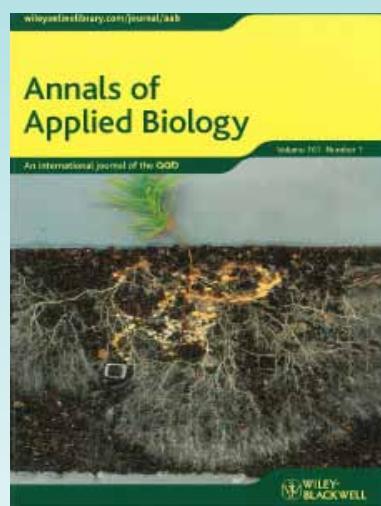


aab news

ANNALS AND PBJ RAISE THEIR IMPACT!

FOOD AND ENERGY SECURITY 1ST ISSUE OUT NOW!



-Conference Reports

-Biopesticides 2011

-Advances in Biocontrol 2011

-Making Crop Rotations fit for the future

-Effective application: exploring synergy between Agricultural Economics and Applied Biology

-What can be achieved in the restoration of diverse grasslands? And what will this habitat rehabilitation do for us?

-Council updates

-Welcome to our New Members

-AAB Forward Conference Programme

+ MORE INSIDE

Welcome to aabnews Issue 76...

With the current fiasco over the trade price of milk in the UK our newsletter features a timely conference report from Graham Russell on the importance of biologists working in partnership with economists. Also on topic; Richard Tiffin's new paper for Food and Energy Security 'Economists are not dismal, the world is not a Petri dish and other reasons for optimism...'

Council met on Wednesday 27th June 2012 at Three Ways House.

The summer Council meeting is an overnight affair beginning with dinner on Tuesday; this allows trustees to discuss a range of issues informally and also facilitates an early meeting by the conveners of the specialist groups ahead of the main Council meeting to discuss conference proposals for 2013 which are being presented to Council and develop ideas for multi-disciplinary meetings and other collaborations in the future. This provides a timely opportunity to thank all the conveners and the specialist group committees for their work on our behalf in organising and co-ordinating conferences – the members' survey confirmed how much all the members really value the conference programme so a very large thanks is due to you all.

Thanks was expressed to the small number of members who had provided comments on the new draft "Laws of the Association of Applied Biologists." These were discussed further at Council and the revised version of the Laws has now been submitted for legal scrutiny and advice. Any changes recommended by lawyers will be made, and the final proposed Laws will be submitted to an SGM for approval; this will be held alongside the AGM on October 3rd 2012. Please try and attend this meeting if at all possible, a larger quorum is currently required to change the Laws than for a normal AGM. As well as routine business, the AGM will also include an opportunity to make an input into the development of the AAB strategy for 2013-14 which is currently under development by Peter Shewry.

Council were pleased to approve conference proposals for 2013 which will deliver an interesting and varied programme to members with conferences across the UK and overseas, with topics of interest to all specialist groups (see details of the conference programme on the last page). Council also supported the submission of a proposal to host the European Society of Agronomy Congress in Edinburgh in 2016. While this seems a long time ahead, planning for this major congress begins early and the proposal will be submitted to the ESA Congress 2012 which is being held in Helsinki; please support our bid if you will be there.

Council approved applications for membership from 32 new applicants and noted the breadth of interest amongst applications for membership and the number of international applications. We look forward to working with these new members in the months and years to come.

Council received reports on publications. Progress with the new journal "Food and Energy Security" which is a joint venture with Wiley-Blackwell continues on schedule. The formal launch will take place at the Plant Biology Congress at Freiburg on Thursday 2nd August. If you will be there call into the stand, there are some 'amazing' t-shirts available.

Claire Hartry will soon leave on maternity leave; Council took this opportunity to wish her and the family all the best.

-Elizabeth Stockdale

We have been without a Membership Officer for some time and Council has resolved to increase our efforts to fill this honorary post, which also needs updating. In the future, more emphasis needs to be given to profile-raising, promoting the services of the Association to a wider community and developing more effective outreach, particularly to postgraduate applied biologists. I would be very happy to review the remit of the post with prospective candidates and explore these and other ways of increasing membership and our engagement with applied biologists worldwide. If any member is interested in the post, or would like to suggest a colleague who may be interested, please contact me directly (t.j.hocking@wlv.ac.uk) for further discussion. When nominated and elected, the officer becomes a member of Council and Trustee and has opportunities to contribute to the overall development of the Association. Please consider if you can help the AAB in this role. Many thanks.

