Equator : informatieblad over veterinaire aspecten van ontwikkelingssamenwerking

EQUATOR

NEWSLETTER ON SCIENTIFIC CO-OPERATION IN TROPICAL ANIMAL HEALTH

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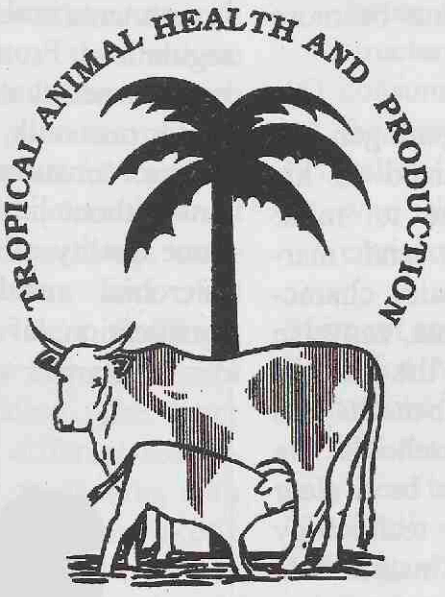
12th SYMPOSIUM ON TROPICAL ANIMAL HEALTH AND PRODUCTION

DAIRY DEVELOPMENT IN THE TROPICS: PROBLEMS AND PROSPECTS



On the 2nd of November, 2001, the 12th Symposium on Tropical Animal Health was held at the Faculty of Veterinary Medicine, Utrecht University (The Netherlands). For the first time, the symposium was organised by the Office for International Cooperation of the Faculty of Veterinary Medicine, in collaboration with Wageningen University and Research Centre.

Introduction

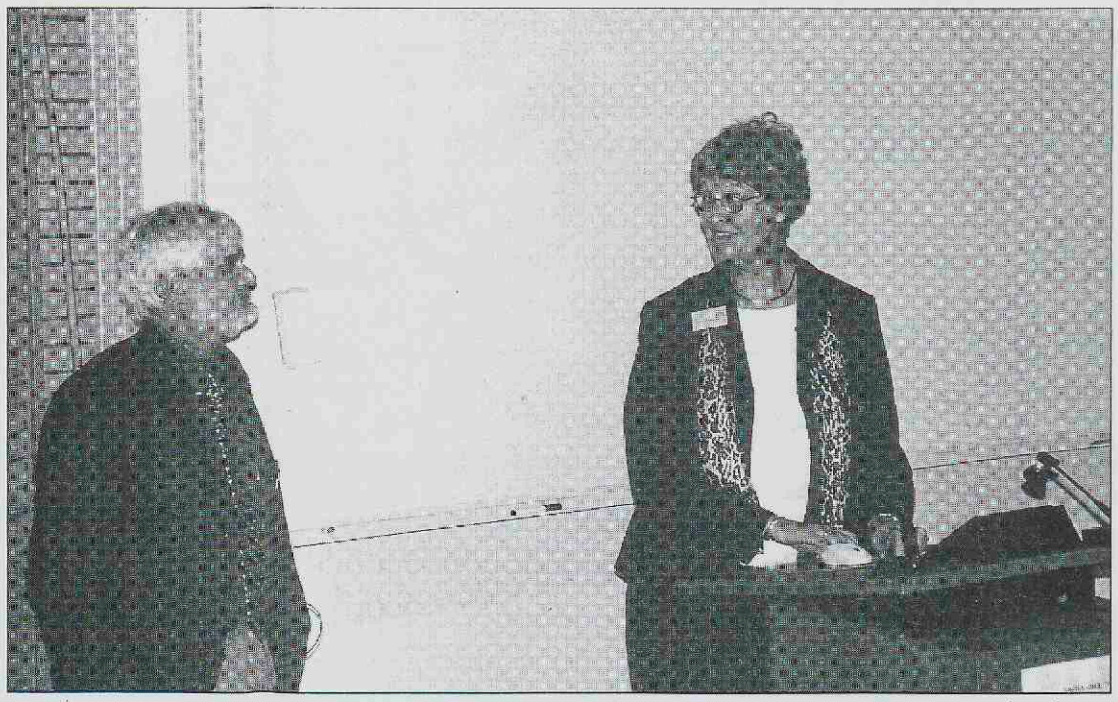
In her opening speech, the chairperson of the Symposium Organising Committee, Prof. Dr. Akke van der Zijpp from Wageningen-UR (The Netherlands), welcomed the more than 100 participants from various continents and paid a special warm welcome to the 8 speakers of the day.

A broad and interesting spectrum of topics would be addressed during the day at the symposium. Dairy development after all, involves many issues, such as introduction of 'improved' cattle, growing fodder, housing, supplementary feeding, animal reproduction and disease control measures. It requires good infrastructure, appropriate support services and functioning institutions.

The symposium paid attention to four major areas of concern for the dairy development sector: economic context of dairy production, food security and food safety, resources and support services and institutions.

Economic context of dairy production

The first speaker of the day, Dr. Stefan Verwer, from NOVIB (Neder-



Prof. Akke van der Zijpp opens the discussion after Dr. Steve Staal's presentation. (Photo: De Gooijer)

landse Organisatie voor Internationale Bijstand, Netherlands), addressed the audience with a presentation on 'Pulverising Pow(d)er, the consequences of the EU Agricultural policy for dairy farmers in Jamaica and Tanzania'. In this presentation he described the enormous effects the Common Agricultural Policy of the European Union (EU) has on local markets and production systems in both Jamaica and Tanzania. With the subsidised European powdered milk being dumped at the Jamaican and Tanzanian market at low prices, it is extremely difficult for the farmers to improve milk production, to work more cost efficient and thus be more competitive.

Dr. Henk Moll from Wageningen-UR (The Netherlands) explained in his presentation 'From meat to milk: smallholders' livelihoods and markets', that appraisal of dairy characteristics and production data, can give a good overview of both the marketable and non-marketable benefits and costs of smallholder households. He stated that there seems to be a clear relationship between the technology level applied and the institutional environment, meaning that few market linkages go together with low levels of technology and vice versa. In order to formulate effective livestock policies, it is essential to, at least, recognise and analyse this relationship. In this way livelihood of livestock keepers can be improved and interests of livestock product consumers can be served.

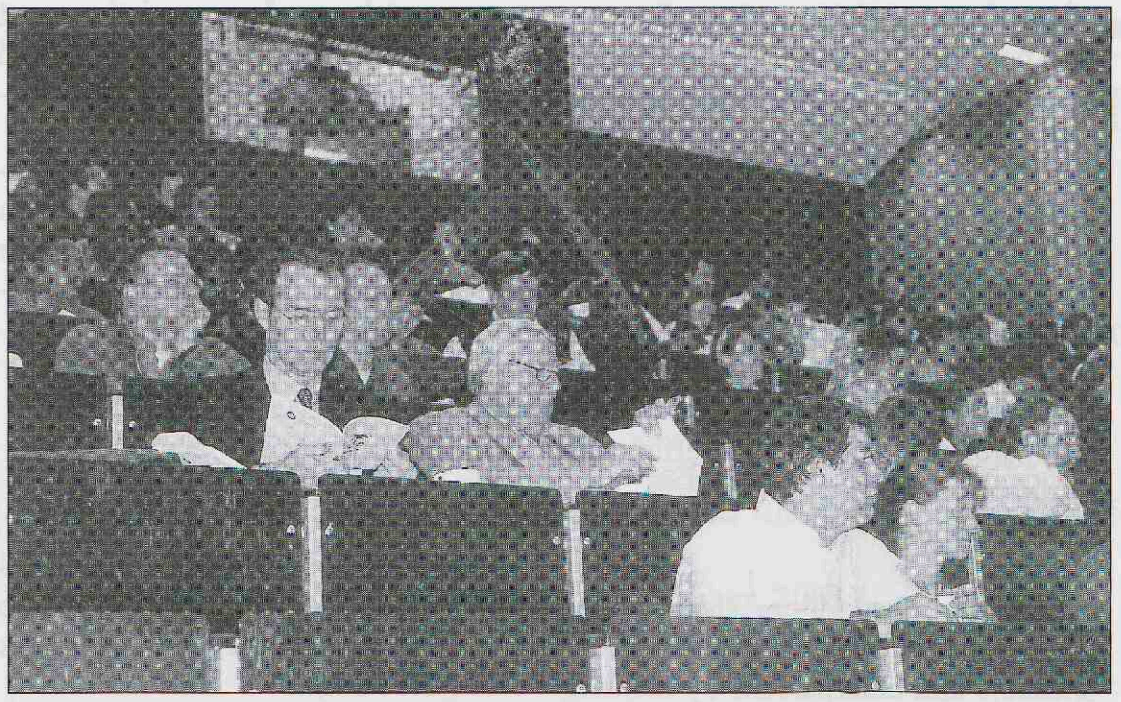
Food security and food safety

In many African countries there is a strong tradition of buying raw milk, according to Dr. Steve Staal from ILRI (International Livestock Research Institute, Kenya), in his presentation 'Indigenous markets for dairy products in Africa: trade-offs between food safety and economics'. The choice has to be made between maintaining high quality standards at high costs and thus little interest for the investments and continuation of a large part of the uncontrolled informal market, or acceptance of lower standards that can be reached with less investments and maintenance of some regulations. From a survey in Kenya it was learned that consumers generally prefer raw milk, which will be boiled before consumption. Vendors with and without licences sell roughly the same quality of milk (often with anti-microbial residues). Training and certification of traders is likely to result in a higher milk quality then attempting to implement strict international milk standards.

Dr. Alexander Kahi highlighted the value of genetic resources of African cattle (Photo: De Gooijer)

Resources

Figures presented by Dr. Salvador Fernandez-Rivera's from ILRI (International Livestock Research Institute, Ethiopia) in his presentation 'Milk production and feed requirements in dairy systems of developing countries by 2010' indicate that the milk consumption per capita in developing countries will more than double from 1993 to 2020. This implicates that, in order to increase the milk production, supplying adequate feed resources and improvement of the efficiency of their conversion, are absolute conditions.
Classification of production systems and projected annual growth rates for milk and meat consumption were used to predict where the highest milk production increase can be expected, which appears to be in the mixed rainfed and irrigated systems of Asia.
It is of great importance to create policies that ensure that the smallholders can also benefit from latest developments in feed related technologies, such as participatory selection and development of crops and forages and application of genomics to feed production and utilisation.



Over a hundred participants enjoyed the symposium (Photo: De Gooijer)

Also Dr. Cees de Haan from the World Bank (United States) stated in his presentation entitled 'Dairy Development and the Environment: winners and losers', that there is a strong growth in the demand for dairy products. This development offers interesting opportunities for the developing countries. Especially in South America, South Asia, East Africa and Central Europe, there are opportunities to expand dairy production and hence reduce poverty and augment sustainable resource use. In order to achieve this, a multi-sectoral approach, involving all stakeholders is required. In the meantime environmental effects of dairy production should be minimised (using the experiences from the developed world). Since it is likely that future dairy production will come from mainly medium and small-scale farms, the focus should be at these units. In order to improve the environmental sustainability of dairy production, one should use (1) financial or pricing instruments (subsidies most often have a negative influence on the environment), (2) property rights instruments, (which stimulate conservation of natural resources) and (3) regulatory and zoning instruments (i.e. stocking rate regulation to certain areas or restriction of access to vulnerable areas).

According to Dr. Alexander Kahi from Egerton University (Kenya) African cattle breeds have a number of different hereditary characteristics and react differently to environmental stimuli. In his presentation 'African cattle genetic resources: their unique attributes and conservation through utilisation for milk production', Dr. Kahi mentions that some African cattle are disease resistant or tolerant (trypanosomosis, endoparasites, ectoparasites), heat tolerant and well adapted to the prevalent feedings. Conservation options include *ex situ* and *in situ* conservation. The latter one to be divided in different scenarios for efficient milk production, with more or less influence from exotic European breeds, different types of pasturing etc. There are a number of stakeholders in these conservation efforts with their own roles. These stakeholders are:

(1) Farms where the nucleus herds are kept that should provide superior genetic resources (participating farmers have to take care of the animals),
(2) National Agricultural Research Systems, which will have to contribute to the designing of and capacity building for the breeding programmes
(3) farmer's training centres and extension agents who should train the farmers,
(4) breed societies that should be founded for the registration of the animals, maintaining of records and promotion of interest,
(5) co-operatives that should join forces and create their own infrastructure,
(6) consumers whose demands drive the market and
(7) policy and planning developers who should create an enabling environment for the farmers.

