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Directorate H. Sustainability and Quality of agriculture and rural development
H.1. Environment, GMO and genetic resources

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Note to stakeholders (organic farming
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NOTE TO THE PARTICIPANTS OF THE ADVISORY GROUP ON ORGANIC FARMING

Subject: Stakeholder consultation on the European Coexistence Bureau – Best Practice Document for maize crop production

The European Co-existence Bureau (ECoB) is a European Commission initiative aimed at developing reference documents for technical measures towards ensuring the co-existence between genetically modified, conventional and organic crop production. These reference documents will be non-binding for the Member States and are meant to help Member States in developing their national approaches to co-existence. This initiative is based on the mandate provided by the Agriculture Council Conclusions of 22 May 2006 requesting the European Commission to conduct further work in the area of co-existence.

The ECoB consists of a Secretariat located at the premises of the European Commission's Joint Research Centre, Institute for Prospective Technological Studies (IPTS), Seville, and designated crop-specific Technical Working Groups comprised of technical representatives of Member States.

The first Technical Working Group to be established in the framework of ECoB will deal with the development of co-existence measures in *maize crop production*. Maize is the only GM crop currently authorised for commercial production in the EU. This working group will meet for the first time in October 2008.

Detailed descriptions of the work of ECoB and of the Technical Working Group for maize crop production are provided in the annexes to this letter.

A stakeholder consultation process is planned to inform the Commission and thereby the ECoB, on stakeholder views regarding the scope of the reference document to be produced and, at a later stage, drafts of the document. This process will be, in particular, mediated via the relevant Advisory Groups managed by DG AGRI (Commission Decision 2004/391/EC). Reports of the stakeholder consultation process will be made publicly available on the future website of the ECoB, once this website will become established in October 2008.

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I would like to take advantage of the next meeting of the Advisory Group on Organic Farming to obtain your opinion and views on the future activities of the Technical Working Group on maize, and in particular regarding the scope of the Best Practice Document to be developed.

I would be grateful for you to present your comments at the meeting or, after the meeting, in written to the contact person below.

The contact person for any queries is Mr. Andreas GUMBERT (andreas.gumbert@ec.europa.eu, phone: +32 229 699 16).

Yours sincerely,

Maria Angeles BENITEZ SALAS
Director

Signature
J. P. ... JJA
21.7.07

Enclosures: - Mandate for the European Co-existence Bureau
- Background document for co-existence in maize crop production

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Chargé d'œuvre MS		P. ph. 30.07.08
Directeur MAB		
Directeur agr. adj.		

MANDATE FOR A EUROPEAN CO-EXISTENCE BUREAU

UPDATED ON 15 JULY 2008

1. Background

Co-existence refers to the ability of farmers to choose between the cultivation of genetically modified (GM) crops or non-GM crops, in compliance with the relevant legislation on labelling rules for GM organisms (GMOs), food and feed and/or purity standards.

The possibility of adventitious presence of GM crops in non-GM crops exists, and can have economic implications for farmers whose crops are affected. Consequently, suitable technical and organisational measures during cultivation, harvest, on-farm storage and transport may be necessary to ensure co-existence. Such co-existence measures should make it possible for farmers growing non-GM crops to keep the adventitious presence of GMOs in their crops within the legal limits established in Community law, while ensuring that farmers, who want to grow authorised GM crops, have an opportunity to do so.

Directive 2001/18/EC¹ on the deliberate release of GMOs into the environment, as amended by Regulation (EC) No 1830/2003² concerning the traceability and labelling of GMOs, establishes a threshold at a level of 0.9% below which products do not require labelling in case of adventitious or technically unavoidable presence of GMOs. Regulation (EC) No 1829/2003³ on GM food and feed establishes the same labelling threshold level for food and feed products. These threshold and labelling requirements are also valid for organic food and feed products, according to Regulation (EC) No 834/2007⁴.

In Recommendation 2003/556/EC⁵ on guidelines for the development of national strategies and best practices to ensure the co-existence of genetically modified crops with conventional and organic farming, the Commission advises that co-existence measures should not go beyond what is necessary to ensure that these thresholds for food and feed are respected.

The ability of the food industry to deliver a high degree of consumer choice goes hand in hand with the ability of the agricultural sector to maintain different production systems. Co-existence in the agricultural sector is thus a key condition for consumer choice further down the food chain.

