RESPONSE TO COMMISSION QUESTIONNAIRE ON THE SOCIO-ECONOMIC IMPLICATIONS OF GM CULTIVATION

Member State:

UNITED KINGDOM

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Section I –UK view on the socio-economic implications of the placing on the market of GMOs for cultivation

Introduction

We welcome the opportunity to contribute to the Commission's initiative to build an evidence-base regarding the socio-economic implications of the commercial cultivation of GM crops, and to engage Member States in broader consideration of the possible inclusion of socio-economic criteria in the decision-making process. The ideas that have been suggested to change the current EU regulations on GM cultivation, adding socio–economic criteria to the safety assessment process and allowing Member States to make their own decisions, have generated much interest, and this will no doubt be reflected in the varied responses the Commission receives. We look forward to continuing to engage with the Commission and Member States as thinking in this area develops.

General view on GMOs

The UK Government's priority is to safeguard human health and the environment, and in line with the EU legislation we follow the scientific evidence in assessing GM applications on a case-by-case basis. As long as robust risk assessment and management systems are in place we are open to the cultivation of GM crops and use of GM products in food and feed. To date there has been no commercial GM cultivation in the UK, but we expect that this could happen in future.

The EU regime should mean that if GM crops are acceptable in terms of risk, as confirmed by a proportionate, science-based assessment, then they will be approved for release. This leaves the normal operation of the market to determine whether or not a GM product is commercially successful, with producers and consumers making decisions based on the benefits delivered. The UK Government supports this approach, but difficulties have arisen with GM approvals at EU level, with Member States voting in some cases for reasons other than science. Current GM crops approved in the EU deliver benefits primarily for the producer but we believe that GM crops could offer a range of potential benefits over the longer term, as new traits are developed that could help to make agricultural production more efficient and sustainable, both in the EU and the developing world, or offer tangible benefits for consumers.

The UK Government has been concerned about the slowness of the EU decision-making process with regard to both the import and cultivation of GMOs but is encouraged by the recent decisions on 3 GM maize approvals and the Amflora potato, and welcomes the Commission's intention to take timely, science-based decisions.. The difficulty of securing marketing approvals over the past decade has deterred research and development in the EU, and has not encouraged commercial investment and new business opportunities. We are particularly concerned about the threat to essential soya imports from the slow operation of the EU decision making process combined with the zero tolerance policy for unauthorised GM material. The Commission's efforts late last year to expedite decisions on several

import approvals, and the recent announcements on the three import approvals were encouraging, but further improvements in the system are required if we are to avoid feed and food supply problems. In particular, we urge the Commission to come forward quickly with its proposed technical solution to the issue of adventitious presence of non-EU approved GMOs in grain shipments.

There are differing views on the issue of GM crop cultivation within the UK. The Scottish Government is opposed to the cultivation of GM crops in Scotland, and the policy of the Welsh Assembly Government is to take the most restrictive stance possible within the law. Both administrations feel that GM cultivation is inconsistent with, and a threat to, the structure and needs of their agriculture and food production sectors, and that GM crops and foods are not wanted by the majority of their consumers. The devolved authority in Northern Ireland is broadly in agreement with the policy of the central UK Government on this issue.

The UK has no experience on commercial cultivation of GM crops and is therefore not able to provide first-hand evidence of associated socio-economic impacts. Stakeholders have been consulted on possible socio-economic impacts that could be expected with any future commercial GM cultivation and also on proposals to allow Member States to make their own decisions on cultivation, possibly involving the use of socio-economic considerations in the decision-making process.