Support services and institutions

Prof. Jos Noordhuizen from Utrecht University (The Netherlands) described the 'Opportunities for veterinary herd health programs (VHHP) in Thailand' as challenging. Thai dairy farming, which started in 1961, is a relatively new agricultural sector. Therefore it is not a sector with generations of experience. Milk imports

Dr. Vinod Ahuja asked for protective measures for the poor livestock holders (Photo: De Gooijer)

are very costly and should be replaced by improvement of national productivity. This could be achieved through VHHP, by collecting and analysing data, improving farmers' knowledge, cost-benefits calculations and improved nutrition and housing. It is important that opportunities are created to include more herd health subjects in the veterinary curriculum at the Thai universities.
Dr. Vinod Ahuja from the Indian Institute of Management (India) presented 'Livestock health and breeding services: efficiency and equity implications of privatisation', in which he stated that the livelihoods of the poor are critically linked to the availability of good supportive services. In general poor and wealthier animal keepers are prepared to pay for veterinary and extension services. However, in case there is privatisation of these services, it remains the government's responsibility to provide these services at low costs for those who can't afford to pay much. Transparency in organisational processes, effective legal frameworks and strong institutions are conditions for the efficiency of the private market.

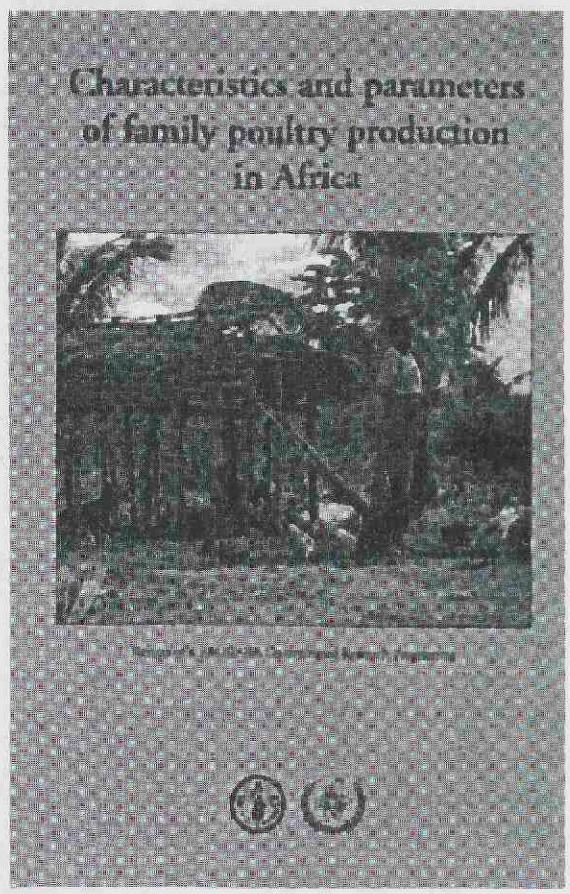
Epilogue
Prof. Van der Zijpp showed the gratitude of the organisers to all speakers and chairpersons by handing over a token of appreciation and thanking them for their excellent and enthusiastic contribution to the symposium.
Another well-organised and thoroughly prepared Symposium with lively discussions between audience and speakers has pleased a great number of attendants.

Hellen van der Maazen

(A copy of the programme and abstract book of the symposium can be requested through the editor's address of EQUATOR).

FOR YOUR INFORMATION 1

Recently the Joint FAO/IAEA Division for the Application of Nuclear Techniques in Agriculture published a book on "Characteristics and parameters of family poultry production in Africa".

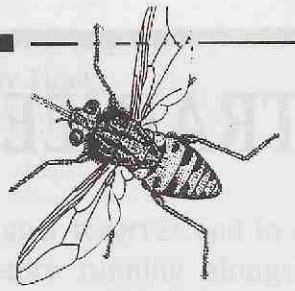


Almost every village household in Africa keeps domestic fowl (on average between 5 and 20 birds). Poultry provides a good source of protein and ready cash for the villagers. Moreover poultry helps to sustain the village economy and contributes to the prevention of urban migration. The benefits from family poultry production go directly to the rural poor, in most cases to the women being most active as caretakers.
Unfortunately family poultry production suffers from the constraints of disease, particularly Newcastle disease, insuffcient feeding and lack of housing. If these constraints could be removed, productivity would be increased to the direct benefit of the marginal farmer. The interaction of the 3 constraints underlines the necessity for a holistic approach to intervention. Furthermore, other constraints to poultry production should also be considered, such as marketing increased numbers of locally produced poultry products. A cost/benefit analysis should also form part of the activities to assess the economic advantage of the proposed interventions to the small scale farmer.
The book presents the results of this concerted and structured investigation on traditional ways of poultry production in 12 different African countries.

The book can be ordered at the following address:
Animal Production and Health Section
Joint FAO/IAEA Division
International Atomic Energy Agency
P.O. Box 100
A-1400 Vienna
Austria

Applicants from developing countries can obtain the book free of charge. Applicants from countries with a high average income level can order the book at the cost price of €uro 36.

FOR YOUR INFORMATION 2



Book review

The encyclopedia of arthropod-transmitted infections of man and domestic animals

Editor: M.W. Service
Publisher: CABI Publishing, GAB International, Wallingford, Oxon OX10 8 DE, UK (http://www.cabi.org).
ISBN: 0 85199 473 3 (September, 2001)
Price: € 153,95 (609 pages, hardback)

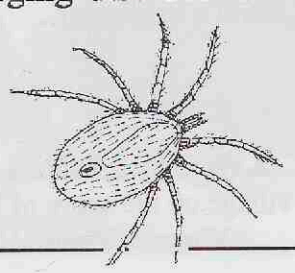
CABI Publishing, an international not-for-profit publisher in applied life sciences, has added a new book to its series on parasites, insects and parasitic and arthropod-borne diseases of man and domestic animals. This series is characterised by the presentation of knowledge on human *and* animal related aspects in an integrated way. The books cover the respective subjects in a world-wide perspective, in many instances with emphasis on the tropical regions.

The recent publication, '*The encyclopedia of arthropod-transmitted infections of man and domestic animals'*, covers infections in humans and animals that are transmitted by arthropods and the role of arthropods in their transmission. Over 80 international authors (listed in the book with their e-mail addresses) contributed to the encyclopedia, which has 150 entries that are presented in alphabetical order by the most common English name of the disease or the disease agent. The scope is a 100-5000-word description of arboviral, viral, bacterial and rickettsial, spirochaetal, protozoal and filarial infections of man and domestic animals. Information is provided on distribution, clinical symptoms, diagnosis, transmission cycle, and treatment and control measures. Figures, tables and black and white photos illustrate the text.

The description of the diseases and their causing agents is in general concise and includes the most relevant and up-to-date information. Unfortunately, this is not always the case when one looks for information on the vectors. The information on vectors can partially be found in the sections on transmission and control but details on morphology, life cycles, host preference and distribution is not provided at the level of detail as the information on the disease agent.

The editor and publisher can be complimented on the up to-date information which is provided in the book (cited references up to the year 2000). The book, although it is an encyclopedia, would have been easier accessible if a table of contents was added, as most subjects have more then one entry.

The encyclopedia is certainly of interest to medical and veterinary scientists, virologists, bacteriologists, parasitologists, entomologists and public health workers. The main value of the book does not lay in the information provided in the readers own specialist discipline, but in the easy at hand information on the many infections that one may encounter in humans and animals when working under tropical (field) conditions or with humans or animals originating from these areas. Specifically, to have information at hand on newly or re-emerging diseases is of major importance for early diagnosis of these diseases.



Dr. Robert Paling

TRAINEESHIPS IN THE TROPICS

During the fifth year of the veterinary curriculum at Utrecht University students have to do a research project of 3 months. The veterinary faculty allows the students, under strict conditions, to do this project in a foreign country. Maarten Hoek is one of those students. He decided to go to the Kenyan part of Lake Victoria to investigate the residue levels of pesticides (diazinon and endosulfan) in Tilapia and Nile perch.

Background

In the recent past Kenneth Werimo, of the Kenya Marine and Fisheries Research Institute, Kisumu Research Centre, came to Utrecht to visit the Institute for Risk Assessment Sciences (IRAS) and the Department of Science of Food of Animal Origin of the Faculty of Veterinary Medicine. Here he investigated the possible Maximum Residue Levels (MRL) of Diazinon and Endosulfan in Tilapia and Nile perch. He succeeded in determining these maximum residue levels (see poster elsewhere in this EQUATOR). The next step was to determine the true levels of contamination in the fish in Lake Victoria. After a positive discussion with my supervisor Dr. Aldert Bergwerff of the Department of Science of Food of Animal Origin, my goal was set. I would try go to the Kenyan part of Lake Victoria to investigate the residue levels of pesticides (diazinon and endosulfan) in Tilapia and Nile perch. After finding a reliable and repeatable method to extract diazinon from fish, water and sediment, the trip to Kenya could be arranged.

First impressions

On 11 March, 2002, my plane departed from Amsterdam. I was really excited to fly to Nairobi because this would be the first time for me to be in Africa. I had read a lot of books and especially the Africa as described by Wilbur Smith fed my imagination. The contrast couldn't be bigger.

Immediately after my arrival in Nairobi I flew to Kisumu, the third largest town and the biggest port on Lake Victoria in Kenya. My astonishment started the very minute I landed on the grass airstrip. It would take me several weeks to loose my amazement and to put in place everything I had seen and experienced.

Lake Victoria

My work was supported by KMFRI, which stands for Kenya Marine Fish Research Institute. This organization was originally set up to monitor the fishery in the Indian Ocean at the East coast of Kenya. But when, in the early eighties, the introduced Nile perch started to flock and to endanger the original fish species in Lake Victoria, like Tilapia and other cichlids, another office of KMFRI was opened in Kisumu. The main goal of this office is to monitor the populations of tilapia and Nile perch, and the pollution in the lake.

Another major problem, which has arisen in Lake Victoria, is the water hyacinth, originally introduced because of its beautiful flower. Nowadays large, impenetrable islands of water hyacinths, block harbors and create an ideal environment for the snail that carries Bilharzia eggs. As a result, Bilharzia is much more prevalent these days.
Because of deforestation the rivers to the lake carry nowadays a lot more minerals, which are good nutrients for the water hyacinth. This threatens other plant and animal life in the water. The water became more and more turbid over the last few years.

The boat trip on the lake

The office is located next to the LVEMP (Lake Victoria Environmental Managing Project). This organization works in close cooperation with KMFRI, and its main task is to minimize the damage to the lake caused by human activities. The LVEMP owns the only iron boat, the only diesel powered boat, the only floating boat in the harbor. On this boat I traveled along the Kenyan coast all the way to Tanzania in the south and Uganda in the north. We slept in very small hotels with no electricity and no running water, or we slept in the houses of friends of the crew. Sometimes the local people regarded my presence as interesting. One family showed me hospitality as if I were a good friend who came from far. They cooked me a great dinner, took me around town, which consisted of

A typical market in a little village on the shore of Lake Victoria (Photo: Hoek)

The crew departs the boat to go ashore (Photo: Hoek)

40 bandas, took me to the bar and cooked me another dinner when I came back from the bar. Other times the people regarded me as a walking money tree. To me this was very confronting and difficult to deal with. It was in these places I learned the most.

For sampling we trolled the lake, each catch was a surprise. What would be in the net? How many fish? How big? It was always on my mind that just a few years earlier thousands of people were slaughtered in Rwanda and washed away into the lake. Luckily we only caught fish. The biggest one was a 2 meter long, 80 kg Nile perch. For ground sampling we used an iron trap that bit into the bottom of the lake. The lake is only 40 meters deep at the deepest point. For water sampling we used the surface water. After the boat trip I put all the samples safely in the freezer to analyzed at a later stage.

Observations and contemplations

Following my research work in Kisumu, I made a journey through Kenya. First I traveled to Lake Naivasha. At this place there are many flower farms and coffee and tea plantations. Europeans, especially English and Dutch farmers, own these farms. Local people profit from these activities by earning a few dollars a day.