Finding sustainable solutions for co-existence will be a precondition for the utilisation of GM crops in European agriculture on a larger scale. European farmers and consumers will only be

¹ Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC *OJ L 106, 17.4.2001, p. 1-39*

² Regulation (EC) No 1830/2003 of the European Parliament and of the Council of 22 September 2003 concerning the traceability and labelling of genetically modified organisms and the traceability of food and feed products produced from genetically modified organisms and amending Directive 2001/18/EC *OJ L 268, 18.10.2003, p. 24-28*

³ Regulation (EC) No 1829/2003 of the European Parliament and of the Council of 22 September 2003 on genetically modified food and feed *OJ L 268, 18.10.2003, p. 1-23*

⁴ Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91 *OJ L 189, 20.7.2007, p. 1-23*

⁵ Commission Recommendation of 23 July 2003 on guidelines for the development of national strategies and best practices to ensure the coexistence of genetically modified crops with conventional and organic farming (notified under document number C(2003) 2624) *OJ L 189, 29.7.2003, p. 36-47*

able to reap the potential benefits of GM crops if these crops can be cultivated in a way that avoids negative implications for neighbouring farmers who cultivate non-GM crops.

It is important to stress that co-existence measures are not designed to avoid environmental or health risks. Such risks are addressed case by case in the GMO authorisation process, mainly by Directive 2001/18/EC on the deliberate release of GMOs into the environment, and by Regulation (EC) No 1829/2003 on GM food and feed. If deemed necessary, measures to protect health and the environment are integrated into the authorisation decision⁶. Since only GM crops that have passed this authorisation procedure can be cultivated in the EU, co-existence measures do not concern environmental or health risks. The issues to be addressed in the context of co-existence are the potential *economic impact* of the admixture of GM and non-GM crops, the identification of workable management and technical measures to minimise admixture, and the cost of these measures.

Co-existence is in the competence of individual Member States. Several Member States have already developed specific legislation on co-existence. However, as the Commission has concluded in its co-existence report of March 2006⁷, practical experience is still limited and confined to certain regions. Few Member States have so far developed technical segregation measures in the form of good agricultural practices. It is widely recognised that local conditions, such as climatic conditions or local farm structures, have a significant impact on the effectiveness and efficiency of co-existence measures. In the light of the above, research continues to be important in order to provide a sound scientific background to develop appropriate co-existence measures at national or regional level.

On 22 May 2006 the Agriculture Council adopted Conclusions on the co-existence of genetically modified crops with conventional and organic agriculture. These Conclusions highlight the high level of political attention given by Member States to this issue. The Council also considered the outcome of the stakeholders conference "Co-existence of genetically modified, conventional and organic crops - Freedom of Choice" (Vienna, 4-6 April 2006), which stimulated broad discussions with all stakeholders.

The Council Conclusions provide a specific mandate for the Commission to engage in further work in relation to co-existence. Amongst others, the Council invites the Commission to:

- *Identify, in close co-operation with the Member States and stakeholders, best practice for technical segregation measures and, on the basis of this work, develop guidelines for crop-specific measures. At the same time, ensure that the crop-specific guidelines leave the necessary flexibility for Member States to take account of their regional and local factors (share of different crops in cultivation, crop rotations, field sizes, etc).*
- *Explore with Member States possible ways of minimizing potential cross border problems related to co-existence.*
- *Explore sustainable solutions, which are in line with EU law, for areas where agricultural structures and farming conditions are such that farm level co-existence is difficult to achieve for a given crop.*

⁶ The authorisation of a GMO under Directive 2001/18/EC may include specific measures to be taken during cultivation to protect the environment, that in turn may serve as co-existence measures; for example, Bt insect resistant crops are authorised for planting only if mandatory refuges of non-GM crops are planted to delay the appearance of insect populations resistant to Bt toxin. Such refuges, if placed at the borders of GM fields, could also help ensure co-existence with non-GM fields.

⁷ Report on the implementation of national measures on the co-existence of genetically modified crops with conventional and organic farming. COM(2006) 104 final

In order to contribute to the implementation of the Council Conclusions, DG AGRI and the JRC have agreed to set up a European Co-existence Bureau. The current note describes the functions, composition and work procedures of the Bureau, and the way it relates to COEX-NET, the existing co-ordination network on co-existence.

