pens and to see the enclosures where the goats are hand reared. Dr. Yarrow, as President of the Commonwealth Veterinary Association, symbolically

presented one of the goats to the Secretary of the Kalya Uzumanana Women's Club. As a joint project participant the purchase of these goats has been made possible by funds from CVA. In his speech to the women Dr Yarrow emphasized the happiness he felt in being able to participate in the launching and his pleasure that CVA is able to help women farmers to become successful producers and thereby income earners for their families and their village.

The morning visit concluded with a drama performance by the women and then amidst much joy and laughter dancing and singing began! Special thanks to former CVA Councillor for Zambia, Dr Pandey for making this special and memorable visit possible.

~ **Dr. Robin Yarrow**
President

Tanzania

Report on the Tanzania Veterinary Association

Leadership of Tanzania Veterinary Association

The current TVA leadership took office in January 2003. According to the TVA constitution, the tenure of office for the Executive Committee is three years renewable for a further term of three years when leadership must change. Therefore, the current leadership was elected in December 1999 for the first time and then re-elected in December 2002 for the 2003 - 2006 Triennium.

The current leadership (Executive Committee of TVA) is as follows:

Prof. D.M. Kambarage	Chairman
Dr. (Mrs.) A.J. Kondela-Mroso	Vice Chairman
Dr. P. Njau	Hon.
Secretary	
Dr. L.J.J.M. Kusiluka	Asst
Secretary	
Dr. (Mrs.) N.A. Mtui-Malamsha	Treasurer
Prof. U.M. Minga	Imm. Past
Chairman	
Dr. H.E. Mbville	Member
Prof. P.M. Msolla	Member
Dr. L.M.G. Mbando	Member

Ex-Officio members by virtue of their positions)

Prof. U.M. Minga	CVA Councillor
Dr. B. Kimaryo	Director of
Vety.	Services
Dr. (Mrs.) T. Ponela Mlelwa	Registrar of Tanzania
Council	Veterinary

Prof. R.R. Kazwala	Editor, Tanzania
Journal	Veterinary
Dr. S.I. Kimera	Assistant
Tanzania	Editor of
Journal	Veterinary
Prof. R. M. Maselle	Circulation Manager,
Veterinary	Tanzania
Seven	Journal
Representatives	TVA Zonal

TVA Membership

The total number of Veterinarians in Tanzania is 495 and of these 225 are employed as state Veterinarians in the Ministry of Water and Livestock Development and parastatal organizations like Universities, while the rest (270) are in the Private Sector.

There are altogether 89 private Veterinary clinics and about half of them are in Dar es Salaam. The others are mainly in the high potential areas, namely, Arusha, Mbeya, Mwanza, Kilimanjaro and Tanga.

The active members of TVA are close to 200, they are the ones who subscribe their dues regularly and attend the Annual Scientific Conferences and Annual General Meetings.

TVA Activities

General

The Tanzania Veterinary Association (TVA) has been a very active Association since 1983. The Association holds regularly without fail, Annual Scientific Conferences and the Annual General Meetings. These are held in December at the Arusha International Conference Centre in Arusha, Northern Tanzania.

Since the beginning of this year, three Executive Committee Meetings of TVA have been held and the fourth one is anticipated to be held a day before the Conference.

The Government has formed a new Ministry responsible for animal health and production separate from Agriculture. The Ministry is called *Ministry of Water and Livestock Development*. As a result new Directorates have been formed and new appointments have been made. TVA is happy with the change with the hope that Livestock will be given due attention and given better funding so that the performance of the Livestock Sector would improve.

The CVA Councilor for Tanzania attended the 10th Regional Conference for East Central and Southern Africa. The Conference was held in Lusaka, Zambia on 3-8 August, 2004. It was a very successful Conference with good attendance, Dr. W.O. Ogara, the Regional Representative is commended for the excellent organization of the Conference and the Councilors' meeting.

