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Year				-	Event		-	Partner		-	Country		-	Interviewer		-	Farmer		



## EuropaBio Monitoring WG Farmer Questionnaire

**Product: *Productname X Crop X***

The personal data of the farmer will be handled in accordance with applicable data protection legislation. The personal data of the farmers may be used for the purpose of interviews necessary for the survey if the farmers have authorised this use as per the data protection legislation.

The questionnaires will be encoded to protect farmers' identity in the survey and confidentiality agreements will be put in place between the different parties (i.e. authorisation holders, licensees, interviewers and analysts) to further enforce this. The identity of a farmer will only be revealed to the authorisation holders if an adverse effect linked to their event has been identified and needs to be investigated.

Furthermore, the agreements between the different parties will also ensure that any information collected in the questionnaires will not be improperly shared or used.



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Year				-	Event		-	Partner		-	Country		-	Interviewer		-	Farmer		

Code:

Year  Event  Partner  Country   
Interviewer  Farmer

**Comment [BioMath1]:** Event should be included for identification in multiple GM crop database. Area is removed since the questionnaire is addressed to a farm.

Coding explanations:

Event:	01	MON 810
	02	NK 603
	...	...
Partner:	MAR	Markin
	AGR	Agro.Ges
	...	...
Country:	ES	Spain
	PT	Portugal
	PL	Poland
	...	...
Interviewer:	01	A
	02	B
	...	...

Partner is the organization that implements the survey

Interviewer is the employee from the Partner that is interviewing the farmers

Farmer: incremental counter within the interviewer

### General information:

Name of interviewer:

Company name:

Date of interview (DD/MM/YYYY):

### Farmer personal and confidential data:

Name of farmer:

Address of farmer:

City:

Postal code:

Country:

**Comment [BioMath2]:** Personal information for data protection purposes should be handled separately. By recording them at this cover sheet they could be removed before transmission.

## MODULE 1. FARM INFORMATION

### Background information on the farm and overview of GM crops grown

#### 1.1. Farm Location

Country

County

#### 1.2. Surrounding environment

Which of the following would best describe the land usage in the surrounding of the farm

- ☐ Arable land
- ☐ Forest or wild habitat
- ☐ Residential or industrial

#### 1.3. Size of the farm cultivated area

Total area of all cultivated area on farm (ha):

#### 1.4. Soil characteristics of the farm cultivated area

Mark the predominant soil type of the cultivated area on farm (soil texture):

- ☐ Very fine (clay)
- ☐ Fine (clay, sandy clay, silty clay)
- ☐ Medium (sandy clay loam, clay loam, sandy silt)
- ☐ Medium-fine (silty clay loam, silt loam, loam)
- ☐ Coarse (sand, loamy sand, sandy loam)
- ☐ No predominant soil type (too variable across the cultivated area on the farm)
- ☐ I do not know

Characterise soil quality of the cultivated area on farm (fertility):

- ☐ Below average – poor
- ☐ Average – normal
- ☐ Above average – good

Organic carbon content (%)

**Comment [BioMath3]:** EC added a question about the farm type and the section was renamed to "Farm information". The farm type brings no added value for the monitoring objective (identification of adverse effects), cannot help to explain any effects seen. The FQ should be as short as possible, providing the necessary information.

**Comment [BioMath4]:** A fourth category "mixed" was added by EC. This category is not needed, because multiple boxes might be ticked.

**Comment [BioMath5]:** The question about the size of the cultivated area on the farm was removed by EC. This information is needed to assess the proportion of GM crops on a farm (experience of the farmer, objectivity of comparison with conventional cultivation) as well as to classify the farm (small, medium, large).

**Comment [BioMath6]:** This question was deleted by EC, but should be kept (can help to explain any effects seen).

**Comment [BioMath7]:** EC inserted a question on the rotation pattern (afore Module 2) here. Previously grown crops might be an explanation for effects in the field. The question therefore is aimed to get background information about typical crop specific cultivation practices which are all asked for in Module 2, (question 2.4). Asking for all crops and areas cultivated at the farm cannot help to explain any effects seen.



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Year				-	Event				-	Partner				-	Country				-	Interviewer				-	Farmer			

### 1.5. GM CROPS grown on the farm<sup>1</sup>

List the GM crops and areas occupied by each one this season

	<i>Crop</i>	<i>Area (ha)</i>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

**Comment [BioMath8]:** EC suggested to ask not only for the GM crops but more detailed for the GM Crop x Event combinations. Monitoring refers to Crop x Events and each Crop x Event can be subject to independent interviews for the following modules. Here in Module 1 (farm information) therefore an overview of all GM crops grown at the farm makes sense.