-AAB President, Trevor Hocking

AAB Journal updates

Congratulations to the Editorial Board of *Annals of Applied Biology* and *Plant Biotechnology Journal*! The impact factor for *Annals* for 2011 has risen to 2.179 and we are now ranked 4th of 57 journals in the Agriculture, Multidisciplinary category. The impact factor for *Plant Biotechnology Journal* has risen to 5.442. This journal is ranked 10th of 190 in Plant Sciences and 16th of 157 in Biotechnology and Applied Microbiology

Annals Centenary 2014

We are calling on members to highlight any important/influential *Annals of Applied Biology* papers for our centenary celebration. Please get in touch if any spring to mind.



FOOD AND ENERGY SECURITY
1ST ISSUE NOW LIVE !

Food and Energy Security...

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is our new high quality and high impact open access journal publishing original research on agricultural crop and forest productivity to improve food and energy security. We have now published our first issue and would like to invite you to submit your paper too. Authors publishing in the journal benefit from:

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- Fully compliant with open access mandates - meeting the requirements of funding organisations and institutions where these apply.
- Article level metrics showing full-text downloads of each paper

We look forward to receiving your next article.

Food and Energy Security will be hosting a drinks reception at the Plant Biology Congress Freiburg 2012. Come and visit the Wiley-Blackwell stand no.14 from 4pm on 2 August. Free drinks, snacks and T-shirts while stocks last. Come and introduce yourself to Martin Parry or to one of the Associate Editors to find out more about the journal.

Bill and Melinda Gates foundation funding at the John Innes Centre to "persuade bacteria to help cereals self-fertilise"



The John Innes Centre will lead a \$9.8m research project to investigate whether it is possible to initiate a symbiosis between cereal crops and bacteria. The symbiosis could help cereals access nitrogen from the air to improve yields. The five-year research project, funded by the Bill & Melinda Gates Foundation, could have most immediate benefit for subsistence farmers.

"During the Green Revolution, nitrogen fertilisers helped triple cereal yields in some areas," said Professor Giles Oldroyd from JIC. "But these chemicals are unaffordable for small-scale farmers in the developing world."

As a result, yields are 15 to 20 per cent of their potential. Nitrogen fertilisers also come with an environmental cost. Making and applying them contributes half the carbon footprint of agriculture and causes environmental pollution. "A new method of nitrogen fertilisation is needed for the African Green Revolution," said Professor Oldroyd. "Delivering new technology within the seed of crops has many benefits for farmers as well as the environment, such as self-reliance and equity," said Professor Oldroyd.

The new research will investigate the possibility of engineering cereals to associate with nitrogen-fixing bacteria and of delivering this technology through the seed.

If it is found to work, farmers would be able to share the technology by sharing seed. And the research opens the door to the use of grasses as rotational crops to enhance soil nitrogen. "We're excited about the long-term potential of this research to transform the lives of small farmers who depend on agriculture for their food and livelihoods," said Katherine Kahn, senior program officer of Agricultural Development at the Bill & Melinda Gates Foundation. "We need innovation for farmers to increase their productivity in a sustainable way so that they can lift themselves and their families out of poverty. Improving access to nitrogen could dramatically boost the crop yields of farmers in Africa."

The focus of the investigation will be maize, the most important staple crop for small-scale farmers in sub-Saharan Africa. Parallel studies in the wild grass *Setaria viridis*, which has a smaller genome and shorter life cycle, will speed up the rate of discovery. Discoveries will be applicable to all cereal crops including wheat, barley and rice. The research will start by attempting to engineer in maize the ability to sense nitrogen-fixing soil bacteria. This may be enough to activate a symbiosis that provides some fixed nitrogen. Even slight increases could improve yields for farmers who do not have access to fertilisers. "We have developed a pretty good understanding of how legumes such as peas and beans evolved the ability to recruit soil bacteria to access the nitrogen they need," said Professor Oldroyd. "Even the most primitive symbiotic relationship with bacteria benefited the plant, and this is where we hope to start in cereals." In the most basic symbiosis, bacteria are housed in simple swellings on the root of the plant, providing the low oxygen environment needed. In more highly evolved legumes, the plant produces a specialised organ, the nodule, to house bacteria. Bacteria can infect the plant through cracks or through more complex tunnels built by the plant called infection threads. As the complexity of the interaction increases, so does the efficiency with which bacteria fix nitrogen for the plant.

"In the long term, we anticipate that the research will follow the evolutionary path, building up the level of complexity and improving the benefits to the plant," said Professor Oldroyd.

