

# *Introduction by the Director*

**John R. Hillman**



® The Scottish Crop Research Institute (SCRI) is a non-profit-making limited company established under the Companies Act, has charitable status and is a Non-Departmental Public Body because over 50% of the total funding is received as grant-in-aid from the Scottish Executive Rural Affairs Department (SERAD), formerly the Scottish Office Agriculture, Environment and Fisheries Department. All members of the Governing Body are appointed by the Secretary of State for Scotland. Staff are not formally civil servants, but are

members of the Scottish Office Superannuation Scheme, to become the Scottish Executive Rural Affairs Department Superannuation Scheme 1999. SERAD also funds any redundancies, the site, and much of its fabric and capital equipment. There is also a Management Statement and Financial Memorandum embodying the formal relationship with SERAD. The Pay and Grading System, and Staff and Management Codes are administered by the Biotechnology and Biological Sciences Research Council (BBSRC).


## *Plants - promoting the creation and protection of wealth and the quality of life.*


### **The Mission of SCRI is:**


to sustain excellence and our international reputation for strategic research in crop, plant and related sciences, and to facilitate the application of new knowledge to end-user industries.


### **The Aims of SCRI are:**

- \* to provide a major international centre for research of the highest quality on agricultural, horticultural and industrial crops important to northern Britain and the rest of the World, by sustaining a broad, yet fully integrated programme of fundamental, strategic and applicable research designed to contribute to, and complement other sectors of the UK science base;
- \* to increase fundamental knowledge in the biological sciences while improving crop quality, utility and value through the application of conventional and novel molecular genetic breeding techniques and improved agronomic practices, and by developing more sustainable, environmentally sensitive methods to protect crops from depredations by pests, pathogens and weeds;
- \* to create wealth and protect investment in our essential plant-based industries by exploiting the advantages and solving the problems of crop production in northern Britain while seeking to improve the quality of life and safeguard the global environment;
- \* to promote public awareness and understanding of relevant environmental and bioscience issues through technical and lay publications and targeted presentations;
- \* to encourage, train and reward staff with relevant skills in crop genetics, plant biotechnology and physiology, chemistry, plant pathology, biomathematics and environmental studies, agronomy and the field trialling of new crop varieties.

 SCRI was established in 1981 by an amalgamation of the Scottish Horticultural Research Institute (SHRI, founded at Invergowrie, Dundee in 1951) and the Scottish Plant Breeding Station (SPBS, founded at East Craigs, Edinburgh in 1921). In 1987, the Institute assumed managerial responsibility for the Biomathematics & Statistics Scotland (BioSS), formerly the Scottish Agricultural Statistics Service.


 SCRI is a major international centre for basic, strategic and applied research on agricultural, horticultural and industrial crops and on the underlying biological processes common to all plants. It is the only such Institute in Scotland, and the range of complementary skills assembled at the Institute, from fundamental molecular genetics to glasshouse- and field-trials, with exploitation of the SCRI-based international genetic resources in a region of high phytosanitary conditions is unique within the UK.

 The science is optimised by a matrix management system comprising (w.e.f. 1-10-99) four divisions and nine inter-related research units. Management structures are regularly reviewed to ensure maximum effectiveness of the research at SCRI.


 In the past year the Institute has initiated a major Science Strategy Review. The review team will:

- Assess the quality, novelty, focus and timeliness of current and projected research objectives and their relevance to SCRI's position within Scottish, UK and International plant science communities.
- Examine the management of science within the Institute, including the effectiveness of communication and synergies within and between Units and Departments.
- Address the issues raised by the recent Visiting Group and identified in the (1999) SOAEFD Strategy Review.
- In the light of the above make recommendations on the future research direction and integration of research activities. Wealth creating potential and industrial relevance are considered as high priority.

The review will take account of discussions with staff, senior management, the Governing Body and SERAD.

 The SCRI research programmes are peer reviewed at many levels. Each year the 'core' programme of research comprising a number of projects is assessed by the Research, Education and Advisory Services (REA) Unit of SERAD. New projects are appraised by advisers prior to commissioning,

progress is monitored annually and ultimately a final report is produced for evaluation.

 Every 4 years SERAD commission BBSRC to appoint a Visiting Group to review the work of the Institute. A Visiting Group, initially scheduled for June 1998, took place in November 1998. The Group comprised:

Dr C A Gilligan (Chairman)  
University of Cambridge

Professor K R Barker  
North Carolina State University, Raleigh, USA

Professor M J Daniels  
Sainsbury Laboratory, Norwich

Professor J Draper  
University of Wales, Aberystwyth

Professor M J Emes  
University of Manchester

Professor R W Goldbach  
Wageningen Agricultural University, The Netherlands

Professor G J Jellis  
Plant Breeding International Cambridge

Professor M J Kearsey  
University of Birmingham

Professor A G O'Donnell  
University of Newcastle-upon-Tyne

Dr R M J Storey  
British Potato Council, Oxford

Dr R G Turner  
British Society of Plant Breeders Ltd, Ely

Mr J H Wyllie  
Ruchlaw Produce Company Ltd, Dunbar


The Visiting Group's secretariat was provided by Mr B Harris of BBSRC, assisted by Mr J B Sykes and Miss C M Dow. The Group was also accompanied by Dr A J Rushworth, Dr R N Waterhouse and Dr T W Willison of SERAD's Research, Education and Advisory Services Division.


