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**EDITORIAL: BSE—CONSEQUENCES THAT
WILL NOT GO AWAY**

Bovine spongiform encephalopathy (BSE) was diagnosed as a new fatal condition in cattle in 1986 at the Central Veterinary Laboratory, Weybridge, UK. That was 18 years ago. Today in 2004, many consequences of BSE remain as disruptive and expensive influences in several areas of human society. These areas include:

1. Science
2. Agriculture
3. Food chain
4. Human health
5. International trade

This Editorial first provides a brief background summary of the history of BSE followed by an update on the continuing and unresolved problems in each of these areas. At the end of this Editorial,

the implications for scientists and for EAAP are reviewed.

Background summary

BSE was first identified in the UK where a massive epidemic killed 180,000 cattle mainly in dairy herds, and where it dislocated the beef chain from producers to consumers. The principal control of the epidemic is removal of bovine meat and bone meal (MBM) as cattle feed to prevent transmission from cow to cow. Other control measures seek to contain the spread of BSE to humans through the beef chain. Though very expensive and operationally difficult, these steps have ensured a decline in the numbers of new cases of BSE since the peak year of 1992.

In 2003, there were 457 further cases of BSE in 36 new herds in the UK compared with 877 fresh cases in 2002. The annual number is expected to decrease in 2004 and subsequent years although the rate of decline seems less year by year, meaning there could still be a

long tail. The pattern of rapid rise in annual cases to a peak in 1992 followed by a slow decline will cover at least 20 years since diagnosis in 1986. The scientific review body (Horn Committee) established by the UK Government considered that several cycles of BSE had probably occurred in the UK in the decades before it was diagnosed in 1986.

There was a further discovery in 1997 that variant Creutzfeldt-Jakob Disease (vCJD) is caused by eating beef products, such as those containing mechanically recovered meat (MRM) with a high infective titre derived from animals affected by BSE. Variant CJD is a new, lethal human condition and the discovery triggered further political and scientific upheaval in UK and EU societies. 139 people died from vCJD by 1 March 2004 and a further 7 are known to be affected and dying. Some negative social repercussions remain from this discovery which followed 11 years of official and scientific assurances, based upon then current scientific belief, that the family of Transmissible Spongiform Encephalopathies (TSE) were species specific and that beef was safe to eat. Consumer confidence in beef has been largely restored but cattle producers have suffered substantial losses through BSE cases, by the loss of cohorts and from the strict controls now needed to ensure that meat from suspect cattle is excluded from the human food chain.

Cases of BSE have occurred in several other European countries, in Israel and Japan. In 2003, single cases of BSE were found in both Canada and the USA, the latter originating in Canada. A few cases of vCJD have been recorded in some other European countries.

1. Science

Prior to the identification of BSE in 1986, scientists believed that TSE conditions, known in a number of mammalian species including humans, were generally specific to species and did not cross species boundaries. The cause of the TSE condition was not clear. Scientific knowledge has advanced as a result of the BSE epidemic. Based upon the early work of Stanley Prusiner for which he received a Nobel Prize and flowing from the intensive study of BSE in the UK, the cause of typical TSEs is now known to be related to a natural protein identified as a prion (PrP) in brain tissue which is folded in the

wrong way. The cause of the aberration in the protein remains unsure. However an infectious agent is required to transfer the condition to other individuals although genetics is emerging as an important factor in determining which animals succumb. The distorted protein affects contiguous proteins and the misshapen proteins gradually spread along the nervous tissue leading to uncontrolled movements and death. The condition is spread by ingestion of misshapen prions from affected cows, thus transmitting the disease from one cow to another. Humans are affected by vCJD by eating appropriately affected beef tissues. The incubation period in cattle is now thought to be about five years and remains uncertain in humans.

TSE in sheep, called scrapie, has been observed by scientists and shepherds since at least the 19th century. Since there was never any attempt to remove suspect sheep from the human food chain and thus humans must have eaten meat from affected sheep, it was assumed that the species barrier sheep/human was absolute although it was known that scrapie would infect mice. The origin of BSE remains uncertain but one hypothesis is that it jumped the sheep/cattle species barrier through feeding of waste sheep offal in meat and bone meal. This conjecture is open to criticism that sheep offal had been used for many years leading to speculation that perhaps there is a dose effect. Another observation is that the feeding of meat and bone meal to livestock was first introduced in Australia which has a huge sheep population which is free of scrapie and no evidence of BSE has been found in that country to date. The origin of BSE in the UK remains uncertain although the jump from cattle to humans is by eating affected beef products.

A further lack in scientific knowledge at present which hampers eradication is the lack of a definitive diagnostic test for BSE in the pre-clinical live animal. Thus diagnosis in the live animal is dependent upon clinical signs which are not totally reliable—with up to 20% misdiagnoses. There are several pre-clinical techniques under investigation, using samples of urine and proteins some of which are being used in live and fallen sheep to test for scrapie. However, the only definitive scientific test is from the brain tissue of a dead animal. The most commonly used post-mortem test for BSE is the Weston blot (Swiss) which can detect abnormal PrP tissue in 24 hours.

2. Agriculture

In seeking to control and eventually to eradicate BSE from the UK, the government imposed several rules which change normal agricultural and livestock practice. These changes have evidently been successful to date—but the cost and disturbance to farm life are high quite apart from the awful cost and distress to the victims of vCJD and their families.

First the ban against meat and bone meal as animal feed is expensive and inflates the cost of the disposing of animal offal. Some proposals to refine the ban by allowing non-bovine offal to be used for cattle or for bovine offal to be used for other livestock species were made. To date these proposals have been rejected due to the organizational difficulties, the dangers of failure and the likely public reaction. Nevertheless, the idea of re-introducing the use of MBM to gain economic benefits shows lack of tact and insensitivity to the quality of human life by discounting the risks of further cases of vCJD. The proposal also indicated an imbalance of values which animal scientists must guard against in their search for a larger vision of how science should serve society.

A second rule is exclusion from the beef chain of cattle over 30 months of age. This ban, known as the Over Thirty Month (OTM) rule, was set at half the incubation time which was thought to be well before the rapid build-up of infective prions in the latter stages of the condition. Thus the OTM rule takes account of the fact that few cases of BSE occurred in younger animals and also that older animals are more likely to have ingested meat and bone meal before it was banned. The validity of this policy is shown by examining the year of birth of cattle dying from BSE. The birth year with the highest number of BSE cases was 1987 with 36,923 animals. This OTM rule has placed high costs upon the production of beef as very large numbers of breeding cattle, especially from dairy herds, would normally enter the beef chain at the end of their lives. Approximately one million animals in the UK were destroyed for this reason in 2003 which, under normal circumstances, would have been sold as beef. Further, the carcasses of these animals can no longer be used for meat and bone meal.

The third control measure imposed upon the livestock food chain is the Specific Risk Material (SRM) rule by which certain carcass tissues must be excluded

from human consumption because of suspicion that they carry distorted prion proteins. This SRM rule is of high social value and importance being directed to consumer protection. The rule is expensive to implement and the need for separate handling facilities in slaughter houses adds costs and also limits the number of suitable slaughterhouses. The rule applies specifically to nervous tissue, including the brain, spinal cord and certain other tissues. For several years, the rule also required that bone be removed from all beef entering the beef chain, though this has since been relaxed.

The increased costs consequent upon these control and safety measures are high and have been borne to a large extent by government rather than livestock producers and are thus funded by citizens.

Relaxing the Over Thirty Month rule

The Over Thirty Month (OTM) rule clearly had specific value in the years following the peak of the BSE epidemic. However, it need not necessarily continue permanently. The question is when and how can meat from cattle older than 30 months be eaten without risk of vCJD? This issue has been investigated by the UK Food Safety Agency (FSA). In July 2003, the FSA recommended that cattle born after August 1996 could be taken into the beef food chain starting in 2004 even though they are older than 30 months at slaughter. However, there is a proviso that is extremely complex and expensive operationally. Together with the suspect tissues removed from all animals entering the beef food chain, the vertebral column must be removed from animals over 30 months of age. In addition, animals over 30 months must be tested for BSE after slaughter using a brain sample. Installing this practice as a routine requires that all carcasses and tissues including blood from animals over 30 months are kept separate in the slaughterhouse from animals less than 30 months. Further, after tests on brain tissue reveal whether or not the older animals have BSE, the carcasses and tissue from affected animals must be processed separately from clean carcasses and tissues. Tissues from affected carcasses must be handled in disposable plastic cups and bags by staff wearing plastic gloves.

In practice this rule will require duplicate facilities at slaughterhouses and a rigorous schedule of handling, sampling, identification, database, transmission of test

results and segregation of carcasses. While relaxing the OTM rule will provide livestock producers with increased returns, the additional costs are substantial and require special training of staff and licensing of specific slaughterhouses where the separation of affected and non-affected carcasses can be competently carried out. A further restriction is that animals older than 30 months which are cohorts of BSE cases may not enter the beef chain. Further, older animals moved from the farm and for some reason subsequently not killed and tested may not be returned to their farm.

Finally it may be noted that to examine the OTM issue the Food Standards Agency needed large-scale data. The scope of gathering that data and of applying these new routines in the field starting in 2004 may be judged from the fact that from 2001 to the end of 2003, the UK made tests on brain tissues of 780,000 cattle at slaughter before disposal.

Thus BSE has severely impacted the life and routines of livestock farmers selling animals for beef. The normal processes of knowing what an older animal such as a dairy cow will be worth when sent to market is now riddled with uncertainty. This scenario affects many management and budgeting decisions for livestock producers extending, for example, to the complex decision whether to keep a heifer for milk or send her under the age of 30 months for beef.

3. Food Chain

Complex routines have been imposed upon the beef chain as a consequence of BSE. For example, between 1997 and 1999 it was required that all bone be removed from beef thus changing the type of beef available in the UK shops. This rule was reflected in family and restaurant cuisines. A further example of new difficulties for processors in the food chain occurred when the ban on beef-on-the-bone was lifted in 1999 because the relaxation of the ban on bone did not apply to beef used for baby foods.

A major new requirement is compulsory labelling of beef—extended to other meats—so that the origin can be traced. Initiated by the EU, this labelling first applied to beef originating in the UK, indicating whether the beef was slaughtered or cut in the UK. The labelling carries a reference code, indicating the country of birth, country of rearing and the identity of the slaughterhouse. This practice is being extended

throughout the EU. Added costs are considerable. However, in the longer term labelling will bring advantages throughout the food chain and to the consumer by removing the anonymity of meat at the point of sale. Austria, where I live, has not been affected by cases of BSE to any extent, but increasingly meat cuts and eggs are labelled with the identity of the farm—often local.

4. Human Health

Sporadic Creutzfeldt-Jacob Disease (CJD) was first identified in humans in 1920. Since then, in many human populations throughout the world, the incidence has been about one case per million per year. The advent of variant CJD has enabled the UK government to document the incidence of sporadic and variant types, distinguishable by a post-mortem brain test. In the UK sporadic CJD averages 50–60 cases per year usually affecting elderly people and is higher than the annual figure for vCJD cases who are normally younger. The encouraging decreases in the number of vCJD cases (from 28 in 2000 to 18 in 2003) is mainly due to the control measures which remove affected and suspect beef from the human food chain.

Variant CJD has, however, presented new problems in managing health care in the UK. It was learned that aberrant prions are indestructible by normal medical hygiene practices. Tonsils, which are linked to the lymphatic system, proved to be a particularly potent location for aberrant prions. Sterilization of surgical tools used in removing tonsils in children failed to destroy the aberrant prions which could then be transferred in surgery to other children with risks that they will suffer from vCJD. The government therefore introduced plastic disposable surgical tools for removal of tonsils—only to find that the very low rate of infection and mortality following tonsillectomy increased as healing is more at risk. Further research and changes in approach resulted eventually in restoration of normal surgical instruments.

Another twist occurred in 2003 in the UK, when analysis of vCJD data raised a strong possibility that vCJD had been transmitted by blood used in transfusion. It was known that sporadic CJD can be transmitted by blood but the new fear is that there might be large numbers of cases of vCJD in the population. The USA banned UK citizens from donating blood several years earlier and, in the UK, blood has been leuco-

depleted for some years to reduce the risk from prions carried in leucocytes. The new evidence appears to show that some recent cases of vCJD had earlier received blood donated by people who, at the time, were unaware that they would subsequently die from vCJD. The twisted tale of following the trail resulted, regrettably, in about 15 other individuals who had also received blood from those sources some years before being told that they also may be incubating vCJD. The trail does not end there, for precautions now have to be taken to avoid blood being taken from any individuals who may have received blood from the original or the derived cases regardless whether they currently show clinical signs of vCJD.

Another issue is maternal transmission of TSEs. There is no evidence that BSE is transmitted maternally although scrapie can apparently pass from mother to offspring. This leaves open the question of whether a human mother incubating vCJD, which evidently affects younger people more than old, can transmit the condition to her baby. Research to test this in humans is dependent upon field data which may never be adequate to confirm or deny the hypothesis.

5. International Trade

When the saga of BSE started, the EU imposed strict restrictions upon the export of cattle and beef and cattle tissues including semen and embryos from the UK. These have been gradually relaxed as knowledge and control measures have defined risk more clearly. But there remains one area of international concern, namely the export of meat and bone meal (MBM) from the UK. We need to recall that MBM was not immediately recognized as the vector spreading BSE from cow to cow. MBM in supplies of animal feed were widely dispersed throughout the agricultural industry and a ban proved to be very difficult in practice. The ban on ruminant protein was imposed first but MBM was not finally prohibited as feed for livestock in the UK until 1996. Therefore for some years MBM continued in use in the UK. Regrettably and, to my mind unethically, after the initial ban MBM was exported outside Europe to developing regions for some time. There is uncertainty about the extent to which BSE and vCJD have resulted or will flow from these actions. National veterinary services and disease monitoring systems are often less advanced than in the West. Both con-

ditions may occur and spread unnoticed with unforeseeable consequences as intensive cattle production grows in developing countries to serve increased demand for beef.

The cases of BSE in Canada and the USA in 2003 had immediate and profound economic consequences for the beef industries in both countries since importers closed their doors for a while. Canada naturally is very concerned to know how it became the 22nd country outside the UK to report a case of BSE. A study in 2003 by Coulthart et al. shows that despite extensive testing of thousands of animals that may have been exposed to contaminated feed at the same time as the affected Canadian animal, no evidence has been found for other infections. This finding raises the speculation that the single confirmed case may have arisen spontaneously by somatic protein misfolding or by a novel germline mutation. The Canadians dispose of that suggestion by presenting DNA sequence data from the affected animal's prion protein coding sequence that argue definitely against the hypothesis. The origin of that animal's BSE remains open.

Conclusions: Implications for Scientists and for EAAP

Here at the end of this Editorial there is no need to summarize the data presented above to support the view that today "The consequences of BSE will not go away". The days of traumatic events have passed and we have moved into an era in which the ongoing problems are handled organizationally and bureaucratically in control systems but with vast sums still being invested by the industry, by the UK government and by the EU. Politicians are relieved they no longer face the ordeal of explaining why they did not know about BSE and MBM, why they provided false assurances that beef could be safely eaten, when the BSE epidemic will stop, why it is necessary to ban MBM and how many people will be affected by vCJD. These events produced hostility against authority from consumers, the feed industry, livestock farmers and exporters. Today the tranquility of the scene and the disinterest of the media apart from the occasional brief report of some new angle are misleading.

We so easily forget the suffering and ongoing difficult consequences for the families that have suffered a loss from vCJD; for those people who currently

know or fear they are infected; and those individuals and families who, in the future, will suffer reduced quality of life and a premature and painful death.

Without doubt, the organizational and economic shape of beef production in the UK and by extension to the whole of the West has been changed by BSE. The EAAP Publication No. 108 “After BSE—A future for the European livestock sector” 2003, which is reviewed on page 77 provides original estimates of the huge ongoing cost. BSE marks a watershed experience in European beef production with ripples extending throughout the world. It is vital, in civilized society, that we do not become indifferent or negligent.

Implications for Scientists

Though politicians can afford to relax and consider their work done by establishing new operational routines, scientists cannot relax and proceed as though nothing has happened. Our profession and our commitment to search for knowledge and our interest and obligation as animal scientists to apply knowledge appropriately in livestock production should not let us walk away from the BSE and vCJD saga. An immediate need is a simple test for BSE in the live animal which could be used to remove the hazard of long-term undetected incubation.

BSE came into the public arena from our scientific discipline. Animal nutritionists were deeply involved in researching and utilizing meat and bone meal in animal feed. Research studies on the nutritional and economic value of using MBM in feed are well documented in the scientific literature. The questions of how MBM could be processed to ensure that all pathogens were eliminated without degrading the nutritional value of the protein were subjects of concern to nutritionists and to livestock production specialists working the feed industry.

We now know that BSE spreads through nutrition. Although species specificity is high it is not absolute and is impossible to predict. Considerable research is now in progress to understand more about TSE resistant genotypes. For example, in the UK, there is now a voluntary national scheme to genotype breeding sheep flocks for genes linked with scrapie with the aim of eradication. It is known that variation at three specific codons (positions 136, 154 and 171) is associated with

scrapie, and alleles at these positions produce five types of scrapie related genotypes. The UK government has invested £120 million (170 million Euros) for the first three years to 2004 to pay for identification and registration, collection of blood, testing, and certification of freedom from scrapie. The EU requires other member states to start similar voluntary schemes for sheep breeders by 2004.

Scientists in Italy reported in the USA in February 2004 in the Proceedings of the National Academy of Sciences that they have discovered a new prion disease in two cattle which they call “bovine amyloidotic spongiform encephalopathy” (BASE) because of the amyloid plaques which it forms in the brain—similar to plaques in humans with Alzheimer’s Disease and some types of sporadic CJD. Clearly the frontiers of scientific knowledge have plenty of room for expansion after the discovery of BSE.