The project will also help highlight where more research is needed. It will run in parallel to ongoing research funded by the Biotechnology and Biological Science Research Council into how nitrogen fixation works in legumes. It will also run in parallel to an existing Gates-funded project, N2Africa, to improve nitrogen management in African farming systems more immediately.

Biocontrol and IPM Group

In 2010, the AAB's Biocontrol Group organised separate conferences on 'Biopesticides' (21 April 2010) and 'Advances in Biocontrol' (17 November 2010). For the 'Biopesticides' conference the AAB joined forces with the International Biological Control Manufacturers' Association (IBMA) to provide an update on the range of biopesticides that were available to UK farmers and growers. The programme ensured that users had realistic expectations about the performance of such products and understood how to use them to best effect. There were success stories about individual products and examples of how biopesticides had been integrated into whole integrated pest management (IPM) programmes. While that event was targeted at 'industry', the 'Advances in Biocontrol' conference was designed to provide researchers and extension workers with an opportunity to publicise their work. The conference provided an ideal opportunity for young scientists, experienced researchers and practitioners to detach themselves from their usual day-to-day pressures and become totally immersed in IPM in its broadest context. The interaction with like-minded people with complementary expertise enhanced thinking and helped to promote collaborative ventures. Both events were highly successful and the delegates independently voted to repeat them in 2011. As about 40% of the delegates had attended both events, the AAB Biocontrol Group decided to run the 2011 events on consecutive days with a conference dinner on the evening in between. This provided an opportunity for further interaction under less formal circumstances. The following is a brief report on each of those 2011 events:

Biopesticides 2011

The 2011 Conference addressed current policy issues with particular reference to the new European legislation and the Sustainable Use Directive (SUD). The programme also explored technical developments and important factors relating to the successful implementation of biopesticides.

Sponsors included Russell IPM, Fargro Ltd, HDC, IBMA and Rob Jacobson Consultancy Ltd. The role of Chairman was shared between Rob Jacobson (Convenor, AAB Biocontrol Group) and Phil Walker (Chairman, IBMA UK).

The keynote speaker, Dr David Cary (Executive Director, IBMA), set the scene for the rest of the day by questioning whether we were approaching a new era with respect to government and regulatory support for biopesticides across Europe. He explained how the implementation of the EU's SUD, reform of the Common Agricultural Policy and impending Water Use Directive provided unique opportunities to enhance the registration and use of biocontrol products. Rob Mason (Director, Chemicals Regulation Directorate) then described the policy and strategy of CRD in meeting its obligations under the SUD. He addressed several of Dr Cary's concerns and assured delegates that UK businesses would not be put at a competitive disadvantage by the 'gold plating' of European Directives. Dr Anne Buckenham (Director of Policy, Crop Protection Association) concluded the policy session by exploring the potential impacts of the



Dr David Cary, keynote speaker at Biopesticides 2011

changing legislation on crop protection practices. She envisaged both positive and negative effects of the legislation and explained how we must retain as many meet the challenge of producing more food with less impact.

Prof Konstadinos Mattas and Dr Efthimia Tsakiridou (Aristotle University of Thessaloniki) provided a summary of the EU-funded project, TEMPEST, which had explored the theoretical development and empirical measurements of the indirect costs of pesticide use. This dealt with the complex issues of external costs in their broadest context, including the impact on the environment, operators and consumers. They applied theoretical models to several case studies based in eight different countries to study the probable effect of applying taxes and/or levies on pesticides. The results were presented giving interesting insights from consumers which could influence future policy implementation.

Dr Phil Morley (Plant Science Company) represented the Soil Association describing the attitudes of organic farmers and growers to the use of biopesticides as well as their current use within organic growing systems throughout Europe.

The conference then moved onto more technical topics with Dr David Chandler (Warwick University) taking an interesting view on the integration of biopesticides with synthetic chemical products. Dr Toby Bruce (Rothamsted Research) and Dr Owen Jones (Vice President, Suterra) respectively described the development and role of semiochemicals in IPM programmes. Dr Paul Sopp (Fargro Ltd) introduced two new biopesticides, Metarhizium and Gliocladium, which had been brought to the UK market in 2011. Viv Powell (HDC) provided a comprehensive introduction to the HortLINK SCEPTRE project, which should identify further useful biopesticidal products.

The final session of the day looked at the practicalities of implementing IPM in UK crops. Dr Andy Brown (Product Development Manager, Becker Underwood)

Conferences in November 2011

explained the importance of technical support for biologically-based crop protection products and Jon Marcar (Lead Agronomist, Berry Gardens Growers Ltd) provided a case study of the use of biopesticides within IPM in commercial strawberry crops.