We were privileged to have amidst us the President of CVA Dr. Robin Yarrow and the Treasurer Dr. William Pryor. One application for CVA study fund from Tanzania by Dr. Stanford Barozi Ndibalema was submitted to the Regional Representative. It was however not processed further because of some missing information. The application will be re-submitted once the missing information has been added.

TVA Scientific Conference and AGM

The 22nd Annual Scientific Conference and the AGM this year will be held on 7th - 9th December 2004, at the usual venue, the Arusha International Conference Centre in Arusha. Arusha is Tanzania's northern tourist circuit situated not far from Serengeti National Park and Mount Kilimanjaro.

The Theme of this year's Conference is "**Challenges of Livestock Development in a Globalised Economy**".

It is notable that the 20th TVA Scientific Conference which was held on 3 - 5 December 2002 was rather exceptional. It was held jointly with the sister Society "Tanzania Society of Animal Production". It is planned that such joint Conferences shall be held every two years.

The Livestock sector and Revision of Acts related to Livestock

Livestock Population

The majority of the livestock in Tanzania is the indigenous or local type. The livestock population in Tanzania is follows:

There are 17.7 million cattle and the majority (97%) are the local zebu type cattle. There are 12.5 million goats, 3.5 million sheep, 880,000 pigs and 47 million chickens of which over 94% of them are the local village chicken type.

Revision of Laws

The Government has at long last revised three Acts related to livestock, namely:

- i. The Veterinary Act (No. 16) of 2003 which was enacted in November 2003. There is a provision for engaging para professionals.
- ii. The Animal Diseases Act (No. 17) of 2003 which also became effective in November 2003
- iii. Dairy Industry Act of 2004 which was in enacted in April 2004.

The other related Acts are at various stages of amendment.

The Tanzania Veterinary Council has been established and has replaced the former Tanzania Veterinary Board. The Council is supposed to have greater autonomy than the Veterinary Board.

TVA is very happy about these developments and it was consulted during the whole revision process.

TVA Membership in CVA and WVA

TVA is a paid up member of CVA and WVA. TVA has paid its CVA membership dues up to 2004 and WVA up to 2006.

Contact Addresses

Prof. Dominic M. Kambarage
Chairman of TVA
Sokoine University of Agriculture
P.O. Box 3174, Morogoro, TANZANIA
and P. O. Box 3021
Morogoro, Tanzania
Email: deanfvm@suanet.ac.tz
Tel./Fax. 255 2604647

Prof. Uswege M. Minga
CVA Councilor, Tanzania
The Open University of Tanzania
P.O. Box 23409, Dar es Salaam, TANZANIA

West Africa

Ghana

15th Congress and 30th AGM of the GVMA

Ghana Veterinary Medical Association held its 15th Congress and 30th AGM from 16th to 21st November 2004 at the Ghana - India Kofi Annan Center of Excellence in ICT, Accra. The theme of the congress was "**Food safety in a developing economy, the role of the Veterinarian**" which was highly petronised by interest groups in the food industry in Ghana.

The occasion was privileged to have Major (Retired) Courage Quashigah, Minister for Food and Agriculture as the guest of honor.

The 15th Congress extensively discussed very important issues concerning food safety and other pertinent issues. The concerns of members of the GVMA and recommendations were,

Recommendations

1. Ghana Veterinary Medical Association is prepared to partner Government to embark on aggressive public awareness creation campaigns on the need for food to be processed, sold and consumed in a hygienic environment.
2. The use of drugs and other biologicals in animals and observance of the withdrawal periods should be regulated by appropriate agencies..
3. Public educational programmes should be intensified.
4. Mandatory annual medical examination of all people who handle food for public consumption, especially butchers, food vendors, chop bar staff etc.
5. The District Assemblies should construct suitable slaughterhouses and meat shops in every district.
6. A suitable food regulatory standards and protocol should be put in place by appropriate agencies
7. District Assemblies should ban the use of

unconventional methods for singeing animals.