Implications for EAAP

EAAP is an association of scientists and must find a new response to the challenge “BSE—Consequences that will not go away”. BSE presents a call to EAAP to enter more fully and with commitment to the socio-economic areas of the food chain. Many of the ongoing problems of BSE are scientifically based but are social in their impact. EAAP traditions of high and elegant science aimed mainly for application to animals and farms were fine in earlier eras when livestock production systems were relatively stable and were rooted in traditional and sustainable farm practice. EAAP has been a force in bringing change to animals and livestock production systems which have increasingly impacted society at large. BSE, as an epidemic, and the appearance of vCJD are unexpected results from the use of animal nutrition technology. The consequences, as reviewed in this Editorial, have impacted not simply the economics of feed costs but have overflowed with astonishing results into the whole of society, affecting the logistics of cattle movements, slaughterhouse techniques, eating habits, human health and international trade. In the ongoing future, the possibility of BSE arising sporadically, as does CJD, requires that we take this risk into account permanently in future feed systems.

EAAP has made a useful start for the last four years under leadership of Jean-Claude Flamant in the

Round Table Discussions at the Annual Meeting to broaden the vision of animal scientists to their responsibilities to serve not only livestock producers but society as a whole. At the 2003 Round Table in Rome on the subject of “Changing consumers... Changing animal production sector?” BSE was a major topic following publication of the EAAP Report “After BSE: a future for the European livestock sector”.

Professor Akke van der Zijpp, a senior animal scientist from the Netherlands made the point in Round Table discussion that, as scientists, we have to beware of seeing ourselves on the one side as the priest or the minister, on the other side as the tradesmen.

Undoubtedly in the past scientists have had authority as unique possessors of knowledge that is important to society as a whole. The tragedy of BSE has undermined that scientific authority to some extent so that many people no longer have complete confidence in the agenda of scientists working in the food chain.

EAAP faces the challenge of a new role at the interface of science with socio-economic issues. The challenge to EAAP is to open new windows and thereby to alert animal scientists to the values which society, consumers and citizens now hold. The aim must be promotion of alertness by scientists to the unexpected and to the impacts which new knowledge, applications and systems may have for the whole of society. This means harnessing the creative intellects of scientists beyond their discipline into the wider implications for the community of life.

Akke van der Zipp said we have already ventured into the business world seeking to take account of the economic impacts of applying our scientific knowledge. She went on to raise the issue of Ethics and Accountability with the new technologies by recognizing that animal scientists have not only to be good at science and linked with business, but also to be aware of our responsibilities to society as a whole.

In conclusion, Professor Akke van der Zijpp said: “I would like to challenge EAAP to really continue with this discussion and make clear what are the sociological assets actually involved in enlargement and in globalisation—linking the issues of Ethics behind each of the problems that the “After BSE” Working Group has pointed out but in my view has not resolved. I think this would be very important for our future discussions”.

John Hodges, Editor
EAAP News

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LETTERS TO THE EDITOR

This letter from the Director of a lead Romanian Institute for Research into Cattle invites cooperation in research and development and is relevant to EAAP scientists working with cattle. Those interested are invited to respond directly to Professor Radu Burlacu in Romania whose e-mail address is at the end of his letter.

Dear Professor Hodges,

First of all, I would like to introduce myself. My name is Radu Burlacu, Scientific Director at the Institute for Research and Development for Cattle-Balotesti (15 km from Bucharest). I would like to express not only my opinion, but also the thoughts of a large part of the

Romanian scientists. The EU programmes intended to assist the accession of Romania to the EU, which are currently in progress also imply scientific cooperation. Therefore, the participation of researchers from the candidate countries for the EU is intended to be enhanced. We consider it an excellent opportunity for us to take part in programmes of mutual interest with scientists and institutions in the EU and within the field of EAAP scientists.

The aim of this letter is to present our availability to cooperate with institutes having the same object of activity or related ones. In our institute, there are 38 researchers, and our main field of activity is represented by studies and research on cattle (genetics, selection and nutrition) and environmental protection and related technologies. The institute resources include a farm with 300 dairy cows and 6 branches all over the country, which develop mostly extension and consulting activities. Although the equipment is not extremely modern, it is efficient and much above the average level in Romania. We can carry on studies and research programmes, which are agreed and accepted at the international meetings. Our PC network is quite up to date and it is used mainly in genetics studies and feeding optimization on the basis of mathematical models of the metabolical processes. As a matter of fact, the last one is my activity field.

We would very much appreciate your taking into consideration our possibility of collaboration within this domain and we are looking forward to receiving a positive feed back from EAAP scientists.

Sincerely yours,
Professor Radu Burlacu
E-mail: rburlacu@ecoland.ro

ADVICE ON POSTERS

Here follows a volunteer contribution from Catherine Reynolds concerning Posters at EAAP Annual Meetings. She was a member of the Round Table at the EAAP Annual Meeting in Rome in September 2003. She trained and had a career as a research scientist, but these days is Head of Communications at the Institute of Food Research in the UK. Catherine was provoked to write this article by her visit to the Poster Sessions at the EAAP Meeting. The article offers perspectives on our posters by an outsider with considerable experience in communi-

cating scientific research outcomes to both specialist and lay audiences. Responses on the points she raises are welcome for publication in EAAP News, and she will be happy to respond.

YOUR CHALLENGE IS—TO COMMUNICATE USING POSTERS

Summary

This article aims to persuade you that, when attending a conference, it is as important to plan your poster as it is to book your travel and accommodation. You will benefit and so will your fellow scientists—and so may other people reading your poster who are not experts in your area.

Context

I was privileged to be invited to take part in the EAAP meeting in Rome in August 2003. My specific role was as a member of the ‘Round Table’. I received the invitation immediately after I gave a talk at a ‘Science and Society’ meeting in Brussels in late 2002, attended by two senior scientists associated with EAAP.

I am a member of the UK Meat and Livestock Commission’s Consumers’ Committee, so I have a professional interest in your science area. I do also have a science background in microbiology, but haven’t worked at the bench for 20 years. My visit to EAAP was a unique chance for me to find out more about your area of research, and why what you are doing matters to a variety of stakeholders.

I regularly discuss with scientists at my own Institute how best to display work and it amuses—no, frustrates—me that, having submitted their registration, written their abstract (generally at the last minute), booked their travel and accommodation, this is the last thing some of them plan. When I walked round the posters at EAAP, I concluded that my scientists weren’t unique.

Why a poster?

Let us consider—what is the point of a poster? It is a ‘short contribution’, generally designed for ‘work in progress’ and is often used to demonstrate early achievements by a group in a new area of research. It may help to stimulate collaborative links, offers to join in with EU networks of excellence or integrated proj-

ects, or even funding for knowledge transfer. And, it is an introductory route to support the career development and presentation skills of younger researchers. At an international congress, there may be many posters. There are certainly many different stakeholders. Most poster presenters do want delegates to at least glance at their board. Otherwise, what's the point of presenting the work?

Catching the eye

The number of abstracts submitted to EAAP 2003 was 842—of which 529 were accepted for poster presentation. Thus, getting a poster to stand out from the background 'noise' at your meeting is an important issue. Most delegates initially scan posters from a distance as they walk along a line of boards. You only have a few seconds of reading time to catch their attention. There are actually some really easy things that you can all do to improve the chances of your poster being read properly.

Key components

1. First, give yourself TIME. Don't do your poster planning too close to the conference—in my view rushed work shows a lack of respect for your audience.
2. Work out who you want to read your poster, and why. Check if your institution or university has a template for poster production. If they have, use it. It will help you in your thinking and planning. Then check what layout constraints have been requested by the conference organisers and make sure it matches the template. If you have a space 1.2×0.9 m upright (portrait), will your work be displayed to best purpose if you turn up with the same size in horizontal (landscape) format?
3. Plan your use of space carefully to maximise impact. It is not much use putting the most important bits of the poster contents 0.5 m away from floor level where it can't be seen in between people's legs. Or on six pieces of A4 paper stuck together in the middle of a very large space.

4. Make sure you start with a very clear, short title and a summary, which explains why the work was done, what the key outcomes are and what this information can be used for—up at the top of the poster, not at the bottom. This is a 'hook' to help your reader care enough about your research to take time to find out more. I calculated that only about 1 in 40 of the EAAP posters addressed this point, and it is such an opportunity missed.
5. A poster is NOT a full scientific paper, so cut out all the excess text and reduce it to the bare necessities. Can you come up with three clear points you want to make? Don't assume expert knowledge here—your most productive contact could be someone from another scientific discipline!
6. Do use large text. Try printing off some A4 sheets of paper with text on of different sizes, pin them up on a wall, stand 2–3 m away and see what you can read. This is not the time for 14 pt. type! Do present the text in bite-sized chunks with clear headings. Do use bright colours on your graphs (but not red and green together—remember how many of you are red/green colour blind). Put your web address and basic contact details on the poster—and also any links to further work by you and/or your group.

A checklist

A last-minute poster presentation is the easiest way to ensure you lose the ability to protect your invention by prior disclosure, so check any intellectual property issues first. PLEASE remember to acknowledge your sponsors—check that the poster is acceptable to them, too. Also, don't forget to acknowledge your collaborators properly—and 'sign-off' the poster with them. Finally, don't forget the technical staff who may have done the laboratory work—an acknowledgement of their support is an invaluable aide to staff motivation.

Taking advice

And last, but not least, at the design/production stage—if you have a design or communications team, consult them and take their advice. They will probably advise you not to use Powerpoint™ to prepare your

poster unless it is unavoidable—this software package is designed to accompany oral presentations and lures you into a style that is not best suited for print (especially off A1 or A0 size printers). Make sure you proofread your poster properly. Preferably, get someone not directly involved with the work to do the final check.

Handouts

We always encourage people to take some copies of an A4 version of their poster with them to the conference, together with a clear wallet. This can be attached to the display board so that scientists visiting your poster can easily ‘take a copy away’ to read later. This has the added advantage that you can safely leave your poster unattended at times outside the formal poster session without losing potential contacts.

And finally...

Be there with your poster at the times stated, and don't assume your visitor is an expert. Always follow up any contacts afterwards. You never know when you might need them. And, enjoy yourself. Poster presentation should not be hard work.

Catherine Reynolds BSc DipSciCom
Head of Communications
Institute of Food Research UK
www.ifr.ac.uk

FUTURE EAAP ANNUAL MEETINGS

2004: 55th EAAP Annual Meeting will be held in Bled, Slovenia from 5 to 9 September 2004, with the overall title of “Sustainability and the interaction of the animal with the environment”. See full information below.

2005: 56th EAAP Annual Meeting will be held in at the Swedish University of Agricultural Sciences in Uppsala, Sweden from 5 to 8 June 2005. Information: www.conference.slu.se/EAAP2005

2006: 57th EAAP Annual Meeting will be held in Antalya, Turkey.

2007: 58th EAAP Annual Meeting will be held in Ireland.

55th EAAP ANNUAL MEETING IN BLED, SLOVENIA, 2004

The 55th EAAP Annual Meeting will be held from 5 to 9 September 2004 in Bled, Slovenia organized by the **University of Ljubljana, Biotechnical Faculty, Zootechnical Department** under the Patronage of the **Ministry of Agriculture, Forestry and Food and the Ministry of Education, Science and Sport.**

Full information may be found in EAAP News No. 49, December 30, 2003, LPS Vol. 84, No. 3, pp. 245–254. This issue of EAAP News may also be found at www.eaap.org under Newsletter. Updates may be found at: www.bfro.uni-lj.si/EAAP2004 and from the Official Congress Agency, CRA-Domažle, Groblje 3, 1230 Domžale, Slovenia, Tel.: +386-41-546-484; fax: +386-1-7211-701; e-mail: Marija.Klopčič@bfro.uni-lj.si.

The Study Commission Programme may also be found in that same EAAP News, p. 251. Updates on some Study Commission Programmes are given below. Alternatively, information may be obtained from the Commission Presidents:

Commission on Animal Genetics (G):

Vincent Ducrocq: ducrocq@dga.jouy.inra.fr

Commission on Animal Nutrition (N):

Matteo Crovetto: matteo.crovetto@unimi.it

Commission on Animal Management and Health (M):

Eberhard H. von Borell: borell@landw.uni-halle.de

Commission on Animal Physiology (Ph):

Kristen Sejrsen: kr.sejrsen@agrsci.dk

Commission on Cattle Production (C):

Sergio Gigli: sergio.gigli@isz.it

Commission on Sheep and Goat Production (S):

Dunixi Gabiña: gabiña@iamz.ciheam.org

Commission on Pig Production (P):

Caspar Wenk: caspar.wenk@inw.agrl.ethz.ch

Commission on Horse Production (H):

William Martin-Rosset: wrosset@clermont.infra.fr

Commission on Livestock Farming Systems (L):

Annick Gibon: gibon@toulouse.inra.fr

LIVESTOCK FARMING SYSTEMS COMMISSION (L)

*Update of sessions at the EAAP Annual Meeting
in Bled, September 2004*

SESSION 1

Effect of globalisation on livestock systems.

Chairman: K. Peters (Humbolt University, D.)

WTO agreements to free trade (globalisation) are said to positively affect livelihood across countries of the world. Open trade borders, however, have different consequences for those with good competitive position than for those countries under massive transformation.

Product price structures, product quality standards, production cost structures are changing and necessitate major adjustments of the LFS (competitiveness, factor cost combination, ability to meet standards in quality, welfare, etc., scale of production—farm size, need for specialisation, additional knowledge and information).

Effects need to be analyzed and anticipated; consequences have to be included in decision making process of levels of policy down to farm management; counteractions should be planned ahead of transformation crisis.

The EAAP session can contribute to the above actions.

SESSION 2

Grasslands for production, environment and landscape benefit

Joint-session of Commissions L, N, C, S*

Chairman: G. Zervas (University of Athens, GR)

The search for sustainability leads to consider jointly sociological and ecological objectives when considering animal production development. Grasslands and their management in livestock systems are a matter of special importance in that respect. In addition to general issues of biodiversity and habitat preservation, the challenges for their management vary according to the regional conditions. In the regions of intensive animal agriculture, they are regarded as a tool for disintensifying and limiting pollution; in harsh environments, where the past changes in livestock farming led

to a general decrease in their use, the questions under study are to find the ways to meet the threats for the landscape amenity and the sustainability of local animal feeding resource. Grasslands and the management of grasslands have therefore been important targets of EU agri-environmental policy since the 1990s.

The multifunctional use of grasslands, which is nowadays searched for, reinforce the need for animal scientists to consider the use and management of the grasslands in reference not only to the techno-economical efficiency of animal feeding systems but also in reference to the long term (e.g. biodiversity change) and larger spatial levels (landscape, watershed).

The aims of the session are to establish an overview of the current challenges attached to grassland and their management in livestock farming systems in the various environments, and an understanding of the ways to meet jointly production objectives and the realisation of sociological and ecological functions. Contributions addressing the scientific frames and tools for a sustainable management of grasslands, experiments in support to multifunctional grassland management and reports about R/D and development projects for multifunctional management of grasslands are welcomed.

SESSION 3

Indicators of environmental impact in livestock systems

Joint-session of Commissions L, P, M*

Chairman: J.E. Hermansen (Danish Institute for Agricultural Sciences, DK)

Motivation: Along with the decoupling of the support to agriculture within EU and the increasing public awareness of the side effects of farming, positive as well as negative, there is an increasing need for livestock farmers and livestock farmers associations to be able to analyze and communicate the main side effects of livestock farming in different situations in a sound and well accepted way.

The aim of this session is to facilitate a common understanding of ways to quantify environmental side-effects of livestock farming through a presentation of state of the art and practical experiences in using different tools.

PHYSIOLOGY COMMISSION (PH)

Update of sessions at the EAAP Annual Meeting in Bled, September 2004

Session on “Physiological adaptation of lactating animals to low-input systems”

The context of the dairy production is now evolving rapidly in Europe. With environmental restrictions, changes in EU premiums for farmers, a decline in milk price and the evolution of the agricultural labour force, all influence future systems of milk production. These changes will probably create better opportunities for the adoption of low input dairy systems and raise new research questions about the adaptation of dairy females to these systems. Such systems may require major changes to current dairy systems, i.e. low concentrate feeding, increased use of grazed grass, once daily milking. Are the dairy cows, goats or ewes selected for high milk production adapted to such systems? Which characters should be selected to improve this adaptation? Is it possible to simulate the consequences of low input feeding systems on milk production? The aim of this session is to view recent advances concerning the physiology of adaptation of lactating animals to low input systems and to debate the consequent research questions.

Session on “Feed intake regulation in lactating animals”

The regulation of feed intake has been the subject of a great many studies over a great many years. During this time a substantial body of knowledge has been produced. The properties of feeds that affect intake, the neural and endocrine mechanisms involved, and the possible homeostatic regulators have been explored in considerable detail. However, despite their importance, the characteristics of the animal that influence intake (homeorhetic or teleophoretic mechanisms) have received rather less attention, at least in agricultural science. For example, early lactation feed intake can be seen as either a determinant of or a consequence of lactational performance. It is not always clear which of these cases (or compromise between them) applies to a given animal in a given feeding situation. This cannot be resolved without considering the character-

istics of the animal, more specifically the drives that the animal has.

How do we describe animals in terms of the driving forces underlying intake? How do animals trade-off between different drives, or life functions, when resources are limiting? These, and similar questions, deserve increased focus. The EAAP session on “Regulation of Feed Intake in Lactating Animals” aims to provide impetus to this process by placing emphasis on the animal characteristics which are important for intake regulation.

HORSE COMMISSION (H)

Update of sessions at the EAAP Annual Meeting in Bled, September 2004

Session 1: Anti-nutritional factors and mycotoxins (Chair: D. Torrallardona, Spain)

This session is organised by David Torrallardona. Some ingredients used in animal feed may contain compounds causing anti-nutritional or toxic effects in farm animals. Two groups of compounds can be considered; one the one hand there are the so-called anti-nutritional factors that are synthesised directly by the plants and, on the other hand, there are the mycotoxins which are associated with the contamination of the cereals, legumes, grass, preserved forages, etc... with fungi that synthesise them. Amongst the negative effects caused by these compounds are reduced digestibility, low palatability, impaired immunity and reproductive problems. The session intends to address all sort of aspects related with the problem. Possible issues are: factors affecting their concentration in plants under different conditions, their metabolism, toxicological aspects (both for the animal and for the final human consumer) and also treatments or preventive measures that can be adopted to minimise their negative effects.

