

# Review of Events – Highlights

It was a year in which we 'bought the farm'! We saw a Chief Constable examining a 'crime scene' at SCRI...a TV presenter taking her farmer father on a tractor ride...an artist hanging pictures next to laboratories...a senior Scottish politician scanning the shelves in our new information centre and a public health minister eating the fruits of our labours!

A glance at the SCRI 2008 diary explains all. It also gives a clue as to why our organisation remains a centre of research achievement and an important voice in the Scottish debate about climate change and the ways in which we can run a sustainable economy and protect our beautiful surroundings. Closer to home, SCRI remains at the heart of Dundee's life science revolution and strives to be a good neighbour to its local community.

The dawn of 2008 heralded the opening of SCRI's refurbished library and its transition to a fully fledged 'information centre' where much of the hard slog of research is done by e-subscriptions to e-journals. Michael Russell MSP, the Scottish Government's



Environment Minister Michael Russell MSP (right) opens the new Information Centre. Librarian Ursula McKean (left) and Information Services Manager, Sarah Collier (centre)

Environment Minister is himself a man of letters and the co-author of a challenging book on Scotland's future. On a tour of SCRI, he formally opened the centre and met staff involved in its reorganisation.



John and Susan Smith examine plans of Balruddery Farm with the Director.

The new year also saw the completion of lengthy negotiations for SCRI's purchase of Balruddery Farm and the transfer of 118 hectares of prime farmland at Fowlis in the Carse of Gowrie to SCRI ownership. An informal signing ceremony was held involving the owner of Balruddery, John Smith, his wife Susan and the SCRI Chief Executive, Professor Peter Gregory. The farm had been operated by the Smith family for three generations since 1961. (See Page 64 for an article by SCRI's Sustainability Champion, Dr Cathy Hawes, in which she details our plans for the farm that will see it becoming a research facility unique in the UK.)

The future of SCRI is guided by a distinguished board of governors drawn from business and academia. In March we said farewell to Professor Bernard King who stepped down after 10 years on the governing board, with five years as Chairman. Bernard, the Principal and

Vice-Chancellor of the University of Abertay Dundee, was guest of honour at a surprise farewell dinner; a presentation was also made to him at the Institute.



Bidding farewell to Bernard King.

The new Chair of the SCRI Governing Board was announced shortly afterwards. Peter Berry is President of the Crown Agents Foundation, established in 1997 to succeed government as the owner of the Crown Agents for Overseas Governments and Administrations. Mr Berry, who had joined the Board earlier, hails from Fife. The Board was also joined by Mr Sandy Morrison who spent 37 years with Unilever Foods in senior roles in research and development. He spent many years abroad working in Europe, Asia and Africa.

Scientists in the limelight early in the year included Dr Alison Roberts. Alison leads the Cell Biology and Imaging Group at SCRI and was awarded the 2008 Peter Massalski prize. The award ceremony took place at the annual general meeting of the Scottish Society for Crop Research, who administer the prize. It is awarded



Dr Alison Roberts winner of the 2008 Peter Massalski prize..

biennially to the person under 36 years old who is considered to have done the most meritorious research



LEAF Open Farm Sunday at Gilston Mains, Fife

Once again SCRI was represented with a display at Gardening Scotland and the same weekend, a group of scientists underlined our role as a LEAF Innovation Centre by taking part in Open Farm Sunday as the guests of Edward Baxter at his Gilston Mains farm in North East Fife.



Dr Gordon McDougall with eight-year-old Jamie Jones at Open Farm Sunday

One of the undoubted highlights of the year – and representing the greatest, collective outpouring of imagination, ingenuity and sheer hard work – were the SCRI Open Days which took place in June. Friday 6 June was devoted to schools and invited guests; Saturday 7 June was for the general public. Six hundred





The Living Field in full bloom during the SCRI Open Days.

pupils, students and teachers were catered for with a complex timetable of events and activities during the first day. A gloriously sunny Saturday saw 900 people coming through the gates.

Science stuffy? The visitors were treated to the history of whisky, a 'crime scene' constructed by the Plant Detectives, a non-stop cookery marathon laid on by the Tasty Tatties team, a chance to try Barley Bread, DNA extraction, robotics, the Scientists Zoo, bug building, face painting and a chance to get 'hands-on' at the meteorological site.

The foregoing are just a sample of the activities planned, constructed and staffed by SCRI members of staff. In

total there were 10 activity centres on the site and 50 stands, stalls and displays.

Hard on the heels of the Open Days were the Royal Highland Show and SCRI's three specialist events for stakeholders: Cereal Solutions (now renamed Cereals in Practice), Fruit for the Future and Potatoes in Practice. The weather was not entirely kind to the events this year: high winds battered the marquee during our cereals afternoon; rain threatened the soft fruit enthusiasts and almost put paid to Potatoes in Practice!

