EPTA
European Parliamentary Technology Assessment

10/10/2007

JOINT EPTA PROJECT
"GENETICALLY MODIFIED PLANTS AND FOODS"

QUESTIONNAIRE

– FINAL VERSION –

INTRODUCTION

Although GM crops and food can be considered an established technology and regulation is in place in many parts of the world, the issue still gives rise to controversy.

Different countries have taken different approaches to regulating GM crops and foods. In the USA, product regulation does not imply any mandatory requirement to tell consumers if a product contains GM material. In contrast, it is a central tenet of the EU approach that consumers should be made aware that a product contains, or has been produced using, GM material. This has required the EU to introduce regulations on labelling and traceability so that GM and non-GM products can be segregated through the entire production and marketing chain.

The difference in regulatory philosophy across continents has already created some tension in international trade relations. In 2003 the WTO was asked to rule on the legality of the EU's failure to process marketing applications for new GM agricultural products between 1998 and 2001.

In addition to the possibility of similar challenges in the future, a range of other factors might bring pressure to bear on the current EU regulatory approach to GM foods and crops. These include inconsistencies among EU Member States on the way that they have implemented EU regulations or have dealt with the issue of co-existence.

So far, the EU regulatory framework has not entailed that all aspects of the regulation of GMOs are dealt with uniformly throughout the EU. Member States have been left to

devise and implement their own regulations concerning the co-existence of GM and non-GM crops and approaches vary considerably across the EU.

Another key factor may be technological developments particularly if these introduce new traits with perceived benefits to consumers or if they render the traditional distinction between GM and non-GM products less clear-cut. Such factors could influence public attitudes towards GM foods and crops within the EU in an unforeseeable way.

Whatever happens, the future development of the debate on how best to regulate GM crops and foods in the EU is undetermined and the current regulatory system may face new challenges.

I. FACTORS INFLUENCING THE FUTURE OF GM PLANTS IN EUROPE

I.1 GENERAL ASSESSMENT

Question 1:

a) Many factors will influence the future of GM plants and food in Europe. Below is a list of frequently cited major factors. Please indicate for each factor whether you think it will encourage or discourage the demand for GM plants and foods.

Please feel free to add other important factors not listed.

major factors	Encour-age demand	Discour-age demand	Neither	Don't know
World food demand				
Attitudes to health				
Attitudes to the environment				
Use of bio-energy and biomass				
Global trade of food products				
Structures and power relations in the food chain (for instance increasing retailer power)				
Differentiation of food products (consider developments such as food label-ling and use of processed foods)				
International trade regulation				
Increased use of for pharmaceuticals				
Pest pressure				
Trend towards more efficient agricultural production methods				
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b) Overall, would you think that the demand to introduce new GM plants in the

European agriculture will increase or decrease?
(Please select one possibility)

Increase	
Decrease	
No net effect	
Don't know	

Question 2:

Do you think that the "first generation" of GM plants (as insect resistant (IR), herbicide resistant (HR) and virus resistant (VR) plants) will be grown in Europe to a noticeable extent (say more than 5 % of the available agricultural crop land) in the next 15 years?

Time scale of introduction	in Europe	in your country
Within the next 5 years		
Within 6 – 10 years		
Within 11 - 15 years		
Not within the next 15 years		
Don't know		

I.2 NEW GM PLANTS, NEW APPLICATIONS

Question 3:

a) Currently there are several classes of new GM plants in development. Please check if you believe the following statements are valid for the different classes of crops.

Please feel free to add other classes of new gm plants not listed.

