GENERAL REPORT

J. R. HILLMAN

My appointment in March coincided with several changes in the management structure of the Agricultural and Food Research Service (AFRS). While the Agricultural and Food Research Council (AFRC), in England and Wales was restructuring itself to establish eight institutes, the Department of Agriculture and Fisheries for Scotland (DAFS) embarked on implementing proposals outlined in the document 'Strategy for Agricultural Research and Development' published in December 1985. Of special importance to SCRI was the plan to form in April 1987 a new Scottish Agricultural Research Institute (SARI) now known as the Macaulay Land Use Research Institute (MLURI) with a remit spanning and extending the existing programmes of the Hill Farming Research Organisation (HFRO) and the marginal land resource assessment interests of the Macaulay Institute for Soil Research (MISR). Membership of the Steering Group for the new Institute emphasised to me the importance of the reorganisation to the development of environmental research in Great Britain. Integral with the establishment of MLURI was the agreed transfer in 1987 of 29 posts from MISR to SCRI to permit new research programmes on root physiology and soil microbiology. Throughout the year discussions took place with DAFS and the AFRC on the nature of these programmes and their resource requirements.

One important item in the DAFS strategy document was implemented early in 1986. The Joint Management Board was inaugurated on 7 February permitting representatives of DAFS, SARI Directors, Scottish Agricultural College (SAC) Principals and Director General and a senior AFRC representative to discuss at regular intervals policy and related issues, formalising and enhancing the 'Scottish System' of closely co-ordinated research, development and extension work in agriculture. Preparations were also made for the formation in April 1987 of the Scottish Agricultural Statistics Service (SASS). This body would be formed from the AFRC's Unit of Statistics based in the University of Edinburgh and would incorporate statisticians in the SARIs and SAC, providing a high level of statistical expertise to institutes, colleges and DAFS Agricultural Scientific Services, East Craigs. SASS will be organised as an administrative unit within SCRI, with Mr R. A. Kempton as Director.

After a long period of planning, a joint announcement was made in the summer by the Agriculture Departments and the Department of

Education and Science of a proposed sale to the private sector of the National Seed Development Organisation (NSDO) and the applied plant breeding departments of the Plant Breeding Institute. Because NSDO is responsible for the commercial development and marketing of finished cultivars from SCRI, detailed internal discussions were held to consider the future release of breeding material from SCRI to the private sector, taking into account the general trend in the public sector towards strategic breeding, leaving the commercial sector to produce finished cultivars possibly by contracts with state-supported institutes. A paper outlining plant breeding policy at SCRI was sent to DAFS for consideration next year: *faber est quisque fortunae suae.*

During 1986 the building programme at Mylnefield continued with relatively little disruption to work of the Institute. One of the Hartley glasshouses was transferred from Pentlandfield to a site west of the new boiler house. Propagation and cereal breeding glasshouses were completed. A large laboratory block for the Data Processing, Chemistry, Cereal Breeding, Tissue Culture and Soft Fruit Breeding departments was started on a site to the west of the existing laboratory block. With commendable speed DAFS approved a plan to ease the severe accommodation problems expected in April 1987 when staff would transfer from MISR and site preparations were put in hand at the end of the year for the erection of a two-storey modular laboratory block at the west end of the virology/zoology wing of the main building.

Related to the building programme was an acceleration of the transfer of Pentlandfield staff to Mylnefield. Dr Cynthia J. Williamson (Mycology and Bacteriology Department) and Dr M. J. Allison and colleagues in the Chemistry Department were transferred in advance of the completion of their laboratory and glasshouse facilities. Mrs Geraldine Martin (Information Services Division) also transferred from Pentlandfield. Advanced plans were submitted to DAFS for the construction of laboratories, offices, crop-handling building and glasshouse complex for the Potato Breeding Department, the only remaining science department at Pentlandfield.

SCRI was particularly successful in the first round of the DAFS Increased Flexibility Scheme to which SARIs and SAC may apply for additional support to undertake new research and development work of a short-term nature. The Scheme does not provide funds to refinance work lost in general programme reduction. Eleven applications from SCRI were approved, three of which were conjoint with HFRO, East of Scotland College of Agriculture and DAFS:ASS. Grant monies were also obtained from the Overseas Development Administration, Agricultural Genetics Company Ltd and others (see p.18).