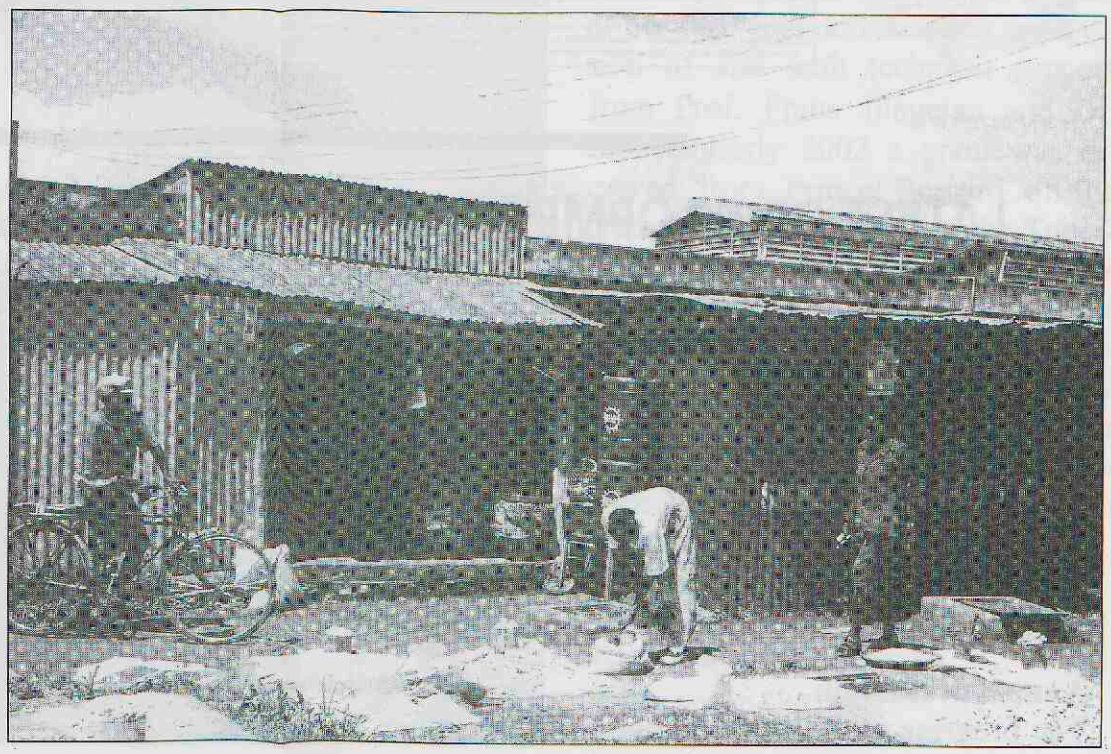
After visiting Lake Naivasha, I traveled to the National Park Kakamekka Rainforest. It is the only relic of the once huge rainforest that covered most of Kenya. It is not more than a shadow now with a mere 2 percent of the forest that once was home to many animals. Upon entering the park some things immediately caught my attention. I couldn't believe that in this national park illegal deforestation, charcoal production and hunting took place at such a large scale. Just after a short walk in the park I was already accustomed to the people who tried to sell me fur. Most of this fur came from endangered species, like the colobus monkey.

After Kakamekka I traveled to Mombassa. This journey was as scaring as amazing. It is very special to drive through the bigger reserves and to see impala and zebra running alongside the bus. The frightening part was the recklessness of the drivers. Road accidents are unerringly common, and you pass many while traveling from one place to the next.

Mombassa was no big surprise anymore. Poverty, chaos, street children with starvation bellies, blindness as a result of lack of vitamins, in shrill contrast with the few tourists who drive in big four-wheel drives. These people close their eyes for the real life in Kenya, ignoring the problems, just enjoying their holiday on private beaches, prohibited for local people.

After Mombassa I traveled to Nairobi. I had had it. Tired and disillusioned of what I had experienced, I wanted to go home. Flee back to the safety and wealth of my own country.

I often had a feeling of misplacement that I should not be there, that I came from another world, the rich world that neglected and ignored the dark side of its flourishing economy. How could this be possible in the 21st century? How could we go on holidays, spend fortunes on things we don't really need, when just a few hours flying from our homes people starve from hunger and easily curable diseases?



Some nights were spent in small hotels without running water or electricity (Photo: Hoek)

Residues of the pesticide diazinon in African fish

Kenneth Werimo[1], Maarten Hoek[2], Peter Scherpenisse[2], Willem Seinen[3] and Aldert Bergwerff[2,*]
[1] Kenya Marine and Fisheries Research Institute, Kisumu Research Centre, Kisumu, Kenya; [2] Department of the Science of Food of Animal Origin, Faculty of Veterinary Medicine, Utrecht University and [3] Institute for Risk Assessment Sciences, Utrecht University, Utrecht, The Netherlands
[*] Presenting author: VVDO, Fac. of Vet. Med., Utrecht University, PO Box 80175, NL-3508 TD Utrecht, Netherlands; a.a.bergwerff@vvdo.vet.uu.nl

PROBLEM

The use of pesticides to catch fish in African waters may have attributed to many casualties under the local population through consumption of poisoned fish. The organophosphate ester diazinon (diethyl-2-isopropyl-6-methyl-4-pyrimidinyl phosphorothionate) was one of the pesticides identified. The environmental and public health risks asscciated with this practice requires proper information on the effects and fate of this chemical in fish, the aquatic system and consumers. Furthermore, fish from Lake Victoria has found markets worldwide and international trading requires monitoring for residues of pesticides. This pesticide is namely also in large quantities in crop, tea and coffee bean production, contaminating the environment.

Location of sampling sites in Lake Victoria Kenyan part indicated with letters

AIMS

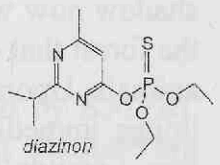
- To develop an analytical chemical method suitable for determination of residues of diazinon in water, sediments and fish.
- To establish the lethal body burden of diazinon in Nile tilapia (*Oreochromis niloticus* (L)) for risk assessment studies involving human consumption of contaminated fish.
- To investigate the level of residues of diazinon in the environment (sediments, surface water and fish).

APPROACH

- Four groups of ten fish were exposed to either 0.56, 1.0, 1.8 or 3.2 mg/l diazinon at 22°C (± 1°C). One diazinon-free aquarium with ten fish was taken through the procedure as control. Numbers of lifeless fish were monitored at 24, 48, 72 and 96 h exposure intervals. Fish that did not show any tactile response were considered dead, and were processed for analysis.
- Fish (Nile perch and tilapia) were sampled in April 2002 at 15 different locations in Lake Victoria at the Kenyan part and analysed. Furthermore, sediments and surface water were samples at 14 and 17 different locations, respectively.

METHOD

Extraction of fish material and sediments from Lake Vicoria was facilitated with 2 g sodium chloride followed by acetone/dichloromethane (DCM) (1:1, v/v). Supernatant was dried by rotary evaporation. Residual fish material was solubilised in MeOH/ water (7:3, v/v), whereas that of the sediments was suspended in EtOH/ water (1:9, v/v). Sediment suspensions and Lake surface water were applied to C18-SPE. Analytes were eluted with MeOH. Eluates and fish tissue extracts were analysed by RP HPLC in line with a triple quad tandem mass spectrometer by monitoring transition of $[M+H]^+$ at *m/z* 305 into *m/z* 169 and *m/z* 153.



diazinon

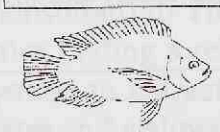
RESULTS

- The LC_{50} at 96 h and lethal body burden were found at 1.6 mg/L water (1.53-1.75 mg/l at 95% confidence limits) and 1.1±0.4 µmol/g fish, respectively.
- Two out of 75 caught fish samples were below LOQ.
- One out of 17 Lake water samples contained diazinon below LOQ.
- The concentrations in postive sediments (3 out of 14 samples) ranged from 0.45 µg/kg to 0.64 µg/kg. Two positives were collected at river mouths.

	Fish (Nile perch and tilapia)	Surface water	Sediments
LOQ	0.6 µg/kg	0.004 µg/L	0.06 µg/kg
Recovery ± SD	97 ± 13	107 ± 10	85 ± 7

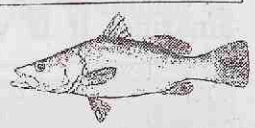
CONCLUSIONS

- The tolerable daily intake (tDI) of diazinon is 0.002 mg ($5.8 \cdot 10^{-3}$ mmol) per kg body weight. Assuming the consumption of 300 g fish caught illegally with the pesticide by a person of 60 kg, the diazinon intake exceeds the tDI by a factor 83.
- Despite detectable levels of the pesticide in Lake sediments, surface water and fish were apparently free of the pesticide. All values found were below LOQ and thus below the MRL (0.7 mg/kg in either pork or poultry and 0.05 mg/kg in all meat species as listed in June 2001).



ACKNOWLEDGEMENTS

The authors wish to thank Frans Bussar and John Rowsen for technical assistance. This investigation was made possible through a scholarship from the Utrecht University Scholarship Programme, and by support from Lake Victoria Fisheries Research Project (LVFRP) for K.W. M.H. was supported by a fellowship of the Utrecht University Trajectum Fund made available through the Faculty of Veterinary Medicine.



After reliving the period in my mind over and over again, I now want to go back, to help the people. The experience was not what I expected it to be. It was confronting, unlike anything I had ever seen in other developing countries. But I am very grateful. I went to Kenya to learn something about research, but the biggest lesson was something else. I have a deep respect for the people living there, working, and trying to make a difference. Special appreciation deserve the people who work at Pandiperi. This aid organization gives street children a chance, they teach them to become shoemaker, carpenter or another profession. They also test people on HIV voluntarily, and educate the interested in different infectious diseases.

Results of the research project

After analyzing the samples and the methods used in Kenya to gather the samples, no clear conclusion could be made. We found some traces of Diazinon in fish, water and ground, but, unfortunately, we also detected a contamination with diazinon in the methanol we used. In the fish samples we didn't use the methanol, but the amount of pollution was low.

Maarten Hoek

LATEST DEVELOPMENTS IN THE COLLABORATION BETWEEN THE VETERINARY FACULTIES AT ONDERSTE POORT (SOUTH AFRICA) AND UTRECHT (THE NETHERLANDS)

In January, 2000 the Faculty of Veterinary Science of the University of Pretoria and the Faculty of Veterinary Medicine of Utrecht University (UU) signed a Memorandum of Understanding (MOU) in Pretoria (see EQUATOR Vol. 12, nr. 1, March 2000). After 2½ years EQUATOR looks back on some of the latest developments.

Annual evaluation

The progress of activities carried out under the MOU is being evaluated each year. In March 2002 the activities of the second year of the MOU were evaluated at a meeting held in Utrecht. The evaluation was performed by Prof. Cornelissen, dean of the Veterinary Faculty of UU, Prof. Terblanche, deputy dean of the veterinary faculty of OP and Prof. Coubrough and Dr. Paling, co-

ordinators of the MOU, together with Prof. Coetzer. Following the meeting a detailed report of activities and a joint workplan was prepared for implementation in 2002.

Appointments

Continuation of the appointment of Prof. Dr. Frans Jongejan of UU as an extraordinary professor in the Department of Veterinary Tropical Diseases at the Faculty of Veterinary Science at Onderstepoort strengthens the scientific bond between both faculties, especially in the field of ticks and tick-borne diseases.

The appointment of Prof. Dr. Koos Coetzer of Onderstepoort as a part time professor in Tropical Veterinary Medicine at UU's Department of Infectious Diseases and Immunology will be continued. In 2001 Prof. Coetzer was awarded an "EZA fellowship" of Utrecht University's expertise center for southern Africa to visit Utrecht and to strengthen the links in education between Utrecht University and universities in the SADC region.

Prof. Dr. Cheryl McCrindle represented the Onderstepoort faculty as an external examiner and member of the academic board at the public PhD thesis defence at UU by Dr. Pamela Woods from the University of Zimbabwe (Harare) in December 2001.

Staff and student exchange

Dr. Jaco van der Lught (former OP staff member, now UU staff member) successfully defended his PhD thesis, entitled 'The clinicopathology and pathology of selective toxicoses and storage diseases of the nervous system of ruminants in southern Africa' at UU and was awarded the title of Doctor of Philosophy in June, 2002.

Two Onderstepoort staff members have almost concluded the first year of their 2-year MSc course on Animal Pathology at UU. During the course they performed their course work and started the preparations for the research projects, largely to be conducted in Africa. They were both supported by a DELTA scholarship of the Nuffic (the Netherlands) for participation in this course.

Two other young scientists of OP started their research projects at UU in 2001 and will register for PhD degree. Their respective research projects are concerned with the molecular characterisation of tick-borne pathogens and the study of interferons in relation to tuberculosis in wildlife.