Statement: "Such crops will become available within the coming 10 years."	Valid	Not valid	Don't know
GM plants with new agricultural input traits (e.g. reduced need for fertilizer, water)			
GM plants with consumer benefits (e.g. improved nutritional value, taste, less allergens)			
GM plants for bioenergy (e.g. higher biomass yield, new plants)			
GM plants for plant made industrials (e.g. starch, fibre, plastics)			
GM trees designed for industrial/energy purposes			
GM plants for plant made pharmaceuticals (e.g. haemo-proteins, vaccines)			
GM plants for phytoremediation (e.g. plants for extracting toxics from the soil)			
New GM flowers etc. (e.g. new flower colours, grasses for lawns and golf courses)			
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Statement: "Such crops will be authorised for cultivation in Europe."	Valid	Not valid	Don't know
GM plants with new agricultural input traits (e.g. reduced need for fertilizer, water)			
GM plants with consumer benefits (e.g. improved nutritional value, taste, less allergens)			
GM plants for bioenergy (e.g. higher biomass yield, new plants)			
GM plants for plant made industrials (e.g. starch, fibre, plastics)			
GM trees designed for industrial/energy purposes			
GM plants for plant made pharmaceuticals (e.g. haemo-proteins, vaccines)			
GM plants for phytoremediation (e.g. plants for extracting toxics from the soil)			
New GM flowers etc. (e.g. new flower colours, grasses for lawns and golf courses)			
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Statement: "Such crops will find significant demand from farmers."	Valid	Not valid	Don't know
GM plants with new agricultural input traits (e.g. reduced need for fertilizer, water)			
GM plants with consumer benefits (e.g. improved nutritional value, taste, less allergens)			
GM plants for bioenergy (e.g. higher biomass yield, new plants)			
GM plants for plant made industrials (e.g. starch, fibre, plastics)			
GM trees designed for industrial/energy purposes			
GM plants for plant made pharmaceuticals (e.g. haemo-proteins, vaccines)			
GM plants for phytoremediation (e.g. plants for extracting toxics from the soil)			
New GM flowers etc. (e.g. new flower colours, grasses for lawns and golf courses)			
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Statement: "Products from such crops will find acceptance with consumers."	Valid	Not valid	Don't know
GM plants with new agricultural input traits (e.g. reduced need for fertilizer, water)			
GM plants with consumer benefits (e.g. improved nutritional value, taste, less allergens)			
GM plants for bioenergy (e.g. higher biomass yield, new plants)			
GM plants for plant made industrials (e.g. starch, fibre, plastics)			
GM trees designed for industrial/energy purposes			
GM plants for plant made pharmaceuticals (e.g. haemo-proteins, vaccines)			
GM plants for phytoremediation (e.g. plants for extracting toxics from the soil)			
New GM flowers etc. (e.g. new flower colours, grasses for lawns and golf courses)			
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Please feel free to give explanations or comments concerning your answers to these questions.

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Question 4:

a) In future, technical developments such as "cisgenic" GM technology may become more important. While traditional "transgenic" plants result from gene transfers which use recombined DNA from other species, "cisgenic" plants result from gene transfers which use only recombined DNA from the same species. Please indicate if you agree or disagree with the following statements.

Statement	Agree	Disagree	Don't know
"Cisgenic" GM technology will gain high importance in the future.			
Such technologies will lead to blurring the boundaries between GM and non-GM plants in the future.			
Products derived from such technologies will be regarded as "less hazardous" by the public.			
"Cisgenic" GM technology will undermine the demand for transgenic GM technology.			
In the light of these developments, existing regulation will have to be adapted.			

b) “Smart breeding” is another new technical development. "Smart breeding" derives from traditional methods of plant breeding but includes tools on the basis of modern recombinant DNA technology such as molecular markers. Please indicate if you agree or disagree with the following statements.

Statement	Agree	Disagree	Don’t know
“Smart breeding” will gain high importance in the future.			
"Smart breeding" will have a good public image.			
"Smart breeding" will overcome the demand for currently regulated GM technologies.			
"Smart breeding" will overcome the current need to regulate GM technologies.			

Please feel free to give explanations or comments concerning your answer on these questions.

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I.3 Public Attitude and Acceptance

Question 5:

Currently the consumer acceptance of gm plants and food varies across Europe. Many factors have been associated with public acceptance. Please rank the factors in the list below in their importance for consumer acceptance over the next 10 to 15 years.

Please feel free to add other factors not listed.

Factors	Not important	Little important	Important	Very important	Don't know
Risk issues related to environment					
Environmental upsides (e.g. reduced need for fertilizer, pesticides or tillage)					
Risk issues related to health					
Price benefits for consumers					
Consumer benefits related to food quality and health					
functioning risk management					
Perspectives on global food security					
Quality of information to citizens					
Getting accustomed to GM products					
Opportunity for public participation in decision making					
Efficient and transparent labelling and free consumer choice					
Global distribution of risks and benefits					
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Question 6:

Will public attitudes to GM crops and food change in the next 10 to 15 years?