Session 2: Growth and bone disorders in horses (Chair: D. Bergero, Italy)

This session will deal with the main figures of horse's growth and related disorders. In particular, the fundamentals of horse growth and growth modelling will be discussed, together with the basic concepts of bone

development. The methods for the assessment of skeletal growth will be also pointed out. Furthermore, the impact of different nutritional plans and feeding levels for colts and fillies, weanlings, young horses and mares on sound growth will be focused, and the use of different feedstuffs, supplements and growth promoters. Then, the key point of the session will be investigated: bone disorders (developmental orthopaedic diseases) and osteochondrosis in particular will be presented, and the researches on this topic pointed out. In particular, there will be an evaluation of the importance of genetics, nutrition, endocrinology, exercise physiology on the occurrence and severity of OCD. The influence of bone growth disorders on the economy of stables and the success of different clinical treatments will be also discussed. The final aim of the session will be then to provide a wide range picture of the impact of bone growth disorders on the career and performances of sport horses and on horse market in general.

Session 3: Endangered horse breeds, genetic distance (Chair: I. Bodó, Hungary)

The topics will be first of all on the results of molecular genetic investigations (DNA) on the different horse populations or breeds. Microsatellites, mitochondrial characterisation and differences among the breeds and within the breeds will be relevant. The breeding methods for maintaining the breeds of small size should be also involved. The problem of inbreeding and how to avoid its negative effect are belonging to the topic. In maintenance of small sized horse breeds, the role of “traditional nucleus studs” is important, as well as the impact of original stud books. The discussion about the possible use of traditional breeds is also realistic. Being in Slovenia (the cradle of the breed) the genetic comparison of Lipizzan breed will be also mentioned. (The Lipica stud would be a part of Slovenian horse breeding session, but the results of an international scientific work on the genetics of Lipizzan breed could join to this session.) The problems of European horse breeds will be emphasised as far as the session is planned with RBI organisation (Rare Breeds International). A book dealing with scientific results obtained on European rare breeds and some rare breeds out of Europe is planned to be published jointly by RBI and Horse commission as a special EAAP issue in Technical Series as well.

Session 4: Free communications (Chair: Geraldine Fleurance, France)

Session 5: International genetic evaluation (Chair: E. Koenen, The Netherlands)

The dairy cattle and horse breeding industry have both showed a significant internationalisation over the past few decades. The successful use of foreign breeding animals has often been hindered by problems in understanding information on breeding animals when they have been evaluated under different circumstances. In dairy cattle, many scientific studies on the optimised interpretation of foreign proofs have been run to facilitate selection decisions. The routine international genetic evaluations for production and functional traits nicely illustrate how the international breeding community capitalises on these activities. More recently, a working group including representatives of EAAP and breeding organisations has started to study the possibilities to improve the correct interpretation of foreign genetic proofs in sport horse breeding by reviewing current testing and evaluation procedures in various countries. To exchange experiences and to discuss expected developments in the area of international genetic evaluation the Horse Commission and the Genetics Commission will organise a joint session at the EAAP meeting in Bled. Two invited review presentations will outline the historical and current developments in dairy cattle and horse breeding, whereas contributed papers are invited to discuss examples of methodology and practical applications.

Session 6: Horse production in Slovenia (Chair: F. Habe, Slovenia)

Horse production in Slovenia will be presented in several papers of local authors with information on: past and present situation in Horse breeding, reproduction and horse sport in Slovenia, with Special Presentations of different breeds; Slovenian Cold—Blooded Horses, Slovenian warm blooded horses, Lipizzan breed, Trotters, Haflinger and others. The Session will be completed with short visit to Horse Centre of Brdo with trotters. Visit is planned only for participants of the Horse Commission.

PROGRAMME OF SATELLITE SYMPOSIA AND WORKSHOPS BEFORE AND AFTER THE EAAP MEETING IN BLEĐ

Note: The deadline for the submission of papers for the following Symposia is May 31st, 2004. Further information from the names and e-mails shown below.

❶ **12th Animal Science Days: “Animal Production According to Ecological, Ethological and Ethical Norms”**, September 2nd–4th, 2004 (3 days).

Slavko Čepin: Slavko.Cepin@bfro.uni-lj.si

Silvester Žgur: Silvo.Zgur@bfro.uni-lj.si

❷ **FAO-ERFP-EAAP Workshop “ANIMAL GENETIC RESOURCES—AnGR”**, September 2nd–3rd, 2004 (2 days).

Dominique Planchenault: Dominique.Planchenault@inapag.inra.fr

Franc Habe: Franc.Habe@bfro.uni-lj.si

Pal Hajas: Pal.Hajas@fao.org

❸ **DAGENE Meeting—“Molecular Genetic Methods and Research on the Biodiversity of Autochthonous Domestic Animal Breeds”**, September 2–4, 2004 (3 days).

Laszlo Radnóczy: Dagene@ommi.hu

Drago Kompan: drago.kompan@bfro.uni-lj.si

Pal Hajas: Pal.Hajas@fao.org

❹ **International Symposium: “Sustainable Re-cultivation and Land Use on Karst and Mountainous Regions by Use of Animals”**, Saturday, September 4th, 2004 (1 day).

Milan Pogačnik: Milan.Pogacnik@vf.uni-lj.si

Drago Kompan: Drago.Kompan@bfro.uni-lj.si

❺ **CEEC WG Workshop—Farm Management and Extension Needs in CEE under the Restrictions of the EU Milk Quota**, Saturday, September 4th, 2004 (1 day).

Arunas Svitojus: kvp2@takas.lt

Abele Kuipers: Abele.Kuipers@wur.nl

❻ **ACADEMIC CURRICULA PROGRAMS—Workshop “Animal Nutrition Teaching”**, Saturday, September 4th, 2004 (1 day).

John D. Oldham: j.oldham@ed.sac.ac.uk

Andrej Lavrenčič: Andrej.Lavrencic@bfro.uni-lj.si

❼ **ELSEVIER/EAAP Workshop: “PREPARING AND PRESENTING SCIENTIFIC PAPERS”**, Saturday, September 4th, 2004 (1 day).

Dr. Phil Garnsworthy: Phil.Gansworthy@nottingham.ac.uk

Marija Klopčič: Marija.Klopacic@bfro.uni-lj.si

❽ **EAAP-ASAS Workshop “Biology of Lactation in Farm Animals”**, September 9th–10th, 2004 (2 days).

Rupert Bruckmaier: bruckmaier@wzw.tum.de

Peter Dovč: Dovc@bfro.uni-lj.si

❾ **PhD Course. “Estimation of Covariance Components and Breeding Values with the VCE 5 Package”**, Five days: Thursday–Tuesday, September 9th–14th, 2004.

Prof. Dr. Milena Kovač: Milena@mrcina.bro.uni-lj.si

RARE BREEDS INTERNATIONAL (RBI) at EAAP, BLEĐ

Endangered horse breeds and genetic distance

Rare Breeds International will hold a Joint Session with the EAAP Horse Commission at the EAAP Annual Meeting in Bled, Slovenia. Further information on this EAAP/RBI Horse Session from: William Martin-Rosset: wrosset@clermont.infra.fr or from Imre Bodó: bodoi@hu.inter.net

OTHER NEWS FROM RARE BREEDS INTERNATIONAL

The next Global RBI Conference will be held in South Africa from 27 September to 1 October 2004 at Bloemfontein, South Africa. Information: Dr. Keith Ramsay e-mail: keithr@nda.agric.za, website: www.rbi.it

The following information is provided by the local organizer who is also President of RBI, Dr. Keith Ramsay. Official registration will be on 26 and 27 September and we are arranging bus transport to Bloemfontein and back as part of the fully inclusive package. The bus will stop at the Lipizzaner horse stud on the way to Bloemfontein. Bloemfontein also has an airport with regular flights from Johannes-

burg—and one can also travel by car—roughly a 4-h trip. Bloemfontein was chosen as it is the home of most of the Breed Societies—and is also near enough to some of our more arid areas—possible post-conference tours to look at indigenous sheep breeds.

Bloem University is also currently the best animal breeding university and there are some added interest programs looking at lion breeding (a possible mid conference break).

Post conference tours include visits to Nguni cattle breeders, Persian, Damara and Afrikaner sheep breeders, The Grootfontein Agricultural development institute—the biggest small ruminant institute in Africa and parts of South Africa that are seldom included in tours as most seem to end in the Kruger park.

Bloem is also near enough to get a representative sample of most of our indigenous and other endangered breeds—and we are planning to hold an 'indigenous' festival in the nearby town of Brandfort on Friday 1 October. Keith Ramsay, President of RBI.

Future RBI International Conferences. RBI is planning the following Global Conference in Vietnam in 2007. For other information on RBI contact: mosconi@eaap.org or the website: rbi@rbi.it

EAAP NOTICES

Full paper service for Abstracts at EAAP Annual Meetings

Until 2002, Wageningen Academic Publishers provided a so-called full paper service. We kept in file all full papers submitted at the annual EAAP meeting and forwarded a copy of the full papers to those who expressed their interest.

In 2002, it was decided to computerize this full paper service, so that people can interact themselves about full papers. The complete scientific programme is published on Internet, sorted by Commissions and Sessions. Of each session, all theatre and poster presentations are listed, including the e-mail address of the contact person of a certain abstract. This enables people interested in a certain presentation to contact directly the responsible author, which will hopefully stimulate the interaction and thus the discussion.

The full scientific programmes of the annual EAAP meeting can be found through the website of Wageningen Academic Publishers: www.wageningenacademic.com.

By clicking on EAAP (left side of the screen), and subsequently on the year of interest, you get to the page of a certain annual EAAP meeting. By clicking on scientific programme you get to the page where you can find all commissions and sessions. After clicking on the session of your choice, the list with all oral and poster presentations will show up, including the abstract titles, authors' names and e-mail address of corresponding authors.

We trust this service will be of help to all of you and will stimulate interaction between researchers world-wide.

Ir. A.F.M. (Mike) Jacobs

Wageningen Academic Publishers

P.O. Box 220, 6700 AE Wageningen, The Netherlands

www.wageningenacademic.com

EAAP Round Table, Roma, 1st September 2003

«Changing consumers... Changing animal production sector?»

The texts of presentations and discussions at the EAAP Round Table in Rome in September 2003 are now available in English and French at the following websites. English: www.eaap.org and French www.agrobioscience.org

Further information from *Jean-Claude Flamant, Mission d'Animation des Agrobiosciences, flamant@agrobioscience.com*

BEST PAPERS AWARDS AT EAAP ANNUAL MEETING, 2003

Genetics Commission

T. Tribout

INRA Station de Génétique Quantitative et Appliquée
Jouy-en-Josas, France

Title: Estimation of realised genetic trends in French Large White pigs from 1977 to 1998 for production and quality traits using frozen semen

Nutrition Commission

P.M. Nissen

Danish Institute of Agricultural Sciences
Denmark

Title: Effects of increase porcine maternal nutrition on postnatal growth and meat quality of offspring

Physiology Commission

M. Therkildsen

Danish Institute of Agricultural Sciences
Denmark

Title: In vitro muscle protein degradation is dependent on the feeding strategy in pigs

Management and Health Commission

P.P.J. van der Tol

Faculty of Veterinary Medicine
Utrecht University, The Netherlands

Title: The Biomechanical effect of claw trimming

Cattle Commission

M.G.G. Chagunda

Dept. of Animal Health and Welfare
Danish Institute of Agricultural Sciences
Denmark

Title: Diagnosis and design of smallholder dairy recording in Malawi

Sheep and Goat Commission

I. Palhière

INRA

Castanet-Tolosan, France

Title: Use of major genes in small ruminants selection: the French examples of as1-cas in goats and PrP gene in sheep

Pig Commission

M.J. Van Oeckel

Agricultural Research Centre
B-9090 Melle, Belgium

Title: The energy intake limiting effects of alfalfa in gestation diets of sows

Horse Commission

G. Fleurance

Station Experimentale des Haras Nationaux
Chamberet, France

Title: Impact on horses on pastures and consequences for management

LFS Commission

No name

Management and Health Commission

J. Ghirardi et al.

Universitat Autònoma de Barcelona
Spain

Title: Electronic boluses features and retention law in the reticulorumen of cattle

Cattle Commission

J.B. Andersen et al.

Danish Institute of Agricultural Sciences
Tjele, Denmark

Title: Correlation between liver TAG and glycogen content and plasma concentration of NEFA and glucose in early lactating dairy cows

Pig Commission

A. Sabbioni

Dipartimento di Produzioni Animali Biotecnologie
Veterinarie

Università di Parma, Italy

Title: Serum β -lactoglobulin content during pregnancy as an early indicator of reproductive efficiency in gilts**Sheep and Goat Commission****Horse Commission****Genetics Commission****Nutrition Commission**

No names given.

**WORLD ASSOCIATION OF ANIMAL
PRODUCTION (WAAP)****Report from the 9th World Conference of Animal
Production Porto Alegre, Brazil, October 2003***Notes from Business Meeting of the World Association for Animal Production held in October 2003 in Porto Alegre on the occasion of the 9th World Conference of Animal Production, chaired by the President of the WAAP, Professor Akke Van der Zijpp (The Netherlands).***Report of the 9th WCAP Conference Organization, Porto Alegre, Brazil**

The report was given by Professor Lopez, President of the 9th WCAP. There were 522 participants. One thousand and fifty-seven papers were submitted from 50 countries of which 822 papers were published or displayed as posters. These are available on a CD-ROM. Chairmen of sessions were drawn from 16 countries. Seventy-four student assistants helped with the organization.

**BEST POSTER AWARDS AT EAAP ANNUAL
MEETING IN ROME 2003****Physiology Commission**

Pecorini et al.

Faculty of Veterinary Medicine
University of Milan, ItalyTitle: Cloning and Expression in *Pichia pastoris* yeast of full length porcine lactoferrin cDNA

Retirement of Secretary General of WAAP Professor Jean Boyazoglu

The President of WAAP, Prof. van der Zijpp said that Jean Boyazoglu had served the WAAP as Secretary General from 1986 to 1993 and from 1997 to 2003. Dr. Boyazoglu has a distinguished career of research work and service, starting in South Africa, continuing in France, United States and Rome, Italy with FAO, EAAP, WAAP, ICAR and RBL. He is now working for the OIE in Paris.

Dr. Boyazoglu has received many prizes and awards for excellent service, but many animal scientists do not realize that he is gifted as researcher of animal production system and as science administrator. But, additionally, he has widely recognized expertise in fields like vinology, nature conservation and hunting, products of designated origin and he is an expert on Byzantine history and European pottery. He has contributed widely as an expert to EU Commission.

He is a very prolific publisher in animal systems (250 papers), Editor-in-Chief of Livestock Production Science and has written books on Dutch Delft Pottery and European porcelain. He has capability of communication in 9 languages, as we have experienced here in Porto Alegre again.

His personality is remarkable, being as he says himself sometimes brutal and undiplomatic and at the same time in full consideration of the cultural and personal dimensions of the colleagues he is working with. Many of us have enjoyed discussions with him, getting the issues analyzed like a backbone of a carcass and then rebuilding the body to achieve a good result. This was often made easier by enjoying a good beef dinner and a glass of red wine, the last being the most essential ingredient of the menu.

And as I have observed more often, respectful and wise way which helps to bring people together. I want to express our great thanks and gratefulness first by reminding you that WAAP has presented the first Prof. Jean Boyazoglu senior scientist awards here in Porto Alegre and will continue to do so at the next WCAP Conferences, and by presenting you personally with a small memento.

Appointment of new Secretary General of WAAP

Dr. Andrea Rosati was appointed the new Secretary General of WAAP. Dr. Rosati is a graduate of the

Agricultural Faculty of the University of Perugia. He gained his MS and PhD degrees in the Department of Animal Science at the University of Nebraska-Lincoln, USA under Prof. D. Van Vleck. He then joined the Italian Animal Breeders Association (AIA) and worked there for 8 years, where he dealt with selection schemes and milk and beef recording systems for livestock. Since January 2002, he has been Managing Director of the Molecular Genetics Laboratory in Cremona, Italy. Since his return to Europe in 1996, Dr. Rosati has been in constant contact with EAAP and has made a major input to the activities of International Committee for Animal Recording (ICAR) of which he has been, since 1998, a member of the Board and since 2000 Vice President responsible for technical and scientific matters. Since 2002, he has been the Secretary General of EAAP.

The new Council Members of the World Association of Animal Production (WAAP) were elected by the member countries at the World Conference on Animal Production held in Porto Alegre in October 2003.

President

Dr. Assefaw Tewolde (Mexico)

New Members

Dr. J.K. Ha (Korea)

Dr. Omar Araujo-Febres (Venezuela)

Reconfirmed members

Dr. L. Bull (USA)

Dr. B.N. Mitaru (Kenya)

Past President

Professor A. van der Zijpp (The Netherlands)

New ex-officio members:

Dr. S. Jutzi (FAO, Italy) represented by R. Cardellino

Dr. N. Casey as President of the 10th World Animal Production Conference to be held in South Africa in 2008.

Secretary General

Dr. A. Rosati (Italy)

Dr. Assefaw Tewolde, Mexico

New President of the WAAP

Dr. Assefaw Tewolde is Professor of Animal Science and Director General of Research and Graduate School of the Universidad Autónoma de Tamaulipas, Mexico. He took his Masters degree at the University of Florida, Gainesville, FL, USA and his PhD in animal breeding and genetics at Oregon State University, Corvallis, OR, USA. Before moving to his present post in 1995, he served for 10 years at the

Centro Agronómico Tropical de Investigación y Enseñanza (CATIE) in Turrialba, Costa Rica as Director of Education and Conservation and Head of the Graduate School. Prior to that he was Professor at the Universidad Autónoma Chapingo, Mexico.

In addition to his academic work with graduate and undergraduate students and his extensive publications in English and Spanish, Dr. Tewolde has consulted with FAO, Inter American Development Bank, Inter-American Institute for Cooperation in Agriculture (IICA) and Consorcio Técnico del Noreste de México in México/Texas and other CATIE member countries in Central America and the Caribbean. He has served as President of the Mexican Association of Animal Production (AMPA) and as First Vice President of the Latin American Association of Animal Production (ALPA). His fields include traditional animal breeding applied to tropical environments, quantitative genetics, animal genetic resources and systems methodology in animal improvement under tropical environments.

WAAP Awards

The following awards were made at the World Conference on Animal Production held in Porto Alegre in October 2003.

WAAP SENIOR SCIENTIST AWARDS

These WAAP Senior Awards are named in honour of Dr. Boyazoglu who worked for two periods as Secretary General for WAAP and contributed much of his own time and energy to secure the future life of WAAP through rethinking the organizational structures and by funding the awards through an FAO agreement with WAAP for the Animal Genetic Resources Programme: State of the World.