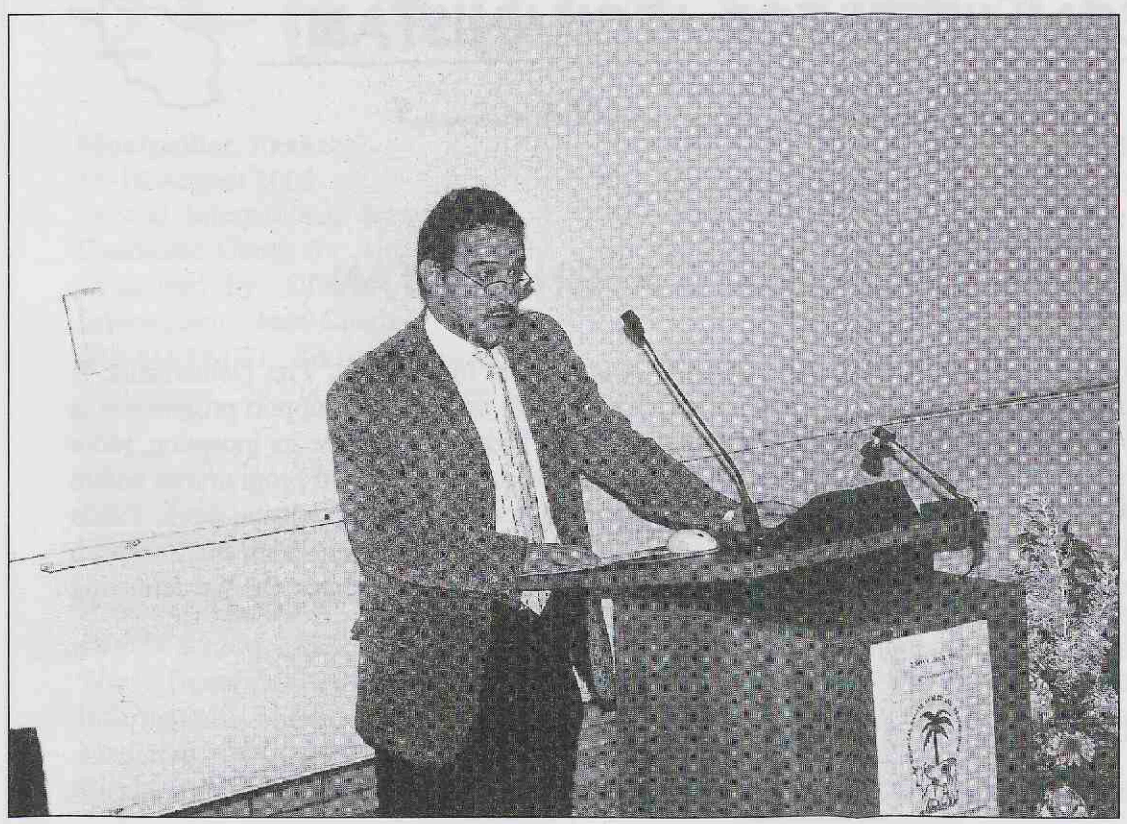
These two scientists also received a DELTA scholarship for the first part of their research period at UU. Both will be appointed as staff members in the Department of Tropical Animal Health at Onderstepoort.

Seven Dutch veterinary students have successfully conducted a student's research project of 3 months at the Onderstepoort Veterinary Faculty in 2001. Both South African and Dutch staff supervised the projects. In the same year one Dutch student participated in the clinical rotation programme at OP for 3 months. Thanks to recognition by UU of the study programme at OP, study points could be given to all 8 students.

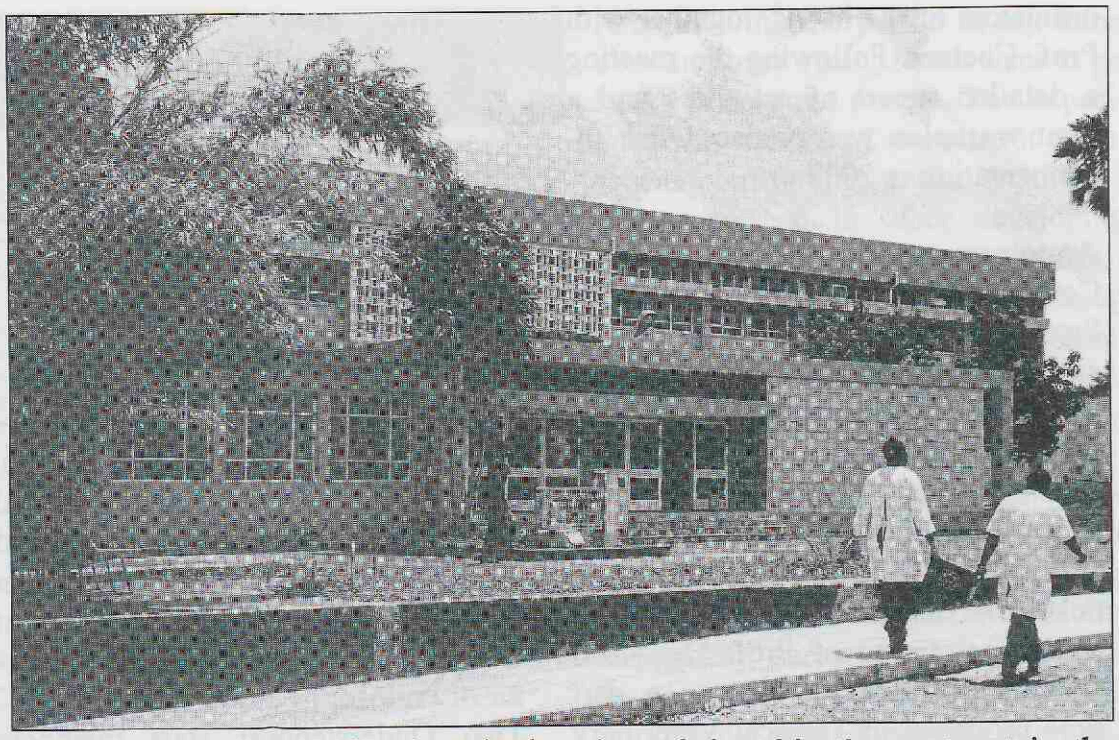
In October 2001 one Dutch student started in the Onderstepoort Clinical rotation programme for a full academic year.

Collaborative research projects and external funding

It seems that, so far, joint application for funding of research has been rather beneficial. For example Senter (Netherlands Ministry of Economic Affairs) approved the Biochip Project. This project, on the diagnosis of tick-borne diseases in wildlife, started in June 2001 and covers a three-year period of co-operation between OP, UU and Isogen Ltd. Next to this, funding for a two-year research project (at OP) on cerebral theileriosis in cattle in Tanzania, has been approved by the British Department of International Development (DFID) and started in June 2001. A Belgian veterinarian executes the project as part of her PhD programme under supervision of and with technical support from Prof. Frans Jongejan and Dr. Stoltsz. Early 2002 a grant was received from Prince Bernard of the Netherlands for support of the Tuberculosis research in rhinoceros. Further applications for funding of the wildlife research will be submitted to various agencies and foundations. For example a proposal for research on reproduction in ostrich has been submitted to NWO/WOTRO (in the



Prof. Coetzer chaired a session during the 12th Symposium on Tropical Animal Health and Production in Utrecht (Photo: De Gooijer)



The Faculty of Veterinary Science at Onderstepoort (Photo: Rutten)

Netherlands) for a PhD fellowship and to the Wellcome Trust for support.
ICTTD, an international network on the control of ticks and tick borne diseases in which UU and OP play an important role, has successfully applied for a subcontract for tick taxonomy, from a large EU project concerning a database on all living creatures on earth.

Symposia and representations
In November 2001 Prof. Coetzer was invited as chairman of a session of the 12th annual Symposium on Tropical Animal Health and Production, Dairy Development in the Tropics (see also elsewhere in this issue of EQUATOR). Prof. Coetzer was also invited to join the Editorial Board of Veterinary Sciences Tomorrow (VetScite), a scientific journal published on the Internet by FVM/UU (http://www.vetscite.org/). Video conferencing facilities are now operational at both faculties. This has already proven to be very useful for research groups with participants at both faculties.

MOU in 2002
Following the evaluation of the MOU in March 2002, the Deans of the OP and UU faculties concluded: 'It is without hesitation that the review committee recommends the continuation of the objectives set out in the MOU during 2002. This will be to the mutual benefit of both institutions and their respective universities and consolidate the collaboration established during the second year of the implementation of the MOU'.

Hellen van der Maazen

VACANCIES
INTERNATIONAL COOPERATION

DUTCH COMMITTEE FOR AFGHANISTAN

کمیته هالند برای افغانستان

VACANCY ANNOUNCEMENTS AFGHANISTAN

The Dutch Committee for Afghanistan (DCA-VET), a foundation with its headquarters in Lelystad, The Netherlands, is specialised in veterinary programmes in Afghanistan. Under its responsibility a veterinary training and support programme is being implemented, initially in Peshawar, Pakistan, later in Kabul and Herat, both in Afghanistan. Since its inception, more than 10 years ago, the project has trained over five hundred paravets who are deployed in different field programmes within Afghanistan. The project is also involved in technical and logistical backstopping of field staff and extension work. Funds for the programme are secured, usually on an annual base, from various donors, more recently mainly from the European Community. In view of the expansion of its programme, the Foundation is seeking suitable candidates for the following posts:

For the overall co-ordination of the programme, the Board of the Foundation is looking for a:

PROGRAMME MANAGER / PROJECT DIRECTOR

with demonstrable managerial qualities

(background in veterinary medicine or livestock production is highly appreciated, but candidates with other technical backgrounds are also invited to reflect)

Duties: The Programme Manager will be in charge of supervising and monitoring the various components of the programme, in close collaboration with Afghan counterpart staff. He will be also responsible for the external contacts of the organisation in Pakistan and Afghanistan.

Qualifications required: Good managerial qualifications are essential, and considered even more important than experience in development work. Some seniority is welcome. Fluency in English, both written and verbal, and computer experience are considered as necessary qualifications.

To assist in the co-ordination of the programme, the Board of the Foundation is also looking for a:

PROJECT MANAGER / DEPUTY PROJECT DIRECTOR

with managerial qualities

(background in veterinary medicine or livestock production is highly appreciated, but candidates with other technical backgrounds are also invited to reflect)

Duties: The Project Manager will be in charge of supervising and monitoring part of the programme, in close collaboration with Afghan counterpart staff and with the Project Manager/Project Director.

Qualifications required: Some managerial qualifications are welcome, as is experience in development work. Fluency in English, both written and verbal, and computer experience are considered as necessary qualifications.

Offered for both posts is a challenging position in a programme that has demonstrated its value for improving the livelihood of the local population. Duty station will be initially in Peshawar, Pakistan, with frequent travel to project areas in Afghanistan.

Offered is a contract for one year, with possibility for extension with at least another year. Envisaged starting date: July 2002. Salaries are in line with Public Service remuneration within The Netherlands.

Applications containing full CV can be submitted within 4 weeks of this publication to:

Stichting Dutch Committee for Afghanistan (DCA-VET) att. B.E.C. Schreuder, P.O.Box 65, 8200 AB Lelystad, The Netherlands

Further information may be obtained from:

* Bram Schreuder, Chairman: tel: -31-320-238385/248636 (e-mail: b.e.c.schreuder@id.wag-ur.nl

* Gert-Jan Duives, Secretary, tel: -31-40-22 65 699 e-mail: gjduives@wxs.nl

2C0A0L2E/N2D0A0R3

Montpellier, France
16-18 August 2002
Second International Symposium on Candidate Genes for Animal Health. Organised by: CIRAD and INRA. Information: Jean-Charles Maillard, CIRAD-EMVT TA30/G, Campus de Baillarguet, 34398 Montpellier Cedex 5
fax +33.467593798,
maillard@cirad.fr,
http://cgah.cirad.fr.

Hanover, Germany
18 - 23 August, 2002
World Buiatrics Congress
Information: School of Veterinary Medicine, Clinic for Cattle Diseases, Bischofsholer Damm 15, D-30173 Hanover
tel.: +49.511.8567649,
fax: +49.511.8567693,
wbc2002@tiho-hannover.de,
http://www.wbc2002.de.

Montpellier, France
19-23 August 2002
7th World Congress on Genetics applied to Livestock Production. Organised by: INRA and CIRAD. Programme: a.o. scientific sessions on disease resistance. Information: Département de Génétique Animale, INRA, BP 27, 31326 Castanet-Tolosan.
secretariat@wcgalp.toulouse.inra.fr
http://www.wcgalp.org.

Kuala Lumpur, Malaysia
26 - 28 August, 2002
12th FAVA Congress and 14th Veterinary Association Malaysia and 1st International Conference on Emerging Zoonoses and WSAVA/OIE/WHO Meeting.
Theme: 'Globalisation – Challenges to the veterinary profession'. Malaysian International Exhibition and Showroom, Kuala Lumpur. Information: Veterinary Association Malaysia c/o Veterinary Research Institute, Ipoh, Malyasia tel.: +605.547.3507,
fax:+605.547.3509,
vamsec@jphvri.po.my,
http://www.dtsweb.com/fava2002

Utrecht, the Netherlands

1 September, 2002 - 31 August, 2004
International MSc programme of the Graduate School of Animal Health, Faculty of Veterinary Medicine Utrecht University Programme: MSc Course 'Veterinary Epidemiology and Farm Economics' (18 months, fee € 11.500, MSc Course 'Animal Pathology', (24 months, fee: € 16,000); MSc course 'Veterinary Anaesthesiology', (18 months, fee: € 16,000). Registration before 1 August, 2002. Information: Office for International Co-operation, Faculty of Veterinary Medicine. P.O. Box 80.163, 3508 TD Utrecht
fax: +31.30.2531815,
bic@vet.uu.nl,
http://www.vet.uu.nl/

Ames, Iowa, USA
16 – 18 September, 2002
Symposium on 'Vaccines for OIE List A and Emerging Animal Diseases'. Organised by: International Association for Biologicals (IABs), the Office International des Epizooties (OIE), the USDA Animal and Plant Health Inspection Service (APHIS) and the Institute for International Cooperation in Animal Biologics (IICA). Programme: review of the availability, safety and efficacy of veterinary vaccines for OIE List A diseases and for selected emerging animal diseases. Information: Institute for International Cooperation in Animal Biologics, Iowa State University, College of Veterinary Medicine, Ames, Iowa
tel.: +1.515.2947632;
fax: +1.515.2948259,
iicab@iastate.edu,
http://www.vetmed.iastate.edu/iicab/iicab.htm.

