

Government Response to the House of Lords EU Agriculture, Fisheries and Environment Sub-committee's report on Innovation in EU Agriculture

Summary

The Government welcomes the HoL Sub Committee D's 19th Report of Session 2010-12 on inquiry into innovation in EU Agriculture for its timely observations and recommendations and its contribution to the evidence base on this critical, but highly complex, policy area.

We welcome the Inquiry's reference to the Foresight Report, *The Future of Food and Farming: Challenges and Choices for Global Sustainability (2011)*. Many of the recommendations of the *Inquiry into Innovation in EU Agriculture* are in line and supported by the evidence and analysis in the Foresight Report, in particular the Inquiry's argument that sustainable food production ('Sustainable Intensification') must be embedded in current and future agricultural practice, innovation and research.

The Government considers it timely to revisit the role and future shape of EU research and innovation instruments within the context of a Common Strategic Framework, believing that it must play an increasingly vital role in promoting green growth in Europe in line with Europe 2020 and should continue to receive a high – and ideally increased – proportion of a future EU budget. It is clear that European research and innovation funding should reinforce our attempts to address our current economic situation; the shift to the low-carbon, resource-efficient and climate-resilient economy; and the wider global challenges, such as food security, that are already shaping our future.

Global food systems must be reliable and resilient, with environmental sustainability at the core of our efforts. EU investment in research and innovation should support sustainable intensification and 'climate smart' food systems to improve food security for Europe and globally. Increasing the productivity and resource efficiency of Europe's agri-food industry, while minimising waste along the whole food chain, alongside a sustainable approach to consumption, will help reduce the environmental footprint of the food we produce and eat, while improving competitiveness of the sector and enabling growth to satisfy market demand sustainably. EU research should also help deliver healthier diets and safer food, to help address the impact of obesity, weight-related disease and food-borne illness in the EU, through better knowledge and developing and testing solutions, and improving understanding of how to influence behaviours more effectively to deliver benefits for health, environment and competitiveness.

The Government considers that the potential benefits of aligning and coordinating Member States' national programmes should be maximised, leading to economies of scale, enhanced networks, reduced fragmentation and, importantly, reduced timescales. There should also be a role for countries outside Europe to take part in joint programmes addressing global challenges. EU funding can play an instrumental role in facilitating this through support for coordination costs for programme

management, conferences and governance structures and activities. This is very important in relation to Joint Programming Initiatives and the European Research Area-Network (ERA-NET) mechanism that could play an important role in supporting these. The UK co- leads the Joint Programming Initiative “Agriculture, Food Security and Climate Change” (FACCE-JPI), through the Biotechnology and Biological Sciences Research Council (BBSRC), with France, through its National Institute for Agricultural Research (INRA). The JPI recently announced the opening of a call for proposals for a pilot action on ‘a detailed climate change risk assessment for European agriculture and food security’. Defra is also collaborating in global research and innovation initiatives such as, the Sustainable Agriculture Innovation Network (SAIN) under the Action Plan for UK-China Cooperation on Food Security and with 32 countries worldwide in the Global Research Alliance on Agricultural Greenhouse Gases.

The Government also welcomes the Inquiry’s reference to the ongoing reform of the CAP in providing an opportunity to stimulate innovation in a way which will underpin a competitive, thriving and sustainable European agriculture sector in the future, benefiting from ambitious reform and not reliant on subsidy. Agriculture in the EU must be better able to respond to and earn improved returns from the market, increase productivity and compete on the international stage now and in the future. This means continuing to reduce income support and increase focus on measures to drive competitiveness whilst at the same time continuing to enhance the environment and biodiversity. A renewed emphasis within CAP measures on innovation in the agricultural sectors across the EU and stimulation of agricultural education and knowledge transfer to the industry throughout the supply chain is integral to achieving these objectives.

The UK Government itself provides approximately £400m per annum for agricultural research. Defra itself contributes approximately £65M of this on farming and food research (£29M on farming and food research and the remainder on animal health and welfare), including work on crop genetics and farming systems with the goal of making better use of natural resources (land, fertilisers, soil, water, energy) while improving net environmental impacts.

The Technology Strategy Board, Defra and BBSRC are co-funding the new Sustainable Agriculture and Food Innovation Platform (SAFIP), worth £90m over 5 years with match funding by industry. It will stimulate the development of new technologies to increase food productivity, while decreasing the environmental impact of the food and farming industries. The TSB’s contribution of £50M is new investment in innovation

The Government shares the Inquiry’s concern over the rate at which innovation is taken up by the agricultural sector and has submitted a response to the Commission’s consultation on future EU funding for research and innovation, which forms part of the Commission’s Green Paper, *From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation Funding* (February 2011). We would like to see its strategic priorities adjusted to provide support for policy based on robust evidence and to demonstrate an increased emphasis on dissemination and knowledge transfer, including across related

projects. We would also like to see a move towards more open information, greater focus on innovation and the application of research outcomes and links with business, education and wider society, to be considered from the outset of projects.

We have proposed that the bulk of future Horizon 2020 funding is based on two broad pillars addressing a key technology/knowledge “push” and a challenge “pull”. This should be supported as appropriate by funding for enabling activities such as the Joint Programming Initiatives (JPI), research infrastructures and mobility/skills initiatives.

Finally, the Government agrees with the Inquiry that the precautionary principle remains relevant to decisions on food and environmental safety, but that it must be applied sensibly and not act as an unjustified barrier to new technologies. Proper regard must be given to the scientific evidence, and we acknowledge that there are risks to the long term well-being of society from taking an overly precautionary or risk-averse approach to the introduction of innovations in agriculture. We believe that any regulation of technologies must be evidence-based, pragmatic and proportionate, so that potential risks are kept in perspective and there is a route for safe products to gain fair access to the market. The Government will continue to reflect this outlook in EU discussions relating to innovation and the use of technologies, such as GM, in agriculture.

GOVERNMENT RESPONSE TO THE HOUSE OF LORDS EU AGRICULTURE, FISHERIES AND ENVIRONMENT SUB-COMMITTEE'S CONCLUSIONS AND RECOMMENDATIONS

The Government has responded to individual conclusions / recommendations made by the Committee but in some cases have grouped these together where they are closely related and addressed them in a single response.

CONCLUSION/RECOMMENDATION 1 (paragraph 168)

The need for global food security requires a broad, co-ordinated and swift response from Member States and the Commission, which must take account of the different elements of the food system. Improving the productivity of EU agriculture is an important contribution to meeting the challenge. The response also requires innovation, through new products and processes, and through ensuring that farmers make use of best practice methodologies and technologies. Agricultural innovation must achieve “sustainable intensification”.

