

All-Party Parliamentary Group on Science & Technology in Agriculture

Notes of a meeting held on Tuesday 12 September 2017
Committee Room 17, Palace of Westminster

Post-Brexit demand for innovation in the UK fresh produce sector

Present:

Members

Julian Sturdy MP (Chair)
Earl of Selborne
Lord Curry of Kirkharle

Guest Speakers

Jack Ward, Chief Executive, British Growers Association
Roger Carline, Commercial Director, NIAB
Dr Ed Moorhouse, Fresh Produce Industry Consultant, Agri-Food Solutions Ltd
Sarah Blanford, Crop and Organic Manager, Sainsbury's

Stakeholders

Laura Tippin, LEAF; Professor David Leaver, BIAC; Richard Harnden, Berry Gardens; John Chinn, CHAP; Tim Williams, Food & Farming Futures; Jonathan Menary, University of Warwick; Brendon Noble, UK Stem Cell Foundation; Maggie Charnley, Defra; Professor Wayne Powell, SRUC; Darren Gedge, G's Fresh; Calum Murray, Innovate UK; Martin Emmett, AHDB Horticulture Board; Professor Simon Pearson, University of Lincoln; Simon Davis, Agrimetrics; Elizabeth Warham, DIT; Mark Buckingham, Monsanto; Chris Atkinson, NRI; John Cappalonga, NFU; Andrew Spence, Defra; Ben Rayner, Defra; Chris Adamson, abc; Matt Corby, abc; Daniel Pearsall, Group Co-ordinator

1. Welcome & Introduction

Julian Sturdy (JS) welcomed Members and stakeholders and briefly introduced the topic for discussion, focusing on the implications of Brexit for the UK fresh produce industry, and the key role of scientific and technological innovation in addressing future challenges and opportunities for the sector.

Faced with the uncertainties of future trading arrangements and access to labour post-Brexit, JS observed that the short-term supply concerns over fresh produce imports from southern Europe earlier in the year had provided a timely reminder that the UK is only 50 per cent self-sufficient in fresh fruit and vegetables.

JS added that despite accounting for more than 20% of ex-farm sales, historically horticulture R&D had attracted less than 10% of the public sector research pot, leading many within the industry to highlight the urgent need for increased research investment and access to scientific and technological innovation to improve the sector's competitiveness and address rapidly changing consumer demands.

JS noted that this was therefore a very timely opportunity to bring together expert speakers from across the horticulture research base and commercial supply chain to examine the challenges and opportunities facing the UK fresh produce industry post-Brexit, and to consider the role of

science and technology in supporting improved production efficiency, addressing labour availability issues and reducing import dependence within the sector.

2. Guest speakers

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

Jack Ward, Chief Executive, British Growers Association

Jack Ward (JW) opened by highlighting the economic significance of the UK's £3.1 billion horticulture industry, a high value sector accounting for 25% of total farm-gate sales and 12% of the agricultural workforce yet occupying less than 4% of the cropped area.

JW noted that while views were divided on Brexit, it was now a reality and the fresh produce industry was focused on potential opportunities to drive growth and innovation within the sector. These ranged from increasing British growers' share of the UK market through sales growth and import substitution through to developing export opportunities, taking a more integral role a domestic agricultural policy, and harnessing the opportunities of the healthy eating agenda.

JW explained that British growers' share of UK fresh produce sales varied significantly by crop type, from carrots at 100% down to cut flowers at less than 10%. With domestic production only supplying 40% of mushrooms and 18% of tomatoes to UK consumers, this was not a question of pursuing 100% self-sufficiency, but given the current trade gap in fresh produce – £5 billion in imports vs. £200 million in exports – there were significant opportunities to increase UK growers' market share.

And while fresh produce out-performed other sectors in terms of ex-farm value per unit of area farmed, JW noted that it was also a relatively unsupported sector, with just 13% of horticulture industry income dependent on subsidies compared with 102% for extensive livestock farms, 74% for cereal farms and 60% as an average across all farms.

As the UK developed plans for post-Brexit domestic agriculture policy, including the re-allocation of the £3 billion currently distributed through the CAP, JW suggested that this presented a unique opportunity to redress historic imbalances by increasing the amount of taxpayer support directed towards improving competitiveness and driving innovation across all farm types.

JW also highlighted the importance of Producer Organisations (POs) as a collective mechanism to drive market growth through generic promotion, industry benchmarking and collaborative research. Some €870 million was granted by the EU each year in funding for POs, and while the UK was by no means the largest recipient, this funding stream was nevertheless vital for many fresh produce sectors. The sales volume of home-grown strawberries, for example, had trebled in the 20-year period from 1996 to 2015 as a direct result of PO investment in R&D and market promotion. The future of PO funding post-Brexit was therefore critical for future innovation in the UK horticulture sector.

