

## **UK CONTROLLED ENVIRONMENT USERS' GROUP**

### **MINUTES OF THE 2002 BUSINESS MEETING**

The annual meeting of the Controlled Environment Users' Group was held on Monday 9<sup>th</sup> September 2002 in the Blue Room, Kingswood Hall, Royal Holloway University, Egham, Surrey.

The Chairman, L.D. Incoll (Leeds University), opened the meeting at 2100 hours.

Apologies were received from Ian Pearman.

#### **1. Minutes of the Previous Meeting at John Innes Centre, Norwich, on the 10<sup>th</sup> September 2001**

The minutes of the previous meeting, which had been distributed to members earlier in the year, were approved as a true record of the proceedings (proposer Julian Franklin, IACR Rothamsted; seconder Peter Gill, Scottish Crop Research Institute).

#### **2. Matters Arising**

##### **01/7 Publication of Scientific Proceedings of the 2001 Meeting**

The chairman reported that the standard of papers varied greatly so it had been decided, with the agreement of participants, that these proceedings should be published as web documents rather than as a printed book. John Lea-Cox (of the University of Maryland and co-editor with L.D. Incoll) has almost completed the special web site, but progress has been delayed as John's assistant on the project, Emily Yeh, had left after graduating in May 2002.

The response to submitting manuscripts has been good from presenters of invited papers, short presentations and posters. Five contributions have not been received yet, viz. from Don Krizek, Cary Mitchell, Reg Quiring, Alex Hoehn, & Wolfgang Bopp. L.D. Incoll has just emailed a last request to them.

Each session in the proceedings has introductions written by Organising Committee members. Abstracts and Presentations are accessible under each speaker's or presenter's name. Adobe Acrobat has been used for security for the publications so that they can be printed but nothing can be extracted or copied from them; however it has proved difficult to secure PowerPoint presentations.

##### **01/7 Controlled Environment Guidelines**

The chairman reported that a committee had been formed involving members of UK CEUG and NCR-101 from Australia, New Zealand, Japan, Canada and USA and chaired by Ted Tibbitts (Wisconsin). The aim of this committee is to write minimum guidelines as a subset to the NCR-101 guidelines for reporting the measurements of CE parameters correctly.

A closed list of committee members is held on the server at Rutherford, which sends messages via JISCmail to all members of the committee. JISCmail is a JISC-funded service based at CCLRC's Rutherford Appleton Laboratory. It "enables a given community (e.g. committee, working group, project group etc.) geographically spread across Europe (and beyond) to maintain a private space on the Internet where they can share information, documents, participate in discussion fora and various other functionalities".

Since this list was set up, nothing has been heard from the Japanese members. Ian Pearman (IACR Rothamsted) no longer has the time to be involved in the project; the committee are therefore looking for a volunteer to replace him.

L.D. Incoll showed the Group the current draft version of the committee's product; a table entitled "Minimum Guidelines for Measuring and Reporting Environmental Parameters for Plant Experiments in CE's". The philosophy for reporting is that readers of papers should have enough information about growth conditions to repeat an experiment. The philosophy for "minimum" guidelines is that they should be enough but within the capability of a user with maybe only one CE and no professional support to measure and report parameters.

In the 2001 meeting the point was raised that CO<sub>2</sub> measurement is also important but it was suggested by L. Incoll that this parameter should not be required until the correct/accurate instrumentation is available to measure it routinely.

### 3. Future Meetings

#### **Annual Meeting 2003: University of Lancaster**

The chairman reported that the University of Lancaster had agreed to host the next meeting. The current proposal for the meeting was:

**When:** 8-9<sup>th</sup> or 15-16<sup>th</sup> September (midday to midday), depending on the dates of the Four Oaks meeting in 2003

**Local Organiser:** Dr Nigel Paul, Department of Biological Sciences

**Programme:**

1. Scientific meeting (one half day), Theme: **CE's and the below-ground environment**

Suggested topics:

- a) Watering systems in controlled environments (glasshouse, room and cabinet): reconciling theory with practice;
- b) Commercial experience with growing media;
- c) Controlling the supply of water and nutrients in CE's;
- d) Beneficial micro-organisms as additives to media;
- e) Control of soil temperature for climate change research;
- f) The influence of container/pot size on plant growth;
- g) Gaseous emissions from soils – science and technology.