The conference was so successful that delegates voted to make it a regular event at 18-24 month intervals depending on the speed of political and technical developments in this field.

Advances in Biocontrol 2011

The overall objective of this conference was to explore novel means of providing alternatives to conventional chemical interventions in crop protection through integrated pest management and integrated crop management as well as classical biological control. The emphasis was on biological control but related techniques, such as semiochemicals, cultural measures and physical control, were also included. In order to involve as many people and topics as possible, speakers were restricted to slots of 15 minutes. The intention was to create awareness of current work and pave the way for future interactions rather than to present detailed research results.

There were a total of 18 presentations with a pleasingly large proportion of young scientists, some of whom were taking to a public platform for the very first time. Corin Pratt (CABI, Wallingford), Dr David George (Lancaster University), Dr Josiane Le Corf (INHP Agrocampus Ouest, France) and Dr Michelle Fountain (East Malling Research) described a wide range of approaches to classical biocontrol, habitat diversification and conservation control in outdoor situations. Jude Bennison (ADAS), Dr Luke Tilley (STC), Dr Richard GreatRex (Syngenta Bioline) and Dr Keith Walters (Fera) reported on new or improved methods of using specific macro-biological control agents in glasshouse crops. Two recent graduates of Imperial College, Clare Tickle and Jade Taylor, described their MSc projects which respectively investigated the threat of hyperparasites to IPM of aphids and a new method of boosting biocontrols of predatory mites in tomato crops.

The third session of the day focused on the use of entomopathogenic fungi and nematodes. Dr Dave Chandler (Warwick University), Dr Tom Pope (ADAS) and Gareth Martin (Becker Underwood) reported on new methods of controlling sciarid flies, shore flies, vine weevils and the recently introduced leaf mining caterpillar, *Tuta absoluta*.

The final session of the day brought together a number of novel approaches to pest and disease control which could have tremendous future potential. Catherine Walker (Imperial College) and Dr Neil Morrison (Oxitech Ltd) described two different methods of reducing pest population growth by releasing sterilised insects. Dr Nayem Hassan (Russell IPM) then provided a brief but comprehensive summary of pheromone mediated pest management strategies.

In the only paper which tackled disease control, Fiona Taylor (SASA, Edinburgh) described her work on the control of soil-borne potato diseases using Brassica spp. mediated biofumigation. In the future, the AAB's renamed 'Biocontrol and IPM Group' will be encouraging a larger proportion of papers and posters on non-chemical of plant diseases.



Speakers at the 2011 Advances in Biocontrol conference

The AAB are grateful to Russell IPM, Fargro Ltd, HDC, Syngenta Bioline and Rob Jacobson Consultancy Ltd, who sponsored the 2011 Advances in Biocontrol conference. Phil Walker and Rob Jacobson chaired the sessions and led discussions.

Advances in Biocontrol 2012

There is no doubt that the 'Advances in Biocontrol' conference has become a firm fixture on the UK's calendar of IPM events. Our intention in 2012 is still to create a gathering of the biocontrol community at which delegates meet and share their knowledge and skills. At the suggestion of 2011 delegates, we have made changes to enable more time for informal interaction between participants. The conference will begin early afternoon on 16 October so that delegates can travel on the day. We will work a little later into the evening than in the past with the option to stay overnight and enjoy a conference dinner. The event will finish after lunch on 17 October.

The event has been fully subscribed in previous years and we strongly advise you to register your interest as soon as possible to secure your place. Titles of papers and posters should be submitted for consideration by 6 August 2012. The contributions selected for the final programme will be announced during August 2012.

Dr Rob Jacobson
2011 Convenor, AAB Biocontrol Group

Making crop rotations fit for the future?

