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Organización  
de las  
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Unidas  
para la  
Agricultura  
y la  
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## Item 8 of the Draft Provisional Agenda

### COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

#### WORKING GROUP ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Third Session

Rome, 26 – 28 October 2005

#### CONSIDERATION OF DRAFT GUIDING PRINCIPLES FOR THE FUTURE HARVEST CENTRES TO ADDRESS THE POSSIBILITY OF UNINTENDED PRESENCE OF TRANSGENES IN *EX SITU* COLLECTIONS

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## 1. INTRODUCTION

1. The Commission, at its Ninth Regular Session, was informed about possible introgression of transgenic material into maize landraces in Mexico, and in particular of the possibility that such transgenic material had entered the collections of the Centro Internacional de Mejoramiento de Maíz y Trigo (CIMMYT) of the Consultative Group on International Agricultural Research (CGIAR) and the accessions it had designated pursuant to its agreement with FAO. Members of the Commission expressed concern that gene flow from transgenic crops could jeopardize the integrity of genetic resources, in particular in the centres of origin, and in the collections of the Centres. Careful studies and observations on the issues were requested, and FAO was requested to continue to provide science-based advice in such matters.<sup>1</sup>

2. FAO had written to the CIMMYT's Director General to ascertain the situation. He had replied comprehensively, noting that CIMMYT had put into place procedures that would minimize the chances of any introduction of transgenic material into CIMMYT collections. FAO had thanked CIMMYT for the comprehensive information received. It had noted that CIMMYT might in the future address a number of the questions of a technical and scientific nature raised by FAO, as CIMMYT was a centre of scientific excellence on maize.

3. At its Tenth Regular Session, the Commission considered document CGRFA-10/04/06, *Report on the International Network of Ex Situ Collections under the auspices of FAO*. The document reported on an Expert Workshop on 'Technical Issues Associated with the Development of CGIAR Policies to Address the Possibility of Adventitious Presence of Transgenes in CGIAR Ex Situ Collections'.<sup>2</sup> The purpose of the workshop was to provide technical inputs to the Future Harvest Centre genebanks in drawing up their policies to prevent unintentional transgenic introgression. A set of draft guiding principles developed by the CGIAR was made available informally to the Commission during the session. The Commission was informed that the final version of the guiding principles would be issued by April 2005 after consultation with all relevant stakeholders. The Commission requested its Working Group on Plant Genetic Resources for Food and Agriculture to "consider the document prepared by IPGRI, entitled *Draft Guiding Principles for the Future Harvest Centres to Address the Possibility of Unintended Presence of Transgenes in Ex Situ Collections*."

4. The Future Harvest Centre genebanks, in managing their accessions, generally put in place procedures to maintain genetic integrity, on the basis of best practices that should prevent the introgression of other genes into accessions. Given the similar management practices of most genebanks, these guidelines could be useful for national, regional and sub-regional genebanks in developing their policies to tackle unintentional presence of transgenes in their collections.

5. The purpose of this document is to present the Working Group the Guiding Principles developed for the Future Harvest Centres (presented in Annex below), and the process undertaken by the CGIAR to prepare them. The information in the document was submitted by the International Plant Genetic Resources Institute (IPGRI).

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<sup>1</sup> *Report on the International Network of Ex Situ Collections under the auspices of FAO*, CGRFA-9/02/11, para. 27-31 and *Report of the Ninth Regular Session of the Commission on Genetic Resources for Food and Agriculture*, CGRFA-9/02/REP, para. 32.

<sup>2</sup> Expert Workshop on Technical Issues Associated with the Development of CGIAR Policies to Address the Possibility of Adventitious Presence of Transgenes in CGIAR Ex Situ Collections; IPGRI Headquarters; Rome, 28 Aug -3 Sep, 2004.. See document CGRFA-10/04/6, para. 34-39.

