



All-Party Parliamentary Group on
Science and Technology in Agriculture

Annual Report 2012/13

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Horticulture images courtesy of British Growers Association

Introduction

The publication of the Government's Agri-Tech Strategy in July 2013 sent a clear signal that Britain's food and farming industries are once again viewed as a strategically significant sector of the UK economy, and that renewed investment in agricultural science and technology can help generate much-needed growth, jobs, export earnings and inward investment.

It represents the strongest recognition by Government for more than 30 years of the strategic importance of supporting a productive, resilient, hi-tech UK farming sector.

The Agri-Tech Strategy seeks to transform the way Government works with industry and the scientific community, recognising that the emerging challenges of population growth, climate change and sustainable development present key opportunities for the UK to exploit its world-class strengths in farming, food production and agricultural research.

The contribution of the All-Party Parliamentary Group on Science and Technology in Agriculture has been acknowledged as instrumental in shaping the Strategy by the three lead Ministers in BIS, Defra and DfID.

Indeed many of the actions set out in the Agri-Tech Strategy directly reflect the output and recommendations of the All-Party Group's work over the past five years, for example in relation to the need to forge new models of collaboration between public and private sector, to bridge the funding gap between basic research and its commercial application, and in harnessing the power of big data and new metrics to drive improvements in sustainable, efficient agriculture.

As this report demonstrates, the APPG on Science and Technology in Agriculture continues to be one of the most active and influential interest groups in the UK Parliament.

Over the past 12 months, the Group has hosted the Parliamentary launches of both the Agri-Tech Strategy and the industry-led *Feeding the Future* report. We have welcomed lead Ministers on Agri-Tech from BIS and Defra as guest speakers, strengthened our cross-party footprint with the addition of three new MPs as vice-chairs, and experimented with new meeting formats, including our first joint meeting with the Associate Parliamentary Group on Animal Welfare.

I am grateful to Members and Stakeholders of the All-Party Group who have contributed to our work programme over the past year, helping to highlight the strategic significance of agricultural science and technology, and providing a platform for the UK to play a leading role in the next agricultural revolution.



George Freeman MP
Chair, All-Party Parliamentary Group on
Science & Technology in Agriculture

Moving forward

The All-Party Parliamentary Group on Science and Technology in Agriculture aims to promote debate among politicians and other stakeholders on the value and role of scientific innovation in UK agriculture and food production. The All-Party Group was established in March 2008. Meetings and membership are open to all Parliamentarians.

Election of new officers

The fourth Annual General Meeting of the All-Party Parliamentary Group on Science and Technology in Agriculture took place at Westminster on 4 December 2012. George Freeman MP was re-elected to serve as Chairman of the Group, while the Earl of Selborne and Lord Haskins were re-elected as Vice-Chairs.

The All-Party Group also welcomed the nomination of three additional MPs to serve as officers of the Group. Huw Irranca-Davies (Labour), Roger Williams (Lib Dem) and Mark Spencer (Con) were elected as Vice-Chairs, further strengthening the Group's agricultural expertise and cross-party footprint across both Houses of Parliament.



Huw Irranca-Davies MP

Labour MP for Ogmore since 2002, Huw Irranca-Davies served as a junior Defra Minister from October 2008 to May 2010, responsible for the marine and natural environment. He takes a keen interest in rural issues and is currently Shadow Minister for Food and Farming on the Labour Front Bench.



Roger Williams MP

Prior to his election as LibDem MP for Brecon & Radnorshire in 2001, Roger Williams spent 30 years managing the family livestock farm near Brecon. He is a former NFU county chairman and retains a strong interest in agricultural issues, having served as Rural Affairs Spokesman for the Liberal Democrats from 2006-2010.



Mark Spencer MP

Mark Spencer studied at Shuttleworth Agricultural College before joining the family farming business in Nottinghamshire. He was elected Conservative MP for Sherwood in May 2010. A member of the Environmental Audit and EFRA Committees, he is a regular contributor on farming and rural issues in Parliament.

Meetings at Westminster

The All-Party Group hosted a full programme of meetings at Westminster over the course of the year. A high-profile line up of expert speakers and active participation from Members and stakeholders from across the research, farming and food chain sectors helped provide a platform for lively and informed debate on key issues affecting the development, regulation and application of science and technology in agriculture.