2. Mission of the European Bureau on Co-existence

On the basis of the mandate provided by the Council, the Commission will create a dedicated European Co-existence Bureau (ECoB), which will consist of a Secretariat and crop-specific Technical Working Groups. The mission of ECoB will be to organise the exchange of technical-scientific information on best agricultural management practices for co-existence and, on the basis of this process, develop consensus agreed crop-specific guidelines for co-existence measures.

These guidelines are intended to assist Member States in the development or refinement of national or regional legislative approaches to co-existence. Where Member States or regions do not intend to develop legislation for co-existence, the guidelines could support the development of voluntary standards for good agricultural practice.

The guidelines should, where appropriate, include contributions towards preventing cross-border problems and recommendations for areas where agricultural structures and farming conditions are such that farm level co-existence is difficult to achieve for a given crop. They should also include a cost analysis of the key components of the measures.

The activities of ECoB will initially only cover crop cultivation, including sowing, harvesting, transport and storage, up to the first point of sale (silo), i.e. crop production. At a later stage, the scope of ECoB could be extended to also cover seed production.

The work will focus on authorised GM crops. Furthermore, the scope is limited to developing measures that ensure achieving the labelling threshold of 0.9% that applies to the adventitious presence of these GMOs in non-GM crops at the farm gate. For GMOs that are not authorised zero tolerance applies.

The major output of ECoB will be crop-specific Reference Documents for Best Practice for the co-existence of GM crops with conventional and organic agriculture (Best Practice Documents). These will contain a set of consensually agreed best agricultural management practices that will ensure co-existence, while maintaining the economic and agronomic efficiency of the farm. The Best Practice Documents will, where possible, have EU-wide application, while taking into consideration the diversity of European farming systems. This means that, for certain measures, a regional approach may also be needed.

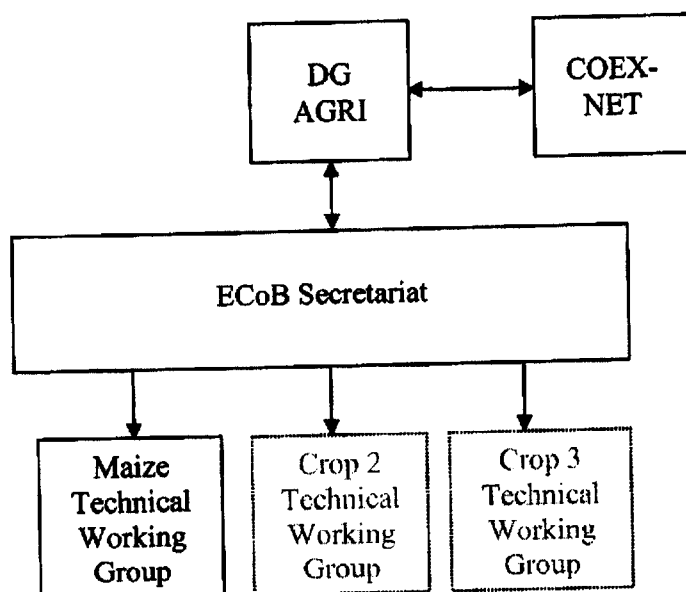
3. Composition and hosting of ECoB

The ECoB will consist of a Secretariat and of crop-specific Technical Working Groups. The ECoB Secretariat will be composed of a group of Commission and external staff with a technical/scientific profile. ECoB Secretariat staff will constitute a mixture of permanent staff of the Joint Research Centre (JRC) of the European Commission, detached national experts seconded to the JRC for a period of 2-4 years, and as necessary scientists on a temporary basis.

The Secretariat will work in close collaboration with DG AGRI. The Secretariat will be responsible for the overall scientific, technical and administrative management of ECoB.

Technical Working Groups will consist of experts nominated by the Member States.

Organisational structure of ECoB



The ECoB Secretariat will be placed at the premises of JRC-IPTS (Institute for Prospective Technological Studies) in Seville and be attached to JRC Unit J.5 on Agriculture and Life Sciences in the Economy. The work of the ECoB will be imbedded in the JRC Action No. 21104 "New Technologies in Agriculture - their agronomic and socio-economic impact" (AGRITECH) of the IPTS. AGRITECH will ensure that relevant research conducted elsewhere in the Member States, at the level of the European Community, of international organisations or third countries, will be readily accessible for analysis and use by the ECoB.