The Event under monitoring will be specified in Module 3.

A question about GM crops grown in earlier seasons was added by EC, including crop, event, year sown and area. This information is confusing when concentrating on the PMEM of a certain event. The data cannot be statistically related to the observation characters. They also will not help to identify long-term effects – to answer such questions a follow-up of previous monitoring sites would be necessary.

<sup>1</sup> Each GM crop can be subject to independent interviews for the following modules

## MODULE 2. CROP X<sup>2</sup> INFORMATION

All questions in this section refer to the cultivation of conventional CROP X on your farm to get crop specific baseline data

### 2.1. Size of the conventional Crop X cultivated area

Total area of conventional Crop X cultivated on farm (ha)

### 2.2. Local pest and disease pressure in Crop X

Characterise this season's general pest pressure on the Crop X cultivated area

Diseases (e.g., fungal, viral)	<input type="radio"/> Low	<input type="radio"/> As usual	<input type="radio"/> High
Pests (e.g., insects, mites, nematodes)	<input type="radio"/> Low	<input type="radio"/> As usual	<input type="radio"/> High
Weeds	<input type="radio"/> Low	<input type="radio"/> As usual	<input type="radio"/> High

### 2.3. Irrigation of Crop X grown area

☐ Yes ☐ No

If yes, which type of irrigation technique do you apply

☐ Gravity ☐ Sprinkler ☐ Drip ☐ Other

### 2.4. Major rotation of the Crop X grown area

Previous year:

Two years ago:

### 2.5. Soil tillage practices

☐ No ☐ Yes (mark the time of tillage:  
☐ winter ☐ spring)

### 2.6. Crop X planting technique

☐ Conventional planting  
☐ Mulch  
☐ Direct sowing

### 2.7. Mark all typical weed and pest control practices in Crop X at your farm

☐ Insecticide(s)

<sup>2</sup> Crop X: general name for specific crops (e.g., maize, potato, sugarbeet, cotton). This module is common for all the different GM events of the same crop. Slight modifications might be required for different crops.

**Comment [BioMath9]:** Module 2 is to describe common agronomic practices in **conventional** CROP X – to assess whether changed practices in GM CROP cultivation might explain adverse effects, if any.

**Comment [BioMath10]:** The proposal of EC for an elucidating sentence here is fine, since it helps to avoid misunderstandings concerning this module.

**Comment [BioMath11]:** For assessing the importance of conventional crop X compared to total area (1.3), experience of the farmer.

**Comment [BioMath12]:** The question on GM crops grown on farm has been deleted. It is already covered in 1.5. Module 2 is only to pick up information about conventional cultivation practices in Crop X.

**Comment [BioMath13]:** EC suggested to compare to previous years. This question is to get background information to explain effects. A comparison with previous years might cause misinterpretation (high pressure in subsequent years would provoke the answer "same" although the information of a "high" pressure might be an explanation for an effect).



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Year				-	Event				-	Partner				-	Country				-	Interviewer				Farmer

- If box checked, do you treat against maize borers? ☐ Yes ☐ No
- ☐ Use of bio control treatments (e.g., Trichogramma)
  - ☐ Herbicide(s)
  - ☐ Mechanical weed control
  - ☐ Fungicide(s)
  - ☐ Other, please specify: \_\_\_\_\_

**2.8. Application of fertiliser to Crop X grown area**

- ☐ Yes ☐ No

If yes, is manure applied as well?

- ☐ Yes ☐ No

**2.9. Typical time of Crop X sowing range (DD/MM – DD/MM):**

\_\_\_\_/\_\_\_\_/\_\_\_\_ -- \_\_\_\_/\_\_\_\_/\_\_\_\_

**2.10. Typical time of Crop X harvest range (DD/MM – DD/MM):**

\_\_\_\_/\_\_\_\_/\_\_\_\_ -- \_\_\_\_/\_\_\_\_/\_\_\_\_

**Comment [BioMath14]:** EC deleted questions on irrigation, crop rotation, soil tillage practices, planting techniques, sowing and harvesting date. These questions should be kept, because they can help to explain a possible adverse effect because of changed practices.

