

# Mylnefield Research Services Ltd.

**Nigel W. Kerby & Jonathan B. Snape**

MRS, the commercial wholly-owned subsidiary of the Scottish Crop Research Institute (SCRI), was established in 1989 to enhance competitiveness, understand and fulfil the needs of industry and maximise the value of SCRI intellectual property and resources. The company has grown steadily and continued to benefit SCRI through annual Gift Aid and the provision of services, without any external financial assistance.

The Mission Statement of MRS is:

*To develop commercially the SCRI's scientific expertise, resources and intellectual property.*

**Finances** The income of MRS remained static at £1.97 million in 2006/2007 which was in line with our budget. MRS transferred £1.1 million to the SCRI Group, including £75k of Gift Aid. An additional £147k was retained as a provision pending a decision on the validity of one of our Plant Variety Rights. As in previous years, contract research (66%) was the biggest contributor to income, followed by lipid analysis (15%) and royalties (10%).

**Economic impact assessment** SCRI and MRS commissioned independent economists DTZ to undertake an economic impact assessment for the SCRI Group. This concluded that for every pound invested in the Institute by government, the UK economy benefited by £14. This is a truly impressive result and compares very favourably with other research institutes and universities and demonstrates the success SCRI, through MRS, has had in translating high quality basic research into added value products and services. In 2007 it was possible to see 7 named varieties (Mayan Gold, Lady Balfour, Claret, Anya, Inca Dawn, Vales Emerald, Vales Sovereign) of potatoes bred at SCRI on supermarket shelves in the UK, as well as one processed variety (Purple Star crisps). In addition SCRI soft fruit varieties find their way into a wide range of jams, juices, dairy products etc.

This result has been made possible by the long term relationships developed between MRS and its commercial customers.

**Glen Lyon** In early 2007, following a concerted effort by MRS to eliminate illegal propagation of the SCRI-bred raspberry variety Glen Lyon, a group of Spanish growers submitted a request to the European Plant Variety Rights Office to have the plant variety rights for Glen Lyon nullified. We are pleased to report that their nullity claim was rejected following a robust defence from MRS, without recourse to appeal. MRS will continue to vigorously defend SCRI intellectual property around the world and act on all reported cases of illegal propagation.



SCRI innovation MRS has taken to the market place.

**EnPrint®** In 2007, Dr Tim Daniell and Dr Dave Roberts received funding from Scottish Enterprise to further develop their environmental fingerprinting technology for the analysis of marine water samples. Following the successful conclusion of this project, MRS, with co-funding from Scottish Enterprise Tayside have invested in the development of this technology, with the aim of establishing a spin-out company, to be named EnPrint®, in late 2008. As part of this investment, Dr Rayne Longhurst has been employed to undertake business development and raise finance for EnPrint®. The technology has already attracted the attention of several major companies and other applications of the technology are being investigated.

**Licensing and IP asset management** MRS places significant emphasis on the protection of intellectual property generated by SCRI. Our IP portfolio is dominated by plant variety rights (55) but also includes three patents and five trademarks.

One of our commercialisation routes is through licensing and we currently have 411 licenses in 23 countries. MRS licences potatoes, forage and salad rape, turnip, kale, blackcurrants, blackberry, raspberry and strawberry varieties.

Since 1<sup>st</sup> January 2007, 4 potato varieties have been submitted to National List trials, 5 potato varieties were granted plant variety rights in Australia and 3 potato varieties were granted plant variety rights in Japan. In addition there were two applications for EU Plant Variety Rights, one raspberry, one potato variety. Two new varieties of blackcurrant, Ben Starav and Ben Klibreck, were commercialised in 2007.

**Analytical services** Mylnfield Lipid Analysis, under the leadership of Claire Traynor, had another successful year in 2007. A new GC-MS machine was purchased in June and this is now being used extensively to analyse oil seeds for a new multi-national customer. Ruth Razzo left MLA in 2007 and was replaced by Kris Devlin. Nicola Marquis spent 6 months working in MLA before returning to SCRI.

Dr Charlie Scrimgeour retired from SCRI in November 2007 but has been retained by MRS as a consultant

to advise on lipid analysis and stable isotope analysis. Lee Hunter received training in stable isotope analysis during 2007 and is now undertaking all the commercial analyses, a service that is now worth in excess of £70k per year and growing. With new appointments in analytical chemistry at SCRI imminent, this is an area of business activity we hope to grow in the coming years.

