ANNEX 5: TABLES OF RESULTS

FIGURE 1: INFLUENCING FACTORS FOR THE FUTURE OF GM PLANTS AND FOOD IN EUROPE (*Question 1A; n = 71)*

Question: 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.

	Encourage demand	Discourage demand	Neither	Don't know	Total	
	%	%	%	%	%	n
World food demand	50.7%	8.5%	33.8%	7.0%	100.0%	71
Attitudes to health	31.0%	43.7%	15.5%	9.9%	100.0%	71
Attitudes to the environment	28.2%	54.9%	12.7%	4.2%	100.0%	71
Use of bio-energy and biomass	74.6%	1.4%	19.7%	4.2%	100.0%	71
Global trade of food products	50.7%	8.5%	29.6%	11.3%	100.0%	71
Structures and power relations in the food chain (for instance increasing retailer power)	9.9%	49.3%	23.9%	16.9%	100.0%	71
Differentiation of food products (consider developments such as food labelling and use of processed foods)	22.5%	33.8%	31.0%	12.7%	100.0%	71
International trade regulation	52.1%	8.5%	25.4%	14.1%	100.0%	71
Increased use of for pharmaceuticals	52.1%	5.6%	31.0%	11.3%	100.0%	71
Pest pressure	53.5%	11.3%	28.2%	7.0%	100.0%	71
Trend towards more efficient agricultural production methods	66.2%	8.5%	19.7%	5.6%	100.0%	71

FIGURE 2: FUTURE DEMAND FOR NEW GM PLANTS IN EUROPEAN AGRICULTURE (*Question 1B; n = 71)*

Question: Overall, would you think that the demand to introduce new GM plants in the European agriculture will increase or decrease?

ABB. 2

	Column %	Count
Increase	62.0%	44
Decrease	14.1%	10
No net effect	18.3%	13
Don't know	5.6%	4
Total	100.0%	71

FIGURE 3: FUTURE CULTIVATION OF FIRST GENERATION GM PLANTS IN EUROPE

(*Question 2; n = 71)*

Question: 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)?

	Within the next 5 years	Within 6 – 10 years	Within 11 - 15 years	Not within the next 15 years	Don't know	Total	
	%	%	%	%	%	%	n
in Europe	21.1%	35.2%	15.5%	19.7%	8.5%	100.0%	71
in your country	1.4%	23.9%	21.1%	40.8%	12.7%	100.0%	71

FIGURE 4: AVAILABILITY OF NOVEL GM PLANTS

(*Question 3A; n = 71)*

Question: Currently there are several classes of new GM plants in development. Please check if you believe the statement: "Such crops will become available within the coming 10 years."

	Valid	Not valid	Don't know	Total	
	%	%	%	%	n
GM plants with new agricultural input traits (e.g. reduced need for fertiliser, water)	54,9%	22,5%	22,5%	100,0%	71
GM plants with consumer benefits (e.g. improved nutritional value, taste, less allergens)	50,7%	32,4%	16,9%	100,0%	71
GM plants for bioenergy (e.g. higher biomass yield, new plants)	60,6%	15,5%	23,9%	100,0%	71
GM plants for plant made industrials (e.g. starch, fibre, plastics)	78,9%	4,2%	16,9%	100,0%	71
GM trees designed for industrial/energy purposes	25,4%	46,5%	28,2%	100,0%	71
GM plants for plant made pharmaceuticals (e.g. haemo-proteins, vaccines)	64,8%	14,1%	21,1%	100,0%	71
GM plants for phytoremediation (e.g. plants for extracting toxins from the soil)	23,9%	39,4%	36,6%	100,0%	71
New GM flowers etc. (e.g. new flower colours, grasses for lawns and golf courses)	60,6%	14,1%	25,4%	100,0%	71

FIGURE 5: AUTHORISATION OF NOVEL GM PLANTS (*Question 3B; n = 71)*

Question: Currently there are several classes of new GM plants in development. Please check if you believe the statement: "Such crops will be authorised for cultivation in Europe."