Dr. Wolfgang-Bernhard Souffrant

Dr. W.-B. Souffrant was born in Poland and is now a German citizen. His formal training was in former East Germany in Halle Saale and in Leipzig. He graduated in 1969 as agronomist and continued his dissertation studies A and B and Habilitation at Karl-Marx University in Leipzig. His research focused on

amino acid absorption and N metabolism in the digestive tract of pigs. His research has shown continuous evolution, making best use of new techniques. His publication record is very impressive and shows the fruits of much international collaboration. Despite the relative isolation before 1989, Dr. Souffrant has been very successful in working with the best scientists in his field in Poland, France, Canada, Netherlands, China, Italy, Ireland, New Zealand, Colombia and Sweden. Dr. Souffrant has also contributed to numerous EAAP activities and to the Society of Nutrition.

WAAP is very pleased to honour Dr. Souffrant today with the Dr. Boyazoglu Award. Tremendous social and political changes have taken place in the last decades. The quality of Dr. Souffrant research and teaching and its impact have proven that excellent science can succeed everywhere and is highly respected all over the world. We congratulate you, your family and the Research Institute for Biology of Farm Animals in Dummerstorf and wish you all the best for the future.

Dr. John Fuquay (USA)

Dr. Fuquay is now emeritus professor at Mississippi State University in Starkville. His career started as a pilot in the USA Air Force. He was a dairy herd manager and owner and then decided to study for his MS degree at North Carolina State and PhD at Pennsylvania State University. His career developed very quickly at Mississippi State University from 1969 onwards. He spent two sabbaticals at the University of California, Davis.

Many honours were bestowed on him for teaching dairy science and service. The American Dairy Science Association in particular recognized his achievements and service as Editor-in-Chief of the Journal of Dairy Science, Board of Directors, Journal Management Committee and many other functions. Dr. Fuquay built a reputation in dairy science by publishing two books. The Encyclopaedia of Dairy Sciences and Applied Animal Reproduction. His research is devoted to reproduction problems in dairy cows, caused by heat stress. His supervision of 34 MS and PhD students is in the same field of interest. Dr. Fuquay popularized his research results through extension publications. His international activities were

in diverse countries: Thailand, Mexico, Bangladesh, Nicaragua, Oman and Pakistan all sharing hot climates and interest in dairy and beef cattle. The WAAP is honoured to present the Dr. Boyazoglu award today to Dr. Fuquay with congratulations also to his family and Mississippi State University.

Japanese Society of Animal Science Awards

Prof. Mostafa Ahmed Kobeisy (Egypt)
 Prof. Yukio Akiba (Japan)
 Dr. César Araque Herrera (Venezuela)

Best paper and best poster at the WCAP

The award of US\$500 for the Best Paper was given to Professor L. Takai of Japan for his paper on Microbes in Water Supply.

The award of US\$500 for the Best Poster was given to Dr. Roberto Bauza from Montevideo, Uruguay for the paper on Genotypes and Feeding. In his absence the award was taken on his behalf by Dr. H. Petrocelli.

Presidential recognition of new officers of the WAAP

The President welcomed the new Secretary General: Dr. Andrea Rosati. She also thanked the Outgoing Vice Presidents: Prof. Yano and Prof. Garcia. Next, she welcomed the Incoming Vice Presidents: Prof. Araujo and Dr. Ha and the Continuing Vice Presidents: Dr. Bull and Prof. Mitaru.

The Outgoing President, Professor Van der Zijpp, then welcomed the new WAAP President: Prof. Assefaw Medhin Tewolde of Mexico.

The 10th World Conference of Animal Production

The next World Conference will be held in South Africa in 2008 and the President of that Conference is Dr. Norman Casey of South Africa.

Thanks to the Organizers of the 9th World Conference in Porto Alegre

The Retiring President then thanked the Organizers of the 9th Conference in Porto Alegre, Brazil—in particular: Prof. Lopez President of the 9th WCAP, Prof. Nicolaiewsky Chairman of the Organizing Committee,

Prof. Vladimir de Nascimento and Prof. Nilton Paim. She also extended thanks to all staff, universities, students and the other supporters and many sponsors.

FUTURE SCIENTIFIC CONFERENCES ASSOCIATED WITH EAAP INTERESTS

In date order

The 20th Brian Kennedy Memorial Colloquium University of Guelph, Canada

10–11 May 2004

The 20th Brian Kennedy Memorial Colloquium was to be held in May 2003 in Guelph, but had to be cancelled due to the SARS outbreak at the last minute. Consequently, the 20th BWK Memorial Colloquium will be this year, May 10–11, 2004 in Guelph. We will be keeping the colloquium small in scope, with only a day and a half of presentations. We will not be inviting any outside speakers. However, if anyone else outside of Cornell, Michigan State, or University of Guelph wish to attend, you are most certainly welcomed to attend. Topics cover recent research at each institution, usually presented by graduate students, and as always, ample time for discussion.

Larry Schaeffer
lrs@sherlock.aps.uoguelph.ca

ANNUAL INTERBULL MEETING Tunisia, 28–31 May 2004

The **Annual Interbull Meeting** will also be held at the same location as the ICAR Meeting shown above from 28 to 31 May 2004 in Sousse, Tunisia. On 4 June will be the post-conference tour. Information: www.interbull.org and e-mail: mosconi@eaap.org

INTERNATIONAL COMMITTEE FOR ANIMAL RECORDING (ICAR) AND INTERBULL

Tunisia, 28 May to 3 June 2004

The next conference of the International Committee of Animal Recording (ICAR) will be held from 28 May to 3 June 2004 in Sousse, Tunisia. On 4 June will be the post-conference tour. Information: www.icar.org and e-mail: mosconi@eaap.org

8TH INTERNATIONAL CONFERENCE ON GOATS

South Africa, 4–9 July 2004

The 8th ICG will be held in South Africa from 4 to 9 July 2004. The conference will be held under the auspices of the International Goat Association (IGA), the South African Society for Animal Science and the University of Pretoria. Full details may be found: www.icgsa.co.za Information: Ms. Carina Visser at icgsa@postino.up.ac.za.

Rare Breeds International Conference, South Africa, 27 September to 1 October 2004

The next Global RBI Conference will be held in South Africa from 27 September to 1 October 2004 at Bloemfontein, South Africa. Details are given on page 59. Further information: Dr. Keith Ramsay e-mail: keith@nda.agric.za, website: www.rbi.it

Future RBI International Conferences

RBI is planning the following Global Conference in Vietnam in 2007. For other information on RBI contact: mosconi@eaap.org or the website: rbi@rbi.it

International Conference International Society for Animal Hygiene (ISAH)

This conference will be held at Saint-Malo, France from 11 to 13 October 2004. Information from Secretariat: Geneviève CLEMENT ISPAIA-ZOOPOLE développement, BP 7, 22440 PLOUFRAGAN, France. Tel.: +33-2-96-78-61-30; fax: +33-2-96-78-61-31; e-mail: isah2004@zoopeople.asso.fr; web: www.zoopeople.com.ispia/isah2004.htm

International Symposium on the Future of the Sheep and Goat Sectors

This symposium will be held in Zaragoza, Spain from 28 to 30 October 2004 organized by CIHEAM, IAMZ, IDF, FAO, EAAP and ICAR. Information: iamz@iamz.ciheam.org website: www.fil-idf.org/sheepgoat2004

IN MEMORIAM

Professor Dr. Artúr Horn, Hungary 1911–2003

Artúr Horn died on 24 November 2003 in Budapest aged 93. He was actively and deeply involved in the foundation of EAAP in the period following World War II by contributing his scientific competence, knowledge of languages and diplomatic skills. At that time, in 1949, he was invited by the founding President of the Association, Professor A.M. Leroy, to become the first Secretary General of EAAP. However, Artúr Horn was prevented by the Hungarian authorities from accepting this offer because of the newly established Iron Curtain by which the communist governments of Central European countries isolated themselves from the West. Later, in the 1970s, by which time the Hungarian government had relaxed its isolation and joined EAAP, Artúr Horn became a member of the EAAP Council. Later he was elected Vice President of EAAP in which capacity he made his many-sided gifts and experiences available to the Association and served with distinction. He was awarded the EAAP Distinguished Service Award for his contributions to animal production which was the first time this award was made to a scientist from the Central and Eastern European countries.

Artúr Horn was born in 1911 in Cairo, Egypt. His father was an international expert in economics and his mother was the daughter of the Professor of Literature Zs. Beöthy. After some school years at the famous Lutheran gymnasium of Fásor in Budapest (a secondary school which has produced Nobel Prize winners), he went to good Austrian and Swiss schools. Artúr Horn emphasized the importance of secondary school, often saying: “a young Hungarian must learn three foreign languages as a teenager”. He spoke English, German and French to very high level. Consequently he was asked to interpret at international meetings and conferences which he was able to do not only with technical competence, but also with a high degree of idiomatic skill and sensitivity.

Artúr Horn gained his diploma at the Agricultural Faculty of the Budapest University of Economics in 1934 followed in 1935 by his doctorate with the dissertation on the genetic traits of homing pigeons. He became a private docent at his Alma Mater when

he was 32. He started work as the Secretary of the National Committee of Stud/Herd Books. After a professional visit in US in 1939, he published the book “New Trends in Cattle Breeding” in Hungarian, which was one of the first publications introducing the concepts of population genetics in Europe.

He was nominated Professor at Keszthely (1946–1949) and later at Gödöllő University as the Head of Department of Animal Breeding (1949–1957) during which periods he established teams with very good co-workers.

In 1955, he published the text book “Animal Breeding”, which was used in Hungary as the “Bible” of animal breeding-in use even today. However, he did not write the chapter on genetics because he could not subscribe to the “officially approved” views on genetics. Therefore, he arranged for that chapter to be written by somebody else. This was a very courageous decision by Artúr Horn at that time. By implication he was upholding legitimate animal genetics against the politically expedient genetics of the Soviet Block under whose mandate modern genetics (“decadent, Western genetics”) was not permitted. Academician Trofim Denisovich Lysenko, Agricultural Commissar of the Soviet Union, was very powerful politically and held errant views on genetics. This brave gesture by Professor Horn was an influential signal to the younger generation on where they should look for scientific truth in genetics.

Following the Hungarian Revolution in 1956 and the Soviet invasion, Artúr Horn was forced to leave the University for political reasons. He worked at the Research Institute of Animal Breeding. During this period, his main research topic was the effect of heterosis in cattle breeding using Jersey cattle to crossbreed with the established Hungarian breeds. This work received international recognition. At that time, the Hungarian Milking Variety of the Simmental breed was common together with the Hungarian Milking Brown and Hungarofries. It was at that time that his working group was given the nickname “Jersey Club”.

From 1963 until 1980, he was Professor and Head of the Department of Animal Breeding at the Hungarian University of Veterinary Science in Budapest. During this period, quantitative and population genetics and biotechnology were introduced and taught to a very high level to veterinary students.

Following the Soviet system of scientific titles, Artúr Horn received the scientific title of CSC in 1952 based upon his research and the DSC in 1954 based upon his work on heterosis. In 1961, he became a Corresponding Member and in 1967 an Ordinary Member of the Hungarian Academy of Science. In 2001 at the Annual EAAP Meeting in Budapest, the Association honoured Professor Artúr Horn together with Dr. Kristóf Kállay, another Hungarian who had been Secretary General of EAAP for many years. Both were recognized for their unique contributions in shaping the character of the Association.

Following the long years of slights, many distinctions were conferred upon Artúr Horn. The Brno Agricultural High School honoured him for his work in applied genetics with an Honorary Doctorate in 1965. In the same year, he became an Honorary Member of the British Cattle Breeders Club. He was elected an Honorary Member of the Halle-Wittenberg University (1967), the Polish Academy of Science (1975), Honorary Doctor of Gödöllő (1986) and the Budapest University of Veterinary Science (1987). It is interesting that the Belgian Royal Academy of Medical Science nominated him Corresponding Member because of his activity for the whole of mankind. So, Artúr Horn was a multiple doctor indeed.

The most distinguished recognition bestowed upon him was the “Golden Egg Award” which he received in Italy which is considered the Nobel Prize of Animal Breeders. He gave it to the Agricultural Museum of Budapest.

In 1980, Artúr Horn retired but following that change he continued his involvement by providing advice and helping the work of young breeders and scientists.

Professor Horn lived ahead of his time in many aspects. Some of his ideas were not seen as timely earlier but have become more and more relevant in the 21st century. His ideas on the territorial profitability have become more and more important as Hungary joins the European Union in May 2004. Differentiation between breeds and breed heterosis are important not only in cattle breeding, but also in horse breeding. The study of milk composition and life-time performance were always important aspects of the teaching and research of Artúr Horn. His work with heterosis in cattle breeding is well known; but he also initiated the crossing of Barbary and Peking ducks as early as the

1950s. The results of this early work came back to Hungary some decades later as a French patent.

In spite of specialization in animal breeding he always warned us, his students, against the dangers of seeing only one side of any situation. He always emphasized the importance of secondary traits in animal breeding. Besides using indigenous animal genetic resources he always emphasized the value of international genetic resources.

It was sometimes difficult to accept Artúr Horn's teaching. In particular, the successful operation of a good cross-breeding programme can conflict with the conservation of genetic resources for the distant future and it is not an easy task.

In the large scale units of livestock on Hungarian State Farms in the 1960s and 1970s, Professor Horn was able to obtain practical results on the improvement of cattle production, which was possible only by computer simulation in Western countries.

Artúr Horn emphasized the importance of responsibility by saying "Responsibility for actions is multiplied by the responsibility for negligence resulting from lack of information; and this latter is of greater importance."

Throughout his life, Artúr Horn maintained wide contacts with leading animal scientists in many countries such as Sir John Hammond of the UK whose friendship was typical and mutual. Despite his great prestige Artúr Horn was a humble scholar and democrat. He dealt with his students, his co-workers, the cattle men and cowboys as his equals. When he received the Gold Medal of the Hungarian Academy of Science he was well characterized in the citation: "His excellent work and personal ability to establish schools of thought is combined with his noble European citizenship and unreserved benevolent character."

Artúr Horn's wife, Franciska Mehlschmidt, was his lifelong companion and survives him. Their harmonious family life was one of the sources of his successful public activities. They have three sons: Péter, a member of Hungarian Academy of Science and Rector of Kaposvár University; András, Director in an international company; and Artúr who is a researcher at Kaposvár University. There are nine grandchildren and three great grandchildren. We extend our condolences to the family in their loss.

Artúr Horn's death completed a full, prolific and courageous life. Artúr Horn will live on, however, in the mind and hearts of his students because directly or indirectly all Hungarian animal scientists and breeders are his students. He could have left Hungary for a higher salary many times, but chose not to do so. His example is important for the young generations of united Europe.

Professor Imre Bodó
Formerly Head and Professor of Animal Breeding
Hungarian University of Veterinary Science

Professor Douglas S. Falconer, UK
1913– 2004

Professor Douglas Falconer FRS FRSE was formerly Professor of Genetics and Director of the ARC Unit of Animal Genetics at the University of Edinburgh. He was born at Old Meldrum, Aberdeenshire, Scotland and died in Edinburgh, aged 90 on 23 February 2004.

Falconer's father was a minister of the church, and both parents were from Edinburgh, returning there soon after he was born. His interest in science was first stimulated as a pupil at Edinburgh Academy, but following school he contracted tuberculosis and did not start his zoology degree at St. Andrews until 1936. He studied under D'Arcy Thompson, whom he found a most stimulating teacher. Thompson was apparently willing to award the degree without bothering about exams, but the Dean prevailed and Douglas graduated with 1st Class Honours in 1940. He then took a PhD in Cambridge working on behaviour of wireworms, and only after a period as Lecturer at Queen Mary College did he move into the study of mouse genetics, in which most of his important science was done.

Initially, he was a research associate with Sir Ronald Fisher at Cambridge, working on mapping of genes in the mouse, but a criticism by Falconer of one small part of Fisher's work was ill received and they interacted little.

In 1947, Douglas Falconer was appointed to the Genetics Section of the Agricultural Research Council's Animal Breeding and Genetics Organisation, based in the University of Edinburgh under C.H.

Waddington. This group was to become world leading in the analysis and understanding of the genetics of quantitative traits such as growth rate, body composition or milk yield that are under the simultaneous influence of many genes and the environment, and in application to the improvement of livestock. He remained in the University for the rest of his career, subsequently in the ARC Unit of Animal Genetics, of which he became Director in 1968, the year he was appointed to a Personal Chair by the University. During the period 1969–1977 Falconer was also Head of the Department of Genetics, which continued to be a large but highly effective grouping, albeit a collection of little fiefdoms. He retired in 1980, but continued as Emeritus Professor to do research and interact with his colleagues until he was nearly 90.

With students and colleagues, Falconer was firm but remarkably patient, and polite to the point of effusiveness, sometimes perhaps with a slight hint of irony. He was a quiet, conscientious and able administrator.

In order to understand the effectiveness of selection for quantitative traits and to learn about their inheritance, Falconer undertook a number of very significant selection experiments in the mouse, each lasting 20 or more generations (or 5 years). In particular, he revealed that, contrary to the then animal breeding dogma, selection for increased growth rate in a good environment was not necessarily more effective than in one where food was restricted, a model ‘poor’ environment. Further, in discussing this work, he showed how the genetic correlation could be used to define performance across different environments. He found that litter size could be increased substantially by successive generations of artificial selection, even though it was apparently a fitness trait subject to natural selection. In his final experiment he used a very neat molecular technique with the high and low growth selection lines to show that the genetic influence on body size was not controlled through any single organ.

Falconer made a very significant direct contribution to human genetics. He developed a simple and elegant method for estimating, from only the incidence in the population and in relatives of affected individuals, the genetic contribution to liability to diseases in man like diabetes that have all-or-none expression, but which are affected by many genes.

He is, however, best known for his book ‘Introduction to Quantitative Genetics’, first published in

1960, and going through four editions and translation into several languages. It has been used by generations of students and researchers as their introduction and reference to the subject. What makes it so popular is its clarity of writing, simplicity of expression, and avoidance of technical mathematical details. It basically defined the subject and its influence has been enormous. His other writing and teaching were likewise a model of clarity and effectiveness.