The details of plant protection product applications as proposed by EC give no added value to the object of this questionnaire. This number will differ from year to year, even field to field at a farm depending on e.g. pest pressure and climatic conditions. Further, the questionnaire is to capture changed practices between conventional and GM cultivation in general – this will be covered by the original questions in module 2 and 3.

## MODULE 3. PRODUCTNAME X INFORMATION<sup>3</sup>

The information in this module refers to one *Productname X Crop X* variety cultivated in one field on the farm this season

Event Name: \_\_\_\_\_

Name and area (ha) of the *Productname X Crop X* variety the following questions are answered for: \_\_\_\_\_

### 3.1. Conventional reference for comparison

In this section you are asked to compare observations for the *Productname X Crop X* to the conventional *Crop X*. To which conventional *Crop X* will you make the comparison: \_\_\_\_\_

- ☐ Field/ plot planted with a conventional *Crop X* variety (name the predominant variety) \_\_\_\_\_
- ☐ Historical experience cultivating conventional *Crop X* \_\_\_\_\_

### 3.2. Agricultural practices in *Productname X Crop X*

In the questions below you will be asked whether you changed your agricultural practices in *Productname X Crop X* compared to conventional *Crop X* as described in module 2. If any of the answers is different from «Same», please specify the change.

How did you perform your **crop rotation** for *Productname X Crop X* compared with the comparator?

- ☐ The same
- ☐ Different, because: \_\_\_\_\_
- Describe the different rotation: \_\_\_\_\_

Did you **plant** *Productname X Crop X* **earlier or later** than the comparator?

- ☐ At the same time
- ☐ Earlier, because: \_\_\_\_\_
- ☐ Later, because: \_\_\_\_\_

<sup>3</sup> This module must be done independently for each one of the GM crops cultivated in the farm

**Comment [BioMath15]:** EC commented that there is no reason to restrict the list of event varieties to five product names. The questionnaire in principle should monitor **one field** as the smallest unit where all influencing factors (environment, cultivation) are equal. To avoid confusion here only the *Productname X Crop X* variety of the monitored field should be given. If different varieties with the same event show deviating characteristics this should be mentioned under 3.9.

**Comment [BioMath16]:** EC moved the question "Did you plant a refuge in accordance to the technical guidelines?" from the stewardship module. This is definitely a stewardship question, only relevant for IRM, and should stay in module 4. Further configuration of the refuge is not relevant for a good implementation of the IRM plan.

**Comment [BioMath17]:** As proposed by EC the answer texts have been simplified. The option "refuge" was deleted since with respect to the monitoring subject it has the same relevance as any field planted with a conventional crop.

**Comment [BioMath18]:** To ask for the distance of comparator field to GM field as proposed by EC brings no added value concerning the monitoring question. The three distance categories are not reasonable. The name of the comparator variety should be specified in 3.1.

**Comment [BioMath20]:** To ask for the distance of comparator field to GM field as proposed by EC brings no added value concerning the monitoring question. The three distance categories are not reasonable. The name of the comparator variety should be specified in 3.1.

**Comment [BioMath19]:** „As usual“ has been replaced with „Same“ as proposed by EC.



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Year				-		Event		-		Partner		-		Country		-		Interviewer- Farmer	

Did you apply the same soil **tillage techniques** to *Productname X Crop X* and the comparator?

- ☐ Yes  
☐ No, because \_\_\_\_\_

Did you apply the same **planting techniques** to *Productname X Crop X* and the comparator?

- ☐ Yes  
☐ No, because \_\_\_\_\_

For *Productname X Crop X* and the comparator did you apply the same **weed and pest control practices**?

Herbicides: ☐ Yes ☐ No, because \_\_\_\_\_

Insecticides: ☐ yes ☐ No, because \_\_\_\_\_

Fungicides: ☐ Yes ☐ No, because \_\_\_\_\_

Others: ☐ Yes ☐ No, because \_\_\_\_\_

**Comment [BioMath21]:** EC moved the question on plant protection practices from the agricultural practices section to an extra section and modified it in wording. We see no reason for a specific section. Plant protection measures are part of agricultural practices.

Did you apply the same **fertilizer application** practices in *Productname X Crop X* and the comparator?

- ☐ Yes  
☐ No, because \_\_\_\_\_

Did you apply the same **irrigation practices** in *Productname X Crop X* and the comparator?