The Government agrees there is need for a co-ordinated and swift response to ensure we achieve global food security. This is why, in our response to the Government Office for Science Foresight Report *The Future of Food and Farming: Challenges and Choices for Global Sustainability* (Foresight Report), we have undertaken to champion a more integrated approach to global food security by governments and international institutions that makes the links between policy on food and farming, climate change, poverty, biodiversity, energy and other policies. At national and EU level it is important that we work in partnership with the whole food chain, including consumers, to ensure the UK leads the way on innovation to encourage sustainable food production ('Sustainable Intensification' of agriculture). By increasing the productivity and competitiveness of farming and the food chain while at the same time reducing GHG emissions, protecting and enhancing the natural environment, and using resources more sustainably, agriculture and the food sector will be in a better position to contribute fully to the green economy

CONCLUSION/RECOMMENDATION 2 (paragraph 169)

Inputs (fossil fuels, fertilisers, water and pesticides) into agricultural systems will need to be reduced per unit area of land, while outputs are increased. Impacts on the ecological processes on which agriculture depends must be reduced, particularly on soils, climate, water bodies and biodiversity. In addition to rising demand for food, there is likely to be rising demand for public goods from agricultural ecosystems, such as carbon sequestration and the protection of bio-diversity.

Agriculture will play a key role in tackling the challenges of food security, climate change and biodiversity loss by delivering increased production with less impact on

the environment. These challenges present an opportunity to innovate and make farming a stronger, more highly-skilled industry which attracts new people onto the land. UK farmers can play their part in delivering increased production, with less impact on the environment.

One of the key priorities in Defra's Business Plan is to 'support and develop British farming and encourage sustainable food production – to help to enhance the competitiveness and resilience of the whole food chain, including farms and the fish industry, to help ensure a secure, environmentally sustainable and healthy supply of food with improved standards of animal welfare.'

Defra's partnership approach with farmers and food businesses has created opportunities for industry to take the initiative and show leadership to deliver more sustainable solutions. This leadership is evidenced in the product roadmaps that have now been developed by each of our livestock sectors, and which are good examples of what can be achieved by bringing producers, processors, and retailers together to commit themselves to more sustainable operation. We're working closely with these food and farming businesses as they continue to develop their roadmaps, and we're also supporting the agricultural industry partnership in England on implementation of their Greenhouse Gas Action Plan to reduce on-farm greenhouse gas emissions.

We believe that there is an important role for Government in supporting research to provide the evidence that enables our farmers and food businesses to make the right choices for the environment. We have committed £12.6m into research to improve our understanding of greenhouse gas emissions from UK farms and work with over 30 countries in the New Zealand-led Global Research Alliance to collaborate on research into greenhouse gas emissions.

Some of Defra's other current activities include:

- Implementing the recommendations by the Task Force on Farming Regulation on moving to a risk-based system of regulation;
- Providing funding to increase industry competitiveness through the Rural Development Programme for England;
- Working with industry to improve skills across the agri-food chain;
- Connecting consumers to the origins of their food through the voluntary labelling code;
- Developing a more integrated approach to farm advice through the Integrated Advice Pilot, ensuring that the environmental messages we give to farmers and their advisers are clear and well-prioritised;
- Providing clear guidance to farmers on the efficient use of fertilisers and nutrients through the Fertiliser Manual, RB209;
- Providing economic information, advice and guidance through Defra Farming Online;
- Developing the Campaign for the Farmed Environment, a voluntary approach by industry to securing environmental goals;

- Sponsoring business-led, applied research into sustainable protein sources for the UK, in conjunction with the Technology Strategy Board and BBSRC;
- Taking forward the commitment in the Natural Environment White Paper (NEWP) to examine with stakeholders how to reconcile the goals of improving the environment and increasing food production

The Natural Environment White Paper (NEWP) sets out the Government's vision to ensure that soil is managed sustainably and degradation threats are tackled successfully moving forward. To support this vision, the Government announced it will be putting in place a research programme to explore how soil degradation can affect soil's ability to support vital ecosystem services such as flood mitigation, carbon storage and nutrient cycling. The information from this will inform actions to ensure that the ecosystem services of soils are maintained in the future. Existing research projects have already included an overview of current knowledge, exploration of potential ways to manage soils in a sustainable manner and identification of gaps in the evidence base on soil carbon, soil management, and soil resilience in relation to climate change. The evidence provided by these research projects is informing future policy development.

Defra has also established research platforms on water and green house gas emissions in relation to agriculture to catalyse long term research activities that bring together leading experts, link fundamental and applied science, draw in funding from wider sources and demonstrate new approaches to farmers, for example:

- £12.6m Greenhouse Gas R&D Platform, funded by Defra and the Devolved Administrations, to improve our understanding of emissions from farms and develop a reporting system that reflects the adoption of mitigation practices;
- £8.5m Demonstration Test Catchments platform to provide a focal point for research on interrelated impacts of agriculture on the water environment;

The Government's strategy for England's wildlife and ecosystem services, 'Biodiversity 2020', aims to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks. Whilst increasing food production, we will improve the delivery of environmental outcomes from agricultural land management practices by, for example, reviewing how we use advice and incentives as well as agri-environment schemes.

CONCLUSION/RECOMMENDATION 3 (paragraph 170)

We agree on the vital importance of reducing food waste but are far from convinced that EU Member States are taking the issue seriously. The European Union must move swiftly towards adopting indicators for bio-waste prevention measures and then towards bio-waste prevention targets.

There is a strong link between economic growth and waste generation. The different economic circumstances across Europe make an EU-wide waste prevention target unrealistic. It would be very difficult to allocate fair and objective indicators for

waste prevention across such a diverse range of economic circumstances, and any target would require potentially complex and costly monitoring and enforcement systems. Furthermore it is unclear what measures Member States might use to track progress. The obvious metric is the amount of bio-waste collected at kerbside but where bio-waste is not collected separately an estimate would have to be made of the amount of bio-waste in mixed refuse collections. This would involve expensive compositional analysis studies every 3 to 5 years.

More broadly, all Member States are required to develop national policies in support of waste prevention as part of complying with the waste hierarchy as set out in the revised Waste Framework Directive (transposed in the UK in March 2011). The Commission does not have enough experience of waste prevention measures to set EU-wide targets and uses this as the reason for not setting binding targets in an impact assessment undertaken in 2010. The benchmarking requirements of Article 29 of the revised Waste Framework Directive are a first, and difficult, step to helping understand the link between specific waste prevention measures and their results. The Government believes that this and other programmes under the Waste Framework Directive should be embedded and adequately enforced before introducing new legislative measures or targets. These will be in place by December 2013.

CONCLUSION/RECOMMENDATION 4 (paragraph 171)

The Government should define a clear set of widely agreed indicators to measure progress over time towards increased agricultural production and reduced environmental impact. These must be monitored by an independent expert committee.