Tunis, Tunisia
25 - 29 September, 2002
World Veterinary Congress, Information: Worldvet Tunisia 2002, PO Box, 267 Tunis Mahraj One, 1082 Tunisia
tel.: +216.1.566881,
fax: +216.1. 565009,
conord.vet@planet.tn;
http://www.worldvetunisia2002.com

Berlin, Germany
1 October 2002 – 31 March, 2004
Master of Science course in Tropical Veterinary Epidemiology. The course is a combination of course work in Berlin and research in the home country. Fee for full programme: € 14,930. Closing date: 30 June, 2002. Application: Co-ordinator Postgraduate studies, Free University, Luisenstrasse 56, 10117 Berlin.
tel.: +49.30.20936063,
fax: +49.30.20936349,
tropvet@city.vetmed.fu-berlin.de
http:\\www1.vetmed.fu-berlin.de

Phuthaditjhaba, South Africa
7 –11 October, 2002
31st Annual Conference of the Parasotology Society of Southern Africa. Location: Golden gate Highlands National Park, Eastern Free State. Information: Conference secretariat, Prof. P.A. Mbati, PARSA 2002, Parasitology Research Programme, Qwa-Qwa Campus, University of the North, Private Bag X13, Phuthaditjhaba, 9866 South Africa
tel.: +27.58.7130211,
fax: +27.58.7130226,
parsa2002@ uniqwa.ac.za

Mombasa, Kenya
15-18 October, 2002
International conference: Primary Animal Health Care in the 21st Century: Shaping the rules, policies and institutions. Themes: General policy, legislation and institutional issues; Financial sustainability and privatisation; Policies and animal health research; Policy on training and learning issues; Policy on community-based surveillance. Organised by CAPE Unit of PACE/OAU-IBAR. Location: Whitesands Hotel, Mombassa. Information and registration: Dr. Keith Sones, c/o CAPE Unit of PACE Programme, OAU-IBAR, P.O. box 30786, 00100 Nairobi
fax: +254.2.212289,
ksones@net2000ke.com

Utrecht, The Netherlands
18 October, 2002
13th International symposium: Tropical Animal Health and Production. Theme: Risks of infections in wildlife. Organised by: Faculty of Veterinary Medicine of Utrecht University Information: Office for International Co-operation, Faculty of Veterinary Medicine, NL 3508 TD Utrecht fax: +31.30.2531815,
bic@vet.uu.nl (for details see elsewhere in this EQUATOR).

Merida, Mexico
12 - 15 November 2002
International Conference: 'Responding to the Increasing Global Demand for Animal Products'. Organised by: British Society of Animal Science, American Society of Animal Science, Mexican Society of Animal Production. Location: Universidad Autonoma de Yucatan. Theme: responding to the global demand for an increase in animal products and the effects of this on livestock producers in developing countries. Information: Dr. Mauricio Rosales, Virtual Research and Development Centre Livestock, Environment and Development Initiative (LEAD), Animal Production and Health Division, FAO, Viale delle Terme di Caracalla,
tel.: +39.6.570 56117,
fax: +39.6.57055749,
mauricio.rosales@fao.org,
http://lead.virtualcentre.org,
http://www.asas.org/merida02,
http://www.bsas.org.uk

Wageningen, The Netherlands
18 – 29 November, 2002
International Course on Livestock - Environment Interactions. Organised by: International Agricultural Centre and Wageningen Agricultural University. Closing date for application: 1 September 2002. Fees: € 2.500. Information: IAC, P.O. Box 88, NL 6700 AB Wageningen
tel:+31.317.495495,
fax:+31.317.495395,
training@iac.agro.nl,
http://www.iac.wageningen-ur.nl

Bangkok, Thailand
19 - 22 October, 2003
8th World congress of the World Small Animal Veterinary Association (WSAVA). Queen Surukit National Convention Centre (QSNCC), Bangkok. Information: Dr. Sarnit Karunyavanij, Congress Secretariat WSAVA 2003, Bangkok RAI Exhibitions, 226/36-37 Bond Street, Riviera Tower 1, Muang Thong Thani, Bangpood, Pakkred, Nonthaburi 11120, Thailand
tel.: +66.2.960.0141-3,
fax: +66.2.960.0140,
wsava@bkkrai.com and
sarnit@bkkrai.com,
http://www.wsava2003.com/
http://www.bkkrai.com

EQUATOR

NEWSLETTER ON SCIENTIFIC COOPERATION IN TROPICAL ANIMAL HEALTH

EQUATOR is a periodical of the Office for International Cooperation of the Faculty of Veterinary Medicine of Utrecht University

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OFFICE FOR INTERNATIONAL COOPERATION CELEBRATES ITS 15th ANNIVERSARY

On 26 November, 2002, the Office for International Cooperation (BIC) of the Faculty of Veterinary Medicine of Utrecht University celebrated its 15th anniversary with a 'BIC party'. Among the special guests who came to Utrecht for this occasion were Prof. Laszlo Fodor, Deputy Dean for International Affairs of the Faculty of Veterinary Science of the Szent Istvan University of Budapest, Hungary, Mr. Tibor Kiss, Ambassador of Hungary to the Netherlands, Mr. Miklosz Morocz, Press and Cultural attaché of the Hungarian Embassy and Mr. Vasin Teeravechyan, Ambassador of the Kingdom of Thailand to the Netherlands.

Apart from these special guests, more than 100 people came to congratulate the BIC staff, Dr. Robert Paling, Mr. Jean de Gooijer, Mrs. Anke van Doorn, who form the long-time 'crew' of the Office and Mrs. Adja van Oers and Drs. Hellen van der Maazen, who have joined BIC in recent years. The guests were (former) staff and students of the Faculty, but also the approximately 75 visitors from 30 different countries who are, at the moment, studying or working at the Faculty, as well as colleagues from Utrecht University's central office and from other collaborating institutes in the Netherlands. After Dr. Robert Paling had welcomed the guests, the Dean of the Faculty, Prof. Albert Cornelissen and the Rector Magnificus of Utrecht University, Prof. Willem Hendrik Gispen, addressed the audience.

The 'BIC award' winners 2002 (Photo: AVAD)

'People could take notice of what BIC has been doing over these 15 years'

Prof. Albert Cornelissen: 'International collaboration is a strong inductor of quality' (Photo: AVAD)

Serving more than one purpose

People could take notice of what BIC has been doing over these 15 years. The Dean highlighted the role played by BIC within the Faculty and the Rector reflected on the international position of the Faculty of Veterinary Medicine over the last 15 years. Following up the initiative that was started 5 years ago at the 10th anniversary, three 'BIC awards' were announced and handed over to the winners by the Rector.

International linkages

In his speech, the Dean of the Faculty of Veterinary Medicine, Prof. Albert Cornelissen, noted that 'One of the major driving forces of university education and research programmes is international linkage, enabling exchanges of students and staff between sister institutions. International collaboration is indeed a strong inductor of quality, both in curriculum development as well as in research programmes. The Office for International Cooperation has been instrumental for our Faculty to set up such programmes. I will highlight some of these activities'.

Veterinary education in an international perspective

The Dean continued: 'To be at the forefront of veterinary education has been an ambition of this Faculty for many years. The former Deans, Prof. Monne van den Bergh and Prof. Hans de Vries, have initiated this policy and also here the Office for International Cooperation is of crucial importance. Firstly, the educational programme of our Faculty is evaluated by four different organizations: the Association of the Netherlands Universities (VSNU), the European Association of Establishments of Veterinary Education (EAEVE) and the American and Canadian Veterinary Medical Associations (AVMA and CVMA). Our veterinary curriculum fulfils all requirements set out by these organizations and is thus approved and accredited. This opens interesting international career perspectives for our graduates. The Office for International Cooperation is now responsible for the organization of the process of maintaining the accredited status of the Faculty. Secondly, an international Master programme was developed in collaboration with the staff of our Faculty. Presently we run on an annual basis MSc courses in Animal Pathology, Veterinary Anaesthesiology and Veterinary Epidemiology and Farm Economics. From 2003 onwards this programme will be extended with three additional courses, namely: Bioveterinary Sciences, Laboratory Animal Sciences and Toxicology and Environmental Health'.

Research in an international setting

Turning to science Prof. Cornelissen stated that: 'Science is nowadays an international endeavour. Research at the forefront of veterinary medicine is

characterized by its multidisciplinary and international partnerships. Approximately sixty percent of all publications of our Faculty have at least one international co-author. In relation to the international perspective of science, it is of interest to note here that a large cohort of international PhD students participates in our Institute of Veterinary Research (IVW) and the Graduate School of Animal Health (GSAH). One out of four PhD students comes from a sister institution outside of The Netherlands. Also here the Office for International Cooperation is of crucial importance; it has to take care of the needs of 25-35 international PhD students'. Turning to the Rector: 'I also would like to express my gratitude to our Rector, since the central University has co-sponsored many of these PhD students through the scholarship programmes. Although these policies have, however, changed into a new direction, I hope that we can still count on future support for our activities'.

Prof. Cornelissen continued: 'In addition BIC provides support to writing grant applications for both the National Science Council (NWO) as well as the programmes of the European Union (EU) for research grants enabling research collaboration in North-South partnerships. Finally, BIC organizes on an annual basis the Symposium on Tropical Animal Health and Production. This symposium covers a wide range of subjects, for instance in 2001 'Dairy development in the tropics' and this year 'Risks of infections in wildlife'. This symposium attracts between 100-120 international participants'.

Our international partners

'Some of you might have wondered why the ambassadors of Hungary and Thailand honoured us with a visit to day. This is due to the most important task for the Office for International Cooperation and well our collaboration with preferred partners on each of the continents. Our Faculty has the policy to sign a Memorandum of Understanding (MOU) with, in principal, one sister institution on each continent. These MOU's are characterized by specific elements such as staff exchange, capacity building, curriculum development, research collaboration and student exchanges. The MOU's are signed for an initial period of five years, but we prefer to maintain them, on basis of mutual interest and success, for periods of 10 to 15 years. Presently, we have three MOU's:

- An Agreement of Cooperation with the Faculty of Veterinary Science of the Szent Istvan University of Budapest. This is the fourth, 5 year-phase of our collaboration.
- A second 5-year MOU was signed in 1998 with the former Thai Ministry of University Affairs (MUA) on behalf of five public veterinary faculties at the Chulalongkorn, Kasetsart, Khon Kaen, Chiang Mai and Mahidol universities. The Thai government has, via the prestigious 'King's fellowship programme' and the scholarship programme of the MUA, supported this MOU. Six young Thai colleagues obtained their PhD from our faculty and university and do hold faculty positions at their home institution. At this moment eleven Thai PhD students are working on their PhD in Utrecht.

Partners from Budapest

Prof. Laszlo Fodor, Vice Dean for International Relations from Budapest (left) and Mr. Tibor Kiss, Ambassador of Hungary (Photo: AVAD)

And the winner is..... ...Ben Colenbrander

Rector Magnificus of Utrecht University, Prof. Gispen, hands over the certificate of the 'BIC award' to Prof. Colenbrander (Photo: AVAD)

- The third MOU was started in 2000 and concerns collaboration with the Faculty of Veterinary Science, Onderstepoort, South Africa. On basis of this MOU, Prof. Koos Coetzer was appointed on the chair of Tropical Veterinary Medicine in Utrecht for five years'.

The future

Prof. Cornelissen concluded his speech by saying: 'The future of the Office for International Cooperation will not change dramatically. Our policy will focus on long-term commitments with a limited number of sister institutions and international exchange of students and staff. One of the challenges for the coming years will be setting up international masters with sister institutions. We will start to explore this with the Faculty of Veterinary Science in Onderstepoort, in conjunction with the Tropical Institute in Antwerp, Belgium and the Association of Institutes for Tropical Veterinary Medicine, of which Dr. Paling is a board member'.

BIC and Utrecht University

After Prof. Cornelissen, Rector Magnificus Prof. Gispen took the floor to congratulate the Faculty with the celebration of the 15th year anniversary of its international office. The Rector, who has his background in the medical faculty, stressed the importance of such an international office for the veterinary Faculty itself as well as for the University. He indicated that, although at the beginning the central administration had been a bit afraid of loosing 'business' if the faculties started their own international offices, soon it was realized that this was a good development as both offices are supplementary to each other. The veterinary Faculty had a programme for development cooperation since the 1970's, far before international cooperation became a cornerstone of university policy. When the faculty's programmes of international activities expanded, it became clear that these could only be handled through close cooperation between the faculty's and the central Office for International Relations.

Celebrations

After all these serious talks it was time for a joyful event when Prof. Gispen announced that the celebrating office was going to give away 3 rewards with a price to be spent on 'international travel'. Prof. Gispen handed out the following 3 awards.