8. Ministry of Food and Agriculture should hasten the legislation on meat inspection law
9. Government should strengthen the diagnostic and regulatory capacities of Veterinary Services.
10. The roles and activities of existing regulatory agencies should be harmonized to avoid conflicts and shifting of blames.
11. Government should establish a Veterinary faculty to train Veterinary Doctors and allied personnel in Ghana.
12. Veterinary Services should enhance the diagnostic capacities of Veterinary laboratories to detect maternal antibody levels in chicks and to test the potency and efficacy of vaccines

The following were elected as officebearers of GVMA for the year 2004-2005.

President	Dr.E.B.M.Koney, Deputy Director, VSD, Accra Laboratory
Vice President	Dr. Richard D. Suu-ire, Senior Vety. Officer (Wildlife), Accra Zoo
Imm Past President	Dr.E.N. Barnor, Director, HRD and Management, Accra
Hon. Secretary	Dr. Peter Zidda, Senior Vety. Officer Fishery Service, Dir., Mofa, Accra
Assistant Secretary	Dr. Reuben Tettey, Senior Vety. Officer, Mofa, Wenchi
Treasurer	Dr.ElliotFrancisKwaku, Vety.Surgeon, Ghana Armed Forces, Accra
	~ Dr. Richard D. Suu-Ire RR, West Africa

New Councillor for Ghana

At the 15th Congress and 30th AGM of Ghana Veterinary Medical Association held from the 16-21 November 2004, **Dr. Peter Ziddah** has been elected as the new CVA Councillor of Ghana.

Dr. Peter Ziddah
CVA Councillor, Ghana
Ghana Veterinary Medical Association
Box 143, Legon, Accra, GHANA
Email: vetsdept@africaonline.com.gh
Fax. (233) 21 776021

UK/Mediterranean

United

British vet receives Global Agriculture Science Award

Dr. Brian Perry, a veterinary epidemiologist at the Nairobi-based International Livestock Research Institute (ILRI), received the award of "Outstanding Scientist" on 27th October 2004 from Ian Johnson, Vice-President of the World Bank and Chairman of the Consultative Group on International Agricultural Research (CGIAR), at the annual general meeting of the CGIAR, this year held in Mexico City. The CGIAR is a strategic global alliance of countries and organisations mobilising agricultural science for the poor; it oversees 15 international agricultural research centres around the world. This is the first time a veterinarian has received such an award and the first time this prestigious annual global award has been made for work on livestock issues.



In the citation read out at the awards ceremony, Dr. Perry's work was described as having had widespread impact on science, development and poverty reduction. During his 17 years at ILRI and its predecessor ILRAD (the International Laboratory for Research on Animal Diseases), Dr. Perry, a British citizen and four-time graduate of the Royal (Dick) School of Veterinary

Studies at the University of Edinburgh, has led work there in three main fields. His research on the dynamics and control of tick-borne diseases of livestock has focussed on the quantitative understanding of "endemic stability" and how this can be applied to the better control of East Coast fever and heartwater of livestock in different regions of Africa. Secondly, he has been at the forefront of improving decision-making capacity in developing countries through the integration of quantitative veterinary epidemiology and agricultural economics, in which field he has received global scientific recognition. This work has included recent studies on the economics and poverty reduction implications of foot-and-mouth disease control in Africa and South East Asia. And, thirdly, he has recently undertaken studies with support of DFID (UK Department for International Development) to delineate major livestock-mediated pathways out of poverty. This has formed the heart of ILRI's new strategy, and the concepts behind it have been widely cited in policy, scientific and donor circles. Dr. Perry was appointed OBE in 2002 for services to veterinary science in developing countries.

Currently Dr. Perry leads work under a Joint Programme between ILRI and its sister institute the International Food Policy Research Institute (IFPRI), based in Washington, DC, researching ways to lower the animal health constraints to greater marketing of livestock products of the poor at local, national, regional and international market levels. This programme seeks to follow up on the implications of "the Livestock Revolution" in developing countries, in which rapidly increasing demands for livestock products in the developing world are creating both significant threats and opportunities for smallholder farmers to contribute to such markets.