- ☐ Yes  
☐ No, because \_\_\_\_\_

Did you **harvest** *Productname X Crop X* **earlier or later** than the comparator?

- ☐ At the same time  
☐ Earlier, because \_\_\_\_\_  
☐ Later, because \_\_\_\_\_

**Comment [BioMath22]:** EC removed this question, but it should be also asked for differences in harvesting time (as for differences in planting time) since an earlier harvest might be caused by adverse events and harvest data also serve to check the quality of the data.

### 3.3. Characteristics of *Productname X Crop X* in the field compared to comparator

- |                        |                            |                                     |                                     |
|------------------------|----------------------------|-------------------------------------|-------------------------------------|
| Germination vigour     | <input type="radio"/> Same | <input type="radio"/> More vigorous | <input type="radio"/> Less vigorous |
| Time to emergence      | <input type="radio"/> Same | <input type="radio"/> Accelerated   | <input type="radio"/> Delayed       |
| Time to male flowering | <input type="radio"/> Same | <input type="radio"/> Accelerated   | <input type="radio"/> Delayed       |





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Year				-		Event		-		Partner		-		Country		-		Interviewer- Farmer	

- Plant growth and development    ☐ Same        ☐ Accelerated    ☐ Delayed
- Incidence of stalk/root lodging    ☐ Same        ☐ More often    ☐ Less often
- Time to maturity                      ☐ Same        ☐ Accelerated    ☐ Delayed
- Yield                                      ☐ Same        ☐ Higher yield    ☐ Lower yield
- Occurrence of *Productname X* volunteers from previous year planting (if relevant)    ☐ Same        ☐ More often    ☐ Less often

If any of the answers above is different from «Same», please provide further information:

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Please detail any additional unusual observations regarding the *Productname X Crop X* during its growth:

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**Comment [BioMath23]:** Since this question is to gather complementary information about the characteristics it is not formatted as an additional subsection.

### 3.4. How would you characterise the *Productname X Crop X* susceptibility to diseases (fungal, viral diseases) compared to comparator?

- ☐ Same                      ☐ More susceptible        ☐ Less susceptible

If the above answer is different from «Same», please specify the difference in disease susceptibility in the list and the commentary section below:

- |  |                            |                            |
|--|----------------------------|----------------------------|
| 1. <i>Fusarium</i> spp                     | <input type="radio"/> More | <input type="radio"/> Less |
| 2. <i>Ustilago maydis</i> = <i>U. zeae</i> | <input type="radio"/> More | <input type="radio"/> Less |
| 3. Other _____                             | <input type="radio"/> More | <input type="radio"/> Less |
| 4. _____                                   | <input type="radio"/> More | <input type="radio"/> Less |
| 5. _____                                   | <input type="radio"/> More | <input type="radio"/> Less |
| 6. _____                                   | <input type="radio"/> More | <input type="radio"/> Less |

(This list is specific to each country and Crop X)

**Comment [BioMath24]:** EC proposed not to ask for susceptibility but for the occurrence of diseases to be used as an indication of susceptibility. Such formulation might be confused with local pest pressure, which has nothing to do with GM effects. Therefore it should explicitly be asked for the effect of a changed susceptibility.



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Year				-		Event		-		Partner		-		Country		-		Interviewer		Farmer	

Additional comments:

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**3.5. How would you characterise the *Productname X Crop X* susceptibility to pests (if applicable: OTHER than target pests), i.e. insect, mite, nematode pests, compared to comparator?**

☐ Same ☐ More susceptible ☐ Less susceptible

If the above answer is different from «Same», please specify the difference in pest susceptibility in the list and the commentary section below:

- |          |                            |                            |
|----------|----------------------------|----------------------------|
| 1. _____ | <input type="radio"/> More | <input type="radio"/> Less |
| 2. _____ | <input type="radio"/> More | <input type="radio"/> Less |
| 3. _____ | <input type="radio"/> More | <input type="radio"/> Less |
| 4. _____ | <input type="radio"/> More | <input type="radio"/> Less |
| 5. _____ | <input type="radio"/> More | <input type="radio"/> Less |

Additional comments:

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**3.6. How would you characterise the weed pressure in *Productname X Crop X* field (compared to comparator)?**

☐ Same ☐ More weeds ☐ Less weeds

If the above answer is different from «Same», please provide details for the most abundant weeds