The Government compiles a wide set of indicators and statistics to track progress on the environmental impacts of UK agriculture and levels of production. These include key Impact Indicators and other data sets highlighted in the Defra Business Plan. The Indicators for a Sustainable Food System are accumulating evidence on a range of sustainability issues, including food security. In addition, there are a range of more detailed indicators compiled by the Agricultural Change and Environment Observatory which was established to monitor trends in UK agriculture and assess environmental impacts arising from key drivers of agricultural change, including reforms of the CAP. A range of statistics on UK agricultural productivity, commodity production and supply are compiled and published annually in *Agriculture in the United Kingdom*. These are used to track trends surrounding the UK's contribution to global food supplies.

The Government is establishing a project to bring together government, industry and environmental partners to jointly examine how we can reconcile our goals of improving the environment and increasing food production. This project will provide the opportunity to consider whether any additional indicators need to be developed to add to the existing stock, and whether a specific set of 'sustainable intensification' indicators should be defined to track progress over time. The project is due to

complete its work and publish its conclusions by June 2012 and the project's partners will be able to consider how best to establish any ongoing monitoring role.

CONCLUSION/RECOMMENDATION 5 (paragraph 172)

At the EU level, a food production strategy should underpin the Common Agricultural Policy. National and EU-level strategies for food production should in turn underpin innovation. Without such strategies, conflicting priorities, between national government departments and within the European Commission, will inevitably act as obstacles to effective innovation. Strategies must be sensitive to the diversity of EU farming and food production systems, and should be framed within EU guidelines. They should be developed “bottom-up”, not imposed “top-down”. Local ownership and implementation are essential.

The Europe 2020 Strategy sets out a vision for the future EU economy, prioritising 'smart, sustainable and innovative growth'. The European Council agreed on 17 June 2010 that sectoral policies like CAP needed to support the delivery of these objectives by delivering a sustainable, productive and competitive agricultural sector and help to realise the growth and employment potential of rural areas while ensuring fair competition.

The agriculture and food sectors can make a genuine contribution in achieving these ambitions, but the current CAP does not help to support their goals, and needs far reaching reform. The UK set out its response to the Commission's proposals for CAP Reform in January 2011. We want to see ambitious, long-term reform that prepares the agriculture sector for facilitating sustainable food production beyond 2020. Innovation is an important part of this goal and we are concerned that the Commission is missing the opportunity to put in place ideas to drive the needed transformational reform. We will continue to press for greater ambition in the EU to prepare farmers for the future and deliver on Europe 2020 objectives.

Nationally we have committed to reviewing how we might achieve our goals of increasing food production, encouraging growth in the agri-food sector, achieving food security, and protecting and enhancing the natural environment. This will help us deliver coalition business priorities, and also implement findings in the recent Foresight Report which addressed the issue of global food security. In particular we are determined to get to grips with some of the key policy tensions and how they might be reconciled, so that we can put in place a coherent food strategy.

We intend to adopt a 'bottom up' approach to this by working jointly with a group including industry, environmental and consumer organisations to identify the policy challenges, but also share ownership of making changes happen where they are needed. The group will need to examine carefully the role that innovation and new research can play in helping the agri-food sector become increasingly competitive whilst tackling growing pressures on natural resources.

CONCLUSION/RECOMMENDATION 6 (paragraph 173)

Innovation—theory and practice

Innovation is an intrinsic aspect of agriculture, and EU agriculture will continue to need support in its efforts to innovate. The particular risks that it faces—climate, disease and price volatility—and the small size of the average agricultural business, must be recognised as a basis for helping this industry to innovate.

CONCLUSION/RECOMMENDATION 7 (paragraph 174)

The farming industry and scientific community are currently contributing to agricultural innovation in a large variety of ways. But the reach of innovation in EU agriculture must be extended, if substantial future risks to European food security are to be avoided, and to respond to the need for sustainable intensification of agriculture. Member States and the Commission should both play a role in shaping the framework to strengthen this process.

One factor affecting the rate of innovation in the short-to-medium term, along with skills and investment, is the speed at which useful scientific discoveries are taken up by farm businesses and their suppliers. Therefore the Government is urging the Commission to give translation of R&D higher priority in the future CAP. The Government also considers that the role and shape of future EU research and innovation instruments should be revisited within a streamlined portfolio. We welcome the publication of the Commission's Green Paper, *From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation Funding* (February 2011), which proposes that all EU instruments for research and innovation should work together to improve efficiency of funding at national and EU levels. We consider that this greater alignment could reduce administrative complexity and potentially increase participation from under-represented groups.

The UK has submitted a response to the Commission's consultation on future EU funding for research and innovation, which forms part of the Green Paper. We would like to see its strategic priorities adjusted to provide support for policy based on robust evidence and to demonstrate an increased emphasis on dissemination and knowledge transfer, including across related projects. We would also like to see a move towards more open information, greater focus on innovation and the application of research outcomes and links with business, education and wider society, to be considered from the outset of projects.

Innovation is a complex interactive process between opportunities and capabilities; therefore we have proposed that the bulk of future Horizon 2020 funding is based on two broad pillars addressing a key technology/knowledge “push” and a challenge “pull”. This should be supported as appropriate by funding for enabling activities such as Joint Programming Initiatives (JPI), research infrastructures and mobility/skills initiatives.

CONCLUSION/RECOMMENDATION 8 (paragraph 175)

Sustainable intensification of agriculture must be a determining feature of agriculture's future and of innovation within the industry; we urge those with national funding responsibility to prioritise support for further work on nutrient efficiency, water efficiency, genomics and soil science, as key elements of the UK's approach to sustainable intensification.

The UK Government provides approximately £400m per annum for agricultural research. Defra itself contributes approximately £65M of this on farming and food research (£29M on farming and food research and the remainder on animal health and welfare), including work on crop genetics and farming systems with the goal of making better use of natural resources (land, fertilisers, soil, water, energy) while improving net environmental impacts. BBSRC, the lead funding organisation, spends £189m per annum on food related research, funding basic and applied studies on plants, microbes and animals and on the tools and technology underpinning biological science.