~ Helena Cotton, BVA

Keeping your Pets Safe from Poisons

The BVA: Animal Welfare Foundation (BVA:AWF) in conjunction with the Veterinary Poisons Information Service (VPIS) has announced the launch of a new leaflet Pets and Poisons - Keeping Your Animals Safe.

Based on information compiled by the VPIS and BVA:AWF, the leaflet provides a valuable and easy reference guide for owners on the dangers posed to their pets from harmful substances that can be found in and around the home and garden.

Veterinary practices can obtain batches of 50 leaflets for the waiting room, free of charge (although a donation to AWF is encouraged) directly from the BVA agents McMillan Scott while members of the public can request a copy of the leaflet from BVA direct.

Contact details for BVA are:

Tel: 0207 636 6541; Fax: 0207 436 2970

Email: bvahq@bva.co.uk

(quoting 'Poisons leaflet')

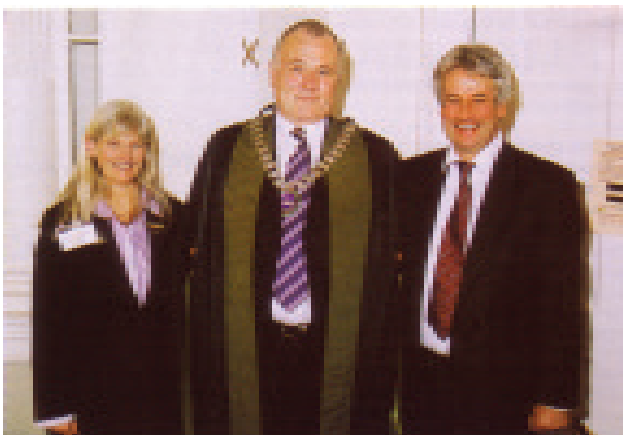
~ **British Veterinary Association Animal Welfare Foundation Press Release - Thursday 1 July 2004**

BVA President-Elect

At the BVA's annual general meeting in October **Bob McCracken** will stand for election to become the Association's next President. Bob graduated from Edinburgh University in 1966 and gained his PhD from Queen's University Belfast in 1968. After a period in mixed practice, he joined the State Veterinary Service, embarking on a career which would span 30 years and culminate in him becoming Chief Veterinary Officer (CVO) for Northern Ireland from 1998 - 2002.



Bob was awarded the gold medal for being the most



outstanding student in his final year, and during his varied career has lectured extensively in the Faculty of Agriculture and Food Science at Queen's University Belfast and has

also had periods of working abroad. As CVO he was at the forefront of the fight against the foot-and-mouth and BSE outbreaks and was instrumental in enhancing Northern Ireland's animal traceability system. He has served as President of the North of Ireland Veterinary Association, the Association of Veterinary Teachers and Research Workers of Great Britain and Ireland, the Poultry Association of Northern Ireland and the Agrarian Society.

~ **Off the Record, Sept 2004**

Past President Honoured

Peter Jinman (BVA President 2002-2003) pictured outside Buckingham Palace with his wife Gill and children



Phillipa and Henry, after accepting an OBE - for services to the veterinary profession - from the Queen on 14 October 2004.

~ **Off the Record, Nov/Dec 2004**

Animal Health and Welfare Strategy Welcomed

In welcoming the launch today (Thursday) of Defra's new Animal Health and Welfare Strategy, British Veterinary Association President Tim Greet confirmed the willingness of the BVA to act as a partner, along with farmers, other animal owners and government, in the implementation of the strategy. "But", he warned, "the easy bit is writing the wish list, the hard part is putting that list into action."