Douglas Falconer married Margaret Duke, a classicist and teacher, in 1942. Their marriage was a close one, and she and their two sons survive him. He was a keen musician, playing the flute until his mid-80s and also enjoying walking, sailing and bird watching. The onset of diabetes in middle age and increasing blindness in his later years did not weaken his interest in and commitment to the pursuit of science. He died following a fall at home.

His contributions were recognised by election to the Royal Societies of Edinburgh and of London, but he remained modest and self-effacing. He will be remembered with affection and respect by his friends, students and colleagues.

William G Hill
University of Edinburgh

(This In Memoriam is adapted from the Obituary in the Scotsman newspaper whose prior publication is acknowledged.)

Professor Julien Coleou, France
1926–2003

It is with great sadness that we heard of the sudden death of our colleague, Professor Julien Coleou on 6 August 2003. Born on a small farm in Brittany, he was always fascinated by the development of modern agriculture. Educated at the Institut National Agronomique (INA) in Paris (1948–1951), then at the Faculty of Sciences in Paris, he was active as a Lecturer and as a Professor of Animal Science at INA from 1953 to 1995. He served as President of the Department of Animal Sciences of INA for 15 years. He was a pioneer in the renovation of teaching Agriculture and Animal Science in INA, in particular after 1968. His original ideas and contribution in teaching have been experienced in his own field of

interest: Economy of animal production and livestock farming systems. In addition to these activities, he has been deeply involved in teaching animal science in North Africa, in particular at the Institut Agronomique et Vétérinaire in Rabat, Morocco and in Algeria since the seventies.

He developed very strong relationships between teaching and original research particularly linked with the world of animal production, encouraging animal chains, advising Technical Institutes and farmers' organisations. He developed contacts with the economic and marketing sectors as well as with the consumers' organisations.

He played a key role in supervising numerous theses, participating in committees, Scientific Commissions of the French Académie d'Agriculture, and by contributing to national and international debates on the future of animal science. President of the Association Française de Zootechnie (AFZ) for 7 years, he always supported EAAP and its annual meetings. His numerous close colleagues and friends joined to pay their tribute to his memory in Paris on 18th October 2003. All of us will miss him, the depth of his knowledge and his unselfishness in concern for the success of others.

*Aimé Aumaitre President of the EAAP
Daniel Sauvart, President of the AFZ*

**Professor Peter Wilson, UK
1928–2004**

Peter Wilson, formerly Professor of Agriculture at Edinburgh University, died on 29 January 2004 aged 75 following a short illness. He was born in 1928 in England and graduated in agriculture at Wye College. He went to Kampala, Uganda as a lecturer for 6 years where he successfully completed his PhD, working on East African goats. He then took up a post with the University of the West Indies before returning to the UK to work in the animal feed industry becoming chief agricultural adviser to BOCM.

In 1984, Peter Wilson was appointed Professor of Agriculture at the University of Edinburgh, as well as Head of the East of Scotland School of Agriculture, and successfully managed the transition from public funding to earning revenue from advisory work and

research. He was popular with students and teaching staff. Retiring in 1990, he focused his professional life on over 40 charitable activities and organisations: Institute of Biology, Edinburgh Centre for Rural Research and the Royal Society of Edinburgh.

Peter Wilson was very much a leader wanting to play a major role in the activities in which he was involved and making constructive contributions to discussions and debate. An excellent chairperson he was a mine of useful information, stories and statistics but carried with a diplomatic air. His good judgment and gentlemanly manner will be missed particularly in the British Society of Animal Science (BSAS) of which he was President 1977–1978, an Honorary Member and Chairman of the 1996 strategic review. He is survived by his wife Bunny, a daughter, two sons and five grandchildren.

From BSAS Newsletter

**Professor Derek Tribe, Australia
1926–2003**

Derek Tribe, who was born in the UK, died in Australia in April 2003. Derek was a graduate of Reading University, UK in the late 1940s. After a period teaching in the UK, he moved to Australia which became his permanent home although he remained always involved in international agriculture and achieved a high profile in development agriculture. In Australia, he joined the faculty of Melbourne University School of Agriculture and became Dean of the Faculty at the time it was at its peak in the 1960s and 1970s. During this time, he also gained recognition for his work in international agriculture research and its potential impact on economic development. This became his passion and lifelong interest and resulted in many of his greatest achievements. He was the impetus behind the establishment in the early 1970s of the then highly innovative International Livestock Centre for Africa (ILCA), now the International Livestock Research Institute (ILRI). He conceived it, planned it and captured the interest of the international research community through the Consultative Group on International Agricultural research in Washington who funded it.

Derek Tribe formed a strong bond and friendship with the internationally respected agricultural economist, Sir John Crawford. They shared similar values, ideals and ideas on the role of international agricultural research in alleviating poverty and generating food security and saw it as one of the primary means that would lead to greater equality and contribute to a better world for all.

Derek Tribe served for several years as the Director of the International Development programme of the Universities and Colleges where he left his mark as a powerful advocate for Australia's role in the international training of scientists from developing countries. He was also one of the people who, with Sir John Crawford, were instrumental in establishing the Australian Centre for Agricultural Research.

His crowning achievement came for many towards the end of his very active career—the birth of the Crawford Fund, named after Sir John Crawford. It encapsulates in many ways all the Derek stood and strived for throughout his life in terms of international assistance. It is small but influential, it adds value to and catalyses activities and interest in international agricultural research among its partners in Australia and in developing countries, it increases the impact of larger-scale agricultural projects through its work in technical training and it brings together Australian and developing country scientist for mutual benefit.

Derek was a true visionary who also had the great gift of being able to make his visions become reality. Derek Tribe's achievements were recognized by his peers and the community. He was the recipient of many honours and awards including an OBE (Order of the British Empire) and an OA (Order of Australia), fellowships from professional and learned societies and honorary degrees from several universities. Derek's life could be summed up in the title of one of his many books "Doing well by doing good".

Dr. John Vercoe
Chairman of the Board
International Livestock Research Institute

Dr. John Corbett, Australia

One of the earliest members of the British Society of Animal Science (formerly Production), Dr. John

Corbett, who also participated energetically in the early EAAP Annual Meetings, died on 7 December 2003.

John was one of a group of 1940s agricultural graduates from Reading University who later became distinguished animal scientists. After graduation he went to Massey University, New Zealand for post-graduate studies, then joined the Rowett Research Institute in Scotland to work on the nutrition of grazing animals. His work there included studies of winter grazing of cattle (a considerable challenge in North East Scotland!), the development of methods for estimating feed intake, and calorimetric studies of grass-fed ruminants. In 1963, he was drawn back to the Antipodes, this time to CSIRO Pastoral Research Laboratory in Armidale, New South Wales, where he built on his work in Aberdeen to measure the energy transactions of free-grazing animals. Much of his research was aimed at improving the definition of energy and protein requirements of ruminants, and it was entirely appropriate that he led the group of scientists who produced the 1990 publication "Feeding standards for Australian livestock: Ruminants". He retained his interest in requirements after he had retired, and was never happier than when "comparing and contrasting" standards from different countries. Also in retirement, he was much involved in fostering collaboration in research between Australian and Asian countries.

John very competently supervised a number of PhD students before obtaining a doctorate himself, this being a DSc from Massey University. His work in Australia received national recognition when he was awarded the Order of Australia medal. Despite spending 40 years away from Britain he remained a loyal and active member of BSAP/BSAS, and returned frequently to attend the Society's meetings. His wife, Audrey, pre-deceased him; he leaves a son and two daughters, all well-established in Australia.

Dr. James Greenhalgh, UK

Professor Ian Lorne Campbell, New Zealand
1915–2003

Ian Campbell, Emeritus Professor of Dairy Husbandry and Foundation Dean of Agricultural and Horti-

cultural Sciences at Massey University, New Zealand died recently. After graduation from Massey Agricultural College, as it then was, he took his doctorate at the University of Missouri on the function of the parathyroid gland and its impact upon calcium metabolism in dairy cattle. He returned to Massey as a faculty member in 1948 and devoted his life to the institution, not least contributing significantly to the changes when the Massey Agricultural College was elevated to University status. He retired in 1977 but elected to remain part-time as Assistant to the Vice Chancellor. He is recognized not only as a respected animal scientist but also as one of nature's true gentlemen.

Robert Anderson

PERSONAL NEWS

Professor Bill Hill, UK

Professor Bill Hill of the Department of Genetics of Edinburgh University has been recognized by Her Majesty Queen Elizabeth II for his many contributions to quantitative genetics. He was awarded the Order of the British Empire (OBE) in the 2004 New Year Honours list of the UK.

David Norman Wells, New Zealand

David Wells is the recipient of the McMeekan Memorial Award 2002. He is a scientist working in the Reproductive Technologies Group at Ruakura Research Station and is leader of the team working on the cloning of livestock from adult somatic cells which has achieved outstanding results over the last 5 years.

Dr. Paul D. Muir, New Zealand

Dr. Muir is the recipient of the Sir Arthur Ward Award 2002. He is a recognized authority on applied research especially with respect to early lambing, lamb growth, beef production and calf rearing. His projects are closely integrated with the farming community and with industries and businesses in these areas. He works at Poukawa, New Zealand.

NEWS FROM MEMBER COUNTRIES

Israel Cattle Breeders Association

The Israeli Holstein Herdbook has recently published a concise handbook on Breeding, Milk Recording, and Productivity and Fertility of Holstein cattle in Israel which are recognized as one of the highest producing strains of dairy cattle in the world. The book provides information of the Israeli Breeding Index, Genetic Trends of Cows' Breeding Values by birth year, Performance of herds in Kibbutzim and Moshavim, Herd milk cell counts, conception rates, etc. Information: Israeli Cattle Breeders' Association. E-mail: central@icba.org.il.

EUROPEAN NEWS

SEFABAR—Sustainable European Farm Animal Breeding And Reproduction

*Final Workshop—A Satellite Symposium at 54th Annual Meeting of EAAP
Rome, Italy, 4 September 2003*

Farm animal breeders face difficult choices. More and more powerful technologies are at their disposal. But at the same time, the public are concerned about the impact of breeding practices and the uses to which new technologies are being put. And of course, increasingly, European breeders must compete in a global market. If these challenges are to be met, breeders must open their doors and explain what they are doing. Those outside the industry must also tell breeders what they do, and what they do not, want.

Farm animal breeders adapt the genetic make-up of livestock. The adaptations they bring about allow farmers, and the animal food production sector as a whole, to supply food products of the sort consumers want, and to do so efficiently. Globally, the European farm animal breeding sector is highly successful, but at present it faces several challenges.

Essentially, the challenges come from three sources. The first is the growing interest, among European consumers and breeders themselves, in food products with one or other kind of provenance: with, say, assured ethical status, animal welfare certification or

identifiable regional origin. The second challenge arises from the advent of novel and highly sophisticated technologies capable of transforming both the way breeders work and the results they can achieve. And the third stems from the fact that, as the global market in breeding and reproduction becomes more dominant, European breeders must compete directly with breeders outside Europe and especially in the United States.

These issues interconnect in countless ways. Thus, to mention just one cascade of effects, to meet ethical standards, European breeders may exclude certain breeding goals, or avoid using certain biotechnological tools. In turn, however, this may mean they are less able to compete with their American competitors.

It was to examine issues of this kind that SEFABAR (Sustainable European Farm Animal Breeding and Reproduction) was set up by the European breeding and reproduction sector in 2000. SEFABAR is a 3-year network project with inputs from commercial breeders, academics (geneticists, social scientists, economists and bioethicists) and NGO representatives. Its work has been carried out in several forums, including workshops, e-mail communities and the presentation of reports and papers.

The final SEFABAR workshop was held as a satellite symposium to the 54th EAAP Meeting on Thursday 4 September 2003 in Rome, Italy. The programme of the meeting was designed to give an overview of the activities and results of the different SEFABAR network participants over the 3 years of the project:

- State of the art in farm animal breeding and reproduction: a bird's eye view (J. van Arendonk, Wageningen University, The Netherlands)
- Animal welfare aspects in farm animal breeding and reproduction: chance for a sustainable future (R. Kolar, Akademie für Tierschutz, Germany)
- Symbolic goods in the market place: public perception of farm animal breeding and reproduction in France and United Kingdom (A. Ouedraogo, INRA CORELA, France)
- Breeding and society: the art of creating new and multiple equilibria (J. Schakel, Wageningen University, The Netherlands)
- Economic aspects of sustainable farm animal breeding and reproduction (J. McNerney, University of Exeter, UK)
- The making of sustainability in farm animal breeding and reproduction (P. Sandøe, Centre for Bioethics and Risk Assessment, Denmark)
- Sustainable farm animal breeding and reproduction: scenario building as a tool to improve communication between society and the food industry (A.E. Liinamo, Farm Animal Industrial Platform, The Netherlands)

The presentations were followed by a round table discussion on the future of sustainable farm animal breeding and reproduction. In the round table, the European farm animal breeding industry was represented by S.A. Korsvoll from Aqua Gen, Norway (aquaculture); W. Voskamp from CR-Delta, The Netherlands (ruminants); K. Laughlin from Aviagen, UK (poultry); and S. Petersen, Danish Pig Breeders, Denmark (pigs). Further, the round table included R. Kolar from Akademie für Tierschutz, Germany representing the network animal welfare partner, and P. Sandøe from the Centre for Bioethics and Risk Assessment, Denmark representing the ethics partner.

SEFABAR has undoubtedly been a learning experience for its participants. It is fair to say that the discussion of sustainability and the collective attempt to envisage scenarios for the future taught everybody a great deal about the challenges ahead. During the project, the term sustainability was interpreted broadly to include issues connected with economics, the environment, the impact of disease (including zoonoses) and, particularly, animal welfare. An abiding theme, naturally, was the preservation of genetic resources for future use. The key challenge proved to be how to balance these potentially conflicting concerns.

The project demonstrated vividly that no single recipe exists in which the requirements of globally competitive, sustainable European farm animal breeding are neatly captured. A previous project on European farm animal breeding had already suggested that more discussion with animal welfare groups was desirable.¹ Following SEFABAR, there

¹ 'Future Developments in Farm Animal Breeding and Reproduction and their Ethical, Legal and Consumer Implications' (EC BIO4-CT98-0055) was set up by European breeders by the Farm Animal Industrial Platform and concluded in 1999.

is no doubt that the discussion needs to be widened to cover additional topics. In view of this, specialists in the science and technology of breeding and commercial breeders must remain sensitive to public attitudes, the bioethical debate and economic advice. They also need to ensure that members of the public, experts in bioethics and economists are kept up to date with developments in breeding. There must, in other words, be effective communication from, and into, the breeding sector.

Communication of this kind is unlikely to be achieved unless the activities of breeders take place in a transparent environment. Here, we believe that SEFABAR has taken a momentous first step. It has unlocked a door and pushed it back.

More information on SEFABAR can be found in the Internet at www.sefabar.org, where you can also download the full proceedings of the final workshop.

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European SAVE Foundation

The European Save Foundation (Safeguard for Agricultural Varieties in Europe) has issued its quarterly electronic newsletter which is available at: <http://www.save-foundation.net/english/actual.htm>.

The Newsletter is also available in French and German

The contents of the current issue include the following items:

First “Regional Fair of Balkan Agrobiodiversity and Rural Heritage”

ECP/GR launches Phase VII and sets new priorities

Book “Agricultural Genetic Resources in the Alps”

Support of products from mountain regions

SAVE Meeting; Staf Van den Bergh New Chairman

Important dates (extract)

The Newsletter is available free. To subscribe, send an e-mail to: office@save-foundation.net or visit the website at <http://www.save-foundation.net>

INTERNATIONAL NEWS

International Committee on Animal Recording

The current Newsletter of International Committee on Animal Recording, ICAR, is now available on the ICAR website at: <http://www.icar.org/PDF%20files/NL%20October%202003.pdf>

Here is a summary of the contents:

- New positions
- Administration
- Legal matters
- New members
- Sousse 34th ICAR session
- Chairperson report to the ICAR Board
- Strategic plan
- ICAR SC's WG's and TF activities
- News from sub-committees and working groups
- Activities of Meters and Jars SC
- Activities of Milk Testing Laboratories WG

Interbull

The latest Interbull Bulletin, with papers presented during the open meeting in Rome 2003, can now be found under Publications and Documentation/ Bulletins on the home page at <http://www.interbull.org>.

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The Livestock, Environment and Development Toolbox

Finding a balance between the fast growing demand for animal products and the need to sustain the natural resource base of land, water, air and biological diversity is one of today's most crucial agricultural dilemmas. Focussing on livestock production, which often has been associated with important negative environmental effects, the work of the Livestock, Environment and Development (LEAD) Initiative centres on how to alleviate the negative and enhance the positive impact of livestock on the environment and thereby contribute to sustainable use of the natural resource base. The Livestock and

Environment Toolbox is an electronic decision support tool for policy-makers, planners and project leaders, to enable them to assess interactions between livestock and the environment. It helps the decision makers to identify appropriate technology and policy interventions within the domain of animal production–environment interactions. We would like to invite you to visit the Livestock and Environment Toolbox at: <http://www.virtualcentre.org/en/dec/toolbox/homepage.htm>.

For more information about animal production–environment interactions, please visit the LEAD Virtual Research and Development Center <http://lead.virtualcentre.org> <<http://lead.virtualcentre.org/>>

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International Organization for Biotechnology and Bioengineering

This new international organization invites individuals active or interested in biotechnology and bioengineering to take part by joining via at: <http://seagate.sunet.se/archives/et-w5.html>. The chairman is Dr. Jacky Foo of Sweden, e-mail: foo@stocjholm.bostream.se. This new organization also has a website for information and contributions: www.bostream.nu/jfoo/iobb—which will later be moved to: www.biotech.kth.se.

REPORTS OF MEETINGS

Writing and Presenting Scientific Papers **Report from the Elsevier/EAAP Workshop** **Rome 2003**

The Elsevier/EAAP Workshop on “Writing and Presenting Scientific Papers” was presented for the sixth time at the 54th EAAP Annual Meeting in Rome in 2003. The instructors were the same as in

the previous workshops: Michael Grossman (USA), Birgitta Malmfors (Sweden) and Phil Garnsworthy (UK).

The full-day workshop attracted 14 students and scientists from 9 countries. The programme started with an introduction on the importance of communicating science, and was followed in the morning by two sessions, “Techniques for Scientific Writing” and “Using Visuals in Scientific Papers” and in the afternoon by two sessions, “Oral Presentation and Visual Displays” and “Poster Presentation”.