Issues	More negative	No change	More positive
Acceptance of GM technology in general			
Acceptance of new GM food products			
Acceptance of new GM non-food products			

Please feel free to give explanations or comments concerning your answer on this question.

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II. CHALLENGES FOR EUROPEAN POLICY

II.1 CHALLENGES LINKED TO FREEDOM OF CHOICE, LABELLING AND CO-EXISTENCE

Question 7:

Co-existence measures are a central part of risk management under GM-cultivation. Co-existence is also a central prerequisite for freedom of choice. Co-existence may be a challenge, depending on type of crop and location. Do you think that co-existence will work for the "first generation" of gm plants (e.g. insect resistant, herbicide resistant and virus resistant (VR) plants) in the next 15 years?
(Please tick one possibility)

Yes, for the cultivation of GM plants on a large scale for almost every crop	
Yes, for the cultivation of GM plants on a large scale for some specific crops	
Yes, but only for the cultivation of GM plants on a small scale for almost every crop	
Yes, but only for the cultivation of GM plants on a small scale for some specific crops	
No, not at all	
Don't know	

Please feel free to give explanations or comments concerning your answer on this question.

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Question 8:

a) For the cultivation of GM crops some experts have discussed whether there could be relevant environmental or economic risks (e.g. to farmers not applying gm crops) that would not be contained by current risk assessment and co-existence schemes. Please tick the statement that comes closest to your opinion.

Relevant risks do not exist at all	
Relevant risks exist for a few particular GM crops	
Relevant risks exist for all GM crops	
Don't know	

If you think that relevant risks do not exist at all, or if you don't know, proceed to Question 9.

b) If you think that relevant risks might exist, please tick those statements that come closest to your opinion (multiple answers possible).

In general, risks are negligible	
Environmental risks are balanced by benefits to society and acceptable	
Economic risks to other farmers can be negotiated between parties involved	
Such risks are unacceptable and need regulatory intervention	
Don't know	

c) Do you think that current regulatory provisions are sufficient to deal with such risks, today or for the foreseeable future?

Yes, in the current situation and in the foreseeable future	
Yes in the current situation, but not in the foreseeable future	
No, not at all	
Don't know	

d) If you ticked "No, not at all" or "not in the foreseeable future", how do you think these risks should be addressed? Please indicate the measure you consider most appropriate to address such risks (multiple answers possible).

New criteria for risk assessment	
More stringent litigation schemes	
Stronger liability of gm producer and user	
New regulation	
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Don't know	

Question 9:

Co-existence and labelling of GM food are closely connected. There are different opinions over how well the current EU regulations would cope with the extended use and growing of gm plants in Europe. Please indicate which scenario in your opinion is most likely.
(Please tick one scenario)

Scenario	
Successful coexistence: The labelling of GM food is generally correct (including occasional mishap), non GM food is also available.	
Misapplication of labelling: All food is labelled as "may contain GM", also non GM food.	
Failure of labelling regime: GM food is on the market, but not labelled correctly.	
Failure of coexistence: More or less all food is GM or contains GM components, and is labelled as GM food.	
Blockade of GM food: Very little GM food on the market so that labelling is of little relevance.	
Don't know	

Please feel free to give explanations or comments concerning your answer on this question.

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II.2 CHALLENGES LINKED TO NEW GENERATION GM CROPS

Question 10:

a) Newly developed GM plants for the non-food sector (e.g. gm plants for plant made pharmaceuticals, for industrial raw materials, and for bio-energy) are sometimes said to have new properties compared to gm plants for food and therefore pose new regulatory challenges. Do you or don't you agree with the following statement?

	Yes	No	Don't know
New GM plants for the non-food sector will pose new regulatory challenges			

If you ticked "No" or "Don't know", proceed to question 11.

b) If you ticked "Yes", please assess which regulatory challenges non-food GM plants will raise in the next 10-15 years, and whether this will be very likely, likely, unlikely or highly unlikely.

Please feel free to add other regulatory challenges not listed.