Just before Christmas 2011 (Tuesday 20 – Wednesday 21 December), a collection of crop and soil scientists and agronomists gathered at the Great North Museum in Newcastle-upon-Tyne to discuss "Making Crop Rotations fit for the Future". Forty-five delegates came from all over the UK and Europe and as far away as New Zealand and included research scientists, policy makers together with farmers and their advisors. The natives were friendly, the weather was relatively kind (a vast improvement on the snowdrifts of 2010) and the meeting rooms at the back of the museum rapidly filled with words of presentation, discussion and conversation. Through a series of presented papers and discussions we considered the scientific rationale for crop rotations then considered whether the evidence from practice supported the theory or whether crop rotation was a tool that was poorly understood and hence used less effectively than might be possible. We concluded that crop rotations are a tool that will be increasingly required to support sustainable agriculture in the future; rotations do not mean a return to the 1960s. Oral presentations described a variety of approaches to study rotations in the field and discussions clarified the integration between field experiments and modelling approaches needed to support the design of rotations for the future. The first day ended with a poster session and drinks session sponsored by the Food and Terrestrial themes of the Newcastle Institute for Research on Sustainability (NiRES). For the conference dinner we moved up to the front of the museum and found ourselves dining amongst the exhibits on tasty food (largely sourced locally). Our after-dinner speaker was a local farmer, Simon Henderson, who did well to draw our attention from the display cases, and focus our attention on the drivers and constraints faced by farmers when designing and managing their crop rotations. The next morning, the initial focus was on using legumes to drive crop rotations with a number of presentations of the work emerging from the European Legume Futures projects. Then presentations and discussion explored some wider issues for the management of crop rotations. Because of the attendees, there was little consideration of the role of rotations and management of pests and diseases and relatively little on weed management issues. So in our final discussion, we felt that we couldn't fully answer the challenge set by the conference organisers. It was recognised that a number of key challenges remain; many of these require knowledge sharing and co-operation between researchers and farmers. So before we meet again to talk about rotations, we



Richard Webb

felt we needed to:

- Develop and share methods to integrate the value of nutrients in crop residues, green manures etc into fertiliser recommendation systems
- Draw on the best ecological and bioinformatics approaches to support robust interpretation of complex multi-functional rotational data
- Include integrated consideration of tillage systems within rotational experiments
- Improve assessment of additive effects that can build up through rotations e.g. soil structural improvements, disease suppression
- Develop methods that can provide financial analysis and full cost-benefit analysis over different timescales to compare rotations
- Include assessment of yield stability and risk management aspects
- Improve information on the opportunities to integrate legumes into conventional stockless cropping systems
- Increase the respect and value given to farmer-led innovation to develop scientific principles in practice and develop approaches to verify and transfer the lessons learned to other farmers and farming systems
- Identify the key drivers which determine the "fitness" of a rotation for a location – including climate, soil and market aspects

We hope that the rotational cycle will bring us together again – perhaps in a new place and with a wider group of stakeholders in the future – there are still plenty of questions to discuss and challenges to answer as we seek to make rotations fit for the future.

-Elizabeth Stockdale
AAB General Secretary



What can be achieved in the restoration of diverse grasslands? And what will this habitat rehabilitation do for us?



At the Oxford Belfry, Thame, UK, on 19–20 June 2012

A series of presentations, field trips and poster displays at a conference jointly organised by the Association of Applied Biology, British Grassland Society, Natural England and the BES's own Agricultural Ecology Group, attempted to answer these questions.

Giving the key note speech, Sir John Lawton, talked about grassland restoration in the context of his widely acclaimed paper 'Making Space for Nature', which led to what he called a 'step change' in the government's approach to biodiversity conservation in its Natural Environment White Paper (NEWP) published in June last year.

Sir John's main argument is for More, Bigger, Better and Joined sites is, he said, particularly critical for grassland habitats, which declined by 97% between 1930 and 1984. This scale of loss means it will be impossible to halt grassland biodiversity loss without a concerted effort to restore and expand existing protected areas, create further protected sites, and establish a coherent network joining the sites. Sir John's recommendations led to 'Nature Improvement Areas' in the NEWP, all 12 of which will involve some degree of grassland restoration, contributing significantly to overall grassland habitats in the UK. However, Sir John warned that there will be a need to 'mind the gap' in terms of long-term support for the NIAs and after the initial three years of funding, money will need to come from elsewhere. Nevertheless, the 'unprecedented' enthusiasm and creativity Sir John recounted seeing during the NIA process, will give groups the momentum to pursue habitat plans despite limited funding.

Stephen Chaplin (Natural England), setting the 'policy context' of grassland restoration, reiterated Sir John's suggestion that the CAP will become a major source of funding for grasslands, with proposals for the upcoming reform involving baseline measures requiring farmers to retain permanent grassland on their land and protect a minimum of 7% of the acreage as 'Ecological Focus Areas' in order to receive funding. However, he warned that the future scale of CAP funding for grasslands is dependent on a number of factors including the overall budget allocation, split between the two 'pillars', and the allocation between Member States, but that there are few, if any, other funding sources with the CAP's large scale and reach.

The session then turned to the practicalities of grassland habitat restoration and what can be achieved. Richard Pywell (CEH) stressed that, although grassland restoration is often effective, the progression from initial plant communities through an intermediate assemblage to the target community, complete with specialist species, is a complex process influenced by a range of factors. The key constraints, he said, are usually a limited local seed bank – seeds of specialist grassland species tend to be transient, only remaining in the soil for a relatively short period – and high residual soil fertility, especially on agricultural land being reverted to more natural grasslands.