Further enhancement of our research efforts came from the establishment of two AFRC-supported 'Link Research Groups' with the

University of St. Andrews. Dr R. T. Hay and Professor W. C. Russell (collaborator Professor B. D. Harrison) were awarded a grant to study the molecular characteristics of gene products from potato leafroll virus, and Dr J. R. Kinghorn (Collaborator Dr J. M. Duncan) was awarded a grant to carry out molecular studies of *Phytophthora infestans*. Although SCRI does not benefit financially by the formation of Link Groups, there will be scientific and intellectual gains in the complementary research programmes.

Ten scientists were appointed as Honorary Research Associates of the Institute, reflecting their close links with SCRI and the expectation that their association will strengthen to our mutual benefit. Three are recently retired SCRI staff (Professor C. E. Taylor, Mr R. A. Fox, Mr R. Thompson) and seven are university staff (Dr R. T. Hay, Dr J. R. Kinghorn, Dr J. T. Knowles, Professor W. P. Morrison, Professor W. C. Russell, Dr G. P. C. Salmond, Dr J. I. Sprent).

At the end of 1985, the Ministry of Agriculture, Fisheries and Food proposed the preparation of a short prospectus outlining the scope of MAFF- and DAFS-supported institutions to undertake industry-funded research and development in horticulture. During the summer, SCRI made its contribution to the prospectus, more or less coinciding with the establishment of a new levy board, the Horticultural Development Council (HDC). Competitive research bids on topics relevant to the remit of SCRI were submitted to HDC and by the end of the year discussions on contractual arrangements were in progress. The levy boards, including the Potato Marketing Board and Home-Grown Cereals Authority, will have an increasingly important role in funding research and development in the state sector. Consequently, the first of a new type of discussion group, the Horticultural Quartet, comprising SARI, SAC, AFRC and Agricultural Development and Advisory Service representatives, met to consider the co-ordination of research proposals to the HDC.

In the general climate of financial stringency, 1986 was characterised by the Institute taking responsibility for increased exploitation of its research. A closer liaison was sought with industry than hitherto and the Scottish Society for Crop Research assumed greater importance. Strategic planning into cost-benefit appraisals of research programmes was started, highlighting the role of administrative and scientific computing policy in research institutes. Proper emphasis was placed on the maintenance and augmenting of productive, collaborative activities with sister institutes and organisations in England and Wales, and most notably with the Scottish universities. All existing Programme Units were reviewed in the light of the recommendations of the Priorities Board: new programmes were prepared in arable legumes, molecular and cell biology, and various aspects of agriculture and the environment for implementation in the next financial year.

Of the many scientific achievements outlined in this Annual Report, the demonstration by Professor B. D. Harrison and colleagues of virus

resistance brought about by transforming tobacco plants with DNA copies of a plant viral satellite RNA deserves special mention. Virology at SCRI successfully spans the research spectrum from fundamental studies to applied work of major and direct importance to the agricultural industry. Molecular genetics and related techniques will soon pervade most research projects in every science department, and the unique multi-disciplinary strengths of SCRI in agronomy, chemistry, mathematical sciences, pathology, physiology and plant breeding coupled with substantial physical resources, collectively point to a bright future.

It is with regret that we record the death of Mrs Margaret Mitchell who died on 11 August. She was the Clerical Officer in the Library, and served in this capacity for over 23 years.

The Institute frequently depends upon the help and co-operation of others, either individuals or organisations, without whose assistance the work would be greatly handicapped. The assistance may be from scientists with other organisations working on collaborative ventures, from farmers who generously make their land available for trials, from commercial companies undertaking testing work free of charge or from donations of finance or equipment. The Institute is most grateful to all its collaborators and very appreciative of the help that they give.

Financial Assistance

Agricultural Genetics Company	£18,928
BASF United Kingdom Ltd	£200
Beecham Foods	£1,000
British Crop Protection Council	£2,500
Cyanamid of Great Britain Ltd	£200
Elanco Products Ltd	£200
Farm Protection Ltd	£200
International Organisation for Biological Control	£100
L. Clause, France	£1,200
May and Baker Ltd	£400
National Science Foundation (USA)	£500
Overseas Development Administration	£36,243
Pan Brittanica Industries Ltd	£200
A. Pilsworth (Crop Consultant)	£100
Sandoz Products Ltd	£200
Scottish Agricultural Industries plc	£300
Shell Chemicals UK Ltd	£200
Tiptop Nurseries, Essex	£250
Union Carbide UK Ltd	£500
United Biscuits Agriculture	£3,225