2. Business meeting (evening);

3. Tour of controlled environment facilities at University of Lancaster, Department of Biological Sciences (one half day).

**Action:** G. Taylor

### **Annual Meetings: post-2003**

The following suggestions were made by the Chairman for further future meetings:

<b>Date</b>	<b>Venue</b>	<b>Comments</b>
2004	Easter, CSIRO, Brisbane	International meeting
2004	Biological Sciences, Leicester	(will be 11 years since last visit) <b>Theme:</b> Workshop on "Light and its measurement in CEs"
2005	Eden Project, Cornwall	New site <b>Theme:</b> "Large scale CEs – engineering and plant growth"
2006	HRI, Wellesbourne	(will be 11 years since last visit)
2007	IGER / University of Wales, Aberystwyth or Imperial College at Silwood Park	(will be 13 years since last visit) New site
2008	SCRI, Dundee	(will be 11 years since last visit)
2009	IACR Rothamsted	(will be 11 years since last visit)
2010	York University / CSL	(will be 11 years since last visit)

There was no dissent voiced against this revised future programme.

### **2004, Easter, CSIRO, Brisbane, ACEWG International meeting**

The chairman presented a detailed proposal for the structure, costs, programme etc from the Australian organisers of the international meeting in Brisbane, Australia, in 2004 which was met with much interest. The chairman reported that in recognition of the cost of attending such a meeting, a grant of £2500 awarded to the Group by the New Phytologist Trust and proceeds of £5000 from the 2001 meeting in Norwich, a total of £7500, will go towards enabling members to attend. The Executive Committee proposes to provide a set of bursaries with a minimum value of £500 each, for which members can apply to help with meeting their costs, but these will be limited; first priority will be given to invited speakers followed by anyone offering papers or posters. The applicant's record of support of the Group will also be taken into account. The amount of each bursary will be confirmed when numbers of members requiring assistance is known. It is hoped that the award of a bursary will encourage institutions to supply matching funds to potential delegates. Members supported the Committee's proposal.

The committee will prepare an application form for bursaries. Final numbers for bursaries will be required by the end of February 2003 to allow time for members to get the remaining funds from their employers.

The topics at this meeting will need to be firmed up to strengthen applications. L.D. Incoll will write to encourage the ACEWG organisers to decide as soon as possible the topics for the meeting and will ask if there will be opportunities for delegates to offer papers.

**Action:** L.D. Incoll, CEUG Committee

**2004, Biological Sciences, Leicester, Theme: Workshop on “Light and its measurement in CEs”**

The chairman presented a proposal for a workshop to be held at the University of Leicester in September, 2004 which was met with interest. Such a workshop would last several days, possibly 2½, to allow for a good mix of practical and theoretical work, and this would probably mean a higher registration fee than usual. It was noted from the floor that the Horticultural Development Council may be interested in being an additional sponsor for this meeting and that horticulturalists were interested in understanding better light measurement in the CE glasshouses. Manufacturers of lighting and of sensors and meters would be invited to be an integral part of the workshop.

**Action:** L.D. Incoll, M. Pratt

**2005, Eden Project, Cornwall, Theme: “Large scale CEs – engineering and plant growth”**

J. Franklin (IACR Rothamsted) described plans for the 2005 meeting to be held at the Eden Project, Cornwall, which were also met with interest. This meeting would need to be held over 2 nights to allow for travel time. The Eden Project does not have any day conference facilities and there is no student accommodation near by so a hotel would have to be used. There is the option to stay in St Austell which is local to the Eden Project but the choice of hotels is fewer and the cost higher, alternatively there is the option to stay in a hotel in Newquay or Torquay which would be cheaper and have better access e.g. by Ryanair to Newquay. All delegates would have to pay the entrance fee to the Eden Project and would be given guided tours in small groups behind the scenes. The members supported the proposal in principle and Julian was asked to continue with the planning exercise.

**Action:** J. Franklin

**4. Group Communications**

The chairman reported that the CEUG website, though basic, is now functioning well and provides good information to members of future activities and of the minutes and scientific proceedings.