Seed shortages can be overcome however, by sowing seed mixes or using 'green hay' in which harvested grass from a local species-rich site is laid on the restoration area to act as a seed-source. Creating bare gaps also boosts seed establishment and species such as yellow-rattle can be used to suppress dominant grasses, allowing establishment of the desired species. Issues of high fertility are harder to overcome and Mr Pywell stressed that it is best to target sites which are relatively low-fertility as a start for restoration. If high phosphate levels are unavoidable, Mr Pywell suggested that these sites can be restored if they are managed relatively intensively for the first 3 years of establishment. Alternatively, land managers may have to accept more generalised grassland communities, rather than optimum highest-diversity assemblages. Measures to reduce phosphate levels are not generally recommended as they often result in acidic soils. The conference attracted over 80 attendees from a wide range of interest groups with an almost even split between academics, government and policy agencies such as Natural England, and non-governmental representatives including the Wildlife Trusts, as well as a handful of

land managers. This diversity was welcomed as an opportunity for discussion of grassland restoration across the science-policy interface.

- British Ecological Society



Effective application: exploring synergy between Agricultural Economics and Applied Biology



Agricultural Economics Society

In response to an approach by the Agricultural Economics Society, a joint meeting with the Agricultural Economics Society, Effective application: exploring synergy between Agricultural Economics and Applied Biology, was held on April 16th before the start of their 86th annual conference. The meeting was held at the University of Warwick which is set in countryside just outside Coventry and is easily accessible by public transport. Like the AAB, the AES is an applied society which deals with all the messy complexity of real agricultural systems. The two societies have worked together before resulting in *Aspects of Applied Biology 93: Integrated Agricultural Systems: Methodologies, Modelling and Measuring*. The one day meeting described here took these ideas forward with the aim of fostering greater understanding and exploring the scope for productive collaborative research between members of the two societies.

There were about 70 attendees, most of whom attended the rest of the AES meeting, including many younger researchers. All the speakers were invited although there was a poster session as well. After introductions from Stephen Ramsden, the AES programme secretary, and myself, the meeting started with the first session, Tools and applications. Steve Langton of the Defra Agricultural Change & Environment Observatory presented the first paper on contrasting approaches to stochastic models in science and economics. It was startling how two groups could use essentially the same technique but in very different ways. David Harvey of the University of Newcastle Upon Tyne then talked about Bayesian Belief Networks. Finally, James Gibbons of the University of Bangor discussed Modelling and valuation of ecosystems, a topic that a whole conference could have been devoted to.

A session on Natural and Social Science perspectives on disease risk followed after coffee. Alan Macleod of the Food and Environment Research Agency talked about plant disease while Alistair Stott of the Scottish Agricultural College talked about animal disease. This was essentially a two by two factorial session with useful contrasts between plant and animal disease as well as natural and social science. Before we lunched, Tim Benton, the BBSRC Global Food Security Champion, gave an inspiring paper on this important topic. Unlike many others in the world today our food was secure and the lunch enabled networking to take place and metaphorical batteries to be recharged. However, I had to return early to get organised as I was chairing the afternoon session, Building systems. Andy Whitmore from Rothamsted started by talking about a new project relating to Delivering Sustainable Systems. Finally, Thomas Heckeley from the University of Bonn

talked about Economics and Applied Biology: the SEAMLESS project, which was completed in 2009. It was of particular interest to me as a member of that project to hear Thomas's reflections on its success and how the work was being taken forward. Finally, Stephen Ramsden and I summed up the day. We agreed that there was great scope for agricultural economists and applied biologists to work together. Indeed holistic solutions to the problems of agriculture require us to find ways to work together effectively.

-Graham Russell
AAB programme Secretary

A WARM WELCOME to our New Members elected 23 March 2012

Ms Sarah Barlow, PhD Student at Newcastle University, with special interests in cropping and the environment, plant ecology and restoration ecology

Mr Craig Baxter, PhD Student at The James Hutton Institute, with special interests in cropping and the environment, food systems and nematology

Dr Emma F Bridge, MSc Student, with special interests in biological control & IPM, cropping and the environment, pesticide application, physiology and precision agriculture

Dr Raden R R Brotodjojo, Lecturer at the Department of Agro Technology Indonesia, with special interests in biological control & IPM, cropping and the environment, pesticide application and integrated pest management

