

**Notes of a meeting of the All-Party Parliamentary Group on Science & Technology in
Agriculture**

4.30 – 6.00pm, Tuesday 20 October 2009, Boothroyd Room, Portcullis House

**UK horticulture sector –
research targets & needs, role of collaborative R&D**

Present – Members:

Jane Kennedy MP
Earl of Selborne
Lord Haskins
Lord Taylor of Holbeach
Duke of Montrose
Lynne Jones MP
Andrew George MP
Roger Williams MP

Speakers:

Neil Bragg, HDC
Dr Chris Atkinson, East Malling Research
Professor Simon Bright, Warwick HRI

Stakeholders:

Penny Maplestone, BSPB; Tina Barsby, NIAB; Ian Crute, AHDB; Helen Ferrier, NFU; Phil Hudson, NFU; Sarah Pettitt, NFU; David Marris, BASF; Magda Ibrahim, Horticulture Week; Helen Bower, WFU; Colin Ruscoe, BCPC; Ionwen Lewis, Women in Agriculture; Andrew Colquhoun, National Horticulture Forum; Daniel Pearsall, Group Administrator.

1. Election of chair

Rt Hon Jane Kennedy MP was elected chair of the All-Party Group, nominated by Lord Selborne and seconded by Lord Haskins. Ms Kennedy thanked outgoing chair David Kidney for his work in establishing the Group, and wished him well in his work in Government.

2. Guest Speakers – summary of key points / discussion

[Please note that full copies of guest speakers' slide presentations are available to download via the Meetings section of the All-Party Group web-site at www.appg-agscience.org.uk]

Neil Bragg, Chair, Horticulture Development Company

Established in 1986, HDC represented horticulture within AHDB covering a diverse sector comprising 300 crops and 35 cropping associations.

Some 90% of HDC levy income of £5m was currently spent on R&D – allocated by crop-specific panels.

UK horticulture R&D was facing a serious decline in funding and skills. A 2008 review by Brian Jamieson & Associates, commissioned by the National Horticulture Forum, highlighted ongoing reductions in centralised R&D funding, concluding that by 2012 the loss of all guarantee funds would total £7-8m per year. The report also identified skills shortages in basic areas of agronomy related to horticulture.

In terms of funding streams, the Defra horticulture LINK programme (HortLINK) was set to disappear. In its place, the Technology Strategy Board (TSB) had recently announced the establishment of an agri-food platform, with £75m available in funding over five years via specific calls, the first on crop protection from January 2010.

BBSRC technology clubs were in development for certain crops but had not yet been considered for horticulture, while access to EU funding sources presented problems since HDC was not regarded as a qualifying SME. HDC was keen to engage more with the RDAs, although there appeared to be a lack of joined up thinking between RDAs, and R&D was viewed as state aid.

The past 20 years had seen the closure of numerous experimental stations and horticulture research establishments – the physical resources available to conduct applied horticulture research over the next 5 to 10 years would continue to come under pressure.

Mr Bragg reviewed horticulture R&D funding arrangements in other countries. Matched funding for grower contributions was provided in Australia. Denmark operated a centralised system of levy collection with funding then delivered through crop associations, with applied research centres now part of the university sector. Germany and France retained a network of regional horticulture research stations focused on the needs of growers, while Teagasc in the Republic of Ireland promoted an integrated and vibrant relationship between advisers, students and the research base, managed from a network of regional centres.

HDC was seeking to promote collaboration across the sector in making bids to TSB, and to ensure remaining applied research expertise was recognised and used to mentor the next generation coming into the industry. HDC was also looking to establish strategic R&D groups, focused on the impact of investment in scientific research.

Challenges for HDC levy payers would be to work more as a business development group, to accept levy funds being diverted into strategic work areas, and to focus support on specific centres for applied research.

Comments / Questions

In addition to the examples of funding arrangements in other countries, Lord Taylor of Holbeach highlighted the Dutch approach, in which funding for horticulture research was levied on transactions by all sectors of the industry, yielding a substantial income for R&D investment.

Sarah Pettitt sought clarification of the proportion of R&D funding spent by HDC on SOLA work (specific off-label approvals for pesticide use). NB confirmed that £300k was currently spent on SOLA work, although this would need to increase to £1m within three years.

