

**Comments on the Terms of Reference and Provisional Outline
for the CEC Secretariat's Article 13 Report
"Maize and Biodiversity: The Effects of Transgenic Maize in Mexico"**

Dra. Michelle Chauvet
Departamento de Sociología
Universidad Autónoma Metropolitana
Unidad Azcapotzalco
Av. San Pablo #180
Col. Reynosa
02200 México, D.F.
TEL: (52) 5318 - 9144 y (52) 5318 - 9414
FAX: (52) 5394 - 8093
E-mail:Michelle@Chauvet.com

Dear Chantal Line :

I consider that the issues of Maize study terms of reference are correct, my concern is about two very important aspects, 1) the monitoring actions, I mean in social, environmental and scientific level, because biotechnology is changing very fast and the impacts will also be changing and 2) the probable sanctions for who or whom causes damage to the environment, communities or people.

I think you also will consider the context of the NAFTA, in particular the growing maize imports of Mexico.

Best regards
Michelle Chauvet



Dra. Elena Lazos Chavero
Instituto de Investigaciones Sociales,
UNAM Circuito Mario de la Cueva,
Cd. Universitaria 04510
Coyoacán, México, D.F.
tel. 5622-7400 ext. 275, 281
fax. 5622-7508, 5665-2443
Dear Mrs. Chantal Line Carpentier,

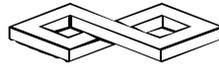
I received through Liza Covantes the information about the preliminary outline for article 13 report "Maize and Biodiversity: the effects of transgenic maize in Mexico". I have started since one year ago a research project about the perceptions, the discourses and the actions of small and big maize producers and urban maize consumers in Oaxaca and Sinaloa.

I will only point out that in Chapter 6, I think it is important to include why people want to conserve or not their local cultivated varieties. Which are the actions they do to conserve

them or not? In this sense, we find economical and social reasons that give us important elements to be considered in the evaluation of the introduction of transgenic maize. The corn producers exchange frequently their seeds. With the introduction of transgenic maize, there is an external dependence on the seeds. The effects on the social institutions of exchange are very important to be considered. The milpa growers lose their seeds because of bad crops or bad weather, but they know that they have the social means to recover the lost seed from family members or neighbors. The erosion of these social institutions not only have consequences on the production of maize, but also on the social relationships of the communities.

I think it is missing a chapter about urban maize consumers. The power of the consumers has always been neglected in order to change productive patterns.

Atentamente,
Elena Lazos

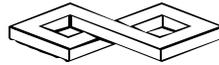


Fidel Márquez Sánchez

ANALYSIS AND RECOMENDATIONS OF POSSIBLE MANAGEMENT OF TRANSGENIC MAIZE

1. To delimitate by law, the physical distances in which transgenic maize must be cultivated from no transgenic maize.
2. That transgenic maize not to be planted until there are sufficient evidence that does not causes harm to people (or animals) who consume it.
3. That there exists a body of scientists who take care of the investigation implied in point (2).
4. That transgenic maize no to be used until the possibilities of solving the problem in maize (which transgenics are supposed to solve) are exhausted.
5. That there are investigations on the effect of consume of transgenic maize in laboratory animals made in México.
6. That transgenic maize be cultivated in México, in areas where maize genetic variation is minimal.
7. That people who has interest in the use of transgenic maize explain why it is going to solve the hunger problem in the third world: by what economical or international treaties, etc.

8. In the case that transgenic maize, for some reason or another, was cultivated the farmer must submit an application to the state SAGARPA office, and to label all their production with "TRANSGENIC MAIZE".
9. That all products for human, animal consumptions or industrial use of transgenic maize must be labeled with "TRANSGENIC MAIZE".