The workshop uses the technique of “active learning” in group work. For each session, there was first a short introductory lecture, after which groups of participants performed a task; finally, each group presented results of the task. Tasks in the morning included improving titles and abstracts, as well as tables and figures, and tasks in the afternoon included preparing and giving oral presentations, and critically evaluating posters.

The workshop was extremely well received by the participants. Their average grading for “overall impression of the workshop” was 4.6 on a scale from 1 to 5 (5 = very good). They emphasized that the workshop was interesting and stimulating, and that the awareness, knowledge and skills gained will be very useful in their future writing and presentations. The participants agreed that it is a good idea to have the workshop just before the EAAP congress. The workshop provides motivation, as well as an opportunity to reinforce learning by viewing and reviewing papers and presentations during the congress.

Each participant was given a copy of the book “Writing and Presenting Scientific Papers” by Malmfors, Garnsworthy and Grossman (Nottingham University Press, 2000). The book is useful for students and young scientists, as well as for senior scientists and university teachers; a review is in the EAAP News of Livestock Production Science 67 (2000), pp. 193–194. A second edition of the book has now been released and is reviewed on page 78. The Elsevier/EAAP Workshop will be presented again at the EAAP meetings in Bled, Slovenia, in 2004 and in Uppsala, Sweden, in 2005.

Birgitta Malmfors
Phil Garnsworthy
Michael Grossman

**EAAP Working Group on Animal Genetic Resources (WG-AGR)
Report on activities August 2002 to August 2003**

1. The European Regional Databank and the FAO Information System

We recall that a new version of the EAAP Animal Genetic Data Bank (AGDB), operated by the Veterinary University (TiHo) of Hanover, was released on the Internet in August 1999 and put under review by the WG-AGR. The EAAP AGDB today stores information on 1783 breeds, from 43 countries. In the direction of the integration of EAAP-AGDB into the FAO Data Bank system (DAD-IS), in 1999–2000 a proposal was made, and tested through a pilot study conducted by Eildert Groeneveld, to put DAD-IS into public domain under a so called Open Source Model (OSM).

The EAAP research proposal to EC “A European Farm Animal Biodiversity Information System—EFABIS” was accepted in March 2002. With the funding of the EFABIS project, another option was developed: instead of putting the DAD-IS code into the open source, it was agreed to use the EFABIS code (which is open source) for the new versions of DAD-IS.

A first meeting of the EFABIS Consortium, including the WG-AGR acting as a scientific advisory committee for the network, was held on the 13th of June 2002 in Lelystad for discussing details of the contract (negotiation with EC was at that time in progress). On the 22nd of February 2003, a second meeting was held in Paris in order to organise the work among work packages. A technical workshop with software developers from Mariensee and FAO was held in Mariensee from May 7 to 11 during which the core data structure was further defined. The last EFABIS meeting was held in August 2003 during the 54th EAAP Annual Meeting in Rome. Meanwhile, work is well under way.

2. Liason with ERFPA activities

The European Regional Focal Point (ERFP) was set up in 2000 with a view to encouraging greater cooperation between the National Coordinators for Animal Genetic Resources (AnGR). ERFPA is part of

the global structure of the Food and Agriculture Organisation (FAO) and, since the 2001 Cairo meeting, ERFPA is officially a member of the EAAP WG-AGR. In late 2002, the ERFPA launched and sponsored two research projects. The WG-AGR is actively taking part to both projects. The first project *Development of guidelines for cryo-conservation of AnGR in Europe and exchange of state of the art knowledge and experiences with cryo-conservation*, headed by Sipke Hiemstra, aims to develop practical guidelines for countries wishing to develop their gene banks to conserve animal genetic resources. The second project *A study on optimising the implementation of databases on AnGR and the utilisation of their content*, headed by Andreas Georgoudis, aims to define the countries’ individual needs and to produce an appropriate strategic plan for the National Coordinators to implement and administrate the data base for AnGR.

3. Liason with EU activities

On February 2002, new rules (EC Regulation 445/2002) were issued as support to farming of endangered breeds within the context of EU Regulation on support for rural development (EC Regulation 1257/1999). The WG-AGR actively participated to this process. In April 2003, the WG-AGR participated to an experts group meeting to discuss a proposal for a *Council Regulation Establishing a Community Programme on the Conservation, Characterisation, Collection and Utilisation of Genetic Resources in Agriculture and Repealing Regulation (EC) no. 1467/94*. A written proposal for the AnGR sector was made by the WG-AGR to the European Commission. The new Regulation is expected to be promulgated before the end of 2003.

4. Liason with FAO activities

EAAP, through the WG-AGR, participated as observer to the Ninth Regular Session of the FAO Commission on Genetic Resources for Food and Agriculture (CGRFA)-Rome 14–18 October 2002. A report on EAAP activities in the AnGR area was presented in Rome by Louis Ollivier. A final report on the discussion on animal genetic resources held in Rome,

jointly prepared by the WG-AGR, WAAP and OIE, is available on Livestock Production Science-EAAP-News no. 47, pp. 267–268.

The WG-AGR continued to support the ongoing process of implementation of the State of the World's Animal Genetic Resources (SoW-AnGR) by FAO. The working group intends to contribute where feasible to the completion of the first Report on the State of the World's Animal Genetic Resources and looks forward to work with FAO and its Commission on Genetic Resources for Food and Agriculture to address questions relating to sustainable use and conservation of animal genetic resources.

*Gustavo Gandini,
Chairman of the EAAP Working Group on Animal
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Report on Meeting and Activities of the European National Coordinators on Animal Genetic Resources

The ninth annual workshop of the European National Coordinators (NCs) for the management of farm animal genetic resources was held in Rome on August 30, 2003. Dr. Mike Roper, President of the ERFP Steering Committee, chaired the meeting. The 52 named participants represented 26 countries (Albania, Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Macedonia, The Netherlands, Norway, Poland, Serbia and Montenegro, Slovakia, Slovenia, Spain, Switzerland, Turkey, United Kingdom) and different international organizations (FAO, RBI, EAAP). The chairman welcomed the NCs. He thanked Donato Matassino and Nadia Castellano (Italy) and EAAP for hosting this 9th Workshop.

Ricardo Cardellino (FAO) welcomed everybody in Rome. He spoke highly of the ERFP, stating that Europe was the only functioning ERFP and that Europe can act as a model for other regions. Dr. D. Planchenault reported on the activities of the European Regional Focal Point (ERFP) in the past year. The first ERFP Call for Action was launched in mid-November 2002. Nine submissions were received and two projects were funded, one "Development of

guidelines for cryopreservation in Europe" and the other "Study on optimising the implementation of databases on AnGR in Europe". EFABIS program "A European Farm Animal Biodiversity Information System" is now operational. Since Cairo, The ERFP have participated in five regional workshops providing technical support to countries writing their Country Reports for FAO States of the World Animal Genetic Resources.

Dr. D. Planchenault reported the ERFP budget for 2003. It takes into account the second year contribution and the expenses since January 2002. This presentation is approved by the NCs workshop. This annual budget (122,000 Euros) is voted and approved.

Dr. S. Hiemstra gave an overview of developments since the project on "cryopreservation" received funding from ERFP. He detailed the objectives that included the development of guidelines for cryopreservation of AnGR in Europe. The first step in the process was the cryopreservation workshop held in Paris in February. The workshop was successful and copies of the proceedings are available from Dr. Planchenault.

Dr. A. Georgoudis (Greece) gave the results of the questionnaire on National databases in Europe circulated and completed in spring of 2002 by NCs. They were the basis of this new project funded by ERFP. The objective of the project is to provide guidelines for the NCs regarding definition of countries' individual needs and production of an appropriate management plan. Additionally, the project will provide guidelines on the implementation and administration of a database for AnGR.

Dr. Schulte-Coerne (Germany) in his role as an informal leader of bilateral discussion gave a very detailed and comprehensive overview of EU regulation relevant to AnGR and how the ERFP have contributed or could contribute to the development of EU legislation in this area.

Dr. E. Groeneveld (Germany) gave a quick presentation of the EFABIS program. The aim of the EFABIS is to create an integrated infrastructure of different databases to monitor animal biodiversity in Europe. He commented that it is very important that the software is "open source" so that it can be used routinely by all NCs. Work is on schedule and is due for completion in 3 years time.

Mr. Alderson from Rare Breeds International (RBI) provided on information and structure of RBI. RBI has been an active force in the conservation of AnGR since 1991 contributing at all levels, with a special interest in harmonisation of programmes and procedures whilst all the time seeking to disseminate information as widely as possible.

Mr. F. Steenhoff gave a short overview of recent developments within the European Commission. He added to some details presented by Dr. Schulte-Coerne.

Dr. R. Cardellino from FAO gave a brief synopsis on progress with the first report on the State of World's Animal Genetic Resources. In total, 145 countries agreed officially to participate in SoW process. Approximately 400 personnel from 178 countries received the necessary training. A total of 42 Country Reports have been officially submitted to FAO and there are 30 Country Reports in draft form seeking expert advice from FAO.

Dr. R. Cardellino continued giving some details on the third session of the Intergovernmental Technical Working Group on AnGR (ITWG-AnGR). The meeting originally planned for November 2003 has been postponed to March 2004. The Commission on Genetic Resources for Food and Agriculture will meet in September 2004. Dr. Ela Martyniuk (Poland) provided further details on the third session of the ITWG-AnGR. The documentation prepared includes progress reports on the development of the Global Strategy on AnGR and the State of the World report, an outline of Strategic Priorities Report. Dr. F. Habe (Slovenia) provided a report on the subregional workshop for central and eastern European and EU countries on AnGR held in Slovenia in March 2003. Dr. D. Rungulis gave a presentation on IX Baltic Animal Breeding and Genetic Conference. Dr. A. Georgoudis provided delegates with a brief synopsis on the Satellite Sub-Regional Workshop for South East European, EU and Mediterranean countries on preparation of country reports on SoW-AnGR. It was connected with a technical field trip has been held in Ionnina–Epirus–Greece on 4th of June 2003. Dr. E. Martyniuk (Poland) gave an overview of the Report on AnGR meeting (Maputo) policy and legal framework. Topics discussed included sustainable use, improvement and access to farm AnGR through experiences at the national level, legal and regulatory

approaches at national and regional level and finally the implications of the international legal and regulatory framework to support sustainable use, improvement and access to farm AnGR.

The actual Steering Committee is maintained for another year. The rotational system will start in 2004. The NC representing the East will be re-elected. The ERFP website is launched and improvements have been made. The 2003 Call for Action would include the same themes as last year. The 31st of October was set as the deadline for project proposals. The next NCs workshop will be held in Bled.

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BOOK REVIEWS

After BSE—A future for the European livestock sector (2003). E.P. Cunningham (Ed). Report of EAAP Working Group. EAAP Publication No. 108. Wageningen Academic Publishers, P.O. Box 220, 6700 Wageningen, The Netherlands. ISBN 907699823X SB, 104 pages, Euro 40.

Modern agricultural methods have provoked a 50-year revolution in farming in industrialised countries, bringing spectacular increases in productivity. The fear of widespread hunger has largely been banished, and yet there remains considerable disquiet about our food systems. Several food scares have contributed to consumer worries, none more so that the epidemic of BSE. This began in Britain in 1986 and, though it is drawing to a close, it has had a profound impact throughout the whole farm and food system of Europe and beyond. This new report, emerging from a cross-European Working Group of the European Association for Animal Production and expertly edited by Patrick Cunningham, is a very welcome addition to the literature.

It summarises the emergence of the problem, the consequences for farmers, the loss of consumer confidence, and the struggle for policy-makers to stay ahead of the problem. Some of the questions raised are important. What do we do with 16 million tonnes of

animal by-products each year that can no longer enter the food chain? Some 95% of all recorded BSE cases occurred in Britain, but how good are the monitoring systems elsewhere? Some 140 cases of the human form, CJD, have occurred in Britain, but how long is the lag between consumption of infected meat and appearance of symptoms? What is clear, though, is that livestock producers have suffered—UK beef prices are down 60–80% since the mid-1980s.

The three chapters address the facts and lessons about BSE, the changing context for an industry clearly now in transition, and the future vision for more sustainable livestock systems. Each covers the key issues concisely and carefully. The contrast between the case of Iberian pig production within the *dehesa* systems of south-west Spain, with its close connections to wider landscape values and the production of meat with a distinctive flavour, and the energy-intensive and water-polluting pig systems of Netherlands and Denmark is striking. In Denmark, for example, only 33% of the nitrogen and 45% of the phosphorus added to crop and livestock systems are accounted for in food offtake. The rest disappears to pollute atmospheric and water systems, incurring clean-up costs that society at large has to pay.

There remain some unanswered questions, such as on the exact origins of BSE, and the types of livestock systems likely to succeed in Europe after EU expansion. But at least the questions about sustainable systems are now being posed. This is an important and highly readable book, and I hope it is effective in helping to reshape both thinking and practice in the future.

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Writing and Presenting Scientific Papers, 2003, 2nd Edition. Birgitta Malmfors, Phil Garnsworthy and Michael Grossman. Nottingham University Press, Manor Farm, Church Lane, Thrumpton, Nottingham, NG11 0AX, UK. Pb. ISBN 1-897676-12-3, pp. 153, £19.50.

I received an invitation to review this book for the EAAP Newsletter after I sent the Editor a bit of a

diatribe about poster presentation at the 2003 meeting. It's the second edition and accompanies a workshop of the same name which has been presented several times in advance of the EAAP Annual meeting. The authors aim to provide suggestions and guidelines for communicating science based on their collective experience. And they do this admirably.

When the first edition was published, EAAP News said "This book should be required reading for all students whose degrees or professions will involve presenting scientific results in writing or orally. The topic is so important and the book so competent, it will quickly attract a grateful readership of students, research scientists and teachers. It is well overdue and well done." The *Annals of Botany* added "...Not only is this book aimed at young scientists presenting their first results...but also to older members of the profession, wishing to improve their communications skills." Enough said!

Interestingly, the authors acknowledge the mix of writing cultures which has emphasised to them that there is usually no "correct" way to write or present. But importantly, they drive home the message that communicating science is as important to the scientific process and designing conducting and analysing the experiment itself.

The book covers scientific writing from papers to research proposals and will show you how to improve your writing style. It also gives an easily digestible introduction to the presentation of statistics. Having done that, there are chapters on literature referencing and the publications process.

If you don't have time to read anything else in this book please fill up your coffee cup, put your feet up and read Chapters 10 and 11. The first describes the 'dos' and 'don'ts' of oral presentation and has some really simple messages. Be clear, be concise and keep to time-REHEARSE. The second takes you through poster presentations. I wrote my article before I read this book. We aren't far apart—in fact if I didn't know better, some of my article almost looks like plagiarism (stealing the thoughts or writings of someone else and giving them out as your own). Which is one of the things that the book doesn't cover, but you should be aware of.

That said, this is a little paperback which carries a big punch. It has a published price of £19.50 (28.50

approx.) with a ‘buy five get one free’ option at 114. Quite honestly, I think it should be in everyone’s laboratory—but not on the bookshelf gathering dust, please—it should be close to hand and consulted often.

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Progress in research on energy and protein metabolism. (2003). Editors: W.B. Souffrant and C.C. Metges. EAAP Publication No. 109. Wageningen Academic Publishers, P.O. Box 220, 6700 AE Wageningen, The Netherlands. This book compiles the scientific content of the International Symposium on Energy and Protein Metabolism and Nutrition, in Rostock-Warnemünde 13th–18th September 2003.

This volume contains the 10 invited reviews and 150 submitted papers presented to the Symposium on Energy and Protein Metabolism held in September 2003. For many years, the European Association of Animal Production has facilitated symposia on energy metabolism and on protein metabolism and nutrition with specific but not exclusive reference to farm livestock. These two separate symposia have included both review articles and original research publications. Each in its own right have provided an up to date review of current research activity in Europe and increasingly in many other countries in the world and this volume is no exception. The very welcome innovation at the recent meeting held in Rostock-Warnemunde was that the two symposia were combined. While the individuality of the two symposia was retained several sessions enabled much needed discussion of the interaction between protein metabolism and the metabolism of energy yielding metabolites and of areas of common relevance to both protein and energy metabolism. Of particular note were the sessions on genes and nutrition, regulation and modelling of energy and protein status and ‘nutrition and immunity. These sessions like the majority of others presented in the volume described basic, strategic and applied research.

The intention of the proceedings is stated as to ‘disseminate the latest perceptions of energy and protein research and with this to attempt the connection of areas in animal and human life sciences’. To this end, the book presents the latest results in a wide range of topics in energy and protein metabolism. It is pleasing to read of the significant advances that are being made in some areas but disappointing to note that in others there has been very little movement in recent years apart from the use of some expensive and sophisticated experimental technology to show what has been known for years. Reading the reports in the latter category may stimulate others to think of novel approaches to advance information in the area in question or demonstrate that there really is not a problem worth solving.

Overall, the scientific quality of the volume is good. Many of the reviews are of very high quality and reflect the care with which the organising committee devised the scientific programme. The research reports provide an insight into current thinking and research. They are of sufficient length to provide useful insights in to experimentation employed and the results obtained. The volume, which has been edited to a high standard, provides a useful reference source for the research scientist and the extension worker alike of current research in energy and protein metabolism of particular but not exclusive relevance to farm animals. Most of the reviews should be of interest to animal science students both at the undergraduate and the graduate level.

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Weaning the pig: Concepts and consequences. (2003). J.R. Pluske, J. Le Dividich and M.W.A. Verstegen (Eds.). Wageningen Academic Publishers, P.O. Box 220, 6700 AE Wageningen, The Netherlands. ISBN 9076998175, HB, 430 pages, Euro 80.

Weaning can be regarded as one of the most critical periods in a modern-day pork production cycle because of the challenges faced by the piglets at this

time. The challenges are numerous but may be divided into three categories: (1) changes in the food supply, (2) changes in the physical environment and (3) the challenge of psychological stress. Consequently, pigs usually suffer a post-weaning "growth check" for 7–14 days following weaning that is characterised by low and variable feed intake, poor and variable growth rate, increased maintenance requirements and increased susceptibility to enteric pathogens to cause diseases.