In terms of realising post-Brexit opportunities for the fresh produce sector, JW highlighted the need for both public and private sector investment across a range of areas, from the research and innovation needed to maintain and strengthen the sector's global competitiveness, not only in terms of harvestable yield, quality and production efficiency, but also improving the industry's ability to manage risk and minimise costs. Potential changes in the availability of migrant labour would require increased investment in automation, while market growth would also be dependent on continued product development, innovation and promotion to meet consumers' changing demands for convenience and healthy eating.

Concluding, JW emphasised the importance of a vibrant domestic fresh produce sector for jobs, economic growth, and an affordable, healthy diet, as well as the exciting opportunities to

increase market share for British growers. In a sector typically operating on margins of 1-3%, however, realising these opportunities would depend on a re-balancing of the support available to the fresh produce sector in any future domestic agriculture policy.

Roger Carline, Commercial Director, NIAB

Roger Carline (RC) described some of the innovative research taking place at East Malling Research (part of NIAB since February 2016) to improve prospects for UK soft fruit and top fruit production, and to develop the UK's rapidly expanding wine industry.

RC emphasised the importance of applied research organisations such as NIAB in connecting the academic research base with industry, and translating a rapidly advancing knowledge-base in genetics, precision engineering and data science into practical innovation for British growers and an export market for UK research expertise.

Noting the limited capacity for private sector investment in innovation within the fruit industry, he underlined the critical importance of public sector R&D funding in delivering solutions to industry challenges, which increasingly involved the application of technology from other sectors such as aerospace, digital and IT, engineering and biotechnology.

Industry outcomes from innovation in genetics, robotics, data, production systems and packaging ranged from sustained and improved crop yields and production efficiency through to new products and services, displaced imports and increased exports.

RC highlighted a number of the innovations from NIAB EMR's £6.5m pa research programme, including the market-leading strawberry variety Malling Centenary, now setting the standard for improved pickability and helping to reduce waste, resource and chemical use, drawing not only on NIAB's expertise in genetics and breeding but also on technological innovations such as the WET centre, launched this year to help UK strawberry growers optimise their water use.

RC noted that alongside strawberries, NIAB EMR was also active in breeding cherries, raspberries and apples, all of which offered significant potential for royalty generation on a global basis. Similarly, the introduction of IT-based decision support tools to help potato growers predict yield and optimise irrigated water use – developed by NIAB working with digital start-up Kisan Hub and with support from Agrimetrics – was opening up a worldwide export market opportunity of 370 million ha for UK research expertise and innovation.

Decades of apple breeding expertise at NIAB EMR had also resulted in the recent development of unique, red-fleshed apple varieties – offering potential health benefits through the red pigment. These were now ready for the retail shelf and attracting commercial interest on an international basis. RC explained that NIAB EMR and one of the UK leading retailers had invested in the first hectare of these pink apples, which could represent a major opportunity to revitalise UK apple production since they can only be grown successfully in UK conditions.

In addition, NIAB EMR is applying its soft fruit research expertise to support the UK's rapidly expanding wine industry, which RC forecast would grow from current sales of £100m pa to at least £250m within the next few years. Leading wine-makers were partnering with NIAB EMR in a consortium to introduce fresh produce efficiencies and harness the UK's unique growing environment to produce best-in-class quality wines.

In conclusion, RC suggested that the UK's unique combination of world-class elements – retail sector, science base, technology sectors, R&D funding, progressive grower base – when catalysed by industry-facing research organisations such as NIAB, provided a strong innovation environment in the UK to develop solutions for a vast global industry.

Dr Ed Moorhouse, Fresh Produce Industry Consultant, Agri-Food Solutions Ltd

Dr Ed Moorhouse (EM) opened by characterising the fresh produce sector as one of the most extreme examples of a FMCG sector, involving a small number of highly specialised producers using bespoke equipment, delivering a constant supply of highly perishable, high value products in a volatile and competitive global market place.

According to EM, the fresh produce industry was used to living on its wits without high levels of market protection or taxpayer support, and in many respects it was remarkable that the industry had survived, particularly given the continuous downward pressure on costs – grower prices for iceberg lettuce, for example, had fallen from 25.2p in 1994 to 18.9p in 2013.

EM suggested that Brexit was unlikely to alleviate the existing challenges facing the fresh produce sector, particularly in relation to issues such as labour costs and availability and input prices. The impact on the current positive environment for R&D remained uncertain, although access to innovation uninhibited by anti-technology attitudes was likely to improve outside the EU.

Above all, the uncertainty surrounding the outcome of the Brexit negotiations was a major challenge for businesses in the fresh produce sector making long-term plans on a generational basis, and currently dependent on migrant labour to sustain a year-round operation.