David Redlin, USEPA

Rationale for U.S. changes to the Terms of Reference

1. The terms of reference should be careful not to exceed the mandate of the CEC. The report should sharpen its focus on the potential environmental impacts of transgene introgression into land races of maize in Mexico. Several changes are inserted throughout the TOR to this end.
2. In paragraph 1, it should be clarified that the report will address conservation of maize biodiversity, rather than conservation of biodiversity in general.
3. In paragraph 1, delete the phrase "sustainable use". The meaning is unclear in this context, and appears to be redundant.
4. In paragraph 2, the phrase "c) human and animal health" should be deleted. The issue of transgenic food and feed safety is being adequately addressed elsewhere. This report should not duplicate the work of the Codex Alimentarius.
5. In paragraph 2, the phrase "d) social values and cultural identity" should be replaced with "indigenous practices" in order to more narrowly and precisely address the effect that local and indigenous practices have on transgene movement. It is critical that the report include a discussion of indigenous practices, given their potential to effect the movement of transgenes into and among Mexican land races. However, the phrase "social values and cultural identity" is overly broad, inadequately defined, and exceeds the appropriate scope of this report.
6. In paragraph 2, the phrase "e) economic development" should be deleted due to the complexity of this topic and the need for a completely different set of expertise on the Advisory Group. This topic is too broad to be included within the scope of this report.
7. In paragraph 3, the scope of the report should be clarified, particularly with regard to "future transgenic maize varieties". See text for suggested changes.
8. In paragraph 4, delete "issues of justice and fairness in the distribution of risks and benefits among affected parties", as this phrase is vague and poorly defined. It is not clear how this issue fits into the mandate of the CEC.
9. In paragraph 4, the management options should also include conservation incentives and public awareness.
10. In paragraph 5, delete the phrase "conceptually bold and actionable for national and scientific and policy agencies".

Rationale for U.S. changes to the Preliminary Outline for Article 13 Report on Transgenic Maize in Mexico

1. Given the current moratorium on planting transgenic maize in Mexico, we assume that the report will concentrate on issues relating to the unintentional or incidental introduction of transgenic maize. The outline should be consistent with this.
2. Chapter 1 should include a definition of “land races” and an explanation of their biological and cultural significance.
3. Chapter 1 should include a discussion of the legal status of transgenic maize production in Mexico.
4. Chapter 1 should include background on “indigenous social and cultural aspects of land race improvement and conservation of wild relatives” (previously in chapter 6). This information provides important context for the introduction of transgenes into Mexican maize, and the implications for maize land race diversity and preservation.
5. Chapter 1 should be cautious in any discussion of international treaties. Specifically, the Cartagena Protocol on Biosafety has not yet entered into force, and implementing procedures have not yet been agreed upon. The first Meeting of Parties, at which such decisions will be taken, will likely not occur until March 2004.
6. Chapters 2-5 need to be re-structured to more accurately reflect the scope of the paper. Though chapter 2 should identify the potential environmental benefits associated with the introgression of transgenes into Mexican maize, chapters 3-5 need not focus exclusively on potential. Chapter 3 should address the potential effects of introgression on the genetic diversity of Mexican land races, including effects on land races, effects on non-transgenic maize varieties, and effects on seed banks and maize germplasm conservation in general. Chapter 4 should address the potential effects of transgene introgression on the ecology of Mexican land races and maize diversity. Chapter 4 should not address the potential effects of transgene introgression on natural systems beyond those that effect the conservation of maize biodiversity (e.g., effects on human health). Chapter 5 should address the potential effects of transgene introgression on land races and Mexican maize in their agricultural context.
7. Chapter 6 should be defined more narrowly, i.e., “assessment of social and cultural effects” should be replaced with “effects of indigenous practices...”
8. Chapter 6 should include a) a description of indigenous practices and how they have affected the evolution of maize, and b) interactions between indigenous practices and the introduction and persistence of transgenic maize in Mexico. The background on social and cultural aspects of land race improvement and conservation should be moved to chapter 1. The section on “farmer choice and rights” should be deleted, as it is poorly defined, overly broad, and does not fit within the scope of the report.
9. Chapter 7 should be deleted, per the deletion of human and animal health safety from the Terms of Reference. Food and feed safety issues should not be part of this report. They are being addressed adequately in the CODEX Alimentarius forum. These issues are not unique to Mexico or its role as the center of maize diversity.
10. Chapter 8 should be deleted, per the suggested changes to the TOR. The proposed economic analyses are likely to fall outside the scientific expertise of the Advisory Group, and in any case are too broad to be addressed in the context of this report. This is especially true of “ethical and political considerations of changes in agricultural practices”.

Terms of Reference

CEC Advisory Group on genetic diversity of maize in Mexico

(U.S. changes)

The Commission for Environmental Cooperation's Maize Advisory Group is the expert advisory group appointed by the Commission's Secretariat to develop an Article 13 report on issues related to the conservation and sustainable use of maize genetic diversity in Mexico. The report is a response to stakeholders' requests to analyze the possible impacts of transgenic introgression into land races of maize in Mexico. Its purpose is to examine [the environmental](#) issues related to [potential](#) gene flow from transgenic varieties of maize to Mexican land races and their wild relatives, and [including](#) the conservation of [maize](#) biodiversity in its center of origin. The Secretariat, under the guidance of the Maize Advisory Group, will develop the report and a set of accompanying recommendations to the governments of Mexico, Canada, and the United States.