**Developing markets** MRS was instrumental in initiating discussions between China and the UK with the aim of establishing protocols whereby Scottish seed potatoes could be imported into China. This culminated in the lifting of the restriction for mini-tubers to be sent from the UK to China, an important first step in opening up a very large and growing market. Also in China, MRS, with the assistance of Dr Finlay Dale, established trials of SCRI-bred potatoes and germplasm. A cooperative Joint Venture ("Danasia") was established in China with the Danish company Berryfine, a Chinese fruit growing and marketing company, Beijing Jinaodun and the IFU (a Danish government venture fund). In return, for exclusive licensing of specific SCRI-bred soft fruit varieties, MRS will receive a 10% equity stake in Danasia. Significant areas of raspberry were planted in 2007 and will be marketed in 2008/2009 throughout China and the Pacific-rim.

**Knowledge transfer and exploitation** In 2007, SCRI benefited, through MRS, of being involved in several new initiatives, including the Tayside Knowledge Transfer Partnership, the Dundee Innovation Portal and Interface. These resulted in a Knowledge Transfer Partnership being initiated with the Edinburgh-based Nairns oatcake company and several other collaborations with local SMEs are being negotiated.

The Rainbow Seed Fund made its first investments in SCRI to develop the aberrant RNA technology developed by Dr Christophe Lacomme and Dr Krzysz Wypijewski, both in plant cells, and together with Dr Gyorgy Hutwagner of the University of Dundee, in animal cells. A full patent application was filed and work is due to commence on a Scottish Enterprise funded Proof of Concept project.

MRS also invested money in improving technologies for plant transformation based on the caspase expertise



of Dr Misha Taliani and Dr Brian Reavy. Initial results look highly promising and these methods are now being used by other research groups in SCRI as well as attracting interest from the agbiotech industry.

**CASE Studentships** MRS is the industrial partner in two CASE studentships. The first is with Dr Gary Loake of the University of Edinburgh and the second with Dr Ari Sadanandom of the University of Glasgow. Both these projects are generating potentially valuable intellectual property which will be evaluated and developed by MRS.

**Human resources** MRS values highly the skills and experience of all its employees and recognises their contribution, together with that of SCRI scientific and administrative staff, to company performance. MRS is committed to investing in training to ensure that all employees not only perform effectively and efficiently, but also gain long-term satisfaction from their work.

Prof. Bernard King stood down as Chairman of MRS after 2 years in the position and will stand down as a Director in April 2008. Keith Hopkins stood down as a Director of MRS in 2007 after more than 10 years service. We would like to take this opportunity to thank Bernard and Keith for their insight, support and encouragement over the years.

Peter Berry, formerly Chairman of the Crown Agents, took over as Chairman of MRS in September 2007 and brings a wealth of experience in commercialisation to the Board. In addition, Richard Buller, former Head of IP at Shell UK, joined the Board in September 2007 primarily for his in depth knowledge of intellectual property and related areas.

#### Acknowledgements

MRS gratefully acknowledges the support of all SCRI staff, for their significant contribution to the success of the company. MRS would also like to thank its customers and sponsors for their continued support. In addition, we would like to thank the non-executive Directors of MRS who contribute their valuable time without recompense.

## The Mylnefield Trust

The Mylnefield Trust was set up in 2000. It has charitable status and its prime objectives are:

- To promote research and scientific work in the life, environmental and related sciences, in particular production of agricultural, horticultural and forestry crops, methods of limiting or eradicating pests and diseases, wood sciences and biomathematics, methods of increasing production or growth, improving cultivation and research into possible varieties.

- To promote the dissemination of such research.

To date the Trust has financially supported:

- A Research Incentive Fund.
- An Education Officer at SCRI.
- A hardship fund for an overseas student.
- Various research projects.
- Support for scientific publications.
- Postgraduate Award for Science.

The Trustees congratulate Michael Ravensdale as the first recipient of the Post Graduate Award.

Since its inception The Mylnefield Trust has supported projects and activities amounting to £113,000.

The Trust currently has funds of approximately £400,000, achieved mainly through donations from the profits of Mylnefield Research Services Ltd.