Dr Chris Atkinson, Head of Science, East Malling Research (EMR)

Established by the industry in 1913 to deliver fruit-related R&D, EMR activities ranged from research into plant genetics, new variety development and improved growing systems through to the delivery of new products and services. A flow of information from basic to strategic to applied research was vital.

Like other research establishments, EMR had seen a reduction in guaranteed core Government funding from Defra which would disappear completely by 2010.

Investment in fruit R&D was important to address key challenges – including healthy eating, falling domestic production, food security and climate change.

EMR had delivered significant impacts through the development of improved fruit varieties and enhanced growing systems to minimise pesticide use, increase water and nutrient use efficiency, reduce wastage and improve product quality.

EMR had been involved in 18 LINK projects, with annual funding ranging from £130k to £780k per annum. LINK had not only provided a lifeline by attracting financial support from industry (via HDC), but also allowed for the development of consortia of stakeholders which in the case of EMR had included 33 grower partners, 82 non-grower industry partners, and 22 science/academic partnerships.

While the advantages of LINK included relevance to commercial needs, the collaborative involvement of business and the entire research community, and the ability to work flexibly, with realistic timescales and deliverables, downsides included the costs involved in preparing proposals, the challenge of reconciling scientific and commercial objectives, and the need to secure significant sources of industry funding.

Key challenges and opportunities for the future of fruit-related R&D included crop protection, water and fertiliser use efficiency, waste reduction, responding to climate change, energy supply and use, and reducing labour requirements.

In summary, investment in UK food industry R&D had delivered impact and value for money, but was now at risk through lack of funding streams and a decline in training, skills and expertise. A joined-up approach was needed between Government, research councils and levy bodies to provide a relevant balance and flow of R&D investment from basic through strategic to applied research and so ensure ultimate delivery of benefits to consumers. Long-term investment was needed in scientific programmes and the physical infrastructure required to conduct research.

Following the recent launch of a £13m crop protection call by TSB, it remained to be seen whether this would provide an effective replacement for HortLINK.

Comments / Questions

Lord Selborne asked about the prospects for East Malling to transfer existing skills to areas such as forestry research to secure additional funding sources.

CA confirmed that EMR did need to move into other sectors and that much of the technology and expertise was transferable – for example research undertaken at EMR into insect pheromones would transfer very effectively from fruit to vegetables and forestry. The only

potential problem in moving into other sectors lay in the blinkered approach of those currently funding research. Lord Selborne indicated that it was perhaps the purpose of the All-Party Group to help address such barriers, and that the vital contribution of East Malling in providing the rootstock for fruit production around the world – without return – must not be overlooked.

In response to a question from Andrew Colquhoun, CA indicated that the weakest link in the R&D pipeline was in the transfer from strategic to applied research. Much would depend on the BBSRC's initiative on food security and whether that led to more effective engagement further along the research pipeline.

Professor Simon Bright, Director, Warwick HRI

A department of the University of Warwick, HRI in Wellesbourne had been involved in horticulture research since 1949. The department's national research capability in field vegetables, ornamentals and glasshouse crops was now combined with undergraduate and postgraduate teaching.

With 60 PhD students in plant science and related disciplines, HRI had demonstrated that it was possible to attract students into the field and contribute to the skills agenda.

Warwick HRI also maintained the gene bank collections for four of the world's major vegetable crops – brassica, lettuce, alliums and carrot.

Examples of research impact at HRI included the development of improved vegetable varieties using hybrid breeding techniques, and onion waste treatment through composting and soil incorporation as an alternative to chemical control of white rot disease.

The current political focus on food security, sustainable production and the need for healthy diets meant this was an exciting time to be discussing research needs in relation to horticulture. For the past 25 years the UK's strategic research capacity had been eroded in terms of skills, infrastructure and resources.

While the knowledge base underpinning our fundamental science capabilities continued to expand and progress rapidly, the challenge was to leverage those developments in fundamental science into commercially relevant applications with impact. The new BBSRC strategy on food security involved a range of initiatives to engage with industry, develop partnerships and attract co-investment.

The TSB's recently launched £75m agri-food innovation platform would provide a new focus for innovation, beginning with a £13m call in crop protection from January 2010.