	Valid	Not valid	Don't know	Total	
	%	%	%	%	n
GM plants with new agricultural input traits (e.g. reduced need for fertiliser, water)	57,7%	22,5%	19,7%	100,0%	71
GM plants with consumer benefits (e.g. improved nutritional value, taste, less allergens)	53,5%	26,8%	19,7%	100,0%	71
GM plants for bioenergy (e.g. higher biomass yield, new plants)	62,0%	18,3%	19,7%	100,0%	71
GM plants for plant made industrials (e.g. starch, fibre, plastics)	70,4%	14,1%	15,5%	100,0%	71
GM trees designed for industrial/energy purposes	32,4%	38,0%	29,6%	100,0%	71
GM plants for plant made pharmaceuticals (e.g. haemo-proteins, vaccines)	43,7%	29,6%	26,8%	100,0%	71
GM plants for phytoremediation (e.g. plants for extracting toxins from the soil)	32,4%	31,0%	36,6%	100,0%	71
New GM flowers etc. (e.g. new flower colours, grasses for lawns and golf courses)	50,7%	16,9%	32,4%	100,0%	71

FIGURE 6: DEMAND FROM FARMERS FOR NOVEL GM PLANTS (*Question 3C; n = 71)*

Question: Currently there are several classes of new GM plants in development. Please check if you believe the statement: "Such crops will find significant demand from farmers."

	Valid	Not valid	Don't know	Total	
	%	%	%	%	n
GM plants with new agricultural input traits (e.g. reduced need for fertiliser, water)	66,2%	19,7%	14,1%	100,0%	71
GM plants with consumer benefits (e.g. improved nutritional value, taste, less allergens)	39,4%	36,6%	23,9%	100,0%	71
GM plants for bioenergy (e.g. higher biomass yield, new plants)	64,8%	16,9%	18,3%	100,0%	71
GM plants for plant made industrials (e.g. starch, fibre, plastics)	57,7%	23,9%	18,3%	100,0%	71
GM trees designed for industrial/energy purposes	26,8%	43,7%	29,6%	100,0%	71
GM plants for plant made pharmaceuti-cals (e.g. haemo-proteins, vaccines)	22,5%	45,1%	32,4%	100,0%	71
GM plants for phytoremediation (e.g. plants for extracting toxins from the soil)	16,9%	53,5%	29,6%	100,0%	71
New GM flowers etc. (e.g. new flower colours, grasses for lawns and golf courses)	32,4%	38,0%	29,6%	100,0%	71

FIGURE 7: ACCEPTANCE WITH CONSUMERS OF NOVEL GM PLANTS (*Question 3D; n = 71)*

Question: Currently there are several classes of new GM plants in development. Please check if you believe the statement: "Products from such crops will find acceptance with consumers."

	Valid	Not valid	Don't know	Total	
	%	%	%	%	n
GM plants with new agricultural input traits (e.g. reduced need for fertiliser, water)	31,0%	43,7%	25,4%	100,0%	71
GM plants with consumer benefits (e.g. improved nutritional value, taste, less allergens)	56,3%	29,6%	14,1%	100,0%	71
GM plants for bioenergy (e.g. higher biomass yield, new plants)	50,7%	29,6%	19,7%	100,0%	71
GM plants for plant made industrials (e.g. starch, fibre, plastics)	50,7%	26,8%	22,5%	100,0%	71
GM trees designed for industrial/energy purposes	35,2%	38,0%	26,8%	100,0%	71
GM plants for plant made pharmaceuticals (e.g. haemo-proteins, vaccines)	47,9%	26,8%	25,4%	100,0%	71
GM plants for phytoremediation (e.g. plants for extracting toxins from the soil)	47,9%	25,4%	26,8%	100,0%	71
New GM flowers etc. (e.g. new flower colours, grasses for lawns and golf courses)	39,4%	28,2%	32,4%	100,0%	71

FIGURE 8: FUTURE IMPORTANCE OF "CISGENIC" GM TECHNOLOGY (*Question 4A; n = 71)*

Question: In the 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.