View on proposals for national decision-making

We recognise the recent progress that has been made on GMO approvals, and welcome the Commission's statement of its intention to proceed with other GMO applications in the pipeline. There have clearly been difficulties with the operation of the EU regime for reaching decisions on the commercial cultivation of GM crops. Until this year, no new authorisations for cultivation had been approved since 1998, with a consistent failure in official Committee or at Council to achieve a qualified majority for either approval or rejection of cultivation applications, even though the robust risk assessments have been positive. Several applications have been in the EU pipeline for over 10 years, notwithstanding that votes on them have been inconclusive. In this context, we therefore welcome the recent initiative displayed by the Dutch Government to explore alternative options that may improve the efficiency of the decision making process. The proposals have generated much interest, and it is clear that there is a desire to improve the current EU processes if at all possible.

The idea of allowing national decision-making on GM cultivation and a more explicit consideration of socio-economic factors has potential attractions. It could conceivably offer the advantages of improving the decision making process and potentially steering innovation into beneficial areas. However, there are risks in moving away from a purely safety-based approach to authorisations. The current proposals as presented are unlikely to provide a swift or easy solution to the current difficulties with the EU authorisation process. Considerable work needs to be done to ascertain the nature of any models for EU or Member State level decision making, and the timeframes and cost impacts of any new processes. An assessment of the international, EU and national legal issues is a priority, and we understand that the Commission is currently looking at this. Any potential solutions would need to be

achievable within a reasonable timeframe and not have the unintended consequence of creating new barriers to timely EU decisions. As any opening up of the legislation would be a complex and lengthy process which could cause considerable delays to the decision making process, the Commission should, in the short term, continue to look at improvements to the process which can be implemented under the scope of the existing legislation.

We look forward to the Commission's proposal on national decision making, due in the summer, with interest, but in the meantime the Commission should continue to advance cultivation applications through the regulatory pipeline.

Further possible risks and benefits which should be included in the consideration of a system for deciding GM cultivation at national level are listed below. The extent to which these benefits and risks may be realized is of course dependent on the system employed and this should be borne in mind when considering any solutions.

Potential benefits of national level decision making:

- Possible improved efficiency of the decision making process
- It could help enable the steering of innovation into useful areas concerned with sustainable agriculture and consumer benefits as such wider considerations could potentially be taken into account in GM cultivation decisions
- Potentially more local input and engagement with decision making, in line with the subsidiarity principle.
- Possible greater alignment of GM cultivation decisions with diverse public opinions, policies and agricultural systems across the EU. Different regions could more readily pursue distinct courses in terms of the agricultural systems they employ, the products they produce and how they are marketed. This would enable consideration of associated issues such as tourism and the need to maintain economically viable populations in more remote rural areas
- Regional branding and marketing could be reflected in GM cultivation policies. For example, where regions cannot compete on volume or price, their stronger emphasis on quality and tradition with regional or local branding are important in marketing products.

Potential risks of national level decision making:

- It not necessarily resulting in more efficient decision making, but simply increasing the complexity of the system, providing new barriers to timely GMO authorisation of products with a favourable science-based safety-opinion.
- Changes not resulting in workable solutions due to the associated administrative and legal requirements
- Significant legal and trade risks including possible WTO non-compliance
- Adverse effect on EU single market and intra-EU competition
- Further delays in the decision-making process negatively impacting on public and private research in the EU
- Difficulty in agreeing nationwide or EU wide set of criteria to inform decisions

As there is not yet a firm proposal for enabling national level decision making we are unable to give a fuller view at this stage. We look forward to engaging closely with the Commission and other Member States as proposals on national decision making are discussed and developed over the coming months.

Consideration of Socio-economic factors

It has been suggested that socio-economic factors could be used to inform national level decision-making. However, determining and agreeing a single or multiple set of socio-economic criteria for collective EU-wide consideration that avoid overly subjective and inconsistent treatment would be a difficult process. A broad range of such factors could conceivably be considered if such a course were pursued, or also considered generally when assessing the impacts of approved GM products. These could range from readily measurable impacts on consumers and the food supply chain that the Commission is seeking evidence of, to broader issues such as sustainability, impact on rural economies, environment-based industries and tourism. Where there are real economic impacts on consumers and producers it should be possible to undertake more robust analysis of the drivers and principles behind their purchasing choices.

