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Agriculture and Life Sciences in the Economy

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EUROPEAN COEXISTENCE BUREAU

SUMMARY CONCLUSIONS OF THE FIRST PLENARY MEETING OF THE TECHNICAL WORKING GROUP FOR MAIZE OF 5-6 MARCH 2009 SEVILLE, SPAIN

The main objectives of the First Plenary Meeting of the Technical Working Group for Maize (TWG-Maize) were:

- To discuss the outcome of the first round of stakeholder consultations,
- To get insight into the main relevant results of the EU-funded SIGMEA project
- To discuss and validate the data and information collected and to discuss their relevance for the Best Practice Document

TWG-Maize members, the European Coexistence Bureau (ECoB) staff and other IPTS staff as well as representatives from DG Agriculture and Rural Development, DG Environment and the JRC Institute for Health and Consumer Protection, and an invited expert from the EU FP6 SIGMEA project participated in the plenary meeting.

The draft agenda (see attached document) was approved.

1. Stakeholder consultations

The first stakeholder consultations in the context of ECoB were carried out by DG Agriculture and Rural Development in June and October 2008. Minutes of the respective stakeholder meetings and any submissions are available on the ECoB website (<http://ecob.jrc.ec.europa.eu/stakeholder.html>).

Considering the comments and submissions of the stakeholders, the TWG-Maize decided to include in the Best Practice Document a reference to other private thresholds for GM content and lower than the legally binding labelling threshold. Uncertainties connected to measurement methods (PCR) as well as uncertainties connected to lack of legally binding seed thresholds will be taken into consideration. Furthermore, background information on the results of controls of adventitious GM presence in seeds, conducted by Member States, will be included in the Best Practice Document as well as the information on GM varieties with

more than one transgene (so-called stacked genes). The approach to the development of the best practices provisionally agreed during the kick-off meeting will not be changed.

2. The SIGMEA Project – Work packages 2 and 7

Dr Geoff Squire presented the results of WP2 (Environmental impact analysis: field and ecological studies) of EU funded SIGMEA project. He discussed the relative need to manage the coexistence in maize when compared with other crops (OSR and beet), examples of data obtained from experiments carried out during the project and the agreed conclusions and recommendations.

According to SIGMEA findings coexistence between GM and non-GM maize would be feasible in most circumstances at present by

- staggered sowing, or using GM varieties whose reproductive period does not coincide with that of nearby non-GM crops
- for fields simultaneously in flower, the use of buffer or discard zones of around 20 to 30 m width
- avoiding surrounding small non-GM fields by GM fields.

A flexible approach, taking account of the density and pattern of fields, was considered best way to manage coexistence. The use of decision aids e.g. MAPOD-based or described by IRTA was recommended.

Ms. Frederique Angevin presented the results of WP7 (Elaboration of scenarios of GMO introduction) of SIGMEA. She discussed the possibilities given by the use of gene flow models, including estimation of the risk of exceeding a threshold of GM material in non-GM harvest in a given region, and how this probability varies between years, with different field patterns, quality requirements and feasibility of implementing coexistence measures. The need to account for high variability of GM dissemination risks between sub-regions in the best practices document was stressed. Potential strategies to manage coexistence were presented.

3. Relevant data and information for the Best Practice Document

The completeness and relevance of collected information and data for the Best Practice Document were discussed:

- **General approach for ranking information available on cross pollination**
TWG members did not specifically rank the available sources of information and will take into account all sources such as scientific literature reviews, reports on results of field experiments, as well as the results of simulations using models.

- **Use of conversion factors to compare heterogeneous sources of data**

Different cross-pollination experiments are carried out in different settings and using different markers. To make results comparable, the TWG-Maize decided that following conversion factors may be used:

- to roughly convert results obtained in studies observing phenotypic markers (usually % of coloured seeds) to the value % GM DNA (obtained via PCR analyses according to the EC recommendation 2004/787 on technical guidance for sampling and detection) a factor of 0.41 may be used
- to roughly convert results obtained using donor plants homozygous for the trait (endosperm colour for example) to situations when the donor is heterozygous for the trait, a factor of 0.5 may be used.

In addition, considering the very limited amount of data for whole plant use (silage or fodder maize) a factor of 0.5 may be applied to adapt results obtained for grain maize. The factor is based on the assumption that not more than half of the dry plant matter originates from grains which may carry the transgene due to outcrossing.

- **Cross-pollination**

Temporal isolation

The TWG-Maize concluded that temporal isolation can be a useful and effective tool to reduce GM presence in non-GM maize however it may not be applicable in some parts of Europe. Also the reliability of this measure should be taken into consideration. It was agreed that TWG members will provide additional practical information on the issue, as well as further data on applied sowing dates and maturity classes.