The multi- agency Global Food Security (GFS) programme co-ordinated by the BBSRC aims to strengthen research co-ordination and partnerships. Its goal is to build a more integrated community of researchers, funders and users that extends across disciplines, organisations and sectors, to provide multi-disciplinary research into achieving a secure and sustainable food system.¹

Work on nutrient efficiency, water efficiency, genomics and soil science is already part of the portfolio of research funded by BBSRC and Defra, for example:

- £13.3m BBSRC Crop Science Initiative. Funded 18 projects to apply principles of sustainable development to crop production²
- £3m Defra-funded Genetic Improvement Networks for improvements in breeding wheat, oilseed rape, pulse crops, vegetables, forage grasses and legumes for traits such as nitrogen requirement and water use efficiency
- £12.1m BBSRC investment in wheat (up from £6.4m in 2005). Includes completing an initial sequence read of the wheat genome
- £0.38m for development of the Fertiliser Manual (RB209) to calculate how much fertiliser, organic manures and lime should be applied to most crops, based on the on-farm economic optimum which takes account of crop value and fertiliser cost
- £8.5m research platform, the Demonstration Test Catchments, set up by Defra and the Environment Agency to host catchment-scale research on efficient use of resources (water, soil and nutrients)
- £1.5m per annum on research on water use efficiency, includes R&D on irrigation, crop varieties, water use in livestock farming and water resources in agriculture

Reflecting its importance for food security and renewable supplies of plant materials, Defra's new biodiversity strategy for England, *Biodiversity 2020*, prioritises action to

¹ <http://www.foodsecurity.ac.uk/resources/reports.html>

² <http://www.bbsrc.ac.uk/web/FILES/Publications/crop-science-initiative.pdf>

ensure that 'agricultural' genetic diversity within cultivated plants, farmed animals and their wild relatives is conserved and enhanced wherever appropriate.

CONCLUSION/RECOMMENDATION 9 (paragraph 176)

The Government, and those with funding responsibilities, must look more urgently at how research aimed at translating scientific findings into practice can be revived and enhanced, building on initiatives already under way.

The Government recognises the need to remove key obstacles to scientific development in the UK and is working towards boosting investment in innovation. Steps are being taken to meet the commitment set out in the coalition agreement to refocus the R&D Tax Credit on high-tech companies, small firms and start-ups through open consultation with the industry as part of the wider ongoing tax reform process. In the agriculture sector, we understand that the small average size of farm businesses can limit ability to invest in and adopt innovations owing to the costs associated with acquiring reliable information on new technologies and processes and the practical difficulties of protecting intellectual property, brands and trademarks, whilst recognising that being small can also bring advantages to implementing change.

We are taking steps to simplify funding and intellectual property arrangements and ensure business participation and practical translation of research through a number of channels. The Technology Strategy Board's (TSB) Sustainable Agriculture and Food Innovation Platform provides the main route to support innovation through funding of industry-led collaborative research and development with the academic research base. This is funded jointly with Defra, the Biotechnology and Biological Sciences Research Council (BBSRC) and the Scottish Government, providing government investment of up to £90m over five years. Additional targeted instruments include the Crop Improvement Research Club, a 5 year, £7m partnership between BBSRC, the Scottish Government and an industry consortium aimed at supporting research leading to sustainable improvements in crop productivity and crop quality, particularly on oilseed rape, barley and wheat.

Activities are also ongoing to introduce the Research Excellence Framework, which will provide a greater emphasis on the impact of research and give an opportunity for greater recognition of the importance of translational research. This is being supported by the research councils who are reviewing translation as part of the assessment of their institutes, and the Food Research Partnership sub-group (chaired by the Chief Scientific Adviser) that is looking at gaps in translation and knowledge transfer in the food and agriculture sector and is due to report in the autumn.

CONCLUSION/RECOMMENDATION 10 (paragraph 177)

The Government, with other key educational bodies, should review the content and presentation of agricultural studies and plant science from school level,

through further and higher education, to adult re-training programmes: studying agriculture should be seen as a frontline activity of central importance to ensure that its relevance to the challenges of food security and sustainable intensification is clear.

The National Curriculum review is currently looking at the essential knowledge that should be studied pre-16. The aim of the review is to slim down the National Curriculum to include necessary elements in key subjects without absorbing the overwhelming majority of teaching time. Teachers should be enabled to use their professional judgement in designing a wider school curriculum that meets the needs of their pupils and covers relevant issues as context for their teaching. Proposals on the detailed content of the new Programmes of Study are currently being developed.

To achieve these objectives we are prioritising our resources where they will have the greatest impact whilst enabling and encouraging learners and employers to increasingly take responsibility for their own training. We are radically simplifying the system so that colleges, universities and providers of further education can respond to need, with learners and employers in the driving seat. Where employers have identified a specific issue, whether on course content or required skills, they should engage directly with relevant providers to identify and implement agreed solutions.

Lantra, the sector skills council for the environmental and land-based industries, offers information on careers across the agricultural sector and determines standards to ensure qualifications meet both employer and learner needs. They work with interested parties to make sure the environmental and land-based industries are appropriately skilled to maximise the impact of investment and ensure the UK has a competitive, dynamic and professional workforce.

CONCLUSION/RECOMMENDATION 11 (paragraph 178)

The Commission should play a full role in encouraging research collaboration between Member States outside the EU Framework Programme, and should consider including possible financing for such collaboration under the next Framework Programme, in addition to the current ERA-NET co-operation scheme.

The Government actively supports and is already engaged in the development of Joint Programming Initiatives, through which Member States work on a voluntary basis to coordinate and align national research programmes aimed at tackling major societal challenges. Member States/Associated Countries will work together around a common vision and strategic research agenda, making significant contributions to research by avoiding duplication, filling gaps and creating critical mass. The Government considers that the European Commission can provide a useful facilitating role in this process and that the next Framework Programme could continue to support these Member State-led collaborations.

The Joint Programming Initiative “Agriculture, Food Security and Climate Change” (FACCE-JPI), jointly led by France, through its National Institute for Agricultural

Research (INRA) and the UK, through the Biotechnology and Biological Sciences Research Council (BBSRC), recently announced the opening of a call for proposals for a pilot action on ‘a detailed climate change risk assessment for European agriculture and food security’. This initial action will model impacts of climate change and the reduction in uncertainties in climate change scenarios. It will be carried out using the instrument of the “FACCE Knowledge Hub” bringing together major European research groups from 17 countries, fostering interactions and synergy between European modellers in the areas of crops, livestock and trade to look at how climate variability and change impact on these models.

CONCLUSION/RECOMMENDATION 12 (paragraph 179)

We strongly welcome the Commission’s acknowledgement of the need to make research funding less bureaucratic; we consider that the UK Government should support this intention; and we urge the Commission to make rapid progress with the reforms which it has outlined.

The Government attaches great importance to the simplification agenda. The burdens imposed by administration and financial control must be drastically reduced to the minimum level required to protect public funds, in the context of a move towards a more trust-based and risk-tolerant management regime. There have recently been some encouraging signs of progress; for example in the Commission’s Communication on simplifying the implementation of the current Framework Programme (FP7), prominence was given in the interim evaluation of the Programme to the need for more user-friendly administrative processes, and included the Commission’s proposal on revised Financial Regulations. The Government will continue to press for more radical steps to be taken in the context of negotiations on the next generation of research and innovation programmes, in Horizon 2020.