APPGSTA Meeting Programme 2012–13

4 December 2012

Feeding The Future - Innovation Requirements for Primary Food Production in the UK to 2030

Keynote Speaker:
Jim Godfrey, Farmer and Chair, TSB Sustainable Agriculture & Food Innovation Platform

Guest panellists:
Professor Ian Crute, Agriculture & Horticulture Development Board
Andrea Graham, NFU
Paul Rooke, Agricultural Industries Confederation

30 January 2013

Towards a UK Agri-Tech Strategy

Keynote Speaker:
Rt Hon David Willetts MP, Minister of State for Universities and Science, Department for Business, Innovation and Skills

20 May 2013

Large-scale livestock systems – production and welfare implications

(JOINT MEETING WITH THE ASSOCIATE PARLIAMENTARY GROUP FOR ANIMAL WELFARE)

Keynote Speaker:
Kenn Buelow, Wisconsin dairy farmer and vet

Guest panellists:
Peter Stevenson, Chief Policy Adviser, Compassion in World Farming
David Alvis, UK livestock consultant

16 July 2013

Digital Farming : The Next Agricultural Revolution

Guest Speakers:
Professor Simon Blackmore, Harper Adams University
Simon Griffin, SOYL Precision Farming
Mark Pettigrew, PepsiCo
James Hallett, British Growers Association
Shradha Singh & Derek Scuffell, Syngenta

10 September 2013

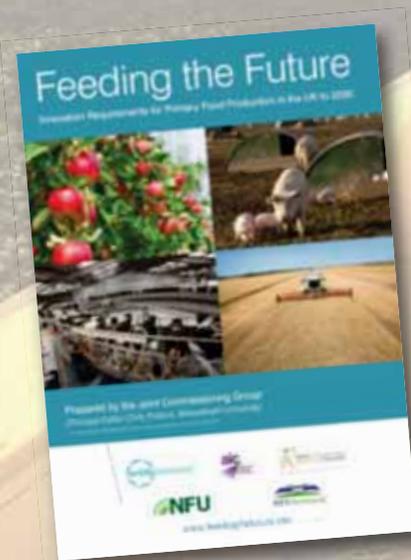
Implementing the UK Agri-Tech Strategy

Guest speakers:
Lord de Mauley, Parliamentary Under-Secretary of State, Defra
Judith Batchelar, Director of Sainsbury's Brand & Industry Co-Chair, Agri-Tech Leadership Council

Full meeting reports and copies of speakers' presentations are available to download via the meetings section of the All-Party Group's web-site at www.appg-agscience.org.uk

Feeding the Future Report

At its AGM in December 2012, the All-Party Group hosted the Parliamentary launch of *Feeding the Future*, an industry-led report into research and innovation requirements for primary food production to 2030.



Guest speaker Jim Godfrey, Lincolnshire farmer and chair of the TSB Sustainable Agriculture and Food Innovation Platform, highlighted the enormous contribution of agricultural science and technology during the first Green Revolution in reducing food costs and ensuring security of supply for an increasingly urbanised population.

He singled out semi-dwarfing in wheat introduced by Norman Borlaug as a major scientific development which, alongside modern crop protection and fertiliser technology, had delivered a step-change in productivity.

But the success of modern, science-based agriculture in securing cheaper, more plentiful supplies of high quality food had also influenced the political climate in recent decades, with public attention directed more towards farming's social and environmental impacts. This in turn had led to an overall reduction in production-related R&D investment.

The Foresight report had shifted the debate back towards productive agriculture, placing food and energy security higher up the political agenda and introducing the concept of 'sustainable intensification'

as the new driver for R&D in a research environment increasingly focused on delivering impact.

Key challenges remained to re-balance the distribution of R&D investment between basic, strategic and applied funding, to promote greater cohesion between different funding bodies, and to become better at measuring and monitoring the impact of agricultural R&D.

A number of reviews, studies and reports post-Foresight had clearly recognised the need for change, emphasising a requirement to strengthen and re-connect the R&D delivery pipeline.

The Joint Commissioning Group, bringing together NFU, AIC, AHDB and RASE with support from the Technology Strategy Board, had been established in the context of this debate to develop and articulate a producer view of research priorities to help the industry meet the mid-century challenges identified by Foresight.



Jim Godfrey

The *Feeding the Future* report had been produced following extensive consultation with industry stakeholders, including a series of sectoral and cross-cutting workshops as well as a review of the existing R&D roadmaps produced by individual sector organisations.