4. Work procedures

The work procedures of the ECoB will be broadly modelled on the well developed 'Seville process', which has been developed under Directive 96/61/EC concerning integrated pollution prevention and control. This has led to the creation of the European Integrated Pollution Prevention and Control Bureau (EIPPC Bureau)⁸, which is also located at the IPTS.

A proposal for general Best Practice Document structure and outline, including guidance on TWG work procedures, including the work programme of the ECoB will be developed by the ECoB Secretariat and approved by DG AGRI. An initial draft work programme will be elaborated for a 2-year period. The work programme will be updated every year, based on a report from the ECoB to DG AGRI, and after consultation of COEX-NET.

The ECoB Secretariat will organise and chair the work of the crop-specific Technical Working Groups. The ECoB Secretariat will also foster the exchange of information, analyse the information collected, organise field visits to representative farms and field trials, propose compromise solutions on controversial issues, and draft Best Practice Documents for consultation.

Best Practice Documents will be drafted by the ECoB Secretariat based on input from crop-specific Technical Working Groups. Draft Best Practice Documents will be adopted by

⁸ Over the past 10 years, over 30 successful Reference Documents for Best Available Techniques (BREFs) were developed for the industrial sector (further information on the EIPPC Bureau can be found at <http://eippcb.jrc.es/>).

consensus within the Technical Working Groups, with points of variance regarding scientific and technical interpretation(s) clearly documented in foot-notes or annexes.

Draft final Best Practice Documents as adopted by the Technical Working Groups will be delivered by the ECoB Secretariat to DG AGRI. DG AGRI will consult COEX-NET on the draft final Best Practice Documents and will approve the draft final Best Practice Documents. Approved final Best Practice Documents will be put on the ECoB website. Prior to finalisation, any significant scientific or technical questions or issues arising from the DG AGRI – COEX-NET consultation, or clarification, may be communicated to the ECoB for attention and address.

Any request for a future revision of a final Best Practice Document, for instance, because of new scientific evidence can only be made by DG AGRI within the limits of the existing resources available.

Final Best Practice Documents could become the basis for a Commission Recommendation aimed at assisting Member States in the development of technical co-existence measures.

The establishment of Technical Working Groups

For each Technical Working Group, Member States will nominate technical experts (maximum one per Member State), whose name will be communicated to DG AGRI via their COEX-NET Members.

Member States will be requested to ensure that their nominees have the necessary technical expertise to be able to contribute to the Technical Working Groups.

On a case-by-case basis, the ECoB Secretariat may invite scientists, for instance, from EU-funded research projects, to participate in the Technical Working Groups.

Technical Working Group participants will not be paid by the Commission, nor have their expenses covered for their work. It is considered that it is in the interest of Technical Working Group participants to attend meetings and submit data relevant for the elaboration of the respective consensus documents.

Apart from published data collected by the ECoB Secretariat, the Technical Working Group participants will be the primary source of information towards development of a final draft Best Practice Document.

Technical Working Group meetings

The ECoB Secretariat will provide infrastructure for the meetings and organise and chair the meetings of the Working Groups. A kick-off meeting to start the process and plenary meetings to discuss drafts of Best Practice Documents are envisaged.

The agenda for Technical Working Group meetings will be drawn up by the ECoB Secretariat, with the aim of having all aspects on the issue discussed and agreed during the meetings. A plenary working group meeting will typically last approximately 2.5 days. Following each meeting, detailed notes together with an annotated revised draft of the Best Practice Document will be drawn up. Technical Working Group members will provide data and information for the elaboration, clarification and further construction of the Best Practice Document. This information exchange will be facilitated through a closed, access protected electronic internet platform accessible via the official ECoB internet site.

If deemed necessary by the ECoB Secretariat, technical sub-groups to address specific issues may be created. The ECoB Secretariat will provide infrastructure for the sub-group meetings, and organise and chair the meetings.

The ECoB Secretariat will draft terms of reference with respect to information exchange, deadlines and processing of comments, opinions and questions, including archiving. These will then be submitted to the Technical Working Groups for discussion and further elaboration. The terms of reference will be adapted, as appropriate, to any future changes in the scope of ECoB.