Reward for 'Most appreciated international partner institute'

The award for the most appreciated international partner institute, which is an international certificate and an amount of € 1.000, is for a veterinary faculty that has distinguished itself as a longstanding many-sided partner for collaborative activities. Involving various departments of the Utrecht Faculty, involving staff exchange and collaboration in education and research, and a both-way student exchange programme.

For this award the University of Veterinary Science in Budapest, Hungary, now the Faculty of Veterinary Medicine of the Szent Istvan University, was selected. Following participation of Utrecht and Budapest in 2 successful TEMPUS projects in the nineties, both institutions signed in 2000 the 4th

The student award winners

The 2 student award winners, Dorien Boon (left) and Laura van Hoof with Mr. Vasin Teeravechyan, Ambassador of Thailand (Photo: AVAD)

bilateral agreement. Prof. Laszlo Fodor, vice Dean for International Relations, who had come from Budapest for the occasion, was really surprised and he felt honoured with the award.

The winning veterinary students

The next award and prize was for a veterinary student of the Utrecht Faculty who did a successful international traineeship. The winner of this award receives an international certificate of the Faculty and an amount of € 500 to be spent on international travel.

Three criteria were formulated:

- The student should have made a useful contribution to his/her own veterinary training
- During the stay at the sister Faculty, he or she should also have contributed something of substantial educational relevance to the host institute
- And he or she should be a respected international representative of our Faculty.

For this award in fact 2 students were selected: Laura van Hoof en Dorien Boon. Both are 6th year veterinary students who had done their traineeship together in Thailand on the introduction of a Herd Health Programme in dairy young stock. Not only had they done a thorough investigation, but they also contributed to real student exchange, by stimulating Thai students to visit Utrecht and by assisting them and showing them some of the student life and Dutch culture.

'Networking' at the reception on the occasion of the celebration of 15 years BIC (Photo: AVAD)

Reward for 'A Utrecht veterinary scientist who made a remarkable contribution to international research collaboration'

The last award and prize of €750 was for a Utrecht veterinary scientist who made a remarkable contribution to international research collaboration. For this award Ben Colenbrander, since 1985 professor in the reproduction of male animals, was selected.

During the last 10 years Prof. Colenbrander had build around him a very impressive group of international PhD students. He supervised 5 PhD

students from Thailand, Taiwan, India and Iran, who recently completed their PhDs. At this moment he has 10 PhD students studying in Utrecht coming from: Brazil, Iran, Spain, Croatia, South Africa, Thailand, Taiwan, Libya and Portugal.

Prof. Colenbrander not only inspires his students scientifically but he also takes a sincere personal interest and even visits them in their home country.

'BIC Photo show'

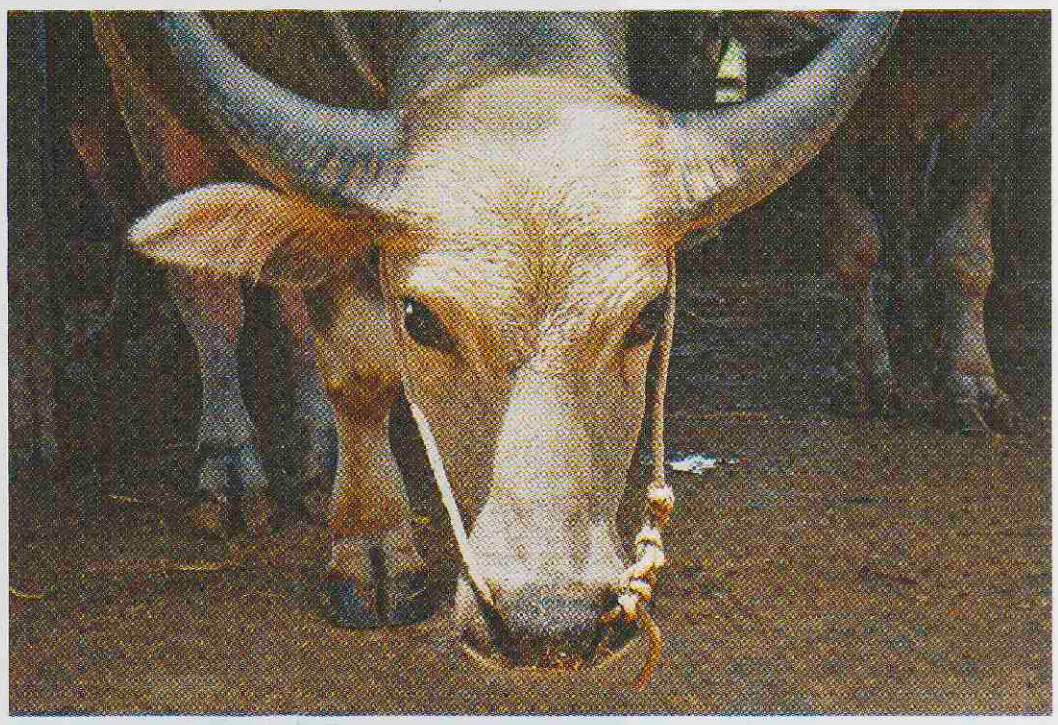
For the occasion the BIC staff had prepared a 'BIC Photo show' of about 50 pictures. The photos were exposed in the reception hall to highlight the various activities of the Office for International Cooperation over the past 15 years. The photos were selected to demonstrate the various activities. Themes of the exposition were 'The BIC staff through the years', 'Celebration of 10th Anniversary of BIC', 'International education', 'Student exchange' and Special linkages with Hungary, Thailand and southern Africa.

Following the various speeches the guests had time to do some 'networking' and were invited to mark the 'best picture" and the 'the picture that reflexes best what BIC does' with red and green stickers. The winning pictures are presented in this EQUATOR.

Dr. R.W. Paling

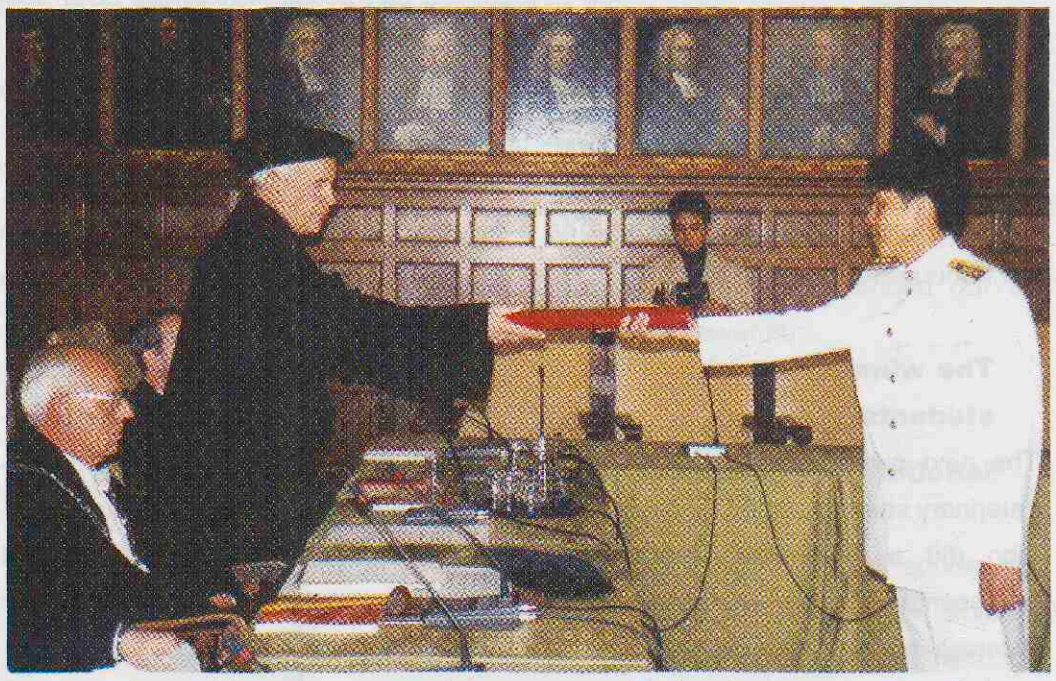
The BIC staff, also at your service in the years to come

Picture selected by the audience as 'the best picture'



Water buffalo at the Farm Animal Hospital of Chulalongkorn University in Nakorn Pathom (Thailand, 1998, Photo: Paling)

Picture selected by the audience as 'the picture that reflexes best what BIC does'



Theera Rukkwamsuk of the Kasetsart University was the first Thai PhD student who received the PhD degree from Utrecht University (Utrecht, 1999; Photo: De Gooijer)

(Photo: AVAD)

13th SYMPOSIUM ON TROPICAL ANIMAL HEALTH AND PRODUCTION

RISKS OF INFECTIONS IN WILDLIFE

On the 18th of October 2002, the 13th Symposium on Tropical Animal Health was held at the Faculty of Veterinary Medicine, Utrecht University (The Netherlands). The symposium was organised by the Office for International Cooperation of the Faculty of Veterinary Medicine and the Committee for the Advancement of Tropical veterinary Science (CATS).

Dr. Elisabeth Wambwa of the Kenya Wildlife services (Photo: De Gooijer)

Introduction

In his opening speech, the chairman of the Symposium Organising Committee, Professor Dr. Hans Heesterbeek, from the Faculty of Veterinary Medicine, Utrecht University, welcomed more than 150 participants, amongst whom approximately 50 from outside The Netherlands, and paid a special warm welcome to the other 6 speakers of the day.

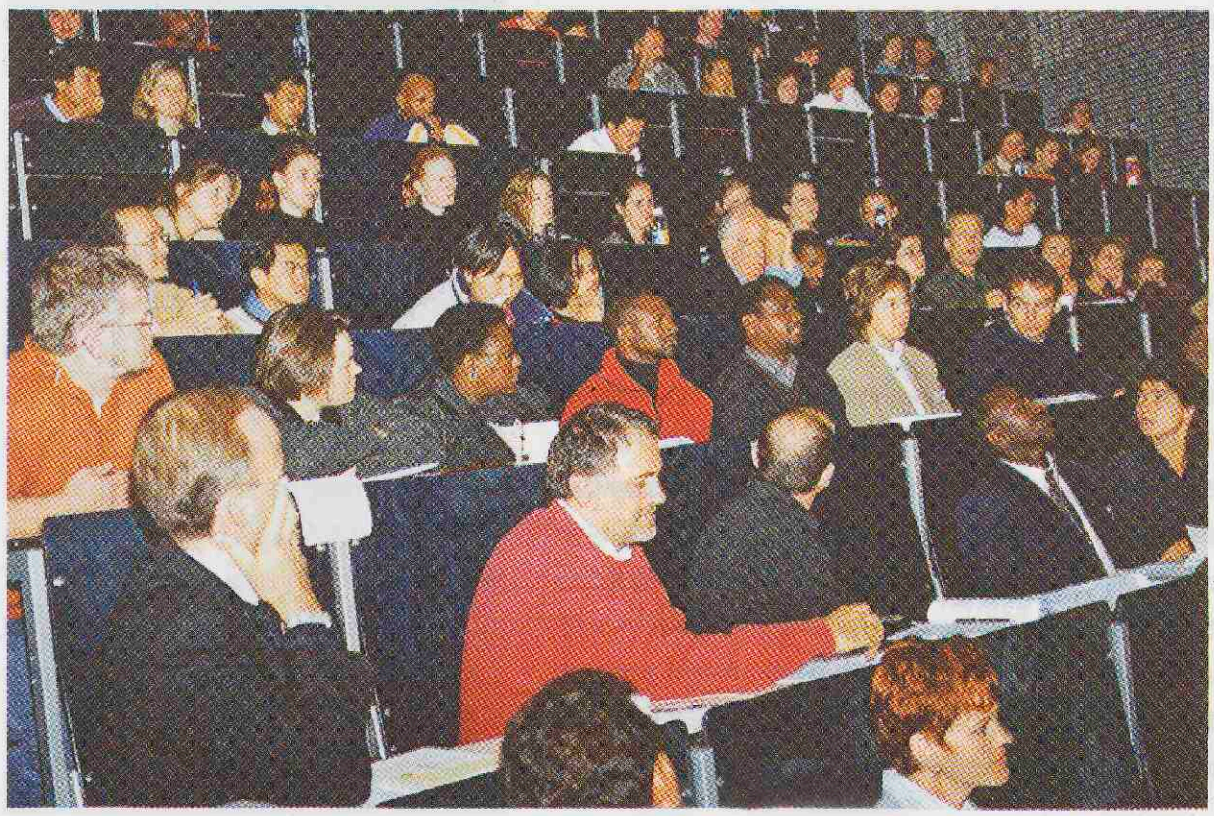
Prof. Heesterbeek pointed out that there are many angles from which one can approach the topic 'Infectious Diseases in Wildlife'. Since wildlife is often living and moving at the interface of livestock and humans, the Organising Committee had chosen to highlight 3 major areas: zoonotic aspects, as well as aspects of wildlife and livestock health. Wildlife can function as a reservoir for infectious diseases in livestock and vice versa. Understanding the relationships between humans, livestock and wildlife and control of infections will in the end result in healthy populations of humans, livestock and wildlife.