EM highlighted some examples of research and innovation taking place at grower level to improve productivity and resource-use efficiency, with increasing use of robotics, automation, remote sensing and precision farming across the sector. Use of LED lighting and tunnels could also help to improve resilience and supply. However, he warned that the levels of capital investment required, combined with ongoing challenges such as minimum wage inflation and loss of key crop protection products, could mean that moving farming operations out of the UK offered a more viable alternative, particularly for businesses with overseas operations.

EM warned that Brexit introduced the potential for trade disruption through diverging standards on issues such as food safety and pesticide approvals.

He also emphasised the need for well-resourced and integrated research provision from blue-sky to commercial application, including support for the UK's network of Producer Organisations whose collaborative approach to research, benchmarking and promotion was vital for industry efficiency and development.

Sarah Blanford, Crop and Organic Manager, Sainsbury's

Offering a retail perspective, Sarah Blanford (SB) highlighted the competitive nature of the food supply chain, not only within the UK but on a global basis, and the importance of innovation in product development and supply chain efficiency to meet customers' changing expectations on issues such as healthy eating, food integrity and respect for the environment.

Delivering value, quality and innovation in fresh produce played a key role in helping consumers lead healthier lives. SB underlined the fact that 94% of Sainsbury's investment in research had an agricultural element, with 57% pre-farmgate, focused on helping farmers and growers improve their production efficiency.

Sainsbury's was also innovating to reduce wastage, including the introduction of blacked out bags in store to make potatoes last longer, and providing advice to customers on storage of different fresh produce items.

Highlighting the complexity of the Sainsbury's supply chain, SB explained that it involved 18,000 farmers and growers and more than 2,000 suppliers, delivering 12,000 own-brand products across more than 2,000 stores to 26 million customers.

Although UK growers supplied the largest volume of fresh produce to Sainsbury's stores followed by Spain, the retailer sourced produce from 52 countries around the world, and SB underlined the importance of efficient global supply chains to provide customers with a consistent supply of fresh produce all year round.

SB emphasised the challenges of meeting customers' expectations in an ever-changing market place, which ranged from increased discount competition and dealing with customers on social media to tackling issues of global food fraud and addressing our over-reliance on finite natural resources such as peat and fossil fuel.

In addition, SB observed that growing populations and rising affluence in emerging economies such as China meant that the UK was no longer the outlet of choice in a global market place.

Given the fiercely competitive nature of the retail environment, SB highlighted the importance of leading the way in innovation, noting that Sainsbury's was investing £7m across 77 own-brand research projects – including variety development work with NIAB EMR – to improve primary production in crops and livestock.

Focusing on how industry could support the delivery of future innovation, SB highlighted the importance of harnessing improvements in data science to determine where to intervene and how best to innovate, to understand when pre-competitive collaboration and open innovation are fundamental to sector progress, and to engage and consider every step of the value chain from end to end.

Questions and discussion

The following key points were raised during discussion:

Whether there should be a tighter mechanism for R&D contributions from the retail sector, which currently invested such a small proportion of returns in primary production R&D.

Concern was expressed about the impact of Brexit on support for the UK fresh produce sector both through the PO scheme and via future access to research funding through EU programmes such as Horizon 2020. In addition, it was questioned whether the UK Government would maintain levels of domestic funding for agricultural R&D once BBSRC was merged within RCUK.

The need for a strong evidence base to demonstrate the value of research investment in terms of increased productivity and efficiency was highlighted. It was noted that Innovate UK was currently preparing a bid to the Industrial Strategy sector challenge fund focused on agricultural productivity, which would require evidence of the commercial return from past investment.

The precarious nature of the fresh produce supply chain was highlighted, and the lack of alternative employment opportunities in many areas dependent on the local horticulture industry, underlining the need to maintain investment in research and innovation.

The damaging impact of retail competition on suppliers and whether producer prices reflected the true value of production – the iceberg shortage earlier in the year had demonstrated that customers were willing to pay more.

The need to focus R&D investment on the translation of scientific discoveries and innovation onto farm, and the case for re-allocating some of the CAP budget into knowledge transfer programmes to ensure effective uptake of innovation.

The need to ring-fence public sector research investment in agriculture and horticulture which do not have access to the same resources to compete with other industrial sectors such as aerospace, automotive and pharmaceuticals.

Concluding the meeting, JS thanked guest speakers and attendees for their contribution to a thought-provoking and informative session.

He noted that the UK's decision to leave the EU would bring an inevitable period of flux and uncertainty over precisely what the future holds for British farmers and growers in terms of trading arrangements, regulations, support policies and access to labour.

But the fresh produce industry was hugely resourceful and innovative, and the meeting had not only singled out the critical role of technology and innovation in addressing post-Brexit challenges and opportunities, but had also highlighted the case for re-balancing horticulture's share of public sector R&D investment from historically low levels and, as the UK developed plans for agricultural policy outside the EU, for policy-makers to recognise the economic significance of the UK's fresh produce sector, both in terms of ex-farm sales and as a major employer and supplier into the UK's £100 billion food supply chain.