Pointing out that "the essence of the Animal Health and Welfare Strategy is the central role of the vet" Mr Greet reiterated concerns over the viability of many farm animal veterinary practices. "The oft-heard government mantra is 'he who benefits must pay'" he said, and "in the view of the BVA

there is public benefit in the prevention of expensive epizootic disease outbreaks, in the control (and eventual eradication) of endemic zoonotic diseases such as TB and in safeguarding the well-being of the rural environment. The public purse must therefore contribute to the costs.

"The veterinary profession has realised for many years that prevention of animal disease is infinitely preferable to providing a fire brigade service alone. However, there is naturally limited enthusiasm on the part of economically compromised farmers to embrace veterinary herd health plans, which would improve livestock health, welfare and production. This new strategy, backed by government financial pump priming, will encourage farmers and hopefully other animal owners to adopt a new philosophy and will enable the veterinary profession to provide appropriate advice. In partnership, we have no doubt we can facilitate the evolution from disease management to real improvements in the protection and promotion of animal health and welfare."

Notes for Editors: For further information please contact Chrissie or Helena in the BVA Press Office on 020 7636 6541. In Tim Greet's absence in New Zealand, BVA immediate past president Peter Jinman can be contacted on 07831 484065.

~ Helena Cotton, BVA
BVA Media, 24 June 2004

Malta

New Councillor of Malta

Dr Eurydike Kovacs has been elected as the new CVA Councillor of Malta Veterinary Association.

His contact address is

Dr Eurydike Kovacs
Veterinary Surgeon
Vetcare Animal Clinic
Misrah Lourdes
San Gwann, MALTA
Tel: +356 21373277
Fax: +35621382936
Mob: +356 99428138
Email: rydi@onvol.net

Falkland Islands

News from Falkland Islands

We remain well and are staying on in the Falklands for another 2 years although we're away on annual leave for most of August - back to the UK and across to Spain for some guaranteed sunshine!



The latest news from here is that we completed a large sheep AI/ET programme. It started last in 24th May and finished on 3rd June. During that time we inseminate by laparoscopic AI approximately 2000 ewes; we also implanted approx 400 embryos. All the genetic material has been imported from Australia and New Zealand and consists of various breeds - South African Mutton Merino (SAMM), Dohne Merino, Polworth, Cormo and SRS (soft



rolling skin) Merino.

The idea behind the programme is to improve the wool

Abstracts

Detection of BVD virus in semen obtained after inoculation of seronegative postpubertal bulls

Bovine viral diarrhoea (BVD) virus can persist in the semen of acutely injected bulls for several months after exposure. Three seronegative two-year-old bulls were inoculated intranasally with BVD virus. Serum and semen samples were obtained at regular intervals until seven months after inoculation. Serum samples were tested for BVD virus by using virus isolation (VI) techniques and PCR. Serum samples were tested similarly for virus. Testicular biopsy specimens were obtained seven months after inoculation and tested for BVD Virus by immunohistochemistry (IHC), VI and PCR. Semen samples from one bull collected immediately before, and five and seven months after inoculation were injected intravenously to five sixth-month-old calves, which were then monitored for subsequent viraemia and seroconversion. A transient viraemia was noted in all bulls. VI in the semen of two bulls was positive for 21 days, while PCR detected BVD virus until seven months after inoculation. Virus was detected in testicular biopsy material of the same two bulls by IHC and PCR. File calf recipient of semen collected five months after inoculation of the adult bull was viraemic and seroconverted.

GIVENS, M.D., HEATH, A.M., BROCK, K.V., BRODERSEN, B.W., CARSON, R.L. AND STRINGFELLOW, D.A. (2003). Detection of bovine viral diarrhoea virus in semen obtained after inoculation of seronegative postpubertal bulls. *American Journal of Veterinary Research*, **64**: 428-434.