**5. Membership**

L.D. Incoll provided the following membership information:

**Since September 2001:**

<b>Category</b>	<b>Number</b>
New members	14
Members resigned	12
Net change	+2
Current total	142
Email contact	121 plus 7 email only
Attending the 2002 meeting	30
<i>Overseas recruitment:</i>	
France – joined	2
The Netherlands – joined	1

He observed that the number of long-standing members is likely to drop as institutions close e.g. IACR Long Ashton, and courses or departments close e.g. Horticulture at Wye College. We therefore need to recruit to maintain the viability of the Group. During the year S. Pot was recruited as a corresponding member in the Netherlands to help recruit European members. The chairman needed all members to actively think about recruiting new members in their region.

**Action:** S. Pot, all members

L.D. Incoll displayed an extract of a list of universities and higher education institutions that he had prepared and drew attention to a number of institutions known to have active plant science staff but which do not currently have any members in the CEUG e.g. the universities of Manchester and Durham. He will send this list to CE manufacturer members with a request that they advise him of which universities use their equipment or have enquired about purchasing equipment. He will treat the information as confidential and it will only be used to recruit new members.

**Action:** L.D. Incoll, CE Manufacturers

## 6. Treasurers Report

A. Nichols (John Innes Centre) presented his financial report. The balance brought forward from 2000-2001 was £14,010.33, additional income from donations brought income to a total of £18,546.33, and expenditure was £7,890.35. The credit balance on the account on 4<sup>th</sup> September 2002 was £10,655.98. The final credit balance will be higher when A. Jordan (Syngenta) sends remaining monies through after invoices and expenses of invited speakers for the 2002 meeting are paid. The report was unaudited, but was approved as presented (proposer Julian Franklin, IACR Rothamsted and seconder Garry Taylor, Sanyo Gallenkamp). Over the last 2 years the committee has had an average balance of £3000-3500.

A. Nichols reported that he may be retiring in one year and if so a new treasurer will be needed. He recommended that his replacement should be from an institution with two CEUG members so that cheques can be double signed promptly.

A delegate raised a question was about using a corporate / sponsored membership to secure the funding of the CEUG but the chairman replied that the Group preferred to

limit commercial membership to manufacturers of CE rooms, cabinets and chambers. It was felt that the opening of the membership to all commercial organisations might swamp numerically the non-commercial membership and change the scientific and technical emphasis of the meetings.

## **7. Open Discussions**

### **Lighting**

An email enquiry was received from H. Smith (Sutton Bonington) asking if it is better to use warm white or daylight fluorescent tubes in general growth rooms. S. Pot (Philips) recommended that 840 lamps (white) give better growth rates in general than 830 lamps (warm white) but this depends on the species you are growing. Other members endorsed this viewpoint.

S. Pot (Philips) asked the Group if anyone had experienced problems with bumble bees becoming disorientated under high light intensities. J. Franklin (IACR Rothamsted) found that a mixture of blue and white lighting prevented this; he has more information that he will send to S. Pot.

### **Waste**

E. Guiney (TEAGASC) currently has Class 1 containment in glasshouses but wishes to use Class 2 containment and wanted to know the best way to treat the wastewater. She currently has lockable drains and sumps and uses disinfectant in the tanks. There is an automatic endorsing facility. C. Abbott (York University) recommends using heat treatment rather than chemical but three tanks are required: a collection tank, a treatment tank and a cooling tank. Each tank should be sealed if possible and a large storage tank is required. A. Nichols (John Innes Centre) recommended that if chemicals were to be used, then chlorine is the best choice. G. Taylor (Sanyo Gallenkamp) raised the point that the priority was to ensure that the organisms are killed and then to clean the waste. There was also concern among the Group about how the Health and Safety Executive (HSE) would feel about the procedure. J. Franklin (IACR Rothamsted) said that in his experience if a valid method is used, and this could be shown, then HSE were happy.

## **8. Other Business**

L.D. Incoll expressed his appreciation to P. Stratton and A. Jordan at Syngenta on behalf of the Group for agreeing to host this year's meeting.

The meeting closed at 11.45 p.m.

Recorder: Angela Jordan  
12/9/02