The growth check is the starting point of most of the 15 chapters, which comprise this book. The chapters present up-to-date information, data and background philosophy related to the various events associated with 'weaning'. The book is specialised in a way that it concerns a specific period of time with regard to the pork production cycle, but it is very holistic in the sense that it covers several areas associated with the weaning process: growth of the weaned pig, nutritional management in preparation for weaning, behavioural changes and adaptations around weaning, voluntary feed intake, digestive physiology, modulation of small intestinal integrity, the intestinal microflora and diarrhoeal diseases after weaning, intestinal immunity, nutritional requirements and intestinal requirements of the weaned pig, environmental and housing issues after weaning, saving and rearing supernumerary and underprivileged piglets, and productivity and longevity of the weaned sow.

In total, 32 world-renowned experts and specialists from numerous countries have contributed to this book. The information is given in a clear, easily accessible language, illustrated with several tables and figures. As the chapters are written independently of each other, some repetition occurs among the chapters, and the order of the chapters might not be logical. In light of 'weaning' as being a multi-factorial situation, determination of the relative importance of different factors is inevitably difficult, and there might therefore be no such way of building up a connected story on this issue. However, it is easy to enjoy each chapter on its own.

The weaning age of pigs has been reduced from about 8 weeks of age in the 1950s and 1960s down to a current average weaning age of 22–26 days of age that is practised in many pig-producing countries, although even earlier weaning ages (below 21 days) are adopted with some systems. As age at weaning is

variable and so weight at weaning can vary two or three fold. The extent and duration of the growth check is highly variable, and the difference in weight among pigs at weaning is not just maintained but is magnified as the pig grows because heavier pigs grow faster than their lighter counterparts at all ages. However, pigs are capable of extremely rapid growth after weaning, and the attempts to improve the performance of the newly weaned pig need to focus on both nutritional and management strategies. There are nutritional strategies that can be implemented before, and around, weaning to reduce the amount of stress and severity of the growth check in the immediate post-weaning period. Some of the chapters of the book focus on the nutritional requirements of the weaned pig, and how nutrition while suckling may stimulate growth after weaning. However, some nutrients like vitamins, minerals and essential fatty acids have been given relatively little attention, probably because of lack of knowledge regarding the requirements of these nutrients for the weaned pig and/or limited use of existing references on this area. In addition, little knowledge is presented with regard to the potential of changing the sow milk composition in order to mature the digestive tract and to prevent the growth check after weaning.

Of recent interest, particularly in Europe, has been the increasing awareness in society with respect to animal welfare, food safety, the environment and the 'quality' of production, especially with respect to antibiotics as growth promoters. These (relatively) recent events have instigated a flood of new research into fields concerning, for example, optimum gut 'health' and immune function that, until recently, have largely been ignored in weaner pig production. Some chapters have given attention to these fields, but there is no doubt that a lot of new knowledge will be available in the nearest future, also with certain emphasis on the weaning situation beyond antibiotics as growth promoters. Thus, although the book covers a lot of issues, some important aspects may be missing if future nutritional strategies should be adapted to the changes in the global pig production.

The book offers a number of ways to avoid the negative effects of weaning, and some tools, which can potentially prepare the piglet for the weaning process, and markedly improve the performance of the young pig. In addition, some practical advises are

provided. However, the reader should not expect the book to provide the overall solution on the multi-factorial problem, but the information can be used to modify and (or) develop strategies to best handling the weaning process.

In conclusion, this book provides an excellent and timely description of many of the challenges concerning weaning, and should be of major interest for anyone interested in pig production, health and disease, research, management and extension. Though the bibliography presented is somewhat scanty on some certain aspects, and may not provide sufficient access points to specialised publications, the chapters give insight into several research and field experiments. I believe that the book will certainly stimulate the interest of students, lectures, researchers and those concerned with worldwide pig industry.

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Rumen Microbiology. (2003). Burk A. Dehority, Nottingham University Press, Manor Farm Thrumpton, Nottingham, NG11 0AX, UK. 1-897676-99-9, HB, 372 pp., £40.00.

The contents of this book are derived from lecture courses on rumen microbiology given by the author at the University of Ohio spanning 35 years. Several books have been published on rumen microbiology, among which Hungate's 1966 monograph 'The rumen and its microbes' is the classic text. Dehority began his lectures shortly after Hungate's book was published. Dehority's aim was to update the course year on year to reflect research progress. What has emerged is a book that captures the spirit of the scientist and which provides a historical perspective on the development of rumen microbiology.

In a similar way to Hungate's book, this is a personal account of rumen microbiology. The detailed accounts of some very old experiments—unpublished results with single animals or occasional sightings of certain protozoa, for example—follows the same sort of style as Hungate. It is hardly up-to-the-minute stuff, but it is a fascinating record of one man's interests and

activities. Coincidentally, a book on rumen microbiology, also based on lecture courses, was also published recently by Jim Russell of Cornell University. The two books could hardly be more different! Neither provides the detailed overview of all aspects of rumen microbiology which is found in 'The rumen microbial ecosystem', a multi-author book published first in 1988 and revised in 1997, and neither gives a good snapshot of how molecular biology has impacted on rumen microbiology in 2003. However, the detail given in many parts of Dehority's book is a wonderful account that the molecular-minded rumen microbiologists of the future will be able to look back on as a historical record. The largely morphologically based taxonomy of the ciliate protozoa, and the fermentation/morphological taxonomy of ruminal bacteria, which are detailed so lovingly in this book, will be replaced by precise phylogenetic relatedness trees. What a soulless replacement for knowledge based on skill, experience and familiarity.

The book begins with a chapter on comparative anatomy of the gut of various creatures, including herbivorous mammals, birds, fish and insects, which is fascinating, putting the rumen in its evolutionary context, though hardly such a major part of 'Rumen Microbiology'. The chapters on ciliate protozoa abound with detail that no other writer could provide. The drawings are excellent and the descriptions detailed. The chapter on classification is let down badly, however, by not including most recent molecular phylogenetic data on the rumen ciliates. The chapter on bacteria suffers even more from this deficiency. OK, this is not intended to be an account of the state-of-the-art in rumen microbiology, but it would have been really interesting to read this author's view on linkages between classical and molecular taxonomic interpretations of the rumen microbial population. There are three detailed chapters about cell wall digestion. Dehority gives prominence to hemicellulose and pectin breakdown by devoting entire chapters to describing these activities. The importance of the non-cellulosic polysaccharides seldom receives such attention, yet it makes sense because these polymers are abundant as well as cellulose in plant materials, so we should think about them more. I really enjoy the way Dehority asks basic questions, all too often avoided because of their difficulty. For example, in the three chapters about

fibre breakdown, he says—Yes, we know that a number of species can carry out pectin degradation (for example), but which are *really* the key organisms? Once again, however, the account of fibre digestion is incomplete because it ignores the wealth of information that now exists on the genes and enzymes involved in fibre breakdown by the main bacterial and fungal species. Some other important areas, such as means of manipulating rumen fermentation and the biochemistry of fermentation and digestion processes are mentioned only briefly.

On whose bookshelf should this monograph find a place? Rumen microbiologists, of course. Microbiologists studying other gut microorganisms, certainly. Ruminant nutritionists, certainly. Postgraduate students in these fields, too, should consult this book. Whether undergraduates would make much of the book is questionable. There is a huge quantity of information, arranged logically but not in a fashion that is easily assimilated by the standards of many contemporary textbooks. The poor coverage of most recent discoveries in the molecular areas also gives the novice scholar a misleading impression of the status of the field. More should have been done to update the information in preparing the book. For example, a description is given about the three-domain structure of life forms, which separates the methanogens from the rest of rumen prokaryotes, but elsewhere the use persists of the term ‘methanogenic bacteria’, when ‘methanogenic archaea’ is the accepted terminology. More editorial work should have been carried out too, because the text is full of spelling and grammatical mistakes. Overall, however, the positives greatly outweigh the negatives. This was a review I enjoyed doing.

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Food safety: contaminants and toxins. (2003). Edited by: J.P.F. D’Mello (Scottish Agricultural Colleges). CABI, Wallingford, Oxon. Hardback, 452pp., ISBN 0-85199-607-8, £80.

When I was first invited to review this book, I approached it simply as a biologist, looking for a

chance to update myself on the latest issues in food safety.

The preamble says it is designed for final year undergraduates in agriculture, food science, nutrition, dietetics and veterinary medicine and gives the reason for its development the lamentable state of teaching in food safety issues in the UK. It also aims to stimulate interest in our talented science graduates in food safety research. I was therefore also, as a communicator, looking for evidence of a style that invited and encouraged young people to read more, and that showed a genuine understanding of inclusiveness in writing.

In order to help me judge whether the writers D’Mello chose were the best to give me a balanced picture, I first looked to see who had peer reviewed each of the chapters of the publication—no-one is named. Additionally, have the authors seen and commented on each others text? I do happen to know one of the authors well—Mike Gasson as Chair of the UK Advisory Committee on Novel Foods and Processes and a member of the EFSA GM Committee is an eminent ‘catch’ from the publicly funded research arena. Perhaps the others are, too—I can’t say.

I then started to look for an overview. I needed to get a feel for ‘Is it such a big issue? What are the key problems now and in the future? Why did I need to know more?’ On p. 409, D’Mello finally gives the overview on ‘widespread and continuing concerns over food safety’. On pp. 430–431, you will find a summary of the key R&D issues for the future—if you were the author aiming to stimulate young scientists, surely you would put this at the forefront?

I spend a lot of my time coaxing my scientists not to write ‘it has been suggested that...’, ‘it is maintained that...’, ‘recent studies’, and not to use words like ‘perusal’ and ‘axiomatic’ and phrases such as ‘impact the health of the human species’, or ‘precipitation of deleterious effects’. And I suppose it is still too daring to use the ‘I’ and ‘We’ words occasionally language needs to be lively and modern to catch the attention of today’s young scientists.

Having got that off my chest and into the word processor, I scanned through the main chapters. The book covers plant toxins, bacterial pathogens and toxins, shellfish toxins, mycotoxins, pesticides, polychlorinated biphenyls, dioxins, heavy metals, adverse

reactions to additives, veterinary products and chapters on both the safety evaluation and the potential human health effects of GM foods, etc.

Once you work your way into how the book is laid out the hierarchy of headers is very clear and on the whole the authors have succeeded in introducing their subjects in a way that allows you to skip in and out of sections depending on your particular level of interest.

It's clearly been a labour of love. The *minutiae* are mostly all there and authors had trouble deciding what to leave out. The lists of print references are long—the most recent mainly 2001, but with the editor citing from 2002. Web references would have been a useful addition. A reasonable all-round introduction, then. And congratulations to Swedish author Lars Jorhem writing on heavy metals, whose chapter particularly caught my attention. He at least dared to be personal and his 'you' and 'we' survived, so the lack of this more personal approach wasn't editorially driven.

I then turned to Eric Johnson's chapter on bacterial pathogens and toxins for a more thorough reading of an area that I reasonably familiar with. This American author writes from a US perspective, and European or UK references to regulatory authorities, e.g. the UK Food Standards Agency, are not high profile. Following his contextual introduction into the economic and health burdens, and some fascinating history snippets, he very importantly references to the 'gold standard' work on microbes which we know cause food poisoning (The Microbiological Safety of Food edited by Barbara Lund, Tony Baird-Parker and Grahame Gould). This it seems to me is key; give an overview, then tell your readers where to go for the detail. He then introduces the bugs, and strategies for their detection. Toxins, treatment and control follow. I can spot that the chapter is not up-to-date in two areas at least—the first is mathematical modelling and the collaborations between the US and Europe which are resulting in ComBase and GrowthPredictor; the second is in its only passing reference to genomics. But if you wanted to delve, it would not be difficult to find out about these most recent innovations by judicious searching on the web.

If you are into scholarly texts, written in traditional style, set in rather old-fashioned type, you will find yourself at home. If you're my generation you

can cope—even if with gritted teeth at times. I spent most of a day dipping in and out of it. But if you were a reluctant undergraduate looking to be drawn into finding out more, you could be turned off by this book. Which would be a real shame.

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Interaction between climate and animal production. (2003). Eds. N. Lacetera, U. Bernabucci, H.H. Khalifa, B. Ronchi and A. Nardone. Published by Wageningen Academic Publishers, P.O. Box 220, 6700 AE Wageningen, The Netherlands. EAAP Technical Series No. 7. 123 pp. Proceeding of the Symposium of the International Society of Biometeorology, University of Tuscia, Viterbo, Italy, September 4th, 2003.

An increasing demand for animal products in countries experiencing hot climatic conditions, including the Mediterranean basin, Central and South America and South Asia has recently lead to an increase in milk and meat production in these areas. However, animal production is generally achieved using breeds of animals selected for high performance under temperate climate. Recent climatic fluctuation including a rise in the environmental temperature produce hyperthermia and metabolic vulnerability in high producing animals such as the dairy cow. The six introductory papers at the Symposium summarised the climatic factors affecting livestock and the physiological response of animals to extreme climates. They describe the consequences of heat stress on the animals' thermoregulation function. The development of thermal indices for animal studies and management is presented in detail as a suggestion for the investigation of the adaptation of the metabolism of the animals in hot environments. The consequences on the behaviour of animals, on their reproductive performance, on milk production and quality, growth and health, resistance to diseases and the immuno-function are also presented and debated. Ruminant animals have been particularly concerned in the scientific contributions. More than 50% of them concerned the cattle species

of which a substantial majority were dairy cows, but four original contributions concerned the buffalo species. The efficacy of the use of different covers to prevent heat stress has been demonstrated by their effect on physiological parameters. Other herbivorous animals included the dairy goat and the dairy ewe and the rabbit species. Research specialists from 14 countries representing the six continents attended the conference. Italy with 14 presentations has been the major contributor to the success of the Symposium, which included 29 short communications presented as extended abstracts.

Several strategies have been proposed and discussed for studying, reducing or alleviating the effects of heat stress in high producing animals. They include genetic selection, acclimatizing and specific husbandry for the prevention of noxious gas production. The consequences of animal production in hot conditions on the environment have been particularly discussed. They include the contribution of animal production and husbandry on global warming, methane and nitrous oxide production. Several processes of manure management and treatment, of pasture management have been proposed to prevent major deleterious consequences of animal husbandry on the environment in hot and tropical countries.

This booklet provides basic information for the experimental approach to animal husbandry in hot environments. It could be particularly recommended for specialists involved in animal research, teaching and extension in countries of the Mediterranean basin and countries under tropical climate.

Aimé Aumaitre
President of the EAAP

Pig Production Problems: John Gadd's Guide to their Solutions. (2003). John Gadd. Nottingham University Press, Manor farm Thrumpton, Nottingham, NG11 0AX, UK. ISBN 1-897676-34-4, Hardback, 591 pp., £60.

The book is crammed full of ideas, tables, figures, numbers, graphics and checklists. It is an Aladdin's cave of information treasures. There is so much good stuff in it; one does not know which way to turn, or what particular gem of knowledge should best be smuggled out of the cave. The book is written to

lighten the pig enterprise manager's daily burden of problem solving. As such, it makes an important contribution to pig management.

But this is a text that I have been at a loss to know how to tackle. John Gadd retired recently as one of the foremost agricultural journalists of present times. It was our good fortune that his interests were in the livestock sector, particularly in the application of Science, Technology and Good Ideas to the profitable production of meat from pigs. His columns were a constant source of information and inspiration to all those worldwide who relied upon John to supply up-to-date knowledge. This he mixed with his own brand of inventiveness, his own ideas and loads of practical applications from a wealth of experience in the pig industry. Technology Transfer through the use of the written word is extraordinarily difficult, as many of us know to our cost. But in this medium John was the consummate professional. We knew that he would be persuaded to bring his skills to bear upon a full-scale opus. This being so, I was not alone in waiting with eager anticipation for "John's Book". The book that would encapsulate for us all those years of wisdom that dripped monthly from his pen. Unfortunately, I do not think this is it.

In this book, John, innovative as ever, has done something different. In as much as he has achieved what he set out to do (he always does), it is a success. What is in question is whether what he set out to do was right for the medium of a single written text.

Perhaps, there were two conventional possibilities. One might have been a book which would deal with bite-size chatty pieces, perhaps a mixture of anecdote and technology, arranged in no particular order, but ideal to dip into last thing at night or when needing a mental "lift". The other would have been a well-ordered reference text, where specific answers to specific problems could be found as they occurred; a book that could be taken from the office shelf when some trial or tribulation of pig production hit the manager on the nose.

This book follows neither of those conventions. I found it too demanding at the bedside. Interestingly, more demanding than reading John's columns ever were. But when I came to search for his words of wisdom on a number of specific topics, I could not find them. Sometimes they were there, hidden away in

another topic. Other times, they simply were not to be found.

There is so much this book (or should it be compendium?) has to offer that it must be a compulsory purchase for pig producers and their advisers. The difficulty will be in the purchaser finding a way of using it to best advantage. Maybe the whole text should be given an initial scan through; not worrying about the detail, but just finding out where things are. Then it would be a matter of subsequently seeking the right place for the right problem.

There are, in fact, 31 chapters. They are (as I am sure the author intended) eclectic, and therefore there is no attempt at a comprehensive subject choice. Thus, there is a chapter on ‘Prolapse’, but none on ‘Carcass Quality’, a chapter on ‘Mostly about people’, but none on ‘Pig feeding’. Does this mean that John has nothing to say about feeding pigs? Far from it, the book is a mine of information about feeding pigs, but you have to mine for it. However, the mining is fun, the ‘experimental’ format sees to that.

In the end analysis, the book does manage to forward solutions to a wide coverage of piggy problems; which is what the author promised it would do. The book ends up as a useful, if unconventional, read. Every pig producer should have a copy. It is not as good as a monthly column by John Gadd, but it is the next best thing.

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Supply-Side Sustainability. (2003). Timothy F.H. Allen, Joseph A. Tainter and Thomas W. Hoekstra. Columbia University Press.

“This is undoubtedly the most thought-provoking book on sustainability that has appeared so far.” International Journal of Sustainable Development and World Economy.

“Sustainability does not emerge just from activities such as recycling or conserving biodiversity; it requires problem solving. This, too, costs more and more for ever-smaller amounts of information, but Allen (Botany, Univ. of Wisconsin, Madison), Tainter

and Hoekstra (both, USDA Forest Service) offer recommendations for reducing costs... the importance of how a society can become sustainable makes the effort vital.”