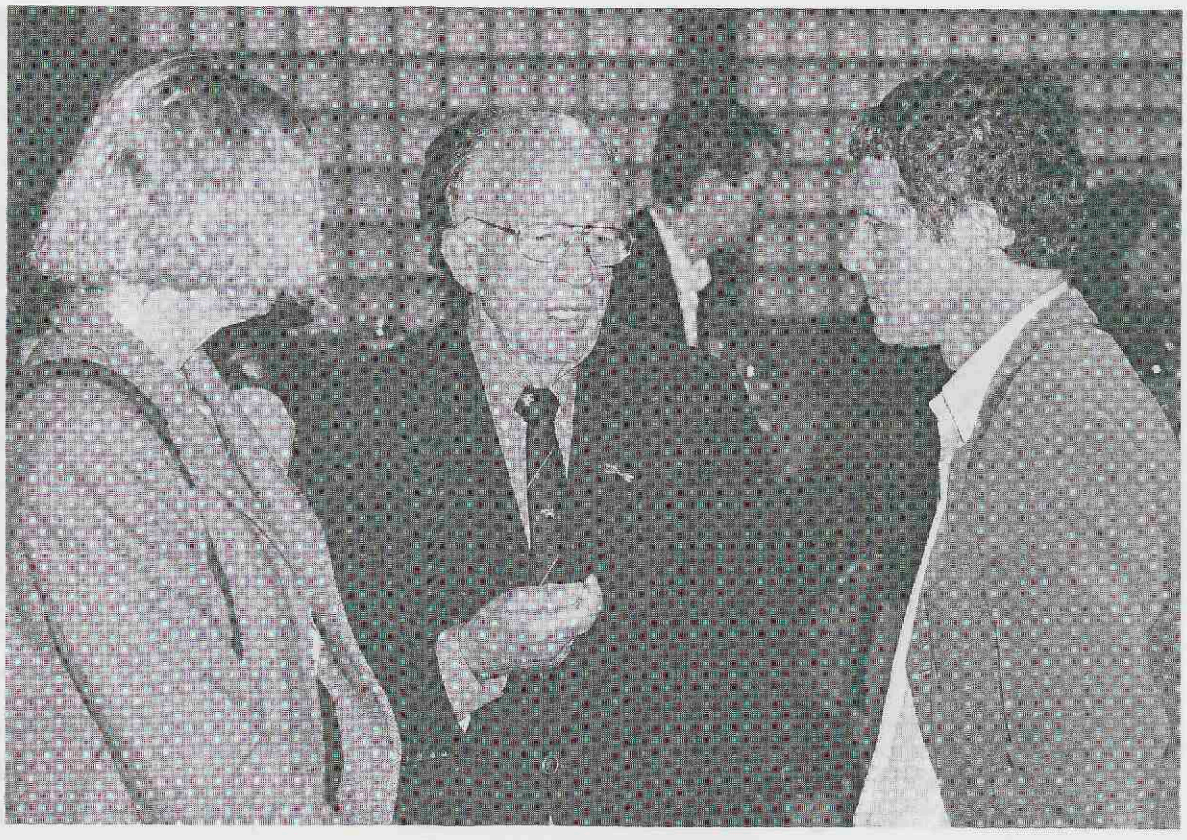
Key note address

Key note speaker Dr. Richard Kock of the Epidemiology Unit, Pan African Programme for the Control of Epizootic diseases of the African Union, Inter African Bureau for Animal Resources, Kenya, shared his personal perspective on trends in wildlife with the audience in his lecture: "Toes hoofs and horns - has evolution failed to deliver?". After giving an overview of some differences in environment between Europe and Africa, landscaped versus natural habitat, he continued pointing out some reasons for the high losses in wildlife in Africa. He mentioned for instance the droughts pestering the continent from time to time, wars resulting in large numbers of refugees, increased poaching, and infectious diseases such as rinderpest (RP).

Adaptability is the key to evolutionary success. Man and ungulates have an ancient partnership, but pastoralism in Africa is changing. The development of eco-tourism in pastoral communities is already a success in some regions and seems to be a way to enhance liveli-

The lively participation of the audience contributed to the success of the symposium (photo: De Gooijer)





Discussions were continued during the reception. From left to right: Dr. Hanny Koch, Prof.Dr. Dik Zwart, Dr. Ron Dwinger (Photo: De Gooyer)

hoods. One of the difficult aspects is that the major campaigns against infectious diseases in cattle are against diseases of international importance, while the diseases that affect the cattle of the poor are seldom included in the major epizootics. One of the other problems is the movement of cattle. Law in many areas in the world forbids it, but like in the UK during the recent foot-and-mouth disease (FMD) outbreak, people will continue transporting animals, if that seems beneficial to them.

Hope for the future of Africa possibly lays in not mimicking other societies, but in making optimal use of the rich natural and cultural heritage.

Zoonoses

Prof. Dr. Koos Coetzer of the Onderstepoort Faculty of Veterinary Science, South Africa, gave an update on the Rift Valley fever (RVF) situation. So far, it seems that all outbreaks, that happened every 10-15 years, have remained isolated to the African continent. In 2000-2001 however, outbreaks in Saudi Arabia and Yemen were reported, with human casualties. The mosquitoes transmitting the diseases need water to survive. Recent studies have shown that the mosquito's eggs apparently are able to survive dry periods. For the non-epidemic period so far two major theories have emerged. The first one that the mosquitoes hide in the tropical rainforest, come out of there and go into the rangeland.

The other possibility is that in the wetlands, with the human communities, the mosquito's eggs, full of virus, can survive in the dry pans. Morbidity and mortality are high in small domestic ruminants. Adult cattle are much less susceptible. Mosquitoes transferring RVF are different throughout the world. Some are more likely to bite humans then others.

Lifelong protection might be expected of the recent vaccines. In case of an outbreak in livestock, one usually is too late. The only chances to minimize the risk of an epidemic lay in a good veterinary infrastructure, in which one can vaccinate adequately and fast.

Human vaccines are available for those working with the virus.

Prof. Dr. Ab Osterhaus from the Erasmus University and Utrecht University, The Netherlands explained the ins and outs of something seemingly so simple: flu, in his presentation called: "Influenza: a moving target in a changing world".

Evidence has been found that already in 1918 Spanish flu was responsible for the death of over 40 million people worldwide. Aquatic birds are the natural reservoir of influenza A viruses, from which they may cross the species boundaries to many other avian and mammalian host species. It has been stated that the viruses can thus be transmitted directly from birds to humans or via pigs to humans. In humans the virus might change and a new subtype of the virus may develop. In order to evaluate the antigenic drift of the virus, an enormous group of people is collecting bird faeces samples all over the world, for testing on influenza virus and typing of the viruses present in the faeces. In order to prevent similar pandemics as the ones in 1918, 1957 and 1968, influenza A surveillance in wildlife is essential.

In 1997, in Hong Kong, slaughtering all chicken prevented a pandemic with an unpredictable number of casualties. Only 6 persons died.

Wildlife

Dr. Sara Cleaveland from the Centre for Tropical Veterinary Medicine in Edinburgh (UK) discussed the "Impact and implications of infectious diseases in wildlife populations". As example she explained the situation for the red grouse in Scotland, which is being affected by *T. tenuis* (a tapeworm) infestation. The animals lose weight and due to this are restricted in their mobility and thus face an increased predation risk (either by other animals or by human hunters). Therefore hunters find big variation between hunting seasons in flock sizes and health status of the animals.

The possible large influence of infectious diseases in small populations was shown by the example of a rabies outbreak in 1990-1991 amongst the Ethiopian wolf population. Only a few hundred animals remained after the death of more than 60% of the animals.

Prevention of certain diseases can have positive effects for some species and dramatic effects on others.

The vaccination of cattle against RP resulted in a fivefold increase of the wildebeest population in Serengeti. Because of the increased number of prey animals the number of lions inclined from 80 to 300. The lions on their hand had a negative effect on the number of surviving cheetah cubs. Challenges for the future will be in obtaining more knowledge on wildlife, trying to make valid predictions, resolving conflicts and monitoring disease prevalence. Since more than 60% of all human pathogens are classified as zoonoses, early involvement of veterinarians and wildlife biologists will be essential in the (human) disease control strategies.

Dr. Richard Kock (Photo: De Gooijer)

Dr. Anita Michel from the Onderstepoort Veterinary Institute, South Africa, presented "Implications of wildlife tuberculosis in the Kruger National Park". She described that in 1990 tuberculosis (TB) was first diagnosed in African buffalo in the Kruger National Park (KNP). It is very likely that TB was transmitted from cattle to buffalo. The so-called internal effects of TB in the KNP include the effects on the affected animals themselves and the spill over to predators such as lions and scavengers by means of consumption of the carcasses and the spill over to other grazers by means of intake of the contaminated excretions. There is not yet a reliable test for TB in elephants and rhinoceros available. It is therefore difficult to predict the number of animals affected.

External implications include diminished sales of game. Buyers want the animals to be tested before the purchase. The other major issue to look at is the zoonotic aspect of TB. In the communal land areas, border management is under pressure. People live in close contact with their cattle. The custom of drinking raw milk and the high prevalence of HIV increase the risks of high prevalence of human TB.

The question from the audience: "Do the lung lesions in young lions cause a possible risk for the game watching tourists?" was adequately responded with: "Prevent extensive kissing with lions."

Livestock

Dr. Kock stated in his presentation "Control of diseases at the wildlife production interface" that there is a separation of species; wildebeest and cattle never graze together. They do however graze on the same communal grazing areas.

In Africa there are 2 main types of farming to distinguish: pastoral/agro-pastoral and commercial. Apart from the obvious differences between the systems, there is also an important difference in terms of need for and practicality of veterinary disease control. In many communities there are no roads, no veterinarians and no bottled medicines. People therefore depend on traditional methods. The communal grazing areas form the interface with wildlife.

Important diseases at the interface are TB, FMD, RP, Theileriosis and African swine fever (ASF). For subsistence farming there are many other diseases important. Control options for a number of diseases are vaccination, containment, the use of export zones rather than disease free zones, use of tolerant breeds and good land use policy. In most (cattle and/or meat) exporting countries separation of wildlife and cattle is realised by the use of fences. In this way small areas are being created through which the spread of diseases can be minimised. In southern Africa however for the past 2 decades mixed species production units are being formed. This means that the income through export diminishes, but the income through tourism inclines.

Some trends negatively affecting the control of list A diseases are: the increasing interaction between wildlife and livestock, decline of governmental veterinary services, focus on diseases of livestock of poor people, opposition to fencing and the loss of pastoral systems. It seems that the main problem

concerning imports and exports is more of a political nature than really based on veterinary necessity.

Dr. Elisabeth Wambwa from the Veterinary Unit of the Kenya Wildlife Service gave a presentation on "Transboundary disease at the wildlife-livestock interface at the Kenya-Somali border with the emphasis on rinderpest". She pointed out that the transboundary animal diseases (TAD) (as formulated by the FAO) have major effects on either economics and trade, or food security, for a considerable number of countries. The TAD focussed on in Africa are FMD, which effects merely economics, contagious bovine pleuro pneumonia, which can reach high morbidity and mortality figures during epidemics, RVF only sporadically occurring, but with devastating effects on humans and animals, Peste des Petits Ruminants affects the many households that keep goat and sheep and RP which was imported from India approximately one century ago. Since then a lot of work has been done on the eradication of RP. Some facts about RP are that the RP virus is a fragile virus, with only one serotype. If animals are vaccinated with one strain, it gives life-long immunity against all strains. Control of RP in Africa has therefore been done mainly by massive vaccination campaigns. Dependent on the strain, RP can reach high morbidity and mortality figures. In the nineties RP was diagnosed in wildlife.

The severity of the disease depends on the strain of the virus and the species affected. Spread mainly occurs directly and is therefore connected to animal movement. This has implications for the eradication, which is still the aim for Africa. At the wildlife livestock interface common rangelands and water sources are being used, especially in the dry season. Large susceptible populations can get in contact with the virus and spread can go from cattle to wildlife and vice versa. In wildlife social behaviour of animals (number of animals in a herd) and mobility of herds (remaining in a small area or roaming around a big surface) also influence the behaviour of the disease. On the other hand, in cattle pastoral movements, between 2-3 countries can also stimulate spread of the disease.

Control strategies in Kenya, after the RP outbreak in wildlife, involved serological diagnosis and surveillance in cattle and in wildlife, vaccination of the cattle, using wildlife as sentinel for cattle and using zones with different disease status. RP still is present in Somalia and thus forms a threat to the large Kenyan cattle population.

Prof. Heesterbeek presented the last but not the least lecture of the day, entitled: "Population dynamics of wildlife infections". He discussed some effects on wildlife dynamics. Demographic factors, such as herd size, social structure and age distribution, environmental factors such as climate, season and habitat interaction with other "parties", such as food and habitat competitors, predators and infectious agents have their influences on herd dynamics.