	Agree	Disagree	Don't know	Total	
	%	%	%	%	n
"Cisgenic" GM technology will gain high importance in the future.	33,8%	14,1%	52,1%	100,0%	71
Such technologies will lead to blurring the boundaries between GM and non-GM plants in the future.	50,7%	31,0%	18,3%	100,0%	71
Products derived from such technologies will be regarded as "less hazardous" by the public.	35,2%	39,4%	25,4%	100,0%	71
"Cisgenic" GM technology will undermine the demand for transgenic GM technology.	16,9%	50,7%	32,4%	100,0%	71
In the light of these developments, existing regulation will have to be adapted.	57,7%	22,5%	19,7%	100,0%	71

FIGURE 9: FUTURE IMPORTANCE OF "SMART BREEDING" (*Question 4B; n = 71)*

Question: "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.

	Agree	Disagree	Don't know	Total	
	%	%	%	%	n
"Smart breeding" will gain high importance in the future.	69,0%	7,0%	23,9%	100,0%	71
"Smart breeding" will have a good public image.	56,3%	14,1%	29,6%	100,0%	71
"Smart breeding" will overcome the demand for currently regulated GM technologies.	15,5%	54,9%	29,6%	100,0%	71
"Smart breeding" will overcome the current need to regulate GM technolo-	9,9%	74,6%	15,5%	100,0%	71

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FIGURE 10: NEW REGULATORY CHALLENGES CAUSED BY NOVEL GM PLANTS?
(*Question 10A; n = 71)*

Question: 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?

		Column %	Count
New GM plants for the non-food sector will pose new regulatory challenges	Yes	62,0%	44
	No	35,2%	25
	Don't know	2,8%	2
	Total	100,0%	71

FIGURE 11: AREAS OF NEW REGULATORY CHALLENGES OF NOVEL GM PLANTS
(*Question 10B; n = 44)*

Question: If you ticked "Yes" *[in question 10B]*, 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	Total	
	%	%	%	%	%	%	n
New parameters for risk assessment and management	45,5%	45,5%	6,8%	0,0%	2,3%	100,0%	44
Confinement/containment measures	52,3%	36,4%	6,8%	0,0%	4,6%	100,0%	44
Regulation of coexistence	56,8%	36,4%	4,5%	0,0%	2,3%	100,0%	44
Labelling	25,0%	43,2%	29,5%	0,0%	2,3%	100,0%	44
Liability	34,1%	54,5%	2,3%	0,0%	9,1%	100,0%	44

FIGURE 12: **PUBLIC ATTITUDES (*Question 6; n = 71)***

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

	More negative	No change	More positive	Total	
	%	%	%	%	n
Acceptance of GM technology in general	5,6%	36,6%	57,7%	100,0%	71
Acceptance of new GM food products	9,9%	52,1%	38,0%	100,0%	71
Acceptance of new GM non-food products	2,8%	22,5%	74,6%	100,0%	71

FIGURE 13: FACTORS INFLUENCING PUBLIC ATTITUDES (*Question 5; n = 71)*

Question: 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	Total	
	%	%	%	%	%	%	n
Risk issues related to environment	4,2%	12,7%	45,1%	35,2%	2,8%	100,0%	71
Environmental upsides (e.g. reduced need for fertiliser, pesticides or tillage)	4,2%	47,9%	28,2%	16,9%	2,8%	100,0%	71
Risk issues related to health	1,4%	5,6%	35,2%	54,9%	2,8%	100,0%	71
Price benefits for consumers	8,5%	23,9%	31,0%	35,2%	1,4%	100,0%	71
Consumer benefits related to food quality and health	2,8%	12,7%	33,8%	49,3%	1,4%	100,0%	71
Performance of risk management systems	2,8%	23,9%	43,7%	25,4%	4,2%	100,0%	71
Perspectives on global food security	16,9%	38,0%	25,4%	15,5%	4,2%	100,0%	71
Quality of information to citizens	2,8%	18,3%	42,3%	35,2%	1,4%	100,0%	71
Getting accustomed to GM products	8,5%	15,5%	42,3%	29,6%	4,2%	100,0%	71
Opportunity for public participation in decision making	8,5%	40,8%	36,6%	11,3%	2,8%	100,0%	71
Efficient and transparent labelling and free consumer choice	2,8%	9,9%	43,7%	42,3%	1,4%	100,0%	71
Global distribution of risks and benefits	8,5%	45,1%	32,4%	8,5%	5,6%	100,0%	71