Decade after decade, sustained funding of agricultural research had been shown to deliver productivity gains, as evidenced by the yield performance of crops benefiting from the innovations of the Green Revolution (rice, wheat) and increasingly - since 1995 – the application of biotech breeding to crops such as soya, maize, rapeseed and cotton.

In conclusion, changes were taking place in Government funding of collaborative research, and while there were genuine concerns over the impact of sector-specific calls on the continuity of existing research programmes or teams, the positive political drive on food

supply should be leveraged to secure more investment in horticulture research, a more joined up approach and more effective engagement and partnerships between the research base and industry.

Comments / Questions

Lord Taylor noted that while fundamental scientific knowledge was generally interchanged at an international level, the biggest failure had been in technology transfer to growers. He asked to what extent HRI linked up with overseas research to benefit growers in the UK. SB agreed that science was international at a fundamental level, but in terms of applying it to the needs of UK growers, HRI was one of the largest recipients of HDC funding which then followed through to the requirements of growers, talking model systems through to application.

NB added that a key role for HDC within AHDB was to ensure research work was not duplicated unnecessarily - there was a clear and ongoing need to share knowledge and expertise across countries.

Lord Taylor considered that the role of key individuals in technology transfer to growers was crucial, through researchers who contributed the knowledge and experience of a lifetime's involvement in the sector. There was a pressing need once again to foster and nurture that two-way process of knowledge transfer between scientists and growers.

NB agreed that the role of mentoring within the sector was critical, and there could be a compelling case to free up some scientists from their current focus on generating research income to make a contribution through a mentoring role.

Ian Crute noted that, historically, a key strength of the UK had been the existence of a network of national specialists in horticulture, each covering a particular sector or discipline – fruit, vegetables, nursery stock, protected crops, plant breeding, agronomy and so on. One possible approach would be to recreate that matrix, giving a network of designated individuals the security to pursue a role in mentoring or technology transfer. It could be a role for HDC to populate the matrix, provide the capability and act as a conduit for the transfer into a UK grower context of research information from the UK or outside – focused on the crops in which the UK would have a strategic advantage. There were indeed opportunities, but there was a clear need to target those opportunities carefully and to address the current sense of insecurity within certain parts of the UK horticulture research sector.

Jane Kennedy asked how effective the industry was at harnessing the available scientific knowledge and applying it across the grower base.

SB indicated that the R&D pipeline was fragmented in this respect, and required additional effort in co-ordination, although how to recreate that would require a significant injection of new money. Historically, the network of specialist advisers previously referred to had been entirely funded by Government.

From the producer standpoint, Sarah Pettitt suggested that £10m spent on a revolutionary piece of blue sky research would have no bearing on a grower's ability to produce unless there was a clear route to take the findings of that research through to application. The R&D pipeline was seriously fractured and there was an urgent need to apply a more commercial focus and direction to the prioritisation and funding of research. Every activity should be required to justify itself.

NB suggested that a network of demonstration farms was needed to improve technology transfer among growers on the ground, a concept strongly endorsed by Lord Taylor.

SB reiterated that the solution did not lie in shuffling existing money around, there was an urgent need for new income streams – with all stakeholders participating and contributing.

Helen Ferrier asked to what extent services and skills within the horticulture research sector could be transferred by dismantling some of the barriers between horticulture and other sectors of agriculture, building on common goals and increasing the degree of collaboration between horticulture and the rest of the farming industry.

NB agreed that AHDB needed to gear itself up to build cross-sectoral alliances, for example in responding to the TSB call on crop protection.

IC added that AHDB was to offer its services to TSB as a 'broker' for the crop protection call. He agreed that it made complete sense to work together at a strategic level, although not all research goals could be met in this way and there would remain a need address specific problems or challenges in particular crops.

Andrew Colquhoun observed that the 'laissez faire' of the past 25 years had led to a significant decline in Government funding of vital research. Strong political leadership was needed going forward to ensure the R&D pipeline was working in a coherent way – getting science out of the labs and onto farms. The Food 2030 initiative from Defra offered a potential route to provide such leadership and direction.

IC added that the proposed matrix of specialist advisers or mentors would not need to cover every sector or discipline if the market was already functioning effectively – there was a need to identify areas of market failure in which an entirely market-based approach was not addressing research or technology transfer needs.