Choice: While environmentalists insist that lower rates of consumption of natural resources are essential for a sustainable future, many economists dismiss the notion that resource limits act to constrain modern, creative societies. The conflict between these views tinges political debate at all levels and hinders our ability to plan for the future.

Supply-side sustainability offers a fresh approach to this dilemma by integrating ecological and social science approaches in an interdisciplinary treatment of sustainability. Written by two ecologists and an anthropologist, this book discusses organisms, landscapes, populations, communities, biomes, the biosphere, ecosystems and energy flows, as well as patterns of sustainability and collapse in human societies, from hunter–gatherer groups to empires to today’s industrial world. These diverse topics are integrated within a new framework that translates the authors’ advances in hierarchy and complexity theory into a form useful to professionals in science, government and business.

The result is a much-needed blueprint for a cost-effective management regime, one that makes problem-solving efforts themselves sustainable over time. The authors demonstrate that long-term, cost-effective resource management can be achieved by managing the contexts of productive systems, rather than by managing the commodities that natural systems produce.

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NEW IDF PUBLICATION

Quality Management at Farm Level-Code of Good Hygienic Practices for Milking with Automatic Milking Systems. Bulletin of the International Dairy Federation (IDF) No. 386

Interested in keeping abreast with good agricultural management practices? The new Bulletin of IDF

describes rules to perform Good Practices. Problems of residues of antimicrobials, microbiological contaminants, feed-related contaminants and environmental contaminants are approached. It provides guidance on how to control possible hazards at farm level. Recommendations to milk producers to produce safe and suitable milk using an Automatic Milking System (AMS) are presented in this issue. Information: <http://www.fil-idf.org/Orders/PubOrderFrom.asp>

All IDF publications may be viewed at the website: <http://www.fil-idf.org/publication/htm>

TRAINING COURSES

CIHEAM/IAMZ COURSES, MEDITERRANEAN

The following courses are offered by CIHEAM and IAMZ. Information: Instituto Agronómico Mediterraneo de Zaragoza, Apartado 202-50080 Zaragoza, Spain. Tel.: +34-976-716000; fax: +34-976-716001; e-mail: iamz@iamz.ciheam.org; web: <http://www.iamz.ciheam.org>

Animal Production

Mediterranean offshore mariculture from 17 to 21 May 2003 in Zaragoza.

Environment

Ecological engineering applied to environmental restoration in Mediterranean areas from 7 to 18 June 2004 in Zaragoza, Spain.

BARNEVELD COLLEGE, THE NETHERLANDS

All courses include theory and practical aspects of management and technical operations, with study visits and are suited to beginners and mid-career specialists in production, extension and management. Information: Dept. International Studies, P.O. Box 64, 3770 AB Barneveld, The Netherlands. Tel.: +31-342-414881; fax: +31-342-492813; e-mail: io@ipcdir.hacom.nl

Short Courses at Barneveld College

Courses will be held at various dates through 2004 in the following topics:

- Modern Broiler Management
- Modern Hatchery Management
- Modern Breeder Management
- Modern Pig Farm Management
- Feed Formulation
- Practical Feed Production
- Combination Feed Formulation and Practical Feed Production

CALENDAR OF SCIENTIFIC CONFERENCES

APRIL 2004

9th Crane Seminar on The Concept of Health—An Analysis of its Application to Humans and Animals will be held from 1 to 4 April 2004 in Skara, Sweden. Organized by: Bo Algers of Swedish Agricultural University and Lennart Nordenfeldt of Linköping University, Denmark. Information: Carina.Johnson@hnh.slu.se

British Society of Animal Science Annual Meeting will be held from 5 to 7 April 2004 in York, UK. Information: www.bsas.org.uk

Plants as Animal Foods: A Case of Catch 22? A 1-day conference will be held on 19 April 2004 in the Royal Botanical Gardens in Edinburgh focusing upon antimicrobial and antiparasitic properties of plant products for animals as mediated through plant secondary metabolites organized by the Nutrition Society and BSAS. Information: e-mail: JosHoudijk@ed.sac.ac.uk

International Congress on Silvopastoralism and Sustainable Management will be held at Lugo-Spain from 19 to 24 April. Information: <http://www.usc.es/ssm2004>. Fax: +34-982-241835; e-mail: ssm2004@lugo.usc.es

Address: Silvopastoralism and Sustainable Management International Congress, Crop Production De-

partment, Escuela Politécnica Superior, Univ. Santiago de Compostela, Campus de Lugo. 27002-Lugo, Spain.

MAY 2004

Retailing and Producer–Retailer Relationships in the Food Chains: 88th Seminar of European Association of Agricultural Economists will be held from 5 to 6 May 2004 in Paris, France. Information: www.eaae.org/activities/indexa.htm

The Seventh Annual Langford Food Industry Conference on the topic of Environment and Quality: Improving the Countryside and the Rural Economy will be held on 19 May 2004 at the University of Bristol School of Veterinary Science, Langford, near Bristol, UK. Information: Langford Continuing Education Unit School of Veterinary Science, Langford House, Langford, Nr Bristol, N. Somerset BS40 5DU, UK. Tel.: +44-117-9289502; fax: +44-1934-852170; e-mail: Langford-CE@bristol.ac.uk or visit www.bsas.org.uk.

6th International Conference on Chain and Network Management in Agribusiness and the Food Industry (The Netherlands) will be held on 27–28 May 2004. Information: www.sls.wau.nl/bk/congres/

Conference of the International Committee of Animal Recording (ICAR) will be held from 28 May – 3 June 2004 in Sousse, Tunisia. Information: www.icar.org and mosconi@eaap.org

Interbull Annual Meeting will be held from 28–31 May 2004 in conjunction with the ICAR Meeting in Sousse, Tunisia. Information: <http://www-interbull.slu.se/>

JUNE 2004

XXII. World's Poultry Congress will be held from 8 to 13 June 2004 in Istanbul. Information: Professor S. Yalçın, Ege University, Faculty of Agriculture Department of Animal Sci, Izmir-Turkey. Tel.: +90-232-388-4000 ext. 1449; fax: +90-232-388-1867; e-mail: postmaster@ziraat.ege.edu.tr; web: www.wpc2004.org.

Joint 2004 Annual Meetings of the Association for the Study of Food and Society—and the Agriculture, Food and Human Values Society will be held from 10 to 13 June 2004 in New York, USA. Information: <http://www.clas.ufl.edu/users/rhyans/afhvs/NextMeeting.htm>

14th Annual World and Agribusiness Symposium on Sustainable Value Creation in the Food Chain will be held from 12 to 13 June 2004 in Switzerland. Information: www.ifama.org/conference/2004Conference/2004CFP.pdf

61st Easter School in Agriculture and Food Sciences will be held at the University of Nottingham, Sutton Bonnington, UK from 14 to 16 June 2004. Information: www.nottingham.ac.uk/biosciences/ah/ah_yield_conf/index.html

Sustainable Pork Production: Welfare, Quality, Nutrition and Consumer Attitudes; European Workshop of the EU 5th FP Plan will be held from 17 to 19 June 2004 in Copenhagen, Denmark. Information: E-mail: aase.sorensen@agrsci.pdf. Website: www.agrsci.dk/spa

JULY 2004

8th International Conference on Goats will be held in South Africa from 3 to 9 July 2004. Information: International Goat Association, 1015 Louisiana Street, Little Rock, AR 72202, USA. Tel.: +1-504-907-2600; fax: +1-501-907-2602; e-mail: goats@heifer.org or Prof. Norman Casey, South Africa: caseynh@icon.co.za or www.icgsa.co.za at which on-line registration may be made. Contact: Secretary, Ms. Carina Visser at icgsa@postino.up.ca.za

British Grassland Society Summer Meeting will be held from 11 to 14 July 2004 at Askham Bryan College, York, UK. Information: www.britishgrassland.com

23rd World Buiatrics Congress will be held at Québec City, Canada from 11 to 17 July 2004. Information: <http://www.wbc2004.ca>, info@wbc2004.ca.

AUGUST 2004

38th Congress of the International Society for Applied Ethology—ISAE will be held from 3 to 7 August 2004 in Finland. Information: www.isae2004.org

15th International Congress on Animal Reproduction (ICAR) will be held in Porto Seguro, Brazil in August 2004. Information: rsr2004@adinet.com.uy

Symposium on Reproduction in Small Ruminants 2004 will be held as a Satellite Meeting to the XV Congress on Animal Reproduction (ICAR) on 5–6 August 2004 in Colonia del Sacramento, Uruguay. Information: rsr2004@adinet.com.uy

SEPTEMBER 2004

The 55th EAAP Annual Meeting will be held from 5 to 9 September 2004 in Bled, Slovenia. Information: Official Congress Agency, CRA-Domžale, Groblje 3, 1230 Domžale, Slovenia. Tel.: +386-41-546-484; fax: +386-1-7211-701; e-mail: Marija.Klopčič@bfro.uni-lj.si and from www.bfro.uni-lj.si/EAAP2004

SYMPOSIA AND WORKSHOPS HELD IN ASSOCIATION WITH THE 55TH EAAP ANNUAL MEETING FOLLOW HERE

12th Animal Science Days on the topic of Animal Production according to Ecological, Ethological and Ethical Norms will be held from 2 to 4 September 2004 in Bled in association with the EAAP Annual Meeting. Information: Slavko Čepin: Slavko.Cepin@bfro.uni-lj.si or Silvester Žgur: Silvo.Zgur@bfro.uni-lj.si

FAO-ERFP-EAAP Workshop on Animal Genetic Resources—AnGR will be held 2–3 September 2004 in Bled in association with the EAAP Annual Meeting. Information: Dominique Planchenault: Dominique.Palchenault@inapg.inra.fr or Franc Habe: Franc.Habe@bfro.uni-lj.si or Pal Hajas: Pal.Hajas@fao.org

DAGENE Meeting Molecular Genetic Methods and Research on the Biodiversity of Autochthonous Domestic Animal Breeds will be held on 2–4 September 2004 in Bled in association with the EAAP Annual Meeting. Information: Laszlo Radnóczy: Dagene@ommi.hu or Drago Kompan: drago.kompan@bfro.uni-lj.si or Pal Hajas: Pal.Hajas@fao.org

International Symposium on Sustainable Re-cultivation and Land Use on Karst and Mountainous Regions by Use of Animals will be held on 4 September 2004 in Bled in association with the EAAP Annual Meeting. Information: Milan Pogačnik: Milan.Pogacnik@vf.uni-lj.si or Drago Kompan: Drago.Kompan@bfro.uni-lj.si

CEEC-Working Group Workshop on Farm Management and Extension Needs in CEE under the Restrictions of the EU Milk Quota will be held on 4 September 2004 in Bled in association with the EAAP Annual Meeting. Information: Arunas Svitojus: kvp2@takas.lt or Abele Kuipers: Abele.Kuipers@wur.nl

Academic Curricula Programmes: A Workshop on Animal Nutrition Teaching will be held on 4 September 2004 in Bled in association with the EAAP Annual Meeting. Information: John D. Oldham: j.oldham@ed.sac.ac.uk or Andrej Lavrenčič: Andrej.Lavrencic@bfro.uni-lj.si

Elsevier/EAAP Workshop: Preparing and Presenting Scientific Papers will be held on 4 September 2004 in Bled in association with the EAAP Annual Meeting. Information: Dr. Phil Garnsworthy: Phil.garnsworthy@nottingham.ac.uk or Marija Klopčič: Marija.Klopčič@bfro.uni-lj.si

EAAP-ASAS Workshop on Biology of Lactation in Farm Animals will be held on 9–10 September 2004 in Bled in association with the EAAP Annual Meeting. Information: Rupert Bruckmaier: bruckheimer@wzw.tum.de or Peter Dovč: Dovc@bfro.uni-lj.si

PhD Course: Estimation of Covariance Components and Breeding Values with the VCE 5 Package will be held from 9 to 14 September 2004 in Bled in association with the EAAP Annual Meeting. Informa-

tion: Prof. Dr. Milena Kovač: Milena@mrcina.bfro.uni-lj.si

Endangered Horse Breeds and Genetic Distance. A Joint Session of Rare Breeds International (RBI) and the EAAP Horse Commission will be held in association with the EAAP Annual Meeting in Bled. Information: William Martin-Rosset: wrosset@clermont.infra.fr or from Imre Bodó: bodoi@hu.inter.net

EuroSafe 2004: Science, Ethics and Society will be held from 2 to 4 September 2004 in Belgium. Information: www.kuleuven.ac.be/cabme/

11th Animal Science Congress of Asian–Australasian Association of Animal Production Societies will be held in Kuala Lumpur, Malaysia from 5 to 9 September 2004. Information: <http://www.agri.upm.edu.my/~msap/AAAP2004.html>

8th World Rabbit Congress will be held in Puebla City, Mexico from September 7 to 10, 2004. Information: Carlos M. Becerril, Chairman, 8WRC Organizing Committee: www.wrc8.org.mx and by e-mail: wrc8@colpox.mx

35th Congress of the World Association for the History of Veterinary Medicine and 4th Italian National Congress of History of Veterinary Medicine-CISO-Veterinaria will be held in Torino and Grugliasco on September 8–11, 2004. Information: Prof. Marco Galloni, Dipartimento di Morfofisiologia Veterinaria, Università di Torino, Tel.: +36-11-6709125; e-mail: marco.galloni@unito.it

Agriculture, Poverty and Rural Development in a Globalizing World will be held from 8 to 11 September 2004 in Italy. Information: www.unifi.it/eaee/

38th Nottingham Feed Conference will be held at the University of Nottingham, UK from 14 to 16 September 2004. Information: www.nottingham.ac.uk/feedconf

Agricultural Biotechnology International Conference will be held from 12 to 15 September 2004 in Cologne, Germany. Information: www.abic2004.org

1st Conference on Equine Behaviour and Welfare: Research into Practice will be held on 15 September 2004 at Writtle College, Chelmsford, Essex, UK. Information: Mark Kennedy at mjk@writtle.ac.uk

Pig Health Conferences will be held on 15 September 2004 at Ingliston, Edinburgh, Scotland and Milton Keynes, England. Information: Aberdeen University +44-1224-274230 or www.abdn.ac.uk/bioscience/

The Challenge Facing Animal Science Education will be held on 16–17 September 2004 at Writtle College, UK. Information: Julian Hill at Writtle College, Essex, UK.

International Conference on Physiological and Technical Aspects of Machine Milking will be held from 21 to 23 September 2004 at Nitra, Slovakia, 2004. Information: Prof. Stefan Mihina, Tel.: +421-37-6546272; e-mail: mihina@vuzv.sk

Rare Breeds International (RBI) Global Congress will be held from 27 September to 1 October 2004 at Bloemfontein. Information from: Dr. Keith Ramsay KeithR@nda.agric.za and website: rbi.org

OCTOBER 2004

International Conference of the International Society for Animal Hygiene (ISAH) will be held at Saint-Malo, France from 11 to 13 October 2004. Information from Secretariat: Geneviève CLEMENT ISPAIA-ZOOPOLE développement, BP 7, 22440 PLOUFRAGAN, France. Tel.: +33-2-96-78-61-30; fax: +33-2-96-78-61-31; e-mail: isah2004@zoopole.asso.fr; web: www.zoopole.com/ispiaia/isah2004.htm

Meat Quality and Food Safety in Pigs and Poultry will be held on 14–15 October 2004 at the University of Krakow, Poland. Information: Piotr Pasciak, Prof. Migdal and Kathrin Poltowicz, Krakow University, Poland.

7th World Buffalo Congress will be held in Manila, The Philippines from 20 to 23 October 2004. Information by opening the PCC website at www.pcc.da.gov.ph and from Antonio Borghese, General Secretary

of the International Buffalo Federation, Monterorondo, Rome, Italy.

Farm Income Stabilization: What Role should Public Policies Play? 86th Seminar of European Association of Agricultural Economists will be held from 21 to 22 October 2004 in Villa Orlando, Capri, Italy. Information: www.depa.unima.it/eaaseseminar.htm

International Symposium on the Future of the Sheep and Goats Sectors will be held in Zaragoza, Spain from 28 to 30 October 2004 organized by CIHEAM, IAMZ, IDF, FAO, EAAP and ICAR. Information: iamz@iamz.ciheam.org, website: www.fil-idf.org/sheepgoat2004

NOVEMBER 2004

7th World Conference of Bioethics will be held on 9–12 November 2004 at the University of New South Wales, Sydney, Australia. Information: www.bioethicsworldcongress.com

APRIL 2005

Assessing Rural Development Policies of the CAP. 87th Seminar of European Association of Agricultural Economists will be held on 21–23 April 2005 in Vienna, Austria. Information: www.eaae.org/activities.indexa.htm

JUNE 2005

56th EAAP Annual Meeting will be held in at the Swedish University of Agricultural Sciences in Uppsala, Sweden from 5 to 8 June 2005. Information: www.conference.slu.se/EAAP2005

XX International Grassland Congress will be held from 26 June to 1 July 2005 in Dublin, Ireland. Information: www.igc2005.com

AUGUST 2005

2005 FEBS-IUBMB Congress will be held in Budapest, Hungary from 2 to 7 July 2005 with the major topic of Proteins and Peptides. Information: <http://www.febs-iubmb-2005.com> Prof. Peter Csermely, Chairman of the Organizing Committee. E-mail: organizing.committee@febs-iubmb-2005.com

2005: Other Events

3rd Global Conference by the British Society of Animal Science will be held in Asia in 2005.

5th Asian Buffalo Congress will be held in China. Information: Antonio Borghese, General Secretary of the International Buffalo Federation, Monterorondo, Rome, Italy.

2006

10th Symposium on Digestive Physiology in Pigs (which is held every 3 years under the auspices of the European Association of Animal Production Commission on Pig Production) will be held in Denmark in May 2006. Information: J.A. Fernández: josea.fernandez@agrsci.dk, web: www.dpp2006.dk.

Paradigms in Pig Science. A Nottingham University Conference will be held in June 2006. Information: julian.wiseman@nottingham.ac.uk

8th World Conference of Genetics applied to Animal Production (8WCGALP) will be held from 13 to 18 August 2006 at Belo Horizonte, Brazil.

57th EAAP Annual Meeting will be held in Antalya, Turkey.

2007

58th EAAP Annual Meeting will be held in Ireland.