This process identified seven producer-focused, generic and long-term research priorities:

- (1) Utilise modern technologies to improve the precision and efficiency of key agricultural management practices.
- (2) Apply modern genetic and breeding approaches to improve the quality, sustainability, resilience and profitability of crops and farm animals.
- (3) Use systems-based approaches to understand better and manage interactions between soil, water and crop/animal processes.
- (4) Develop integrated approaches to the effective management of crop and animal pests and diseases within farming systems.
- (5) Develop evidence-based approaches to value ecosystem service delivery

by land users and incorporate these into effective decision support systems at the enterprise or grouped enterprise level.

- (6) Extend the training and professional development of researchers, practitioners and advisors to promote delivery of the targets above.
- (7) Improve the use of social and economic science to promote development, uptake and use of sustainable, resilient and profitable agricultural practice that can deliver affordable, safe and high-quality products.

In developing research programmes to deliver against these research priorities, Mr Godfrey highlighted the need for levy bodies and other research funders to develop a better understanding of each others' strategies, and to forge more effective research partnerships, focused on delivering impact across the industry.

He also highlighted the need for a joined up approach across government departments in promoting uptake of research and innovation within the farming and land-based industries.

Guest panellists

Andrea Graham (NFU) emphasised the benefit of having a single and unified voice representing all sectors of the industry in determining future research priorities, rather than the 'white noise' often created by having a number of individual, sector-specific R&D roadmaps.

Ian Crute (AHDB) highlighted the significance of the report in providing the first producer-led statement of R&D priorities, independent of prevailing policy or government positions. The report clearly demonstrated an awareness of the opportunities to use new knowledge, data and technology to improve the production efficiency and sustainability of UK agriculture.

Paul Rooke (AIC) stressed the importance of forging new partnerships between the science base, Government and industry to harness the applied research capacity of the commercial supply chain, particularly in improving the process of knowledge transfer onto farm.



Towards a new Agri-Tech Strategy

Cabinet Science Minister David Willetts was guest speaker at the All-Party Group's meeting in January 2013, providing a key opportunity to set out the UK Government's thinking in developing an Agri-Tech Strategy as part of a commitment to drive long-term growth in the UK economy.

David Willetts reflected on three key stages of post-War agricultural policy, beginning with 'Dig for Victory', which left the UK with an ambitious framework of public sector agricultural research centres and advisory services. This changed in the 1980s and 1990s - partly influenced by a shift in economic thinking and partly by the arrival of cereal mountains and milk lakes – when much of this underpinning research and extension activity was removed. Then more recently a recognition, led by UK experts



**Rt Hon David Willetts
MP, Minister of State
for Universities and
Science, BIS**

like Professor John Beddington, of the critical role of agricultural science and innovation in feeding a rapidly growing world population while also addressing pressures of climate change and finite natural resources – the challenge of 'sustainable intensification'.

But while investment in upstream science had been maintained, Mr Willetts accepted that the UK had gone too far in dismantling the public sector research infrastructure needed to translate and transmit that basic research to the wider agricultural community and food industry.

One of the main objectives of the Agri-Tech Strategy was to rebuild those connections, but in a modern form, relevant to the needs of today's farming and food supply chain.

In developing such a framework, Mr Willetts described the mechanisms used by the Government to support enterprise and innovation in other industrial sectors. These included seven catapult centres, modelled on the Fraunhofer concept, where public sector funding provided access to research facilities, equipment and business support which would not be affordable to a single enterprise, and a catalyst fund, which



offered a de-risking mechanism for the medical life sciences sector to help provide a route to commercialisation for promising lines of research.

A key question for the Agri-Tech Strategy was whether such mechanisms would be appropriate for the agri-food sector.

The Minister concluded with a challenge to the industry - to do more to celebrate the fact that agriculture is a hi-tech, scientific endeavour. He compared apple computer products with the tomato, insisting that the modern tomato is as much an achievement of scientific research and innovation over decades as apple products, yet agriculture and food production are still too often presented in old-fashioned and traditional terms.

Large-Scale Livestock Systems

The All-Party Group's meeting in May 2013, held jointly with the Associate Parliamentary Group for Animal Welfare, provided a timely opportunity to discuss the issue of large-scale livestock production and its implications not only for productivity and efficiency, but also for animal welfare and the environment.

Keynote speaker, visiting US farmer and vet Kenn Buelow, described the farming system and approach behind Holsum Dairies, a large-scale dairy unit in Wisconsin managing 8,000 cows across two milk producing sites, all housed indoors.

The farm's environmental management system includes a range of independently accredited measures to ensure protection of water quality, air quality, manure management and nutrient recycling. A £3.3m manure digester on-site generates an exportable surplus of renewable electricity, and has virtually eliminated air-borne pathogens and odour, while also providing heat to the parlour, offices and calf nursery and reducing CO₂ emissions by an estimated 45,000 tonnes/year.