The task of the Visiting Group was: (a) to carry out a scientific audit of the quality and conduct of SCRI's core research programme and related work; and (b) to assess SCRI's effectiveness in managing its resources to meet the needs of users and beneficiaries of research, and the Institute's strategic plans for the future development of its scientific programme.


Remarks published in the Report of the Visiting Group include:


- The VG was impressed by the quality of research at SCRI
- Overall, SCRI's productivity was similarly impressive
- The calibre of SCRI's staff was considered to be good and the VG identified several outstanding individuals.

The Report made a number of recommendations to guide the continuing development of the Institute. A response to the Report has been forwarded to SERAD and an implementation programme is being prepared.

 A broad multidisciplinary approach to fundamental and strategic research, and technology transfer are unique strengths of SCRI. Our programmes span the disciplines of genetics and breeding, molecular and cellular biology, biotechnology, plant pathology (bacteriology, entomology, mycology, nematology and virology), plant physiology and cell biology, environmental science, plant chemistry and biochemistry, agronomy, molecular ecology, vegetation dynamics, bioremediation, serology, physics, mathematics, bioinformatics and statistics. Genetics and enhanced breeding of selected crops, and biotechnology lie at the core of all our substantial research, development and training programmes.

 The breadth and depth of knowledge, technical expertise and infrastructural resources available at SCRI attract extensive contracts and consultancies from, and foster collaborations with, numerous academic and corporate organisations around the World. Synergistic liaisons with other institutes, universities and colleges in the UK and overseas are also integral to the scientific growth, development and validation of the Institute's research activities. New links are being forged continuously, as well as existing contacts being developed and strengthened.


 SCRI and Mylnefield Research Services (MRS) Ltd, the commercial arm of the Institute, are successful in gaining competitive research contracts from government departments and agencies, Levy Boards, grower organisations, international agencies, the European Union, commercial companies, local government, and some Charities, Research Councils and Trust funds, although we are largely excluded from submitting applications to the latter three sources.


 SCRI provides the base and secretariat for The Scottish Society for Crop Research (SSCR), a registered Friendly Society formed in 1981 by the amalgamation of The Scottish Society for Research in Plant Breeding and The Scottish Horticultural Research Association.


The SSCR provides an important link between SCRI research scientists and farmers, growers, processors and other interested companies in the private sector.


The Society:

- organises interactive field walks and end-user/researcher discussion sessions;
- finances science-based advisory publications for the benefit of its members;
- stimulates crop-based sub-committees to support targeted research projects ;
- reinforces SCRI representation with trade associations, Levy Boards, and other user-groups;
- administers the biennial Peter Massalski Prize to the most promising young scientist at SCRI.


 SCRI is one of five Scottish Agricultural and Biological Research Institutes (SABRIs; Scottish Crop Research Institute, Hannah Research Institute, Macaulay Land Use Research Institute, Moredun Research Institute, Rowett Research Institute) and together with the Royal Botanic Garden, Edinburgh, the Scottish Agricultural College (SAC), the Scottish Agricultural Science Agency (SASA), the Fisheries Research Services and Forestry Commission Research Agency, comprise the Committee of Heads of Agricultural and Biological Organisations in Scotland (CHABOS).

 BioSS was established to cover the biomathematical and statistical needs of the five SABRIs and SAC. High-level consultancy, training and research inputs from BioSS give a major advantage to the SABRI and SAC research programmes, as well as to the work of SASA and several other bodies for whom it carries out contracts.


 This Report details only a small selection of the recent research achievements of SCRI, BioSS and MRS Ltd, briefly describes the commercial rôles and successes of MRS Ltd; and summarises the important linking rôle of SSCR. Significant advances continue to be made in both fundamental and strategic science, with contributions to the protection and understanding of the environment. In the past year SCRI has contributed to the debate on genetically modified crops, providing independent and unbiased information on this important subject. Discoveries are reported of direct and indirect benefit to agriculture, horticulture, forestry, land management and biotechnology. Dedicated and talented scientific and support staff in the Institute, and BioSS, and MRS Ltd., account for our stature, successes and delivery of achievements.

 Details of the annual accounts, Corporate Plan, health and safety provisions, and the

SCRI/MRS quality assurance arrangements are available on request.

 On behalf of the staff and Governing Body, it is a pleasure once again for me to acknowledge with gratitude the staff of SERAD for their continuing support of, and demonstrable commitment to, our research programme and to our development. Regardless of the enormous pressures upon them in recent years, they function rigorously, openly and fairly, as always, to the highest professional standards of British public service. Grants, contracts, donations, advice and joint participation in our activities from

the SSCR, other government departments and their agencies, non-governmental agencies, our sister CHABOS institutions and BBSRC institutes with whom we coordinate our research, grower levy boards, local and regional authorities, commercial companies, farmers and other individuals, and learned societies, are also warmly appreciated.

 SCRI remains buoyant in generally difficult times for science in the UK, justifying its existence in every respect. We have every confidence in meeting future challenges. Scientifically and commercially, our prospects are outstanding.