Seventy visitors made the trip to Gourdie for our briefing on cereals work; another 70 packed SCRI's seminar room to hear the latest in soft fruit research two days



STV's Susan Nicholson – a guest of honour at the Open Day on Saturday 7 June.



Chief Constable of Tayside, John Vine, examines the Open Day "crime scene".

later. And despite highly unusual rainfall statistics in August, we managed a record turnout for the UK's largest potato sector field event, Potatoes in Practice. More than 700 visitors braved the mud to experience the most comprehensive event to date. Once again, many SCRI staffers helped to make the day a success... including the Field and Glasshouse team who managed to build a temporary road to bring traffic safely on and off the site. 2009 will see both Cereals in Practice and Potatoes in Practice move to their new, permanent home at SCRI's Balruddery Farm.



The Improving International Potato Production conference, 8 August.

2008 was the UN International Year of the Potato. SCRI and its commercial arm, Mylnefield Research Services, could not let this pass unmarked in Scotland. So it was that the day after Potatoes in Practice, we staged the Improving International Potato Production conference at Dundee's Apex City Quay Hotel. Eighty-five delegates, including 12 overseas guests, spent a day watching presentations on the latest in potato research and marketing.

The keynote speaker was the Director General of the International Potato Center in Lima, Peru, Dr Pamela



Chinese conference delegates watch the Olympic Games opening ceremony.

Anderson. Fittingly – on the day Beijing stunned the world with the opening ceremony for the Olympic Games, another guest speaker was Ma Shuping, the Deputy Director-General of the Department of Crop Production at the Chinese Ministry of Agriculture.

The conference was the brainchild of a regular visitor to the People's Republic, Dr Nigel Kerby the Managing Director of Mylnefield Research Services. Three potato industry companies and three local authorities and agencies supported the conference.

The previous evening, about 100 guests attended the Branston potato industry dinner organised to tie in with both Potatoes in Practice and the IIPP conference. It was also an opportunity to pay tribute to Jim Godfrey OBE. Jim Godfrey has for many years been a major player in the potato industry, both as a grower and member of the Potato Marketing Board, SCRI and other bodies. He was honoured with a special presentation made by the newly appointed Chairman of the Potato Council Ltd., Allan Stevenson, who is also a member of the SCRI Governing Board.



Jim Godfrey (right) with Potato Council Chairman Allan Stevenson.

The Royal Highland Show started in sunshine and ended in a flood! Once again SCRI events staff and scientists staffed displays in the Royal Highland Education Trust building and the SAC pavilion. Here we constructed a striking display representing a unique site in the Middle East called Evolution Canyon. The canyon is a priceless, long-lived natural evolutionary laboratory. Findings from SCRI's research indicate that there is a tremendous genetic potential locked up in the wild barley collections to be found there.





Much of the research and information SCRI generates is reflected at [www.scri.ac.uk](http://www.scri.ac.uk)

Since its launch in 2007 the SCRI website has attracted more than 100,000 unique visits with users around the world reading about the Institute's work. Throughout the year much effort has been made by staff in the science programmes to ensure their very latest findings are being shared online. Audio and video is now being commissioned to augment the content.



Public Health Minister, Shona Robison MSP launching (and tasting) the Glen Fyne raspberry.

Soft fruit research and development was recognised during a visit by the Scottish Government's Minister for Public Health, Shona Robison. The Minister met the Director and senior members of staff. She was particularly interested in the work being done on the health benefits of berries. Appropriately Shona kindly officiated in the launch of the latest SCRI/Mylnefield raspberry, Glen Fyne.

For the last two years, SCRI has been the scene of an extraordinary fusion between science and the arts. Ronnie Forbes RSA has been working as the



The ARTFEST exhibition at SCRI in October.

Leverhulme Trust artist-in-residence. 2009 will see his work on show around the country. Ronnie's commitment to SCRI was demonstrated by his singlehanded organisation of "Artfest", a month long exhibition of art and craft work by members of staff together with an evening musical concert. Staff were also invited to an open evening at Ronnie's studio in Dundee.

SCRI continued to make the news. There was TV coverage of our project that is aimed at identifying bioactive compounds in blackcurrants thought to be capable of reducing the risk of progression of Alzheimer's disease. The television cameras also recorded Professor David Hopkins' work in Antarctica, the restoration of the Chris North lilies to SCRI and the work underway to map chromosome 4 of the potato as part of the international Potato Genome Sequencing Consortium.



An SCRI appearance on STV's North Tonight.