Diagnosis and outcome of inflammatory bowel disease in 80 dogs

The records of 80 dogs with idiopathic inflammatory bowel disease (IBD) were reviewed and follow up information was obtained from their owners; six had a lymphocytic inflammation, 38 had a lymphocytic-plasmacytic inflammation, six had an eosinophilic inflammation and 30 had a mixed inflammation. Prednisolone, sulphasalazine, metronidazole and tylosin were the most commonly used medications. Twenty-one had been in remission for a median of 14 months, 40 had had intermittent clinical signs for a median of 17 months, and three had had uncontrolled

disease for a median of 19 months. Ten of the dogs had been euthanased owing to refractory IBD, although four of them had been in remission for a median of 21 months, and four had died or been euthanased for reasons unrelated to IBD. Hypoalbuminaemia when diagnosed was significantly associated with a negative outcome ($P < 0.0007$), but there was no association between the site, type or severity of the disease.

CRAVEN, M., SIMPSON, J.W., RIDYARD, A.E. AND CHANDLER, M.L. (2004). Canine inflammatory bowel disease: retrospective analysis of diagnosis and outcome in 80 cases (1995-2002). *Journal of Small Animal Practice*, **45**: 336-342.

Complications of open peritoneal drainage in dogs with bacterial peritonitis

Nine dogs with cytologically confirmed generalised bacterial peritonitis were treated by open peritonea drainage. The most common cause of the peritonitis was leakage from the intestine due to dehiscence of a surgical wound, and in each case the cause was corrected and an open peritoneal drain was inserted. However, five of the dogs became severely hypoalbuminaemic, owing to the loss of fluid from the wound, and required at least one transfusion of plasma or whole blood. Open peritoneal drainage can be recommended only for severe cases of peritonitis and when adequate facilities are available for dealing with this complication.

MCGROTTY, Y.L., KNOTTENBELT, C.M., DOUST, R.T., RAMSEY, I.K. AND SULLIVAN, M. (2003). Complications of open peritoneal drainage in nine dogs with gastrointestinal leakage. *Irish Veterinary Journal*, **56**: 354-360.

Ultrasonography in gastrointestinal disease in cattle

This review considers the value of ultrasonography for investigating disorders in cattle. The technique has the advantage that it can be applied to unsedated animals with a hand-held 3.5 MHz linear transducer. The conditions for which it is particularly valuable include traumatic reticuloperitonitis, left and right displacements of the abomasums, ileus (in which the most important criteria are the motility and diameter of the intestine, although the cause can be rarely determined) and caecal dilation. The article is well illustrated with ultrasonography and explanatory line diagrams.

BRAUN, U. (2003). Ultrasonography in gastrointestinal disease in cattle. *Veterinary Journal*, **166**: 112-114.

CALENDAR OF EVENTS

2005

1st Nigeria International Poultry Summit (NIPS), Ota, Nigeria. **20 - 25 February.**

48th British Small Animal Veterinary Association Congress, Birmingham, UK. **7 - 10, April.**

30th Annual World Small Animal Veterinary Association (WSAVA), 2nd Federación Iberoamericana de Asociaciones Veterinarias de Animales de Compañía (FIAVAC) and 26th Asociación Mexicana de Médicos Veterinarios Especialistas en Pequeñas Especies (AMMVEPE) Congress, Mexico City. **11 - 14, May.**

6th International Sheep Veterinary Congress, Hersonissos, Crete, Greece. **17 - 21, June.**

142nd AVMA Annual Convention in conjunction with the 28th World Veterinary Congress, Minneapolis, Minnesota. **16 - 20, July.**

14th World Veterinary Poultry Congress and Exhibition, Istanbul, Turkey. **22 - 26, August.**

CVA Regional Meeting of Asian Region, Lahore, Pakistan. **November (Date to be announced)**

CVA Regional Meeting of UK/Mediterranean Region. **(Date and Venue to be announced)**

CVA Regional Meeting of West African Region. **(Date and Venue to be announced)**

2006

49th British Small Animal Veterinary Association Congress, Birmingham, UK. **6 - 9, April.**

31st World Small Animal Veterinary Association (WSAVA), 12th European Congress - FECAVA; 14th Czech Small Animal Veterinary Association Congress (CSAVA), Prague, Czech Republic. **11 - 14, October**

Meeting. **Date**

ADVERTISEMENT TARIFF

Full Page US \$ 400

Quarter Page US \$ 100

Half Page US \$ 200

Back Cover and Selected Pages US \$ 800

\$ 25 per column inch of classified advertisement. Colour Pages quotation on request

Annual Subscription for CVA is 12 Aust. \$ Life Subscription 300 Aust. \$

Subscriptions should be sent to Treasurer, CVA.