Dr Toby J A Bruce, Senior Research Scientist: Chemical Ecology at Rothamsted Research, with special interests in biological control & IPM, cropping and the environment, plant physiology and crop improvement

Ms Clare Burrows, Farmland Ecologist with the Countryside Council for Wales, Bangor, with a special interest in cropping and the environment

Mr Jacob J Chant, Mendip Hills Advisory Officer at Somerset Wildlife Trust, with special interests in cropping and the environment, grassland ecology and ecosystem services

Dr Stephen P Chaplin, Principal Specialist, Common Agricultural Policy at Natural England, with special interests in cropping and the environment and food systems

Mr Theodore W Chapman, UK Native Seed Hub Coordinator – Royal Botanical Garden at Kew, with special interests in conservation and habitat restoration

Ms Claire Cornish, Haymeadow Ecologist at Cumbria Wildlife Trust, with special interests in plant physiology and phytosociology

Dr David Devaney, Soils R&D Manager & Agri-Environment Specialist at Defra, London with special interests in biological control & IPM, cropping and the environment and food systems

Mr Tvrtko Drazina, PhD Student working on the ecology of freshwater nematodes, with a special interests in nematology

Mr Edmund Parr Ferris, Environmental consultant & contractor – conservation land management, with special interests in biological control & IPM, cropping and the environment, food systems, pesticide application, plant physiology & crop improvement and conservation biology

Ms Aoife Egan, MSc Student at The Institute of Technology, Carlow, with special interests in applied mycology and bacteriology, biological control & IPM and nematology

Mrs Sally Egerton, Contract Trials Manager and Customer Agronomist speciality at Dow AgroScience, Herts, with special interests in cropping and the environment, pesticide application and plant physiology & crop improvement

Dr Robin G Field, Renital-IST Project Manager with special interests in cropping and the environment, food systems and pesticide application

Mr Don Gamble, Hay Time Project Manager: managing hay meadow restoration projects. Projects Development Officer: developing natural and built heritage projects, arranging funding, and managing their implementation, with special interests in cropping and the environment, food systems and habitat conservation and restoration particularly grasslands

Mr Thomas Godfrey, PhD Student at Edinburgh University, looking at ways to improve forage resources for insect pollinator communities, with special interests in cropping and the environment and promotion of (insect) pollinators/ pollination ecosystem service

Dr Maria L Arosa Gonzalez, PhD Student in Ecology, thesis "Cork oak regeneration: Biotic and abiotic interactions that affect regeneration", with special interests in cropping and the environment, nematology, plant physiology & crop improvement and plant ecology and forestry

Dr Elanor J Hewins, Freelance Consultant Ecologist, with a special interest in cropping and the environment

Professor Peter Johnston, Head of Agriculture Coordination with Scottish Government's Agriculture, Food and Rural Communities Directorate at Edinburgh University, with special interests in biological control & IPM, cropping and the environment, food systems, nematology, pesticide application and plant physiology & crop improvement

Dr Caro Kapp, Student at the Department of Conservation Ecology and Entomology, South Africa with a special interest in cropping and the environment

Mr Miles King, Director of Conservation at the Grasslands Trust, with special interests in cropping and the environment, food systems, ecology and conservation

Dr Antoinette P Malan, Researcher and lecturer at the Department of Conservation Ecology and Entomology, South Africa with a special interest in nematology

Ms Venessa Moodley, Manager at Omnia Sasolburg, where it is aimed at managing the soil biological life with special interests in cropping and the environment, biological control & IPM, food systems, nematology, pesticide application and plant physiology & crop improvement

Professor Kazuhiro Nakano, Professor at the Graduate School of Science and Technology at the Nigata University, Japan with special interests in cropping and the environment, food systems and pesticide application

Mr Thomas Pelham, PhD Student at the University of Innsbruck, Austria with special interests in biological control & IPM, cropping and the environment, food systems and nematology

Ms Catherine H Shellswell, Ecologist at Plantlife, Salisbury, Wilts, with special interests in cropping and the environment, food systems, pesticide application, *in-situ* biological conservation and botanical diversity

Ms Joanna Thornton, Senior Conservation Officer (Bumblebee Conservation Trust) – land management advice including species rich grassland restoration/ creation projects, Eastleigh, Hants with special interests in cropping and the environment, food systems, pesticide application and plant physiology & crop improvement

Dr Maria Viketoft, Assistant Professor in Soil Ecology, Swedish University of Agriculture, Upsala, with special interests in biological control & IPM and nematology