The farm employs three full-time vets, maintains 24-hour observation of calving

and daily evaluation of the health of each individual cow. In addition, the dairy has 2-3 trained foot trimmers on the staff, and maintains detailed vaccination, health and veterinary care records for each animal.



Livestock housing and feeding systems are purpose-built to promote cow health, comfort and welfare, including grooved rubber walkways, cushioned stalls designed for ease of rising and lowering, 24-hour access to feed, controlled lighting, summer cooling system and access to extra water during the warmer weather.

Overall, the farm's commitment to high standards of environmental management and animal welfare was described by Mr Buelow as good business sense, since healthy, contented cows were also high-performing and profitable.

Providing a counter-view, guest panellist Peter Stevenson of Compassion in World Farming highlighted the challenges of

providing high welfare standards in large-scale livestock systems, particularly in dairying. He questioned whether large-scale indoor units allowed animals to express innate or natural behaviour such as grazing, and expressed concern over the potential for increased disease and health risks by concentrating so many animals in one place.

But livestock consultant David Alvis argued that welfare should be assessed in terms of outputs rather than inputs or size of enterprise. The key to productive, high-welfare dairying was not down to a specific production system, but the quality of management and establishing the right balance from available resources, he said.

Digital Farming - the next Agricultural Revolution?

The All-Party Group's meeting in July 2013 focused on precision agriculture, a diverse and rapidly advancing field, with applications ranging from satellite mapping and advanced engineering to robotics, remote sensing and data modelling.

According to **James Hallett** of the British Growers Association, the overriding benefit



of precision farming techniques for the UK's £3.7bn fresh produce sector was the combined effect of marginal gains across all aspects of the production

process, from labour and input savings to improvements in marketable yield.

He highlighted current applications within the horticulture sector, including satellite-guided tractors operating to within 2cm accuracy, variable rate fertiliser spreaders covering up to 30 ha per hour, and camera-operated robotic hoeing of lettuce plants.

The use of unmanned aerial vehicles (UAVs) was significantly improving the

accuracy and detail of aerial imaging. This allowed more precise assessment of crop emergence and canopy cover to predict yields and improve efficiency of input use and in-field operations such as weed control.

The development of indoor growing systems included pioneering work at Stockbridge Technology Centre to transfer solar energy into controlled LED lighting targeted at precisely the wavelength required to optimise plant growth. When combined with closed loop irrigation, automation of the growing process, and accelerated breeding techniques, this research offered an insight into the future possibilities for precision techniques in horticulture.

Professor Simon Blackmore of Harper Adams University suggested that advances in robotics and precision engineering were opening up opportunities to develop machines smart enough to manage crop production processes without operators. Ongoing work to develop a microdot sprayer using sophisticated image recognition technology to detect different weed species could ultimately reduce spray input use by as much as 99.9% by



spraying the required amount of herbicide directly onto the weed leaf.

Advances in precision agriculture also offered the potential for a radical re-think of crop production, which was currently based on the availability of relatively cheap energy allowing widespread use of synthetic fertilisers and pesticides. Food production in future could be based on clean technology, such as weed control which relied on robotic engineering rather than selective chemistry.

But he warned that the UK would miss out on opportunities to bring these technologies to market without more targeted R&D support and resources.

Simon Griffin of specialist precision farming company SOYL highlighted the satellite-based solutions now available throughout the farming calendar to deliver

efficiency gains and cost savings - from ploughing and drilling to fertiliser application, spraying and harvest yield mapping.

Specific precision farming services provided by SOYL included:

Nutrient management – mapping the status of key soil nutrients across the field as the basis for computer-guided application to improve fertiliser use efficiency;

Crop sensing – using satellite technology to map the biomass of the growing crop based on the green area and reflectance, allowing variations in crop canopy development to improve targeting of nitrogen applications;

Soil sensing – measuring soil electrical conductivity to assess changes in the composition and physical characteristics of the soil, allowing variable seed rates to be applied for different parts of the field to optimise seed use and productivity.



Mark Pettigrew of PepsiCo explained that as a major buyer of agricultural products, his company was dependent on sustainable

agriculture for the continuity of its raw material supply. A recognition that by 2030 there would be a 75% decline in rain-fed land available for UK potato production led in 2010 to the launch of PepsiCo's 50 in 5 programme – a partnership with British farmers to reduce the carbon and water footprints of core crops by 50% in five years.