FIGURE 14: WILL COEXISTENCE WORK FOR FIRST GENERATION GM PLANTS?
(*Question 7; n = 71)*

Question: 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).

	Percentage	Count
Yes, for the cultivation of GM plants on a large scale for almost every crop	15,5%	11
Yes, for the cultivation of GM plants on a large scale for some specific crops	31,0%	22
Yes, but only for the cultivation of GM plants on a small scale for almost every crop	5,6%	4
Yes, but only for the cultivation of GM plants on a small scale for some specific crops	25,4%	18
No, not at all	15,5%	11
Don't know	7,0%	5
Total	100,0%	71

FIGURE 15: CAN CONSUMERS' CHOICE BE MAINTAINED? (*Question 9; n = 71)*

Question: 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)

	Percentage	Count
Successful coexistence: The labelling of GM food is generally correct (including occasional mishap), non GM food is also available.	52,1%	37
Misapplication of labelling: All food is labelled as "may contain GM", also non GM food.	5,6%	4
Failure of labelling regime: GM food is on the market, but not labelled correctly.	14,1%	10
Failure of coexistence: More or less all food is GM or contains GM components, and must be labelled as GM food.	7,0%	5
Blockade of GM food: Very little GM food on the market so that labelling is of little relevance.	16,9%	12
Don't know	4,2%	3
Total	100,0%	71

FIGURE 16: DO COEXISTENCE SCHEMES ADDRESS RISKS? (*Question 8A; n = 71)*

Question: 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.

	Percentage	Count
Relevant risks do not exist at all	15,5%	11
Relevant risks exist for a few particular GM crops	29,6%	21
Relevant risks exist for all GM crops	49,3%	35
Don't know	5,6%	4
Total	100,0%	71

FIGURE 17: HOW TO MEET RISKS? (*Question 8B; n = 56)*

Question: If you think that relevant risks might exist [*in question 8A*], please tick those statements that come closest to your opinion (multiple answers possible).

	Respondents	Responses	Percentage (n=71)
In general, risks are negligible		9	13 %
Environmental risks are balanced by benefits to society and acceptable		17	24 %
Economic risks to other farmers can be negotiated between parties involved		23	32 %
Such risks are unacceptable and need regulatory intervention		26	37 %
Don't know		2	3 %
Total	56	78	

FIGURE 18: ARE REGULATORY PROVISIONS SUFFICIENT? (*Question 8C; n = 56)*

Question: Do you think that current regulatory provisions are sufficient to deal with such risks [*see question 8B*], today or for the foreseeable future?

	Count	Percentage
Yes, in the current situation and in the foreseeable future	19	27 %
Yes in the current situation, but not in the foreseeable future	16	23 %
No, not at all	20	28 %
Don't know	1	1 %
Total	56	

FIGURE 19: **BENEFIT ASSESSMENT (*Question 11; n = 71)***

Question: 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.

	Highly unlikely	Unlikely	Likely	Very likely	Don't know	Total	
	%	%	%	%	%	%	n
Environmental benefit	15,5%	25,4%	38,0%	16,9%	4,2%	100,0%	71
Economic return	29,6%	28,2%	23,9%	12,7%	5,6%	100,0%	71
Food safety	16,9%	25,4%	33,8%	18,3%	5,6%	100,0%	71
Food quality	16,9%	31,0%	31,0%	15,5%	5,6%	100,0%	71
Nutritional benefit	15,5%	31,0%	35,2%	12,7%	5,6%	100,0%	71

FIGURE 20: **AIMS IN AGRICULTURE (*Question 12; n = 71)***

Question: 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.