CONCLUSION/RECOMMENDATION 13 (paragraph 180)

The EU’s future Research Framework Programme should be organised more flexibly and in response to tackling grand challenges, rather than following the current approach which tends to brigade research according to rigid themes.

The Government supports the Commission’s ambitions to focus more research effort on a limited number of major European and global socio-economic challenges, such as climate change, energy, water and food security, protection of natural resources and ageing populations. There should be the flexibility to increase, decrease or terminate support for particular challenges, and identify new challenges, as circumstances change over time.

CONCLUSION/RECOMMENDATION 14 (paragraph 181)

The Government must ensure that, with the abolition of the Regional Development Agencies, successor arrangements enable ERDF support to be accessed easily, and without interruption, by appropriate projects in the UK.

Following the decision to abolish the Regional Development Agencies, the Department for Communities and Local Government (DCLG) took over responsibility for the day to day running of ERDF programmes in England from 1 July 2011. DCLG retained the existing ERDF regional teams under its auspices and in most cases they have been able to remain in their existing towns or cities. These arrangements have ensured that DCLG retains the expertise and experience currently held by the former RDA ERDF teams, so they can continue to advise potential applicants and appraise and approve projects.

CONCLUSION/RECOMMENDATION 15 (paragraph 182)

We support the idea of a European Innovation Partnership (EIP) on agricultural productivity and sustainability, but only on the understanding that it will be founded on effective, action-based co-operation, including between the different Directorates-General of the Commission. The Government must work closely with the Commission and other Member States to clarify and guide the EIP proposals. The Commission should follow a “twin-track approach” (EU networking, local delivery) in taking forward the agriculture EIP; and it needs to develop metrics and identify clear targets, so that the progress of the EIP is measured against those targets and is regularly reviewed.

The creation of European Innovation Partnerships (EIP) was one of the major commitments from the Europe 2020 flagship initiative, Innovation Union. EIPs are a framework for streamlining and simplifying existing financial mechanisms for innovation across Europe covering the whole spectrum from research to market. Innovation Union stated that preparatory work had been undertaken on launching an Agricultural EIP to promote a resource-efficient, productive and low-emission agricultural sector which works in harmony with the essential natural resources on which farming depends, such as soil and water. The Government supports the concept of EIPs but we agree with the need to see clearer articulation of their governance arrangements and the introduction of clear targets against which progress can be assessed. The UK’s experience with Innovation Platforms shows how this kind of approach can be made to work effectively and we will look to play a strong role in the development of future EIPs. Before the end of 2011, the Commission will review and evaluate the effectiveness of the Partnership approach, and set out whether and how it intends to take it forward, in particular regarding support through the next Research Framework Programme.

CONCLUSION/RECOMMENDATION 16 (paragraph 183)

We welcome the fact that greater prominence is being given to agriculture in the deliberations of the European Commission, and we urge that it should be given a similar priority in political debate in the UK.

CONCLUSION/RECOMMENDATION 17 (paragraph 184)

It is clear that a more strategic approach to agricultural research is required. Agricultural research must be seen as an integral part of agricultural and food policy—in particular, if the CAP demands more from farmers in terms of tackling climate change, the research agenda needs to respond accordingly. We call for a strengthening of interdisciplinary work, bringing natural and social scientists together to work on food security.

One of the key priorities in Defra's Business Plan is to 'support and develop British farming and encourage sustainable food production – to help to enhance the competitiveness and resilience of the whole food chain, including farms and the fish industry, to help ensure a secure, environmentally sustainable and healthy supply of food with improved standards of animal welfare.' This reflects the importance of sustainable farming and food production as a key coalition priority. We are currently beginning new work, in partnership with our stakeholders, to consider the major challenges in achieving our policies in relation to agriculture and the food supply chain, which will help us to shape and reinvigorate our policy work within Defra, and ensure we can fully deliver on our Business Plan objectives.

The Government recognises that an interdisciplinary approach is required across the food supply chain. The Chief Scientific Adviser's Research and Innovation Strategy co-ordinates agri-food research in the UK to support and respond to policy goals on agriculture and food, and the need for stronger links between research activities across the public sector. The Foresight Report highlighted in the Strategy has been important in shaping a whole food chain approach to the research and policy agenda.

The Strategy provides a joined-up approach to R&D via a coordinated framework maximising the contribution from publically-funded research and innovation, collaboration between funders and research coordination. Government funders, research councils, industry and third sector bodies are working together through the Food Research Partnership and the Global Food Security programme to strengthen and coordinate multi-disciplinary themed research, bringing together natural and social scientists through shared goals, whilst ensuring R&D is robust, policy-relevant and provides good value for money. Defra's Evidence Investment Strategy sets out how the department will prioritise and fund its research against expenditure constraints and is aligned with the wider UK research agenda.

The Government is also funding collaborative and industry-led R&D and innovation activities to promote a more sustainable, resilient and competitive food sector, through the TSB Sustainable Agriculture and Food Innovation Platform for example. More widely, Government is actively building links and initiatives to strengthen multi-disciplinary research activity, including providing active support to the JPI on Agriculture, Food and Climate Change which aims to develop a common strategic research agenda on agri-food across the 17 member countries. Together with DFID, Defra collaborates with the Chinese Ministry of Agriculture in the Action Plan for UK-China Cooperation on Food Security, which includes the Sustainable Agriculture

Innovation Network (SAIN). The UK also participates actively in the Global Research Alliance to find innovative ways of measuring and reducing agricultural greenhouse gas emissions through international collaboration.

CONCLUSION/RECOMMENDATION 18 (paragraph 185)

It is unacceptable that agricultural research funding at the EU level is under €2 bn over seven years, while the agricultural policy budget is around €400 bn. Increased funding for agriculture under the Research Programme, through the suggested grand challenges approach, should be supported financially by reducing the proportion of the EU budget devoted to supporting the Common Agricultural Policy. Within the remaining, and still substantial, agricultural budget, funds should be partially re-allocated towards innovation under the Rural Development Fund.

The overall level of EU funding for both CAP and R&D was fixed at the start of the programme so cannot be changed for this period 2007 - 2013. The Commission recently announced proposals for funding the EU Budget for the next 7 year period 2014 - 2020, which will be subject to forthcoming negotiations. This includes proposed funding for both the CAP and R&D budgets.

We want to see a competitive, thriving and sustainable EU agriculture sector, benefiting from ambitious reform and not reliant on subsidy. While the UK's overall objective is to reduce EU budget size, spending on climate change and on growth and competitiveness (underpinned by research and innovation) are priority areas for the UK and we agree that they should have a proportionately larger share of a smaller budget. However, the Commission proposals for very substantial increases are completely out of line with the greater need for budgetary restraint. The EU budget, albeit smaller, should do more to support research, development, innovation and deployment, to support global challenges including a low carbon economy. This must be within a budget that, at most, increases by no more than inflation. Alongside this, we agree that there needs to be a very substantial cut to the CAP budget, focused on Pillar 1. The value for money of CAP expenditure must increase, and within a smaller CAP budget, Rural Development should receive an increased share given its role in enabling innovation.