- |          |                            |                            |
|----------|----------------------------|----------------------------|
| 1. _____ | <input type="radio"/> More | <input type="radio"/> Less |
| 2. _____ | <input type="radio"/> More | <input type="radio"/> Less |
| 3. _____ | <input type="radio"/> More | <input type="radio"/> Less |
| 4. _____ | <input type="radio"/> More | <input type="radio"/> Less |
| 5. _____ | <input type="radio"/> More | <input type="radio"/> Less |

**Comment [BioMath25]:** EC proposed not to ask for susceptibility but for the occurrence of diseases to be used as an indication of susceptibility. Such formulation might be confused with local pest pressure, which has nothing to do with GM effects. Therefore it should explicitly be asked for the effect of a changed susceptibility.



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Year				-	Event				-	Partner				-	Country				-	Interviewer				-	Farmer			

Were there any unusual observations regarding the occurrence of weeds in *Productname X Crop X* field?

**3.7. How would you characterise the occurrence of (if applicable: non target) animals (or wildlife) in *Productname X Crop X* field compared to comparator?**

Occurrence of natural enemies/beneficial arthropods (e.g. red spider mite/ladybirds, lacewings)

☐ Same ☐ More ☐ Less ☐ Do not know

If the answer above is «More» or «Less», please provide further details:

Occurrence of non-target Lepidoptera

☐ Same ☐ More ☐ Less ☐ Do not know

If the answer above is «More» or «Less», please provide further details:

Occurrence of pollinating insects (e.g. honey bees)

☐ Same ☐ More ☐ Less ☐ Do not know

If the answer above is «More» or «Less», please provide further details:

Occurrence of birds

☐ Same ☐ More ☐ Less ☐ Do not know

If the answer above is «More» or «Less», please provide further details:



				-			-			-			-			-												
Year				-	Event				-	Partner				-	Country				-	Interviewer				-	Farmer			

Occurrence of mammals:

☐ Same ☐ More ☐ Less ☐ Do not know

If the answer above is «More» or «Less», please provide further details:

**3.8. Feed use of *Productname X Crop X* (if previous year experience with this event)**

Did you use the *Productname X Crop X* harvest for animal feed on your farm?

☐ Yes ☐ No

If «Yes», please give your general impression of the performance of the animals fed *Productname X Crop X* compared to animals fed conventional *Crop X*

☐ Same ☐ Different ☐ Do not know

If the answer above is «Different», please specify your observation:

**Comment [BioMath26]:** EC proposed to ask "If «Yes», since when?" Again, the subject is monitoring of the actual year, long-term effects might not be picked up by such questions.

**3.9. Any additional remarks or observations (e.g., from fields planted with *Productname X Crop X* varieties that were not selected for the survey)**

## MODULE 4. STEWARDSHIP<sup>4</sup>

***This module asks the farmer to comment on the information received regarding the GM product at the time of purchase and whether or not this advice has been implemented***

### 4.1. Have you been informed on good agricultural practices for *Productname X Crop X*?

☐ Yes ☐ No

**Comment [BioMath27]:** This question should be kept as it was, since the formulation was definitely aimed to check compliance with IRM measures, not satisfaction.

Only if you answered "Yes",

a. Was the content of the information about

- ☐ Insect Resistance Management
- ☐ Weed Resistance Management
- ☐ Other (please name it) \_\_\_\_\_

b. Would you evaluate this technical information as

- ☐ Very useful
- ☐ Useful
- ☐ Not useful

### 4.2. Labelling conditions

Was the seed bag labelled with accompanying specific documentation indicating that the product is genetically modified *Productname X Crop X*?

☐ Yes ☐ No

Did you comply with the label recommendations on the seed bags?

☐ Yes  
☐ No, because \_\_\_\_\_

**Comment [BioMath28]:** Again, this question should be kept as it was, since the formulation was definitely aimed to check compliance with IRM measures, not satisfaction.

<sup>4</sup> This module is discretionary for companies. It will be based on the particular consent conditions for each GM event and on the company stewardship plans. The questions are provided just as examples.



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Year				-	Event		-	Partner			-	Country		-	Interviewer		-	Farmer	

#### 4.3. Prevention of insect resistance (if applicable)

Did you plant a refuge in accordance to the technical guidelines?

- ☐ Yes
- ☐ No, because the surface of the *Productname X Crop X* planted on the farm is < 5ha
- ☐ No, because

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