In order to describe whether a certain agent is leading to an epidemic or not, the R_0 value is being used. R_0 is the average number of new cases of an infection caused by one infected animal. This means that if R_0 is larger then 1 we have an epidemic, if R_0 is smaller then 1 the disease fades out. One can calculate the necessary percentage of animals to be vaccinated ($1 - 1/ R_0$) in order to eradicate a disease. By modelling disease patterns, one can objectively compare the effects of different control measures. As an example the phocine distemper virus (PDV) infection in harbour seals was given. From April to December 1988 approximately 20.000 seals died as a result of the PDV epidemic. Than the epidemic faded out and susceptible seal puppies were born only in June. PDV needs a population of at least 50.000 seals to persist. The 2002 epidemic in The Netherlands started later in the year, and the susceptible population at start was much larger. The fraction of the population surviving from the infection (virulence) is the same as in 1988. The epidemic is still ongoing and forms a possible threat to the newborns if the outbreak carries on until the puppy season.

Mathematical modelling of the impact of infectious agents on wildlife population dynamics can play a valuable role in gaining insight in epidemic outbreaks, likelihood of persistence of infectious agents in a population, the effects of certain control measures, the effects of conservation plans and it can explain observed population patterns and study virulence evolution.

Epilogue

Prof. Coetzer expressed the gratitude of the Organising Committee to all speakers and chairpersons by handing over a token of appreciation and thanked them for their excellent and enthusiastic contribution to the symposium. Prof Coetzer surprised the secretaries of the Office for International Cooperation with a flower bouquet and thanked them for their invaluable assistance in organizing the symposium. The lively participation of the audience contributed to the success of the symposium. Many participants and all speakers of the symposium made use of the possibility to continue the discussions and strengthen the relationships over drinks at the reception.

Hellen van der Maazen

(A copy of the programme and abstracts book of the symposium can be requested through the editorial office of EQUATOR).

CALENDAR 2003/2004

Tokyo, Japan
30 - 31 March, 2003
1st meeting of the Asian Society of Veterinary Pathology. Information: Hiroyuki Nakayama
(Tel: +81.3.5841.5410,
Fax: +81.3. 5841.8185).

Bangkok, Thailand
22 - 26 June, 2003
11th International Symposium of the World Association of Veterinary Laboratory Diagnosticians. OIE Seminar on Biotechnology. Information: Prof. Annop Kunavongkrit, Secretariat, Organizing Committee 11th ISWAVLD 2003, The Thai Association of Veterinary Laboratory Diagnosticians, Faculty of Veterinary Science, Chulalongkorn University, Henri Dunant Road, Bangkok 10330
(Fax;+662.252.0738,
E-mail: Annop.K@Chula.ac.th).

Midrand, South Africa,
17 - 23 August, 2003
13th IVRA Meeting. Diagnostic Imaging, Zoo Animals and Wildlife. Information: IVRA, University of Pretoria, Private Bag X04, 0110 Onderstepoort, South Africa
(Tel.: +27.12.5298147,
Fax: +27.12.5298307,
E-mail:ivra@op.up.ac.za).

Barneveld, The Netherlands
25 August, 2003 - 27 February, 2004 International course on poultry husbandry and International course on pig husbandry. The courses will run at the same time. Followed by: International animal feed training programme (AFTP), which runs from 1 March to 28 May, 2004. Fees including board and lodging: Poultry course: € 13.200; Pig course: € 13.200, Feed course: € 6.700 or € 7.400 (direct entry). Closing date: 1 February, 2003. Information: IPC Plant.Dier Barneveld, P.O. Box 64, 3770 AB Barneveld
(Tel.: +31.342.406500,
Fax: +31. 342.406501,
E-mail:barneveld@ipc-training.nl).

Utrecht, The Netherlands
1 September, 2003 - 31 August, 2005 International MSc programme of the Faculty of Veterinary Medicine, Utrecht University. Programme: MSc Course Veterinary Epidemiology and Farm Economics (18 months, fee € 11.500, MSc Course Animal Pathology, (24 months, fee: € 16,000); MSc course Veterinary Anaesthesiology, (18 months, fee: € 16,000).
New: MSc Course Laboratory Animal Science (18 months, fee € 11.500); MSc Course Toxicology and Environmental Health (24 months, fee € 20.000) and Bioveterinary Sciences (24 months, fee € 20.000). Registration before 1 June, 2003. Information: Office for International Co-operation, Faculty of Veterinary Medicine. P.O. Box 80.163, 3508 TD Utrecht. (Fax: +31.30.2531815,
E-mail: bic@vet.uu.nl
http://www.vet.uu.nl/).

Ames, Iowa, USA
18 - 21 September, 2003
4th International Conference on Emerging Zoonoses. Organised by: Center for Food Security and Public Health, USA and Institute for International Cooperation in Animal Biologics. The conference focus: finding solutions to zoonotic disease transmission. Workshops: West Nile virus, bioterrorism, hemorrhagic fever viruses and food safety.
(http://www.zoonoses2003.com
E-mail: zoo2003@targetconf.com).

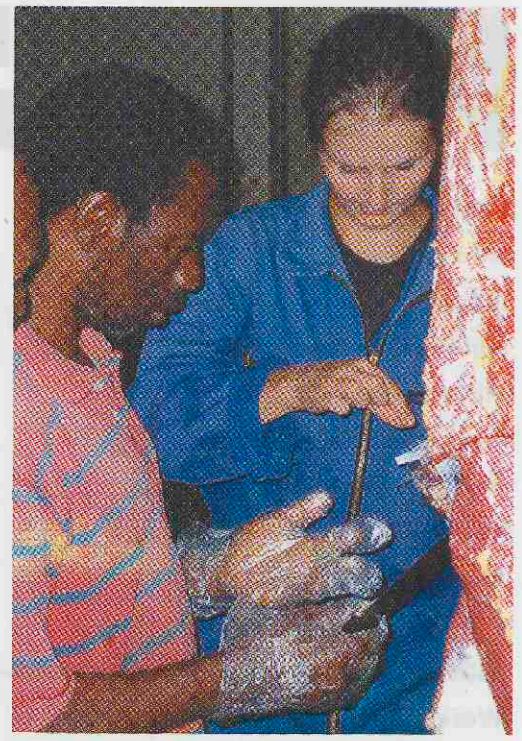
Bangkok, Thailand
24 - 27 October, 2003
28th World Congress of the World Small Animal Veterinary Association (WSAVA). Queen Surukit National Convention Centre (QSNCC), Bangkok. Information: Dr. Sarnit Karunyavanij, Congress Secretariat WSAVA 2003, Bangkok RAI Exhibitions, 226/36-37 Bond Street, Riviera Tower 1, Muang Thong Thani, Bangpood, Pakkred, Nonthaburi 11120, Thailand
(Tel.: +66.2.960.0141-3
Fax: +66.2.960.0140,
E-mail: wsava@bkkrai.com and sarnit@bkkrai.com,
http://www.wsava2003.com/).

Porto Alegre, Rio Grande do Sul, Brazil
26 - 31 October, 2003
9th World Conference on Animal Production. Information: Prof. Jorg López or Prof. Sergio Nicolaiewsky, Organizing Committee of 9th WCAP Av. Bento Gonçalves, 7712 Caixa Postal 776, 90001-970 - Porto Alegre - RS Brazil (Tel: +55.51.3166002,
Fax: +55.51.3191211,
E-mail: wcap.2003@ufrgs.br).

Viña del Mar, Chile
17 - 22 November, 2003
10th International Symposium on Veterinary Epidemiology and Economics (ISVEE 10). Information: Dr Santiago Urcelay V., Dr Julio Pinto C. Facultad de Ciencias Veterinarias y Pecuarias, Universidad de Chile, Avenida Santa Rosa 11.735, La Pintana Casilla 2, Correo 15, La Granja Santiago, Chile (Tel: +56.2.6785500, Fax: +56.2.5416840,
E-mail: isvee@uchile.cl).

TRAINEESHIPS IN THE TROPICS

From 12 June to 7 September 2002, Marjolijn Holtslag, a 6th year student at the Faculty of Veterinary Medicine of Utrecht University, the Netherlands, did a research traineeship at the International Trypanotolerance Centre (ITC) in The Gambia, West Africa. She has the desire to work as a veterinarian in tropical countries after graduation, and therefore wanted to gain some experience in this field. Her supervisors were Dr. Katinka de Balogh from the department of Public Health and Food Safety of the Utrecht Faculty of Veterinary Medicine and Dr. Fred Unger, the head of ITC's public health unit. The objectives of this 'pilot study' were to estimate the prevalence and distribution of Salmonella bacteria in slaughter cattle and meat sold at local markets and to identify the most common Salmonella serotypes in slaughter cattle and meat sold at local markets.



Marjolijn Holtslag collects muscle samples (Photo: Saecker)

Research activities

The first week at ITC I went to the ITC station in Kerr-Serign, and was introduced to the staff and the activities of ITC. After this I started with the preparations for the *Salmonella* study. This included an introduction to partners involved in the study, inspection and selection of sampling locations, designing the sampling procedures and reading relevant literature.

In the the fourth week, I went to the ITC field station in Bansang to join a milk hygiene study. I was introduced to the activities carried out for this study and I cooperated in taking milk samples and processing these in the laboratory.

Back from Bansang, I started with test sampling for the *Salmonella* study. For this test sampling, as well as for the normal sampling during the four weeks after, I went to Abuko abattoir on Sunday evenings. At this abattoir, about 20 km from the ITC station, I took faecal samples from 15 animals (cattle) before slaughtering, and I came back in the night to take the rest of the samples, after the animals were slaughtered. On Tuesday mornings, I went to selected local markets and shops where meat from the abattoir was sold, to take small meat samples. I used the rest of the week to process and test the samples in the laboratory.

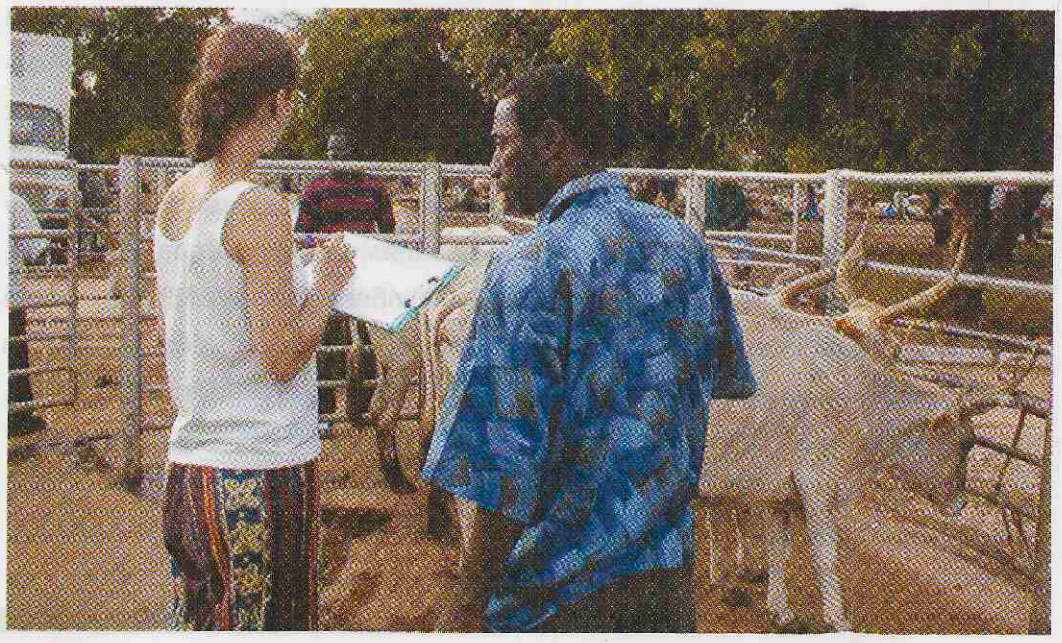
The last week of my stay I used for data entry and reporting as well as preparing a presentation which I held at my last day on ITC.

Living in the Gambia

The Gambia is not a very exciting country. It is small, with a river in the middle and is surrounded by Senegal and the Atlantic Ocean. There are no mountains or big natural or national parks. The wildlife is not abundant, though there are lots of birds which are very interesting.

The coastal area is very touristic. This causes that a lot of young people, especially men, are hanging around, harassing tourists and other, especially white people. Sometimes they can be quite annoying for not leaving you alone. Despite this, I discovered that the Gambia is a relatively safe place to be. I felt safe walking on the streets, even when it was dark. The risk of being robbed or attacked is in my opinion not higher than in Utrecht.

Pre slaughter faecal samples at the Abuko abbatoir (Photo: Heuwinkel)



Conclusion

I have had a wonderful time in the Gambia, in which I made good friends. I learned about veterinary public health in the tropics and tropical diseases, as well as carrying out a project and reporting it. I was lucky with the good coaching and the nice people I met, at ITC as well as outside. For me, ITC and the Gambia were places where I could learn a lot and which gave me inspiration for my future plans.

Marjolijn Holtslag