Investment in new variety development, advanced agronomy and precision farming tools were central to the 50 in 5 programme.

In potatoes, for example, i-crop precision agronomy had been developed in partnership with researchers at Cambridge University Farm to optimise irrigated water use. The i-crop system used soil moisture probes linked to local weather stations to give potato growers access to real time data and decision support on the water needs of individual fields.

This system was supported by a smartphone app allowing growers to take photos of the crop canopy to help predict yields and identify disease or nutrient requirements.

Shradha Singh and **Derek Scuffell** of Syngenta outlined the SYield project to develop remote disease detection and risk prediction models for *Sclerotinia* in oilseed rape, a collaborative research programme led by Syngenta in partnership with

Manchester University, Rothamsted Research and a number of other commercial partners.

Shradha Singh explained that *Sclerotinia* infestation in oilseed rape caused stem rot and could lead to yield losses of up to 35%. But its effective control was problematic, as a sporadic, multi-factorial disease capable of surviving in the soil for many years and difficult to predict. Available treatments were preventative rather than curative, so timing of sprays was critical in ensuring effective control.

The project involved similar technology to the blood glucose sensors used for diabetics. Incubating air-borne *Sclerotinia* spores captured from oilseed rape fields were grown on and tested using simple protein chemistry to convert into a disease risk indicator for the grower.

Derek Scuffell described how these outputs could be integrated with a wide range of farm-level and other data sources – eg cropping history, topography and weather conditions – to develop effective prediction models for *Sclerotinia*.

The key to its effective on-farm application lay in the integration and interpretation of available data sources within a single hub to provide the most sophisticated decision support tool for growers.

Parliamentary Launch - UK Agri-Tech Strategy

In September 2013, the All-Party Group hosted the Parliamentary launch of the UK Agricultural Technologies Strategy, welcoming Defra Science Minister Lord de Mauley and Judith Batchelar, Director of Sainsbury's Brand and industry co-chair of the Agri-Tech Leadership Council, as guest speakers.



Lord de Mauley highlighted the UK's strong tradition as a global leader in agricultural innovation, but acknowledged that over the past 20-30 years Britain had fallen behind major competitors.

Against a background of population growth, climate change and pressure on finite natural resources, there was a renewed political recognition of the need to increase productivity while reducing agriculture's impact on the environment.

He noted that the key ingredients were still there – a world-class research base, a strong farming industry and a dynamic food supply chain. But a gap had emerged between the excellent basic science taking

place in UK research institutes and universities and its commercial application.

A key objective of the Agri-Tech Strategy was to close this gap by building closer links between academia and industry, and by re-focusing investment on applied research and its translation onto farm.

Lord de Mauley also highlighted the Strategy's international dimension, not only in attracting inward investment but also exporting UK agri-science expertise, including in the field of international development.

He pointed to advances in plant and livestock genetics, precision engineering, satellite imaging and navigation, remote sensing and robotics as key areas in which the UK had the potential to drive the pace of global innovation.

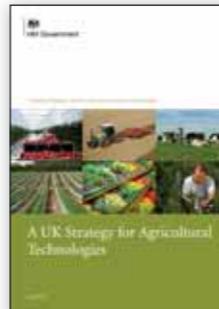
On top of the £450m p.a. currently spent on agricultural R&D, the Agri-Tech Strategy was making available £160m of additional taxpayer investment over the next five years, of which £90m would support the development of a national network of centres for agricultural innovation, with the Government's investment matched by private sector contributions.

These centres would provide a national focus in key areas such as applied research, skills development and knowledge transfer onto farm. The specific themes to be addressed by these

innovation centres were not pre-determined, but would be decided through consultation with industry.

The remaining £70m of new money would be allocated to a new Catalyst Fund to help businesses progress the development and application of new agricultural technologies. Based on the successful biomedical catalyst model which was helping to de-risk early stage investment in taking developments from the laboratory to market, the £70m available included £10m provided by DfID to support initiatives of specific relevance to improving developing world agriculture.

Lord de Mauley added that the Government's commitment to working in partnership with industry and the science base was demonstrated by the make-up of the Leadership Council, and he urged stakeholders to get involved in delivering the Strategy's vision:



'Our vision is that the United Kingdom becomes a world leader in agricultural technology, innovation and sustainability, exploits opportunities to develop and adopt new and existing technologies, products and services to increase productivity, and thereby to contribute to global food security and international development.'