Successful research outcomes and knowledge exchange events provided a rich source for our publications. A discovery made by scientists at SCRI suggested links between the disease agent that caused the Irish Potato Famine and the tropical scourge of malaria. It resulted in an article in the prestigious journal *Nature* showing that a key sequence of proteins produced by the late blight agent, *Phytophthora infestans*, resembles a recently reported translocation signal in virulence proteins of the malaria parasite. The paper was widely covered in the media.

Dr Vivian Blok and Dr John Jones were among the authors of an article in *Nature Biotechnology* on the



From left: Professors Howard Davies, Simon Gilroy and John Brown. Simon delivered the 2008 Distinguished Lecture in Plant Sciences.

genome sequence of the metazoan plant-parasitic nematode *Meloidogyne incognita* (root-knot nematode). The significance of this work can be appreciated when one considers the annual loss to world agriculture caused by these pests is estimated at \$157 billion.

SCRI's contribution to the Scottish Government's cross-cutting themes of Climate Change, Sustainability and Biodiversity was underlined with the publication of three booklets outlining our work in these areas.

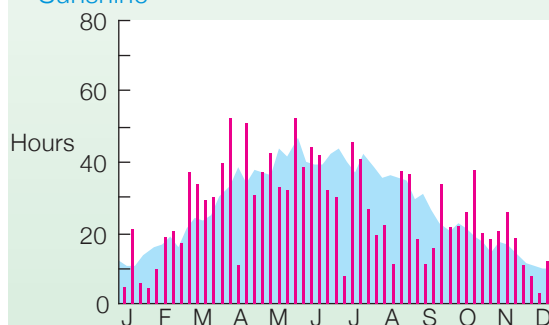
The breadth of expertise assembled for the Improving International Potato Production conference in August enabled SCRI to publish a highlights booklet containing extracts from the presentations made during the day. Another of SCRI's publications, '*101 things you wanted to know about potatoes...but were afraid to ask*' was taken up by the potato supply company, Albert Bartlett & Sons (Airdrie) Limited. They brought in two distinguished chefs, Andrew Fairlie and Michel Roux who added their own potato expertise in an informative, recipe-packed book called *All About Potatoes*.

Among many distinguished visitors to SCRI during the course of the year was Simon Gilroy, Professor of Botany at the University of Wisconsin, Madison in the United States. He gave the 2008 SCRI and College of Life Sciences Distinguished Lecture in Plant Sciences at the University of Dundee. His topic was 'Feeling Green: Mechanical Signaling in *Arabidopsis* Growth and Morphogenesis'.



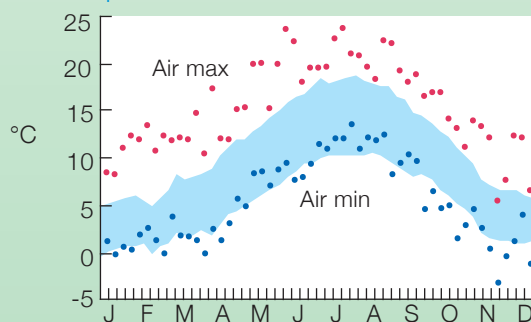
The SCRI website weather pages went live in December 2007. These consist of a general overview page and a data page. The overview page briefly explains the value of meteorological data, the use it is put to by staff within and by bodies or individuals outwith SCRI, and the type of data available. The weather data page contains a selection of weekly averages and totals for the most recent four weeks on a rolling basis and is updated weekly. It also provides monthly averages and totals for the current year, updated at the end of each month.

### Sunshine



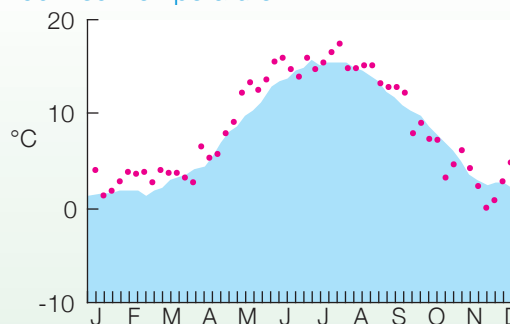
Our observations during 2008 showed average maximum air temperatures equal to or higher than the Long Term Average (LTA), with the exceptions of August at 18.5°C (LTA 18.8°C) and October at 12.2°C (LTA 12.4°C). Most significant were February at 8.9°C (LTA 6.4°C), the highest since 1998; and May at 15.7°C (LTA 13.3°C). Highest maximum air temperatures recorded on individual days reached 20.1°C, 23.7°C, 23.8°C and 22.5°C for May, June, July and August.