Life span of a Technical Working Group

The life span of a Technical Working Group and the time required to prepare a draft final Best Practice Document can vary according to the biological, agronomic and management complexity of the crop species in question. It is estimated that between 1.5 and 2 years of work (involving both the technical and economic aspects of best management practices) will be required to elaborate a Best Practice Document.

Stakeholder consultation

The consultation of stakeholder groups will be done, in particular, via the Advisory Groups managed by DG AGRI⁹ in which relevant stakeholders, such as from agriculture and the agro-food chain, are represented. DG AGRI will consult the stakeholders on the Best Practice Document in draft stage. DG AGRI will provide the ECoB Secretariat with summaries of the stakeholder consultations. The ECoB Secretariat will make these summaries available to the Technical Working Group for discussion and consideration.

Development of Best Practice Documents

The start of work on a Best Practice Document will be announced to COEX-NET and published on the ECoB internet site in good time.

The procedure used for elaborating a Best Practice Document will normally include three meetings of the Technical Working Group over the course of the work period, depending on the complexity of the tasks involved, the creation of specific sub-groups (for example for machinery, cultivation practices, transport and storage, and trait- or event-specific measures, etc.), as well as possible field visits.

The Internet- and email-based exchange of information will be the main way of carrying out work in the Technical Working Groups.

The comments received from the Technical Working Groups will be dealt with by the ECoB Secretariat in order to modify the draft Best Practice Documents. The Technical Working Groups will be informed about all modifications carried out by the ECoB Secretariat on the Best Practice Documents and recorded on the closed electronic internet platform. Specific deadlines will apply for the receipt of comments on draft documents.

⁹ COMMISSION DECISION of 23 April 2004 on the advisory groups dealing with matters covered by the common agricultural policy (2004/391/EC).

5. The link with COEX-NET

COEX-NET was created by the European Commission by Decision 2005/463/EC of 21 June 2005, in order to facilitate the exchange of information on scientific studies and best practices developed in the field of co-existence among the Member States and the Commission. The network should allow Member States and the Commission to obtain an overview about best practices developed by other Member States and to be informed about the results of monitoring programmes concerning the practicability and cost-effectiveness of co-existence measures. COEX-NET is composed of representatives of the Member States and the Commission services. It is open to *ad hoc* experts, which are invited by the Commission. COEX-NET meetings are organised and chaired by DG AGRI.

Given its precisely defined mandate as a coordination network, COEX-NET is not an appropriate instrument to implement the Council mandate for the development of guidelines for crop-specific co-existence measures.

Furthermore, the process to develop guidelines has to involve Member States, as well as relevant stakeholders, in order to ensure their broadest possible acceptance. It also has to take into account the diversity under which farming takes place in the EU.

COEX-NET will provide the interface, via DG AGRI, between the technical work of the ECoB and the authorities of the Member States. Given its role as a consultative body in matters related to co-existence, COEX-NET will be kept informed about the work of ECoB. Draft Best Practice Documents will be presented, via DG AGRI, to the Member State representative at COEX-NET meetings. Reports on the on-going work will be made to COEX-NET at regular intervals. COEX-NET will be consulted on the work programme, as well as any modifications in the scope of the activities.

6. Work plan for the first 2 years

The availability of sufficient research and practical experience is a prerequisite for the development of a crop-specific Best Practice Document.

Maize is the most urgent crop to address, in particular as there are GM varieties that are already authorised for cultivation. Other crops will also have to be addressed in the future when such products will advance in the authorisation process.

The work of ECoB will initially focus on developing a Best Practice Document for the co-existence of GM maize with conventional and organic maize. Maize will be the first crop to be addressed by the ECoB for the following reasons:

- Maize is the only crop for which GM varieties are currently authorised for cultivation in the EU.
- GM maize has been commercially grown in one Member State (Spain) since 1998, and has also been grown in several other Member States (France, Portugal, Czech Republic and Germany) in recent years.
- Co-existence protocols and management practices are being drafted or have already been adopted for maize in some Member States.
- A considerable amount of research activity in support of developing co-existence measures has taken place for maize.

Further crops could be added to the work programme later on, taking into account their likely cultivation in the EU, their commercial significance, practical experience with crop-specific segregation measures, and resource availability.

As a matter of principle Best Practice Documents shall, to all extent possible, be developed sequentially, and resources required redeployed from completed finalised Best Practice Documents to advance Best Practice Documents for newly authorised crops (if available).