If the socio-economic impacts of cultivating GM crops were to be more fully considered, either in reviews of impacts generally or as part of formal decision-making, it is also important to consider the socio-economic impacts of not adopting the technology.

The EU has not adopted GM crops as quickly or extensively as other parts of the world. This has potentially deterred research and innovation in the UK, limiting private sector involvement and employment opportunities in the crop biotechnology research base.

Between 1996 and 2006 employment in the UK industrial crop biotechnology sector fell significantly (by 570 full time job equivalents[1]), with most companies now having ownership from outside the UK and most of the crop biotechnology research transferred to other countries. For example, up to 2003 there were a large number of GM crop trials in the UK, but since then there have only been three (compared to 4785 trial applications in the USA from 2005-2009).

If the socio-political, regulatory and market environment towards undertaking research into and the commercialisation of GM crops had been more supportive, the impact of public sector molecular research into gene identification in model plants would probably have resulted in applications of the research into transformed crops applicable to the UK being available commercially at an earlier date. A more positive environment would also probably have resulted in public sector researchers having felt more encouraged or inclined to apply for research funding of new projects in crop biotechnology rather than related but more fundamental fields. Hence, this could

[1] Figures based on changes in the numbers employed

have resulted in a real increase in expenditure and employment in crop biotechnology research relative to the declines identified.

An upper case estimate is that the income foregone to the UK economy as a result of 'lost' employment in GM research (salaries associated with private sector jobs) might have been up to £213 million (in 2006 prices) between 1996 and 2006. But if the employment levels associated with scientists undertaking plant and crop biotechnology research in the UK had followed trends in the US over the same period (+80% over the period 1994 to 2004), there could have been nearly 900 additional science jobs created, with an annual additional income (salaries) generation of +£57 to +£77 million.

Furthermore, the impact of the slow EU regulatory regime for the cultivation of GMOs on the development of potentially beneficial new technologies may also have a bearing on accessibility of such technologies in the developing world. Developing countries could have been deterred from adopting GM crops by the slow operation of the EU authorisation regime for the import of GMOs, because it might prejudice their access to the EU market with non-GM commodities.

Section II – Consultation with UK stakeholders

To provide input on stakeholder views we have undertaken two forms of consultation.

Firstly, we sponsored the Chatham House institute to facilitate an informal workshop discussion, to consider possible national decision-making on GM cultivation and the idea of taking socio-economic factors into account when reaching authorisation decisions. This involved a small group of key UK stakeholders and representatives from the Netherlands, Austria and the Commission. The report of this event is included as a separate document at Annex C. It provides an overview of the range of issues and concerns that will need to be considered further as discussion in this area progresses.

Secondly, we wrote to a wide range of UK stakeholder groups to get their views. As the UK has not experienced commercial cultivation of GM crops we are not able to provide evidence of actual socio-economic impacts here. We have however asked UK stakeholders for their opinion on the possibility of including socio-economic factors in the decision making process, the sorts of impacts it may be desirable to assess, and what sorts of impacts associated with GM crops may be expected (five specific questions were put in our consultation letter). In the event 12 organisations replied to the written consultation, so this should be regarded as providing a selective 'snapshot' of current stakeholder opinion, rather than a comprehensive survey. A summary of the stakeholder responses is at Annex A. In general, the views given are diverse and polarised, according to whether the organisation in question believes in the potentially beneficial use of GM crops, or conversely believes them for the most part to be potentially harmful or a threat.

In relation to the evidence available on the socio-economic impact of GM cultivation in other countries, the view of the UK Government is that this is of variable quality and usefulness in considering the likely effects should GM crops be grown in future by UK farmers. The range of material is not based on uniform assumptions or a consistent methodological approach, and it may be based on data covering different time periods, all of which makes it difficult to draw reliable conclusions.