### Air temperature



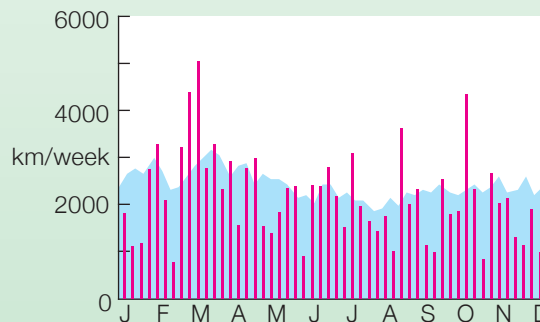
The year is likely to be remembered for its exceptional rainfall. Once again levels were higher than normal, the annual total reaching 781mm as compared to the LTA of 664.5mm. Although only five months had more than normal rainfall, the amounts were significant. January had more than double with 154.3mm (LTA 67.9). It also had 11 days with >5.0mm rainfall, the most on our records for January, with only five other instances of this number in any month, since 1954. Similarly, July had double with 104.5mm (LTA 52.7). August, with 141.5mm had almost three times the expected 52.3mm, 27.7mm falling on the 12<sup>th</sup> alone. Of the months with less than expected rainfall, May was most notable with 18.7mm against the LTA of 48.0mm.

### 10cm soil temperature



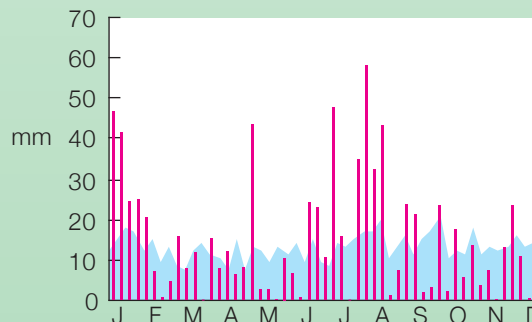
The SCRI Meteorological team has many customers beyond the website. Each month the *Dundee Courier* and *Evening Telegraph* publish a summary of the previous month's weather which is provided by SCRI's meteorological observers.

### Run of wind



Average minimum air temperatures showed mixed results with January, February and May to September all boasting higher than typical temperatures, most noteworthy being May with 8.0°C (LTA 6.0°C), while March, April and October to December were all slightly lower than their LTA.

### Rainfall



Blue areas on figures indicate long term average 1961–1990



We welcomed several new members of staff during the year. As a way of welcoming them and helping them adapt to their new working life, Human Resources held several Induction Days at which newly arrived staff members were treated to presentations from department heads and a tractor tour of the site.

During the autumn, Human Resources organised an Employee Benefits Awareness Day. Staff were invited to see presentations on pensions benefits, AVC schemes, childcare vouchers and the Cycle to Work Scheme. Information was also provided on the BBSRC Employment Code, SCRI policies and procedures and the counselling service available to all staff.



Receiving the Double Tick award.

SCRI also added a Double Tick award during the course of the year. The disability symbol has been developed so that employers can show their commitment to good practice in employing people with disabilities. It also enables disabled people to know which employers will be positive about their abilities.

During the 12 months we also said farewell to several long-serving members of staff, some of whom had worked at SCRI for more than forty years. They included



Strolling to retirement...leaving us in 2008 were: Bryan Griffiths, Jim McNicol, Stuart Gordon, Bruce Marshall and Alf Low MBE.

Stuart Gordon, Bryan Griffiths, Jim McNicol, Bruce Marshall and Alf Low MBE. Jane Yildz (formerly McNicol) received a long service award.

The organisation maintained its focus on health and safety, quality assurance and environmental management during the course of 2008. We achieved recertification audits of compliance with the management standards EN ISO 9001:2000 (quality assurance), EN ISO 14001:2004 (environmental) and BS OHSAS 18001 (health and safety) during September 2008. Work is underway to achieve UKAS accreditation under the new version of the health and safety standard BS OHSAS 18001:2007 in spring 2009. Audits of SCRI's Business Continuity Plan were carried out by our internal auditors and insurers. Points raised are being actioned and will be incorporated as appropriate into the annual proving exercise of the plan in March 2009.



CEUG Water Workshop.

SCRI's overseas links are recorded elsewhere in the Annual Report. But it has been our pleasure during the course of the year to welcome guests from some of our collaborators and partner organisations. They included the ILVO, Flanders, Michigan State University in the USA and Norway's Bioforsk. The Institute was also proud to host the UK Controlled Environment Users' Group (CEUG) 2008 Water Workshop.

Despite such an action-packed year, SCRI staff still managed time to party. This was because of the work of the SCRI Staff Association which continued during the year to raise funds for good causes, organise quiz nights and ceilidhs, a summer barbecue and many other entertainments and services for members, including retiral presentations. By the end of the year, the funds raised for good causes had reached £1230.