We are working closely with other government departments, the research councils, the European Commission and other EU Member States to ensure that agriculture-related research is properly addressed in the next generation of research and innovation programmes, Horizon 2020.

CONCLUSION/RECOMMENDATION 19 (paragraph 186)

There is no one single solution to agricultural knowledge transfer that is applicable across the EU. It must be fine-tuned to national and regional practice and, as far as possible, to individual farmers.

CONCLUSION/RECOMMENDATION 23 (paragraph 190)

The key to successful knowledge transfer is the presentation of a clear business case. Presentation and communication skills, in addition to a clear understanding of the needs of farmers, thus become as important among farm advisers as knowledge of the innovation itself.

CONCLUSION/RECOMMENDATION 24 (paragraph 191)

The transfer of R&D knowledge transfer to farms is just one part of the agricultural innovation system. It is a complex and interactive process of knowledge exchange involving scientists, farmers, food processors, retailers, government and consumers. So, to be successful, sustainable intensification of agriculture will require better cooperation among farm businesses, advisory bodies and scientists; greater responsiveness in European agriculture to markets; improved interdisciplinary research among scientists and social scientists; and farmers becoming actively involved in setting agricultural research agendas. Effective innovation requires systems to be in place promoting communication between all of these actors. We welcome the work of the EU-level working group on agricultural knowledge and innovation systems; Member States should give its conclusions high political priority.

The Government agrees that the effective transfer of knowledge and innovation from research is essential since sustainable intensification is a complex and interactive process. In the UK, a large number of bodies and organisations, including research councils, government departments, industry levy bodies and commercial businesses work together to support innovation and uptake of research results to improve agricultural performance.

The Agriculture and Horticulture Development Board (AHDB) already plays a pivotal role in improving the efficiency and competitiveness of the agriculture and horticulture industries. AHDB sits at the interface between R&D providers, consultants, farmers and growers, and government departments and agencies. Although AHDB does not generally provide direct commercial advice, private sector providers of advisory services, consultants and independent agronomists all rely heavily on the information produced through the applied R&D and knowledge transfer programmes of AHDB's sector divisions. We expect that under its new Chair AHDB should be able to build further on its key position to facilitate greater co-operation and the exchange of knowledge between all the actors currently involved in communicating the latest farming techniques, science and best practice to the industry.

In the UK, business-led development and exploitation of technology and innovation is supported by Government through the BIS-sponsored Technology Strategy Board (TSB). With additional co-funding from Defra and BBSRC, they are supporting the Sustainable Agriculture and Food (SAF) Innovation Platform, bringing government, business and researchers together to stimulate the development of new technologies and promote a thriving and environmentally sustainable food and farming sector. Competitions under this Platform provide match-funding for development of new

products and processes by industry, where supported by a strong business case. Knowledge Transfer Networks (e.g. the Bioscience KTN and the Environmental Sustainability KTN) run by the TSB also support the exchange of knowledge between the research community and farmers and growers, advisors, processors, the supply trade and agribusiness and bioscience-based companies.

The Food Research Partnership, chaired by the Chief Scientific Adviser, provides a platform for coordinating activities to address the key challenges in agri-food research and innovation. The Partnership is currently exploring how the translation and exploitation of agri-food research can be improved to enable users to make better use of the UK science base and address their challenges using existing as well as new knowledge and looking at the balance of roles between the public and private sectors. Studies have been commissioned to consider translation of research into use within the wheat (Defra and BBSRC), dairy (GO-Science, DairyCo and the TSB) and horticulture – brassicas and strawberries (National Horticulture Forum) supply chains. Evidence from these studies will inform the development of proposals for further action for consideration by the Food Research Partnership later this year.

The EU Standing Committee on Agricultural Research (SCAR) Collaborative Working Group on Agricultural Knowledge and Innovation Systems is taking a comprehensive view of the range of approaches in Member States. Its starting point has also been that effective innovation requires systems to be in place promoting communication between all the actors involved in knowledge implementation in practical agriculture. However it is not the intention to devise or propose a single system for adoption across the EU. The work packages in progress, backed by case studies, should lead to recommendations that can inform decisions or initiatives within individual Member States and also at the EU level e.g. in relation to the CAP reform process.

CONCLUSION/RECOMMENDATION 20 (paragraph 187)

The introduction of the Farm Advisory System at the time of the last CAP reform was welcome, but the time has now come to extend it beyond cross-compliance. There should be an obligation under the CAP for Member States to ensure that comprehensive farm advice is available throughout their territories, geared towards meeting the new challenges of food security, climate change and the need for sustainable intensification.

CONCLUSION/RECOMMENDATION 21 (paragraph 188)

The provision of farm advice in England is fragmented and overly complex. Taking on board best practice from elsewhere, and with the support of the Government, we recommend that the levy boards play a central role in broadening and deepening the range of advice currently offered to farmers in England.

CONCLUSION/RECOMMENDATION 22 (paragraph 189)

Financing of farm advice is a decision for Member States. Nevertheless, greater resources could be made available under Pillar 2 of the CAP to support the provision of farm advice. While its use ought to remain discretionary, it could be encouraged by ring-fencing a certain amount of money or by offering a different co-financing rate for such measures. We recommend that this matter be explored in discussions on reform of the CAP.

We have recently been reviewing the implementation of the Farm Advisory System (FAS) in England. The current contract will be coming to an end later this year, and we are procuring a new service through an open tender process open to any interested party, including the Agriculture and Horticulture Development Board (AHDB). This will go beyond cross compliance advice by incorporating complementary advice on nutrient management, climate change mitigation and adaptation and competitiveness. We are aiming to frame the procurement exercise and resulting contract to include an option to add in further advice themes in the future.

The new FAS service contract for 2012 will require the contractor to work in active partnership with industry and stakeholder organisations, making use of existing advice channels and best practice. This will also include ensuring that they are aware of other advice programmes to avoid unnecessary duplication and instead, signposting farmers as appropriate.

The AHDB forms part of the consortium involved in the Integrated Advice Pilot (IAP), a yearlong project which began in February 2011, funded from Defra's Strategic Evidence Partnership Fund. It aims to develop and test the effectiveness of delivering integrated advice to farmers on a range of policy objectives (including climate change mitigation, adaptation, nutrient management, water, soil and air quality, biodiversity, farming competitiveness and Environmental Stewardship). AHDB is leading work to encourage the implementation of successful elements of the pilot project by existing advice providers. The new FAS service will look to follow-up conclusions and recommendations that come out of the IAP.