Judith Batchelar emphasised the Agri-Tech Strategy's significance for the entire food supply chain. It was rich in content, with very few

areas of activity not covered, from training and skills development to applied research and translation. This meant that it had a huge potential audience, and part of the challenge facing the Leadership Council was to communicate the breadth and scope of the Strategy to all potential stakeholders.

She noted that the Strategy was already beginning to encourage new

collaborations and partnerships. Indeed new thinking and new supply chain models would be critical because the global food system in its current shape was probably not fit to feed a global population set to exceed 9bn people by 2050. She also highlighted the significance of the £10m already committed to support a new centre for agricultural informatics as a focal point for industry-wide data capture and analysis. Harnessing the power of big data offered the potential to drive greater performance improvements throughout the supply chain than any single technology or innovation, and would allow future R&D investment to be prioritised most effectively.

Above all, Judith Batchelar emphasised the need to focus new investment where it would deliver the greatest impact. She urged all stakeholders to engage with the process, noting that if in five years time the Government was able to point to the Strategy's success in terms of driving economic growth, jobs and exports within the agri-food sector, then the Leadership Council would have done its job.

UK Agri-Tech Strategy – Key Points

As part of the wider industrial strategy, the Agri-Tech Strategy sets out how Government, scientists and industry will build on the strengths of the UK agri-tech sector. It aims to:

- improve the translation of research into practice through a £70m Agri-Tech Catalyst Fund
- increase support to develop new technologies and processes through £90m of Government funding for Centres for Agricultural Innovation
- exploit the potential of data and informatics by establishing a new Centre for Agricultural Informatics and Metrics of Sustainability
- provide stronger leadership for the sector through the Leadership Council, giving industry a stronger and more cohesive voice alongside Government and the research base
- build a stronger skills base to attract and retain a workforce who are expert in developing and applying technologies from the laboratory to the farm
- increase understanding of what is being spent and where to increase alignment of industry research funding with public sector spend
- increase UK export and inward investment performance through targeted sector support

Out & about

In addition to the programme of regular meetings at Westminster, officers and members of the All-Party Group have participated in a range of visits, meetings and events to highlight the vital contribution of science and technology in supporting the development of the agri-food industry as a key strategic sector of the UK economy.



New Visitor Centre at NIAB Innovation Farm

In May 2013, George Freeman joined Defra Science Minister Lord de Mauley and former Food and Farming Minister Sir Jim Paice MP to launch a new £2.2m visitor centre and glasshouse complex at NIAB Innovation Farm. The Cambridge-based initiative provides a year-round showcase of new crop technologies to demonstrate the power of crop genetic innovation, supporting the translation of basic research into practical application by linking the science base and industry.



Agri-Tech Strategy – Eastern Region Launch

APPGSTA chair George Freeman hosted an eastern region launch of the Government's £160m Agri-Tech Strategy at G's Fresh Produce near Ely in Cambridgeshire in July 2013, attended by farmers, scientists, industry leaders and media from the region.



Norwich-Cambridge Agri-Tech Cluster

In October 2013, George Freeman chaired the launch of a new Agri-Tech Cluster aimed at linking the world-class agri-science research capabilities of Norwich and Cambridge with the major food and farming sectors of the surrounding area.

Our stakeholders

The activities of the All-Party Parliamentary Group on Science & Technology in Agriculture are supported by a number of food, farming and research organisations:



The Agricultural Industries Confederation is the leading trade association in the UK agri-supply industry.
www.agindustries.org.uk



The Agricultural Biotechnology Council is the umbrella group for the agricultural biotechnology industry in the UK.
www.abcinformation.org



The Agriculture and Horticulture Development Board is a Levy Board which represents cattle, sheep, pigs, milk, potatoes, cereals, oilseeds and horticulture.
www.ahdb.org.uk



The British Growers Association represents vegetable and salad growers in the UK fresh produce sector.
www.britishgrowers.org



The British Society of Plant Breeders is the representative body for the UK plant breeding industry.
www.bspb.co.uk



The Crop Protection Association is the UK body representing manufacturers of crop protection products.
www.cropprotection.org.uk



The Maltsters' Association of Great Britain is the representative body for the UK malting industry.
www.ukmalt.com



The National Association of British & Irish Millers is the representative organisation for the UK flour milling industry.
www.nabim.org.uk



The National Farmers' Union represents farmers and growers in England and Wales.
www.nfuonline.com



NIAB is a leading UK centre of plant research, crop evaluation, agronomy and knowledge transfer.
www.niab.com



All-Party Parliamentary Group on
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