Secretariat of the Pacific Community

Duty Statement: Animal Health And Production Adviser (AHPA)

Background

The Secretariat of the Pacific Community (SPC) is an independent intergovernmental agency providing technical advice, assistance, training and research in the service of the 22 Pacific Island countries and territories of Melanesia, Micronesia and Polynesia. SPC currently has a staff of more than 270. The organisation is officially bilingual, with English and French as the working languages.

A major undertaking of SPC's Land Resources Division (LRD) in 2004 was the participatory development of a single Strategic Plan (2005-2008) for the Agriculture and Forestry Programmes, integrating LRD's assistance to Pacific Island countries and territories (PICTs) in areas relating to crops, animals and forests.

The goal of LRD is to improve food security, increase trade, and assist the Pacific Community in being more prosperous, healthy and in managing their agricultural and forest resources in a sustainable way. To attain this goal, LRD has the following three objectives for the period 2005-2008:

- Improved food security;
- Sustainable management of forestry and agriculture systems; and
- Improved biosecurity and trade facilitation.

A number of outputs addressing the major emerging issues (including animal health and production as well as public health) under each of the objectives are to be achieved during the Strategic Plan period.

LRD's new structure, which is anchored on nine thematic teams, each with a team chair, will begin operating in 2005. These thematic teams include: plant health; animal health; biosecurity and trade facilitation; agriculture and forestry diversification; animal production; crop production; information, communication and extension; genetic resources; and forests and trees.

The Animal Health and Production Adviser is responsible to: The Director of the Land Resources Division.

Position Description

- Play a leading role in the animal health and animal production thematic teams and, in consultation with the LRD Director, in other thematic teams, with the overriding purpose of integrating animal health and production activities with activities of other teams;
- Actively provide policy advice and assistance (including in policy implementation, monitoring and evaluation) to PICTs in areas related to animal health and production and their relation to public health;
- Act as focal point for all matters relating to animal health and production within the region as defined by the CROP Working Group on Land Resources;
- Establish and maintain close working relationships with other international animal health and production

organizations, universities and other training institutions and veterinary public health agencies for the benefit of the region;

- Provide timely and accurate advice and technical assistance to PICTs on all matters relating to the thematic areas involved in collaboration with other members of the animal health, animal production and other related thematic teams;
- Design and develop new project proposals and seek donor funding to increase regional activities that are responses to recommendations from the meetings of the Heads of Agriculture and Forestry Services (HOAFS), Regional Technical Meetings of Heads of Veterinary Services and specific country requests. This will be done in collaboration with other members of the animal health, animal production and other relevant thematic teams;
- Organize and conduct regional and sub-regional technical meetings and workshops to improve the coordination and implementation of animal health and production activities in the region. This will be done in collaboration with other members of the animal health, animal production and other relevant thematic teams;
- Ensure that reports, work plans and budgets relating to animal health, animal production and other relevant thematic teams, are prepared as required at specified intervals;
- Perform other duties as required by the Director of the Land Resources Division or SPC's Senior Deputy Director-General.

Qualifications, Experience and Skills

Essential

- A recognized veterinary degree, plus a post graduate qualification in tropical animal health, epidemiology or veterinary public health with at least 10 years post-graduate experience.
- Demonstrated capability in policy formulation, implementation, monitoring and evaluation relating to general agriculture development and/or specific animal health, animal production and public health.
- Good interpersonal skills with demonstrated capability and capacity to coordinate, motivate, lead and become an active staff member of the thematic teams.
- High level of both written and oral communication.
- High level of computer competency in word processing, spreadsheets, webpage design, PowerPoint and email. Some knowledge of graphics and desktop publishing.
- Proven ability to design and manage projects.
- English language is essential but an ability to communicate in French and other Pacific languages skills is desirable.
- Ability to work effectively among different groups within

SPC and at the regional and international levels.