## 2. DEVELOPMENT OF THE GUIDING PRINCIPLES

6. A set of draft guiding principles were developed through an 'Expert Workshop on *Technical Issues Associated with the Development of CGIAR Policies to Address the Possibility of Adventitious Presence of Transgenes in CGIAR Ex Situ Collections*' held at IPGRI headquarters on 28 Aug - 3 Sep, 2004 and jointly convened by the Genetic Resources Policy Committee (GRPC) and the Science Council of the CGIAR. The draft guiding principles were widely circulated for further consultations with various stakeholders. They were also distributed to National Agriculture Research Systems, civil society organisations, and farmers' organisations, through the IPGRI website, the Global Forum for Agriculture Research, and through the list-server of GRAIN, for input and comments. The comments received were considered and the draft was revised accordingly. The guiding principles were also presented by IPGRI at the FAO Expert Consultation on 'Genetically Modified Organisms in Crop Production and their Effects on the Environment: Methodologies for Monitoring and the Way Ahead'<sup>3</sup> held in January 2005. The final version of the guiding principles was approved by the GRPC and recommended for adoption by the Future Harvest centres. The Centres were requested to post the guiding principles in their websites.

7. In summary, the guiding principles developed by the GRPC identify the elements that could prevent unintentional presence of transgenes in genebank accessions and maintain the genetic integrity of the samples conserved in the genebanks. In the event of detection of unintentional presence of transgenes, the guidelines call for taking appropriate steps to prevent introgression of those transgenes into other accessions. The guiding principles recommend the genebanks to:

- a. develop, document and communicate crop-specific guidelines, including crop-specific risk analysis procedures for best genebank management practices,
- b. evaluate critical control points in genebank operations when they are most open to introduction of transgenes,
- c. conduct testing for transgenic events according to certain criteria,
- d. make information on their procedures, results of testing, and supporting information publicly available, and
- e. inform the relevant national authority of collection or acquisition of the germplasm material, when transgenes are found.

## 3. GUIDANCE REQUESTED FROM THE WORKING GROUP ON PLANT GENETIC RESOURCES

8. The Working Group is requested to consider the information provided in this document and to make any recommendation it may deem necessary to the Commission regarding these Guiding Principles and their application. The Working Group may wish to consider the following recommendations:

- a. welcome the guiding principles for Future Harvest Centres and encourage the CGIAR to bring the guidelines to the attention of relevant international institutions.

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<sup>3</sup> FAO Expert Consultation 'Genetically Modified Organisms in Crop Production and their Effects on the Environment: Methodologies for Monitoring and the Way Ahead', 18 -20 Jan, 2005, Rome, Italy. (<http://www.fao.org/ag/doc/gmo-en.pdf>)

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- b. recommend the Commission to further consider them, with a view for the Commission to rapidly develop guiding principles or guidelines to address the possibility of unintended presence of transgenes in *ex situ* collections.
  - c. in the period up to the adoption of Commission's guiding principles or guidelines the Commission may wish to recommend national, regional and international genebanks to consider using these guiding principles.
  - d. in order to ensure synergy and complementarity, recommend that relevant sections of the guiding principles be considered in due time in the development of the draft *Code of Conduct of Biotechnology* and the *Code of Conduct of Plant Germplasm Collection and Transfer* if and when it is updated.

## *Annex*

### **Guiding Principles for the Development of Future Harvest Centres' Policies to Address the Possibility of Unintentional Presence of Transgenes in *Ex Situ* collections**