Annex A

Summary of UK stakeholder opinion

The following organisations responded to the written consultation seeking views and evidence on socio-economic implications:

Bee Farmers' Association
The British Beekeepers' Association
Food and Drink Federation
GM Free Cymru
National Association of Agricultural Contractors
National Farmers Union
National Farmers Union Scotland
Northern Ireland Grain Trade Association
Organic Centre Wales
SCIMAC (Supply Chain Initiative on Modified Agricultural Crops)
Scottish Beekeepers' Association
Scottish Natural Heritage

Responses to specific consultation questions

Question 1 *- What is your general view of the idea of taking account of socio-economic factors in decisions on commercial GM cultivation – e.g. what opportunities or challenges do you see?*

Views were polarised on this issue. The responding organisations who believe that the use of GM crops could be beneficial and not necessarily a problem were against or very concerned about taking socio-economic factors into account. These respondents included industry, trade and conventional farming representatives. The reasons they gave for their views were that it would: be disproportionate and inconsistent relative to the treatment of other technologies; breach international trade obligations and free market principles; be difficult and costly to undertake socio-economic assessments, which inevitably would be subjective and open to different interpretations; fail to meet the EU Treaty requirement for legal certainty; create an extra barrier and cause further delays; and that it would undermine the EU single market and effect competition between EU farmers. In general, these organisations believe that it would be inappropriate to extend the regulatory regime beyond safety considerations, and that the normal operation of the market should be left to deal with issues of cost/benefit.

Other organisations, including NGOs and beekeeping representatives, who mainly viewed GM crops as a potential threat or problem, were in favour of taking socio-economic factors into account. They cited the need to address issues such as public acceptability and the impact of GM cultivation on control or centralisation of the seed and agricultural sector; non-GM (conventional & organic) producers, processors and their markets; honey sales and consequent effects on beekeepers; grain handlers and other support industries; the use of farm-saved seed; and on farm structures (especially smaller, family-run farms).

Question 2 *- If you believe it is a good idea, what specific socio-economic factors or criteria do you think should be taken into account? How should these criteria be defined, assessed and judged (e.g. who would undertake the assessment, and what might the evidence requirements be)?*

The organisations who do not support taking socio-economic factors into account did not provide specific comments on this question.

Other organisations cited a wide range of factors or issues for consideration. These include the impact of GM cultivation on: consumers, non-GM farmers, beekeepers, plant breeders, seed producers and processors, grain handlers, food and drink manufacturers, the feed industry, the insurance sector, legal firms, use of farm-saved seed, research centres, support industries, farm structures, the rural economy and landscape, agrochemical use, the public's willingness to buy potentially contaminated honey, and on the control of or degree of centralisation in the agriculture and seed sector.

One organisation proposed that the following social factors should be assessed, suggesting that economic and social criteria should be defined separately as they will require different methods of analysis: personal well-being and happiness, cultural identity, physical health, the level of political trust and civic engagement, community division, and wide boundary analysis of the sustainability of the GM crop farming system.

Only one organisation commented on how socio-economic impacts might be assessed. It suggested that the 'Green Book' approach set out by the UK Government Treasury department for analysing the economic effects of policies might provide a suitable model[2]. It further noted that GM crops should be evaluated against alternative options, that a range of probability and cost values should be used in sensitivity analysis, that cost and benefit values might be weighted, and that it would be essential to undertake a welfare analysis of who accrues the costs and benefits. Comments from other organisations were that the burden of proof and cost of the socio-economic analysis should be borne by the GM proponent, and that the assessment should be undertaken by Government or an independent body.

Question 3 *- Are there specific socio-economic criteria that you think should <u>not</u> be taken into account – please explain why?*

Only one stakeholder made a specific comment on this question. It believes that an assessment of socio-economic impacts should be undertaken on a national basis,

[2] UK Government overall methodology for economic assessment of spending and investment, http://www.hm-treasury.gov.uk/d/green_book_complete.pdf

and in this context that evidence of impacts outside the UK should not be taken into account, as the assessment should be country-specific.