	Not important	Little important	Important	Very important	Don't know	Total	
	%	%	%	%	%	%	n
Achieving high yields in crop production	5,6%	19,7%	36,6%	31,0%	7,0%	100,0%	71
Reducing inputs in crop production	2,8%	5,6%	46,5%	36,6%	8,5%	100,0%	71
Efficient crop production under difficult agricultural conditions (erosion, pest pressure etc.)	2,8%	14,1%	42,3%	33,8%	7,0%	100,0%	71
Staying competitive in times of market liberalisation and reduced subsidies	1,4%	15,5%	39,4%	33,8%	9,9%	100,0%	71
Crop production with least possible environmental impact	0,0%	4,2%	39,4%	52,1%	4,2%	100,0%	71
Producing high quality food in great variety	1,4%	7,0%	35,2%	50,7%	5,6%	100,0%	71
Providing jobs for the rural population	7,0%	21,1%	45,1%	19,7%	7,0%	100,0%	71
Protecting the traditional cultivated landscape	7,0%	12,7%	40,8%	33,8%	5,6%	100,0%	71
Promoting organic farming	8,5%	32,4%	23,9%	26,8%	8,5%	100,0%	71

FIGURE 21: ROBUSTNESS OF THE EU REGULATORY SYSTEM (*Question 13A; n = 71)*

Question: 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)

Answers	% of answers	Number of answers
The general principles and approaches of the EU regulation and the varying implementation of the EU Member States can withstand challenges through the WTO.	22,5	16
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.	32,4	23
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.	23,9	17
The EU regulatory system can not be maintained due to challenges through the WTO.	14,1	10
Don't know	7,0	5
Total	100,0	71

FIGURE 22: THE FUTURE ROLE OF THE EU LEGISLATION (*Question 13B; n = 71)*

Question: 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)

Answers	% of answers	Number of answers
Yes	69,0	49
No	12,7	9
Don't know	18,3	13
Total	100,0	71

FIGURE 23: PRIORITISATION OF POLICY FIELDS (*Question 15; n = 71)*

Question: 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

	Very low priority	Low priority	High priority	Very high priority	Don't know	Total	
	%	%	%	%	%	%	n
Research funding	0,0%	9,9%	46,5%	38,0%	5,6%	100,0%	71
Better implementation of existing regulation	5,6%	29,6%	39,4%	16,9%	8,5%	100,0%	71
Amendment of existing regulation	2,8%	33,8%	32,4%	21,1%	9,9%	100,0%	71
Adaptation to international ruling (e.g. WTO)	9,9%	33,8%	28,2%	16,9%	11,3%	100,0%	71
Reform of competent authorities/institutions	12,7%	25,4%	33,8%	21,1%	7,0%	100,0%	71
Subsidiarity/change in the level of decision making	4,2%	39,4%	35,2%	7,0%	14,1%	100,0%	71
Expert involvement in decision making	2,8%	19,7%	36,6%	35,2%	5,6%	100,0%	71
Stakeholder involvement in decision making	8,5%	26,8%	42,3%	16,9%	5,6%	100,0%	71
Public involvement in decision making	11,3%	31,0%	33,8%	19,7%	4,2%	100,0%	71
None, let the system work as it is	56,3%	15,5%	5,6%	1,4%	21,1%	100,0%	71

FIGURE 24: OBJECTIVES OF PUBLICLY FUNDED RESEARCH (*Question 14; n = 71)*

Question: 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.

	Highly unlikely	Unlikely	Likely	Very likely	Don't know	Total	
	%	%	%	%	%	%	n
Risk assessment and management	2,8%	23,9%	35,2%	31,0%	7,0%	100,0%	71
Development of products/solutions responding to agronomic problems not covered by private research	5,6%	28,2%	39,4%	16,9%	9,9%	100,0%	71
Development of innovative products with the intent to improve economic competitiveness	7,0%	31,0%	32,4%	18,3%	11,3%	100,0%	71