In the Natural Environment White Paper the Government committed to carry out a full review of how we use advice and incentives for farmers and land managers, to create a more integrated, streamlined and efficient approach that is clearer for farmers and land managers and yields better environmental results. We agree that it is important to tailor an advice service to national and local practice and needs.

There is potential to fund farm advice through both Pillar 1 and Pillar 2 funding. In line with broad thinking on the split between pillars, Pillar 1 money can be used for provision of broad advice aimed at improving the sector's performance and Pillar 2 for more focussed and targeted advice. We will continue to explore provision of funding for farm advice through CAP reform discussions.

CONCLUSION/RECOMMENDATION 25 (paragraph 192)

Consumers are a fundamentally important part of the innovation system. At the end of the food chain, consumer preferences largely determine what is on the shelf, but we are far from convinced that consumer preferences are formed on the basis of sufficient information about products' sustainability. Communication, about new technologies and about issues surrounding the sustainable intensification of agriculture, goes to the heart of the challenge; it means listening to consumers as well as directing information at them. It includes tackling the impact of dietary habits on the sustainability of food systems.

CONCLUSION/RECOMMENDATION 26 (paragraph 193)

Trust is a key concern, and it is appropriate to recognise that consumers may lack trust in messages from Government or business. That being said, it cannot be right for national and regional authorities to step away from the process of communication. Retailers and food processors must also accept responsibility for communication with consumers about innovative and sustainable agricultural products and practices, and about the wider implications of their dietary choices.

CONCLUSION/RECOMMENDATION 27 (paragraph 194)

The European Commission should help to share best practice in communication with consumers. National and regional authorities should offer financial and organisational help to allow for public participation in discussions about innovation in agricultural and food systems. Getting the message across is a task in which scientists, industry, retailers, media and civil society should play a full role.

Government recognises the value of listening to public views on science and technology and is committed to doing so, including on appropriate issues within innovation in agriculture. The Sciencewise Expert Resource Centre for Public Dialogue in Science and Innovation, funded by the Department for Business, Innovation and Skills (BIS), supports public bodies to commission and use public dialogue exercises to inform the development of science and technology policy. BIS also commissions the triennial Public Attitudes to Science Survey to monitor trends in public views towards science and scientists. The most recent survey was published in May 2011. This included information about the level of trust members of the public have for scientists working for Government, universities and industry.

Consumers are a fundamental part of the innovation system as their consumption patterns and behaviours largely determine production, and in some cases directly impact on the life cycle analyses of food products and sustainability. We agree that currently consumer preferences are not, in the main, based on a product's sustainability. As well as supporting the industry through robust regulation, Government, the European Commission and others across the food chain are working in partnership to communicate information to consumers on innovation, research - including on behaviour drivers and sustainability awareness - technology, sustainable intensification and sustainable healthy diets. Government's role is not to

tell people what to eat but to provide a solid evidence base to give consumers the information they need to be able to make informed choices for themselves and support industry and NGOs in their work towards encouraging sustainable consumption and avoiding food waste. This involves listening to consumers in order to understand their information requirements and Defra involves consumer groups in its formal and informal consultations in the food chain.

The Government acknowledges that consumers may lack trust in messages from Government or business. For this reason we work in partnership to ensure that consumers have access to robust messages from a variety of sources. This partnership working encompasses Local Economic Partnerships, agencies and authorities, NGOs, farmers, producers and manufacturers and retailers.

National and regional authorities have a number of fundamental roles in discussions on agricultural innovation. They must use their expertise and knowledge of the industry to ensure the right groups and individuals are brought into discussions and play an active role in the dissemination of messages. They also have a significant role as funders of research and innovation and regulators of products and practices. As such, national governments also have a role in listening to consumer views and, where appropriate, responding to these in their funding/regulatory decisions and/or reviewing the provision of information.

Defra has recently published a new Framework for Sustainable Lifestyles which builds upon research we have undertaken into consumer behaviour and focuses on understanding how to encourage sustainable behaviours and identifying key insights on the barriers and motivations to action.³ In terms of sustainable food, it highlights that peoples food choices are determined by what's available, accessible and affordable – and that adopting sustainable food behaviours is not simply about individuals making the right choices.

The Government agrees that the Commission should help to share best practice in communication with consumers. The EU Sustainable Consumption and Production food roundtable (co-chaired by the Commission and food supply chain partners) is looking across all impacts to establish environmental assessment methodologies for food and drink products and consider their impacts across the entire product life-cycle as a basis for communication. There is work on-going elsewhere in the Commission on action to inform consumers on the environmental performance of all products, including food, and addressing the role of consumers in food waste. In addition the Commission is looking at the feasibility of applying the EU Ecolabel to food.

CONCLUSION/RECOMMENDATION 28 (paragraph 195)

Payments under Pillar 1 of the Common Agricultural Policy (direct payments) should be made in return for delivery of public goods, responding to climate change, protecting biodiversity and encouraging environmental innovation. We agree, however, that better integration of environmental considerations

³ <http://archive.defra.gov.uk/environment/economy/documents/sustainable-life-framework.pdf>

into Pillar 1 must not lead to further bureaucratic complexity. The sustainable intensification of the CAP must be achieved on the basis of real improvements to the EU's and Member States' knowledge transfer systems. More effective advice to farmers must strengthen the adoption of best practice which will have both economic and environmental benefits.

CONCLUSION/RECOMMENDATION 29 (paragraph 196)

Under Pillar 2 (rural development), support for innovation-related projects must be core and a balance must be ensured between purely agri-environmental projects and funding to support agricultural innovation, whilst recalling that the two are often compatible. Pillar 2 should be sufficiently flexible to encourage innovation in relation to all forms of agricultural material, whether food or not. Alongside such flexibility, we support the European Commission's proposal that a higher rate of co-financing be made available to support innovation-related projects under Pillar 2. Such an increase in financing can be supported, at least in part, by reducing the level of direct payments under Pillar 1.

CONCLUSION/RECOMMENDATION 30 (paragraph 197)

Policy incoherence in the Commission is a serious obstacle to agricultural innovation. The European Commissioner responsible for agriculture and food must ensure that the need to promote innovation in EU agriculture is respected by other parts of the Commission when they take decisions which will impact on the food and farming sector.

The Government wants to see a competitive, thriving and sustainable European agriculture sector, benefiting from ambitious reform and not reliant on subsidy. Agriculture in the EU must be better able to respond to and earn improved returns from the market, increase productivity and compete on the international stage now and in the future. This means continuing to reduce income support and increase focus on measures to drive competitiveness.