Annex

Tentative schedule

Action	Implementation	Indicative deadline
Sending out invitations to Member States to nominate experts for the Technical Working Group on maize	AGRI	April 2008
Choice of Advisory Groups to be consulted during the work of the Technical Working Group on maize	AGRI	May 2008
Drawing up of the final list of experts represented in the Technical Working Group on maize based on nominations by the Member States	AGRI	July 2008
First stakeholders consultation (in meetings of the Advisory Groups)	AGRI	June/October 2008
Launch of official ECoB internet site	JRC	October 2008
Technical Working Group on maize kick-off meeting	JRC/AGRI	October 2008
Background document for the development of best practices	JRC	February 2009
Technical Working Group on maize plenary meeting	JRC/AGRI	March 2009
First draft Best Practice Document	JRC	June 2009
Consultation Technical Working Group on maize (written procedure) Second consultation with stakeholders (written procedure)	JRC/AGRI	July-September 2009
Revision of First draft Best Practice Document	JRC	October-November 2009
Technical Working Group on maize plenary meeting	JRC/AGRI	December 2009
Second draft Best Practice Document for maize	JRC	March 2010
Consultation Technical Working Group on maize (written procedure) Third consultation with stakeholders (written procedure)	JRC/AGRI	April-May 2010
Draft final Best Practice Document sent to AGRI	JRC	July 2010

EUROPEAN CO-EXISTENCE BUREAU
TECHNICAL WORKING GROUP FOR MAIZE
BACKGROUND DOCUMENT FOR CO-EXISTENCE IN MAIZE CROP PRODUCTION

UPDATED 30 JULY 2008

Legal background

According to Article 26a of Directive 2001/18/EC¹ Member States may take appropriate measures to avoid the unintended presence of GMOs in other products. The Member States may put forward segregation measures as part of their national (or regional) strategies to ensure co-existence between GM crop cultivation and conventional and organic farming. Commission Recommendation 2003/556/EC² on guidelines for the development of national strategies and best practices to ensure the co-existence of genetically modified crops with conventional and organic farming states that measures for co-existence should be efficient, cost-effective and proportionate. They shall not go beyond what is necessary in order to ensure that adventitious traces of GMOs stay below the tolerance thresholds set out in Community legislation. They should avoid any unnecessary burden for farmers, seed producers, cooperatives and other actors associated with any production type.

Directive 2001/18/EC, as amended by Regulation (EC) No 1830/2003³, establishes a threshold at a level of 0.9% below which products do not require labelling in case of adventitious or technically unavoidable presence of GMOs. Regulation (EC) No 1829/2003⁴ establishes the same labelling threshold level for food and feed products.

These threshold and labelling requirements are also valid for organic food and feed products. Furthermore, Regulation (EC) No 834/2007 stipulates that organic products can not be labelled as organic if they require labelling as GM according to the above-cited legislation.

Aim and Scope of the activities

The Technical Working Group for maize (TWG-Maize) will develop a Best Practice Document that will define crop-specific segregation measures between GM and non-GM maize crop cultivation in order to ensure compliance with Community thresholds for labelling of GMOs at the level of crop production. The document is expected to support Member States

¹ Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC *OJ L 106, 17.4.2001, p. 1-39*

² Commission Recommendation of 23 July 2003 on guidelines for the development of national strategies and best practices to ensure the coexistence of genetically modified crops with conventional and organic farming (notified under document number C(2003) 2624) *OJ L 189, 29.7.2003, p. 36-47*

³ Regulation (EC) No 1830/2003 of the European Parliament and of the Council of 22 September 2003 concerning the traceability and labelling of genetically modified organisms and the traceability of food and feed products produced from genetically modified organisms and amending Directive 2001/18/EC *OJ L 268, 18.10.2003, p. 24-28*

⁴ Regulation (EC) No 1829/2003 of the European Parliament and of the Council of 22 September 2003 on genetically modified food and feed *OJ L 268, 18.10.2003, p. 1-23*

in their definition and/or further refinement or enhancement of respective national (or regional) approaches to co-existence in maize cultivation.

The scope of the activities encompasses farm level crop production from sowing up to the first point of sale (i.e. up to the farm gate/delivery to collector silos). The work will focus on single-gene maize events (e.g. MON810). At a later stage, multiple gene (stacked) events could be included.