Dr Lea Wiesel, Research Scientist at The James Hutton Institute, Dundee with special interests in applied mycology and bacteriology, cropping and the environment and nematology

Professor Kazuo Yamashita, Chief of Plant Protection Section Aomori Prefectural Industrial Technology Research Centre, Japan, with special interests in applied mycology and bacteriology, nematology and virology

Deaths

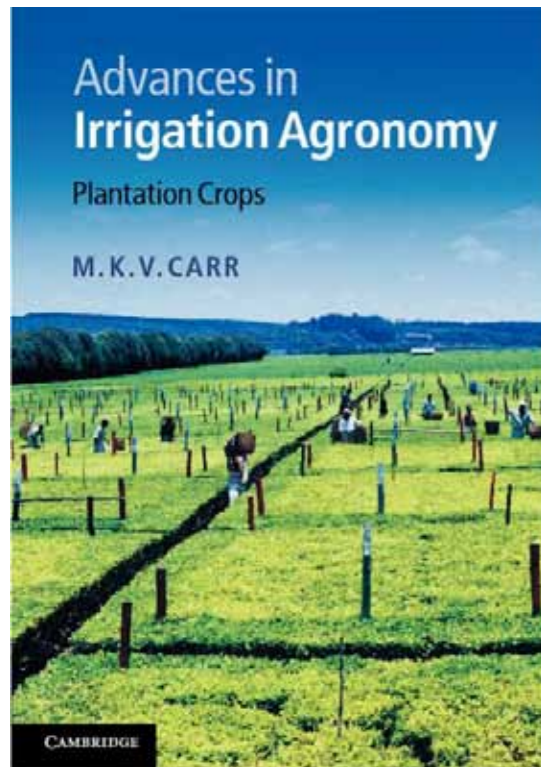
We regret to announce the following death:

Dr D J Barbara, School of Life Sciences, University of Warwick

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Advances in Irrigation Agronomy

M. K. V. Carr

Irrigation has been used for thousands of years to maximize the performance, efficiency and profitability of crops and it is a science that is constantly evolving. This potential for improved crop yields has never been more important as population levels and demand for food continue to grow.

Recognising the need for a coherent and accessible review of international irrigation research, this book examines the factors influencing water productivity in individual crops. It focuses on nine key plantation/industrial crops on which millions of people in the tropics and subtropics depend for their livelihoods (banana, cocoa, coconut, coffee, oil palm, rubber, sisal, sugar cane and tea).

Linking crop physiology, agronomy and irrigation practices, this is a valuable resource for planners, irrigation engineers, agronomists and producers concerned with the international need to improve water productivity in agriculture in the face of increased pressure on water resources.

'Mike Carr is to be congratulated on producing a rigorous but readable assessment of the state of knowledge of the water needs and irrigation agronomy of [ten] major plantation crops...

A valuable reference book for anyone studying irrigation agronomy or planning to conduct research on plantation crops. For the busy reader he has produced a helpful summary at the end of each section - for those needing more information the conclusions are supported by over 800 references'

Andrew Bennett, President, Tropical Agriculture Association

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AAB FORWARD CONFERENCE PROGRAMME

2012

- 3 October **Precision Farming for Crop Protection - Practical Use of Variable Rate Application**
National Centre for Precision Farming, Harper Adams University College, Newport, Shropshire (Pest Appl Group)
- 3 October **Association of Applied Biologists Specialist General Meeting/Annual General Meeting**
National Centre for Precision Farming, Harper Adams University College, Newport, Shropshire (AAB Members and their guests only)
- 8-9 October **Acrylamide, furans and other food-borne contaminants, from plant science to food chemistry**
Munich, Germany (PP&CI Group)
- 16-17 October **Advances in Biological Control & IPM**
Olde Barn Hotel, Marston, Lincs, UK (Biological Control & IPM Group)
- 27-28 November **Crop Protection in Southern Britain 2012**
Peterborough Arena (formerly East of England Showground), Peterborough, UK (CATE Group/BCPC/AICC)
- 5-6 December **Crop Genomics and Crop Improvement**
University of East Anglia, Norwich, UK (PP&CI Group)
- 12 December **Advances in Nematology**
Linnean Society of London, Piccadilly, UK (Nematology Group)

2013

- 16-17 April **Fruits and Roots: A Celebration and Forward Look**
East Malling Research, Kent, UK (East Malling research)
- 23-25 April **Environmental Management on Farmland conference**
Forest Pines Hotel, Brigg, North Lincs, UK (CATE Group)
- 12 December **Advances in Nematology**
Linnean Society of London, Piccadilly, London, UK (Nematology Group)

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