Furthermore, there is clear justification for a focus towards the provision of environmental benefits in the CAP. There is a strong role for Pillar 2 as the primary mechanism in achieving this, not least because it allows for resources to be targeted effectively, and for measures to be tailored to very diverse environments across the EU. Whilst we support greening of the CAP, proposals to green Pillar 1 must deliver an increase in environmental benefits above those already delivered through Pillar 2. We are concerned that current proposals will add greater complexity and regulatory burdens, without supporting improvements in competitiveness. To mitigate this risk, any proposals must meet the three key principles of providing significant additional environmental benefit, strengthening Pillar 2 to build on success and being deliverable without undue administrative burden. This all needs to be underpinned with greater simplification for both farmers and administrations.

Furthermore, under Pillar 2 we want to see a greater focus on measures to improve both greening and competitiveness in order to progressively reduce the reliance on

subsidy. The UK wants a more flexible Pillar 2 that can fund activities delivering multiple objectives. These sorts of mutually beneficial activities, such as increasing resource efficiency, have the potential to both save farmers money and reduce their impact on the environment. To this end, the Government also welcomes the Commission's proposal to increase the proportion of competitiveness budget on agricultural R&D.

CONCLUSION/RECOMMENDATION 31 (paragraph 198)

We urge the Commission and Member States to act with urgency in determining a robust set of factors, indicators and rules for data collection that will facilitate a better understanding of the socio-economic implications of GMO cultivation.

CONCLUSION/RECOMMENDATION 32 (paragraph 199)

Good regulation is evidence-based, taking into account environmental, economic and social considerations. We are clear that the precautionary principle must continue to underpin regulatory decisions with regard to food safety. It must, however, be applied with due consideration of available scientific evidence of potential risks and benefits. Reluctance to take a risk can be a risk in itself if, for example, global food security is likely to be threatened.

CONCLUSION/RECOMMENDATION 33 (paragraph 200)

It is critical for reasons of productivity, sustainability and competitiveness, that appropriate technologies can be adopted swiftly after proper testing. The EU decision-making procedure should seek to help, rather than hinder, the adoption of appropriate new technologies. We would not recommend that new techniques should routinely be assumed to be safe unless proven otherwise, but there is undoubtedly a need for a much clearer articulation of the potential risks and benefits of any technology. In advancing this debate at a political level, it would be appropriate for the European Commission to re-visit its 2000 Communication on the Precautionary Principle and to re-consider the application of the principle in the light of the grand challenges faced by society.

The Government agrees with the Committee that the precautionary principle remains relevant to decisions on food and environmental safety, but that it must be applied sensibly and not act as an unjustified barrier to new technologies. Proper regard must be given to the scientific evidence, and we acknowledge that there are risks to the long term well-being of society from taking an overly precautionary or risk-averse approach to the introduction of innovations in agriculture. This was a point reflected in the Foresight Report on the future of food and farming, which noted that new technologies need to be considered on the basis of competing risks rather than a simplistic version of the precautionary principle.

The Government believes that any regulation of technologies must be evidence-based, pragmatic and proportionate, so that potential risks are kept in perspective and there is a route for safe products to gain fair access to the market. In relation to the new EU rules on the authorisation of pesticides, the introduction of hazard-based criteria in the regulation is not justified scientifically and is very likely to lead to the withdrawal of some important pesticides which do not pose a risk in actual use. A balanced approach is necessary to promote research, innovation and, ultimately, continued economic growth, sustainability and competitiveness. The Foresight Report also highlighted that decision-making on new technologies should be transparent so that it is clear how the scientific evidence and any other factors have been taken into account.

The Government will continue to reflect this outlook in EU discussions relating to innovation and the use of technologies in agriculture. Looking in particular at the EU's legislation on GM products, the Government believes that the design of the current regulatory regime is reasonable and robust. It allows for the timely clearance of new, innovative products provided that an evidence based assessment indicates that they do not pose a safety concern for people or the environment. In practice, however, the regime is not being permitted to operate in this way, because some Member States take a negative view of GM technology and in particular, want to block the cultivation of GM crops in their territory. The Commission's current proposal to give more national discretion on GM cultivation decisions is meant to overcome the lack of a political consensus at EU level, but the Government does not believe it is the right way forward. By allowing decisions on non-safety grounds, it would undermine the current science and evidence-based assessment process. It would also undermine the smooth operation of the EU single market – providing uncertainty which could deter investment and innovation - and we doubt that it actually offers Member States a meaningful discretion to implement national bans that would be legally sound (consistent with EU Treaty or WTO rules).

The Government therefore shares the Committee's concern that the operation of the EU regime is hindering research and innovation, which means that we are less well placed to tackle the important challenges ahead on food security and sustainability. As noted by some of the Committee's witnesses, while GM technology is far from being a solution to every problem, it has the potential alongside other advances to deliver valuable benefits. The Government is therefore arguing for the EU regime to function more effectively and pressing the Commission to bring forward votes on applications to market GM seeds for cultivation without unnecessary delays.,

Moving to the Committee's recommendation that the Commission and Member States should agree a robust basis for collecting data on the socio-economic implications of GM cultivation, the Government is concerned that if socio-economic impacts were considered as part of the EU authorisation system it would imply a move away from what should be an objective, science-based assessment process. As such, it is possible that the regime would operate even less effectively than it does at present – particularly given the polarised nature of member states' positions - and it could become more difficult for safe GM products to enter the market. It also follows that it could be difficult to achieve an EU consensus on an acceptable set of metrics for socio-economic factors that gave appropriate balance to both risks and

benefits. Nevertheless, the Government accepts the general point that it would be good to have, and be able to articulate, a better understanding of the socio-economic implications of GM crops. Defra has itself commissioned an independent systematic review of data on the economic and environmental effect of current GM crops, which is due to be published later this year. In addition, the Commission has organised a workshop in November with the Joint Research Centre to take forward discussions on how data on the impact of GM cultivation in the EU might properly be captured.

CONCLUSION/RECOMMENDATION 34 (paragraph 201)

We note concerns that high animal welfare standards in EU legislation can harm the competitiveness of EU farmers on the world market. Equally, however, we would not wish to see a weakening in EU standards as a result. Rather, we have been impressed to see how high animal welfare standards and business efficiency can be mutually supportive, and we encourage partnerships that can develop such win-win scenarios.

We welcome and agree with the conclusion that high animal welfare standards set down in EU legislation have been supportive to business efficiency. Improvements in animal welfare standards are usually to the benefit of producers as good welfare and high productivity often go hand in hand. We do recognise the concerns about such standards creating a competitive disadvantage for EU producers in a global market and they should take the initiative and promote the high standards they meet in marketing their products. The impact of new animal welfare EU legislation on the competitiveness of our livestock industry in the world market is monitored via post implementation reviews.