Question 4 *- Are you of aware of evidence of the socio-economic impact in other countries of current GM herbicide-tolerant crops, that you think might be indicative of likely UK impacts should such crops be grown here in the future (please specify)? (please also include copies of, or links to, any relevant published report/studies)*

Respondents cited the reports or studies listed at Annex B as relevant evidence in this context.

Question 5 *- What do you think are the potential socio-economic impacts in the UK of possible future types of GM crop (where relevant, please specify by crop type)? (please also include copies of, or links to any relevant published report/studies)*

There were a limited but diverse range of comments on this question:

- expect EU would see same benefits as elsewhere, and GM cultivation would protect EU farm industry from import competition
- main impact may be problems due to consumers' misunderstanding of GM safety and sustainability
- don't see any positive impacts – GM will cause a range of problems
- it will raise concerns in relation to honey contamination
- impacts are likely to vary significantly by crop type, and not aware of any reports examining UK-applicable crops

Annex B

Reports and studies cited by UK stakeholders as evidence of socio-economic impact in other countries of current GM crops that might be indicative of future UK impacts

- 2005 paper in Pest Management Science Journal - risks associated with GM and HT crops
- The existing and potential impact of using GM insect resistance maize in the EU, PG Economics, Graham Brookes, June 2009
- Focus on income, well-being and food security, Biotech crops: evidence, outcomes and impacts 1996-2007, PG Economics, October 2009
- Global impacts of biotech crops: socio-economic and environmental effects 1996-2007, Graham Brookes and Peter Barfoot
- Adoption and performance of the first GM crop introduce in EU agriculture: Bt maize in Spain, Gomes-Barbero, Berbel, Rodrigues-Cerezo, JRC Scientific and Technical Reports, 2008
- China, Biotechnology Annual, USDA Foreign Agriculture Service, GAIN Report Number CH8063, 2008
- Czech Republic, Biotechnology-Moving ahead, slowly but surely, USDA Foreign Agriculture Service, GAIN Report number EZ8007, 2008
- The First Decade of Genetically Engineered Crops in the United States, Economic Research Services/USDA
- Sustainability of US Soybean Production, Council for Agricultural science and Technology, June 2009
- Benbrook C M (2004) Genetically Engineered Crops and Pesticide Use in the United States: The first Nine Years. Biotech InfoNet. Technical Paper Number 7 October 2004 http://organic.insighted.net/reportfiles/Full_first_nine.pdf
- Percy Schmeiser/Monsanto - http://scc.lexum.unmontreal.ca/en/2004scc34/2004scc34.html
- World Agriculture: towards 2015/2030
- The IAASTD (International Assessment of Agricultural Knowledge, Science and Technology for Development 2008Studies by National Centre for Food and Agriculture Policy (NCFAP) http://www.nfcap.org/
- USDA report on its own analysis of the economic performance of GM crops http://www.ers.usda.gov/publications/aer810/
- Study by Michael Duffy at Iowa State University - on farm financial performance of GM crops - http://www.leopold.iastate.edu/pubs/nwl/2001/2001-4-leoletter/gmo.htm
- Research by the Argentinian academic research council on GM soya http://www.conicet.gov.ar/
- A study by Schmitz et al - The economic impact of StarLink corn http://www3.interscience.wiley.co/journal/110553281/abstract
- Organic Centre USE - GM seed prices http://www.organic-center.org/science.latest.php?action=view&report_id=160
- The Royal Institute of Chartered Surveyors recommendation on setting up a GM land register -

http://www.rics.org/site/scripts/documents_info.aspx?categoryID=413&documentID=52

- Binimelis, R. (2008). Coexistence of plants and coexistence of farmers: is an individual choice possible? Journal of Agricultural and Environmental Ethics, 21: 437-45