- Ability to deal with senior staff in other organizations at the national, regional and international levels.

Highly Desirable

- Experience in trade facilitation and the SPS Agreement of the WTO and similar agreements.
- An ability to draft legislation and import protocols to facilitate the movement of animals and animal products.
- A broad understanding of the cultural diversity of the region.
- A knowledge of instructional techniques and experience in the design and implementation of training programmes.
- At least 5 years experience in a PICT of all aspects of animal health including animal quarantine, veterinary public health, animal production and veterinary surgery.

Salary, Terms and Conditions

Salary and Allowance

The starting salary will depend on experience and qualifications in the salary range: SDR 2,274 - 3,075 per month (which is equivalent to F\$5,756 - 7,783 per month at the prevailing reference exchange rate of F\$1.00 = SDR .3951) in Grade J of the SPC Staff Classification and Salary Plan for professional staff based in Fiji. It is expected that an offer of appointment for an initial contract would be made in the lower half of this salary range.

In addition, an Establishment Grant will be payable to non-residents of Fiji. Where appropriate, other allowances such as education allowance will be paid. SPC emoluments are not subject to income tax in Fiji at the present time. The international currency exchange rate at the time of writing is approximately USD1.00 = F\$2.00.

Tenure

The appointment will be for a period of three years in the first instance, subject to the satisfactory completion of a one-year probationary period. The contract may be renewed for a further period subject to performance and continued funding availability.

Duty Station

Suva, Fiji.

Accommodation

A housing allowance of 75% of the total rental, up to a limit of F\$1,500 per month, will be provided.

Leave

Leave will accrue at the rate of 25 working days per annum. For expatriate staff members, home leave fares are payable after 18 months of active duty service.

Sick Leave

Thirty working days per annum.

Medical Benefits

The SPC's Staff Medical Insurance will provide basic medical insurance cover for staff and dependants. Supplementary medical insurance cover can be purchased at staff's expense with our insurer

to increase the level of insurance cover for staff who wish to do this.

Provident Fund

The appointee will be eligible for membership of the SPC's Staff Provident Fund. Staff members contribute eight per cent of base salary to which SPC adds a matching contribution.

Fares and Removal Expenses

For an appointee recruited outside Fiji, air fares by the most direct/and or economic route for the appointee and recognised dependants, and reasonable removal expenses by sea of personal and household effects will be met by SPC on appointment and termination.

Computing Environment

SPC has a standardised computing environment based on Microsoft Office running under Microsoft Windows.

Smoke-Free Environment

Smoking is not permitted in the work place.

Equal Opportunities

SPC is an equal opportunities employer. Recruitment to SPC staff vacancies is based entirely on merit, but in cases where two shortlisted candidates are judged to be of equal rank by the Selection Committee, preference will be given to Pacific Island nationals.

Address

Applications should be addressed to the **Senior Deputy Director-General, Secretariat of the Pacific Community, Private Mail Bag, Suva, Fiji, to arrive by 15 February 2005.** Applicants should provide full personal details, describe their qualifications and experience, and explain how these suit them for the specific requirements of the advertised position. Relevant previous appointments, present position and salary, and the names and addresses (including telephone, fax, e-mail contacts) of three referees should also be provided. Testimonials may be provided with the application, but are not necessary and will not be considered a substitute for confidential referee's reports, which will be commissioned directly by SPC.

Applications may alternatively, or additionally, be submitted by fax (No. +679 370 021), or email to recruitsuva@spc.int, preferably in plain text or Rich Text Format (RTF).

More can be learned about SPC and its Programmes and activities through the web site <http://www.spc.int>

~ **Secretariat of the Pacific Community**