Type of regulatory challenge	Very likely	Likely	Unlikely	Highly unlikely	Don't know
New parameters for risk assessment and manage-ment					
Confinement / containment measures					
Regulation of coexistence					
Labelling					
Liability					
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Please feel free to give explanations or comments concerning your answer on this question.

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Question 11:

So far, the assessment procedures for GM plants and food only takes into account potential risks. Some actors have advocated that also potential benefits should be taken into consideration as applied in areas such as pharmaceuticals.
Below is a list of potential benefits that could be included in such considerations. Please assess how likely it is that in future different benefits will be considered for GM approvals.

Please feel free to add other groups not listed.

Aspect	Very likely	Likely	Unlikely	Highly unlikely	Don't know
Environmental benefit					
Economic return					
Food safety					
Food quality					
Nutritional benefit					
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Please feel free to give explanations or comments concerning your answer on this question.

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Question 12:

In order to assess risks and benefits of GM cultivation, it must be compared to established practices in agriculture. In Europe, these practices vary according to climate or soil, but also to the tasks assigned to agriculture. For example, and apart from efficiently producing crops or providing jobs, agriculture should also protect the traditional landscape and the natural environment, among others. Thus, agriculture must pursue different aims, against which the performance of GM cultivation will be measured. Please rank the aims in the list below in their importance over the next 10 to 15 years.

Aims in agriculture	Not important	Little important	Important	Very important	Don't know
Achieving high yields in crop production					
Reducing inputs in crop production					
Efficient crop production under difficult agricultural conditions (erosion, pest pressure etc.)					
Staying competitive in times of market liberalisation and reduced subsidies					
Crop production with least possible environmental impact					
Producing high quality food in great variety					
Providing jobs for the rural population					
Protecting the traditional cultivated landscape					
Promoting organic farming					

II.3 GLOBAL ASPECTS OF GM REGULATION

Question 13:

a) It is probable that more types of GM crops will be released both in export countries and in Europe. The current EU regulation, based on the precautionary principle and case-by-case risk assessment and authorisation, might be challenged by the US and other countries also in the future. Please give your judgement on how robust the EU regulatory system will turn out to be to challenges for example at the WTO in the next 10 to 15 years.
(Please tick one possibility)

Robustness of the current EU regulatory system	
The general principles and approaches of the EU regulation and the varying implementation of the EU Member States can withstand challenges through the WTO.	
The general principles and approaches of the EU regulation can be maintained. However, the most restrictive practices of individual EU Member States will have to be changed.	
The general principles and approaches of the EU regulation can be maintained, but a more substantial harmonisation among the EU Member States will be necessary.	
The EU regulatory system can not be maintained due to challenges through the WTO.	
Don't know	

b) The EU legalisation has been a model for regulations in some other countries. Will the EU regulation continue to be influential in the future?
(Please tick one possibility)

Yes	
No	
Don't know	

Please feel free to give explanations or comments concerning your answer on this question.

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III. CHALLENGES FOR RESEARCH POLICY

Question 14:

In view of new developments in the research on GM plants, what will be the objectives of publicly-funded research in your country in the coming years?

Please feel free to add other objectives not listed.

Objectives of R&D	Very likely	Likely	Unlikely	Highly unlikely	Don't know
Risk assessment and management					
Development of products/solutions responding to agronomic problems not covered by private research					
Development of innovative products with the intent to improve economic competitiveness					
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IV. AREAS OF ACTION

Question 15:

In order to meet challenges that have been explored in this questionnaire, it could be necessary for government institutions to take further action. Please prioritise the areas below in which you consider action needs to be taken.

Please feel free to add areas of action not listed.

Area of action	Very low priority	Low priority	High priority	Very high priority	Don't know
Research funding					
Better implementation of existing regulation					
Amendment of existing regulation					
Adaptation to international ruling (e.g. WTO)					
Reform of competent authorities/institutions					
Subsidiarity / change in the level of decision making					
Expert involvement in decision making					
Stakeholder involvement in decision making					
Public involvement in decision making					
None, let the system work as it is					
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Question 16:

In order to further explore new challenges, within which areas do you consider further investigations (for example technology assessment projects) to be most relevant.
(Please give key words)

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