#### *Background*

1. In the management of germplasm, the Future Harvest Centres embrace the following overarching principles: ethics, transparency, accountability, risk analysis and quality control.
2. The purpose of genebanks is to collect, conserve and make genetic resources available. The maintenance of the genetic identity of the accessions is an overriding objective of genebanks. The Centres take proactive steps that aim to prevent the unintentional introgression of exotic genes, including transgenes, not already present into samples conserved in their genebanks. Proper germplasm management procedures and genebank practices and protocols to ensure quality and integrity of accessions must be followed.
3. Transgenes and conventional genes are subject to the same underlying biological processes of mutation, geneflow, introgression, recombination and natural selection. Therefore, best practices for preventing introgression of conventional genes provide an appropriate basis for preventing introgression of transgenes.
4. Germplasm management procedures and practices should conform to best practices. Best practices and appropriate technologies vary with the crop, influenced, for example, by its breeding system, pollination system, and whether it is an annual/perennial. These best practices include procedures and practices that aim to prevent the transfer of genes from sources other than the accession in question. Routes for transfer by other sources include admixture of seeds and pollination.
5. It is recognized that available technical means do not permit the complete exclusion of unintentional presence of exotic genes, including transgenes, in genebank accessions. It is also recognized that available testing techniques do not provide an absolute guarantee, without testing every single seed or plant that any given accession is free of transgenes. However, best practices in genebanks will achieve a high degree of statistical probability that an accession does not include unintentionally present transgenes.

#### *Guiding Principles*

6. The Centres should take proactive steps to determine the risk of the unintentional presence of exotic genes, including transgenes, in their *ex situ* collections.
7. The Centres should develop, document and communicate crop-specific guidelines for best genebank management practices. These guidelines should include crop-specific risk analysis procedures (i.e., risk assessment, management, and communication) addressing critical control points.
8. The major genebank operations that need to be evaluated are collecting, acquisition, regeneration, characterization, delivery, conservation, testing health and viability, evaluation and documentation (genebanks are most open to unintentional introduction of transgenes at the collecting and acquisition stage, because germplasm may have been exposed to geneflow outside the control of the genebank). The guidelines must aim to minimize geneflow at these stages, for transgenes and for conventional genes.

9. As part of their risk analysis, when collecting or acquiring new accessions by other means, Centres should consider the following regarding testing:
- a. whether transgenic events (commercial and research) in the relevant taxa are likely to be present in the area of collecting or acquisition;
  - b. the distance between the collecting site and areas where transgenic events (commercial and research) are situated; or
  - c. whether germplasm providers can provide adequate documentation of their germplasm management practices with respect to the material in question.
10. With respect to existing accessions, Centres' testing procedures should be guided by the following criteria:
- a. No testing would be required when:
    - i. there are no transgenic events (commercial or research) in the relevant taxa at the present time;
    - ii. there were no transgenic events (commercial or research) in the relevant taxa at the time of acquisition (e.g., maize prior to 1996);
    - iii. it is determined that, unless there are other factors, there is no presence of transgenic events within a distance that would allow for introgression; or
    - iv. there are transgenic events (commercial or research) present, however, proper management practices have been followed and documented in the management of the accession,
  - b. Tests should be undertaken when there are transgenic events (commercial or research) present and good management practices cannot be demonstrated.
  - c. Once an accession has been determined to either not require testing or has tested negative, the Centre will follow best practice regeneration and maintenance procedures to maintain the genetic integrity, as for all accessions.
11. If and when transgenes are detected in an accession, in following best practice management procedures, the Centres will take appropriate steps to prevent introgression of those transgenes to other accessions.
12. The Centres should establish and maintain a database on the global status of GM research and development for the crops within their collections in order to facilitate risk analysis. The database should be posted on a publicly accessible website.
13. The Centre should bear the costs of the procedures, including tests when necessary, set out above. Requests for additional assurances above those established by the Centre should be met through additional funds on a case-by-case basis from outside sources.
14. Upon request by the recipients of materials, the Centre will provide information describing procedures and tests that the Centre has followed for the accession concerned.
15. All data resulting from any testing should be properly documented and made publicly available as soon as it is considered scientifically reliable (e.g., by posting on the Centre's web site). All procedures and supporting information should be presented at the same time. The Centre will also inform the relevant authority of the country of collecting or acquisition of the material in question when transgenes are found; the Centre will also inform the relevant authority of the country in which the Centre is located.