Spatial isolation

TWG-Maize will address the sweet maize issue, however, no specific measures will be proposed, as isolation distances currently applied in production were considered to be appropriate to comply also with the labelling threshold for GM content.

Other factors influencing cross-pollination

- prevalent wind direction

According to the analysed data, the prevalent wind direction for given location during the flowering period can differ between years and thus cannot be predicted with sufficient certainty. Therefore, for the development of best practices, a worst case scenario will be taken into account (the non-GM field located downwind to the pollen donor). Information regarding the additional “safety margin” resulting from this approach will be included in the draft Best Practice Document.

- field size and shape

Field size and shape are considered important factors to be considered when defining coexistence measures and will be taken into account.

- other physical barriers (like forest)

The presence of physical barriers between fields is known to lower the level of cross-pollination. This will be mentioned in the Best Practice Document; however, the available data will not allow establishing concrete coexistence measures.

- field distribution and GM crop adoption rate

Those factors were not considered as influencing coexistence measures on a field level. They will be taken into account for the consideration of the coexistence on landscape level and the feasibility of using certain coexistence measures.

- physical pollen transport (not wind related)

No data regarding physical pollen transport not related to wind is available. Therefore this issue will not be included in the Best Practice Document.

- **Farm-saved seeds**

Non-hybrid maize varieties are important for several Member States. A description of the issue, concerning maize landraces and conservation varieties, will be included in the Best Practice Document on the basis of already collected and additional relevant information provided by TWG members. No concrete management measures will be proposed as currently applied *in situ* conservation practices of landraces seem to be an efficient strategy for complying also with the labelling threshold for GMO admixture.

- **Volunteers**

Volunteers are potentially relevant for some Member States and regions and will be included in the Best Practice Document. The collected information on the occurrence and frequency of volunteers will be amended by the TWG-Maize. Generally, no dedicated management practice seems to be needed as maize volunteers are easy to deal with on the basis of commonly applied agricultural practice.

- **Non-biological sources of admixture**

TWG members will provide additional data and information regarding this issue. The drying process will be included in the Best Practice Document as a potential source of GM adventitious presence in the marketed harvest.

- **Costs of coexistence measures**

Only limited data on the costs of coexistence measures were collected; TWG members will provide additional information on the issue.

- **Other issues raised by TWG Members**

Background information on corn borer

An additional chapter containing information on European and Mediterranean corn borers (biology, occurrence, methods of crop protection, level of losses etc.) will not be included in the Best Practice Document.

Training courses for farmers

Recommendation of training courses for farmers to improve knowledge and management of coexistence was considered to be beyond the scope of the Best Practice Document

Scenarios to consider

Taking into account the seed threshold scenarios, uncertain contributions of non-biological sources to adventitious GM admixture as well as regional differences in management practices resulting in different admixture risks, the TWG-Maize decided to propose measures to limit cross-pollination to levels from 0.1% to 0.8% in 0.1%-steps. This approach is expected to provide the necessary flexibility.

4. TWG work programme – Next steps

The following indicative schedule was agreed:

Mar 09	Template by ECoB for submission of proposals of best practices Comments on Background Document by 27 March
Apr 09	Submission of proposal for best practices and additional data/information Deadline: 24 April (6 weeks)
Mar-Jun 09	Development of First Draft Best Practice Document
Jul-Sep 09	Written consultation First Draft Best Practice Document
Nov 09	Revised First Draft Best Practice Document Summary of stakeholder consultations
Dec 09	Second Plenary Meeting

Attachment: Agenda

**European Coexistence Bureau
Technical Working Group for Maize (TWG-Maize)
First Plenary meeting**

5-6 March 2009

European Commission, Joint Research Centre (JRC)
Institute for Prospective Technological Studies (IPTS)
Edificio Expo, Room 116, calle Inca Garcilaso 3, 41092 Seville, Spain

DRAFT AGENDA

Thursday 5 March 2009

- 09:30 – 12:30 Welcome, stakeholder consultations, SIGMEA
- Welcome and Meeting overview
 - Discussion on stakeholder consultations and submissions
 - Results from SIGMEA Workpackages 2 and 7: Geneflow and Scenario Testing
- 11:00 – 11:30 Coffee Break
- 12:30 – 19:00 Discussion of Background document
- 13:15- 14:30 Lunch
- 16.00-16.30 Coffee Break
- 19:00 End of meeting Day 1
- 21:00 Working dinner

Friday 6 March 2009

- 09:30 – 12:00 Continuation of discussion, meeting conclusions and next steps
- Conclusions from Day 1
 - Discussion of outstanding issues
 - Actions to be taken
- 11:30 – 12:00 Coffee Break
- 12:00 Closure of the meeting