

## Mission and Vision

SCRI is Scotland's leading centre for research on plants and the way they interact with the environment, particularly in managed ecosystems. Our research and products are internationally recognised.

Our mission is to conduct excellent research in plant and environmental science.

Our vision is to deliver innovative knowledge, products and services that enrich the life of the community and address the public goods of sustainability and high quality and healthy food.

We will achieve our vision by developing a culture that promotes and supports scientific curiosity and celebrates the contribution of all staff and students.



## What drives us?

- Tackling environmental change
- Creating wealth and health
- Valuing and utilising biodiversity
- Using natural resources sustainably
- Communicating our science responsibly – helping others do the same

## Our science programmes leaders:

**Genetics** – Professor Robbie Waugh

**Plant Pathology** – Dr Lesley Torrance

**Plant Products and Food Quality** – Dr Derek Stewart

**Environment Plant Interactions** – Professor Philip White



## SCRI Group

## Science and Operational Strategy

2009 - 2013

The SCRI Group:  
SCRI  
MRS  
BioSS  
University of Dundee Division of Plant Sciences

[www.scri.ac.uk](http://www.scri.ac.uk)  
[www.mrsLtd.com](http://www.mrsLtd.com)  
[www.bioss.ac.uk](http://www.bioss.ac.uk)  
[www.lifesci.dundee.ac.uk/ps](http://www.lifesci.dundee.ac.uk/ps)  
[www.knowledgescotland.org](http://www.knowledgescotland.org)

Scottish Crop Research Institute  
Invergowrie, Dundee DD2 5DA, Scotland, UK.

A charitable company limited by guarantee.  
Registered, Scotland No. 29367 at the above address.  
Recognised by the Inland Revenue as a Scottish Charity No: SC006662

Telephone: +44 (0)1382 562731  
Fax: +44 (0)1382 562426  
Email: [info@scri.ac.uk](mailto:info@scri.ac.uk)



## Peter Gregory

- Chief Executive and Institute Director

We live in challenging times. As SCRI was shaping its new Science and Operational Strategy, the world was entering a major economic downturn. Evidence of global environmental change is becoming clearer. Population growth is also a global issue, with the demand for food expected to increase by 50% in the next 20 years.

SCRI is Scotland's contribution to the search for solutions to these seemingly intractable problems.

Our science continues to deliver new knowledge, products and services in response to the questions asked by our customers and society more generally. Our links internationally, and with universities and other research organisations nationally, are strong and enable us to undertake world class research and to transfer our results to multiple potential users.

We are working closely with the Scottish Government's Rural and Environment Research and Analysis Directorate (RERAD) and the food and drink industry.

We believe we have a major part to play in Scotland's future...and the global endeavour to adapt to a changing environment.





How our science programmes deliver to the themes that matter to us all...

## Environmental Change

## Wealthier & Healthier

## Biodiversity

## Sustainability

## Communications

### Genetics

Genetics of water and nutrient use efficiency  
Gene expression responses to environmental change  
Adapted cultivars  
Germplasm collections  
Breeding for environmental change

Gene mapping and markers  
Industrial partnerships  
Cultivars to meet market needs  
Breeding for improved nutrition

Evolution and biodiversity of crop genomes  
Research and exploitation of germplasm collections  
Molecular tools for the characterisation and monitoring of biodiversity  
Diversity of native species

Mapping and markers for reduced inputs  
Reductions in the environmental footprint of production  
Genetics of new cropping systems  
Genetic responses to environmental stress  
Genetics of durable disease resistance

Crop Open Days  
Explaining Biodiversity  
UK and world crop networks  
Industry partnerships and briefings  
Scientific and popular publications

### Plant Pathology

Genome sequencing of pathogens and comparative genomics  
Effects of abiotic stress on host resistance  
Pest and pathogen epidemiology and population dynamics  
Biochemical and functional data

New cultivars with disease resistance  
Pest and pathogen management  
Plants as sources of high value proteins

Development of disease resistant crops to decrease pesticide inputs

Development of sustainable crop production systems  
Pest and pathogen epidemiology and population dynamics  
Integrated pest and disease management  
Sustainable crop production methods

Women in Science Technology Engineering and Maths  
Potatoes in Practice  
Cereals in Practice  
Communicating science through art  
Fruit for the Future  
LEAF Open Farm Sunday  
International partnerships

### Plant Products & Food Quality

Impact on fruit quality  
Biochemical consequences of climate change

Metabolomics, biochemical and molecular biological techniques  
Work on bioactives  
Phytochemicals  
Food processing  
Plant products  
Tasting panels

Assessment and utilisation of biodiverse germplasm  
High throughput phenotyping  
Crop diversification

Agricultural regimes and quality impacts  
Whole crop utilisation  
Food chain nutrient loss

Integrating food and health  
Cereals in Practice  
Fruit for the Future  
Potatoes in Practice  
Royal Highland Show  
Advanced Higher days

### Environment Plant Interactions

Efficient resource use  
Reduced greenhouse gas emissions  
Improved rooting for problem soils  
New crops and cropping systems  
Plant ecophysiology and adaptation  
Preservation of fragile ecosystems  
Carbon sequestration in soils

Sustainable soil management  
Efficient use of resources  
Recycling of urban wastes  
Micronutrient fertilisers for mineral biofortification  
EnPrint® environmental monitoring  
Diagnostic testing

Assessments of plant biodiversity  
Biodiversity and ecosystem function  
Soil biology, structure and function  
Impacts of crop management on biodiversity  
Molecular ecology of wild plants

Agroecological impact assessments  
Soil and water quality indicators  
Soil restoration and slope stabilisation  
New crops and cropping systems  
LEAF/Balruidery platforms  
Resource use efficiency

Living Field  
Royal Highland Show  
LEAF/Balruidery Open Days  
Potatoes in Practice  
Teaching (schools, universities & industry)  
Decision support tools

SCRI's 'Ben' series of blackcurrant varieties make up 95% of the UK crop and 50% of all the blackcurrants grown in the world.

SCRI's commercial wing has signed agreements with more than 20 fruit growers in Spain allowing them to use our successful Glen Lyon raspberry variety.

SCRI research is helping to improve wheat for grain distilling and to use less nitrogen fertiliser.

We have a new spin-off company called EnPrint that uses up-to-the minute technology for testing water quality.

The Vales Sovereign potato, bred at SCRI and commercialised by Greenvale AP, was voted Tesco fresh produce Best New Variety.

We coordinate a Europe-wide initiative to understand gene flow in agricultural ecosystems.

An independent economic impact assessment of SCRI Group's technology transfer indicated a return to the UK economy of £160 million per annum.

Every pound of public money invested in SCRI is returned to the economy twelve times over.

SCRI Group is developing bread containing 20% barley, which has been shown to reduce cholesterol and cut the risk of heart disease.