The evaluation of co-existence measures should take into account, to the appropriate extent, differences in local or regional conditions, such as climate, field sizes, farm structures etc. The TWG-Maize will identify measures that are to be implemented by the different types of operators (GM or non-GM crop growers). Any proposed crop-specific co-existence measure should not only be practically achievable, but cost-effective in application. For this reason the development of measures will take the financial cost implications into account, with an eventual cost analysis review of the key measures planned.

Potential sources of adventitious presence of GMOs

Agriculture takes place in an open environment. Therefore, certain sources of GMO admixture cannot be completely avoided. GMO admixture can be considered adventitious if it results from natural processes (such as pollen transfer by wind or insects, or seed shedding during harvest). Where techniques to prevent admixture during certain farm operations do not exist or where the application of such techniques would be beyond economic feasibility admixture is to be considered technically unavoidable. Further, in order to establish that the presence of this material is adventitious or technically unavoidable, operators must be in a position to supply evidence to satisfy the competent authorities that they have taken appropriate steps to avoid the presence of such material.

Generally speaking, there are four potential sources that may lead to adventitious presence of GM in non-GM maize crop production at farm level. These are:

- Seed impurities
- Cross-pollination
- Volunteer growth
- Harvest/post-harvest handling and storage

Further sources may exist and their importance needs to be assessed.

In order to ensure co-existence between GM and non-GM farm-level production, each of these potential GMO sources should be limited to an extent, which is technically and economically feasible, and which ensures that the combined effect of all sources of admixture will allow GMO labelling threshold compliance. The TWG-Maize will be charged with defining and agreeing scientifically justified measures and approaches that allow threshold compliance.

Seed threshold

The establishment of a threshold for the adventitious presence of GM seeds in conventional seed lots is essential to the definition of crop co-existence measures to respect the labelling threshold in crop production. Such thresholds can be defined under Article 21.2 of Directive 2001/18/EC and applicable seeds Directives.

In the current absence of these seed thresholds, an evaluation and analysis of co-existence measures considering a range of potential seed threshold values is proposed. For maize, these values range from 0.1 to 0.5%.

Examples for segregation measures in maize crop production

The list below contains segregation measures which have been proposed or implemented by Member States in national co-existence legislation as well as measures that are listed in scientific publications as feasible and efficient to address co-existence in maize. It is not exhaustive.

As a pre-requisite, the application of co-existence management measures that accompany GM crop production within a non-GM production locality requires communication between neighbouring growers with respect to organisational co-ordination, such as the implementation of isolation distances or border crops.

Examples for segregation measures:

- Spatial isolation of a defined minimal distance between GM crop cultivation and neighbouring non-GM maize fields (could be defined as a function of the sizes of GM and non-GM fields, varieties used, type of maize used or present on non-GM fields (e.g. grain, silage maize))
- Establishment of pollen competing barriers in the form of non-GM buffer strips/zones next to the GM crop field (replacing partly or fully isolation distances according to specified conversion factor)
- Separate harvest of strips of defined widths of non-GM maize production most affected by GM maize admixture and marketing the resulting harvest as GM⁵.
- Selection of GM seed varieties of different FAO maturity class to neighbouring non-GM plantings
- Staggered sowing date with respect to neighbouring non-GM plantings
- Seed spillage management (i.e. optimisation of harvest timing, including machine setting, to avoid excessive shedding)
- Measures in relation to the use of farm-saved seeds and certified seeds
- Cleaning of all machinery shared between GM and non-GM maize growers, involved in the sowing process, trailers, loaders, seed drills, etc., and in the harvesting process, maize pickers, combine harvesters, cob shellers, transport, etc.
- Pre-planting preparation
 - Volunteer removal from field and immediate vicinity
 - Adequate soil tillage to reduce seed bank and potential future volunteers
- Cultivation intervals between GM and non-GM maize on the same plot.

⁵ This measure is sometimes referred to as "discard zones" in the scientific literature. This term does not indicate, however, that the resulting harvest is utilised in commercial form.

Although segregation measures should be specified as a function of the out-crossing potential of the GM maize crop towards other types of non-GM maize production, they must be considered in association with seeds threshold for maize, which define the baseline of maximal GMO presence at the start of crop production.