The Article 13 report will analyze the likely effects of current and future uses of transgenic maize as compared to non-transgenic maize production upon: a) the genetic diversity of land races and wild relatives, b) agricultural and natural biodiversity, [and](#) c) [indigenous practices](#), human and animal health, d) social values and cultural identity, and e) economic development.

Our focus is the [potential environmental](#) impacts of [the possible introgression and effects of maize transgenes](#) cultivation of current and near-term commercial transgenic maize varieties on land races and wild relatives of maize and the possible introgression and effects of transgenes into those taxonomic entities. We will also consider [the potential effects of transgenic maize varieties that are in development, as well as those that are currently in commerce](#), likely future transgenic maize varieties to ensure our analysis serves future policy-making and scientific research.

In considering the [environmental](#) effects of transgenic maize cultivation we will seek to identify and assess both the [environmental](#) risks and benefits to interested and affected parties and to maize biodiversity in Mexico. Our report will include an analysis and recommendation of possible management options to mitigate or avoid the potential [environmental](#) risks and to enhance or realize the potential benefits of transgenic maize cultivation. We will also consider issues of justice and fairness in the distribution of risks and benefits among affected parties. Such management options may include, but not be limited to, biological and biophysical control, agricultural management practices, [conservation incentive programs, public awareness, use of](#) trade regulations or restrictions, [improved enforcement of current laws](#), and the design and use of transgenic varieties. We recognize that such assessments and management strategies need to take into account scientific knowledge, a complex agricultural and social system and inherent uncertainty.

The Maize Advisory Group is committed to the highest standards of scientific accuracy and objectivity, transparency, communication, and participation of stakeholders in the development and review of the Article 13 report. Our aim is to guide the Secretariat through the analysis and to provide for the three NAFTA [NAAEC](#) countries

recommendations that reflect diverse perspectives, **and** are analytically rigorous, conceptually bold, and actionable for national scientific and policy agencies.

Preliminary Outline for Article 13 Report on Transgenic Maize in Mexico (U.S. changes)

Chapter 1. Context and background on wild and cultivated maize in Mexico

Agronomic and economic context of maize cultivation in Mexico and international trade in maize **[Include a discussion of the current legal status of transgenic maize production in Mexico.]**

Background on social and cultural aspects of land race improvement and conservation. [moved from ch. 6]

How would ~~unmanaged~~ **unlicensed** introduction of transgenic maize likely occur? What are the alternatives to which ~~this~~ **introgression from transgenic varieties** should be compared (e.g., improved hybrids, open-pollinated varieties, land races, etc.)? Both immediate and longer-term considerations should be taken into account (NRC 2002, pp 87–89). Present regulatory structures and international treaties should be considered as boundary constraints (they should be taken as given). **[Comment: the Biosafety Protocol is not in force and implementation procedures have not yet been agreed upon, thus they can not be taken as given.]**

Chapter 2. Identification of potential **environmental** benefits and risks (see NRC 1996) (This should probably be an iterative process to engage as many of the interested and/or affected parties as possible. Iteration may be necessary because the first cut at identification will likely reveal additional interested and/or affected parties.)

Chapter 3. ~~Assessment of effects on genetic diversity~~ **Effects of transgene introgression on maize genetic diversity**

Effect on land races

Effects on non-transgenic maize varieties

Effects on wild relatives

Effects on germplasm conservation: *in situ*, in seed banks, and other

Chapter 4. ~~Assessment of effects on natural ecosystems~~ **Effects of transgene introgression on the ecology and conservation of Mexican maize and land races**

Direct and indirect effects of transgenes on the ecology of land races and non-transgenic maize varieties ~~transgenic maize cultivation~~

~~Direct and indirect effects stemming from gene flow~~

Chapter 5. ~~Assessment of biological effects in agriculture~~ **Effects of transgene introgression on agricultural practices**

Effects on farming practices

~~Potential resistance evolution for Bt maize and other pest-protected transgenic maize varieties~~

Potential evolution of resistance in pest populations due to exposure to transgenes encoding pesticidal substances (e.g., Bt) and the effect of such resistance on agronomic practices
Effects of gene flow

~~Chapter 6. Assessment of social and cultural effects associated with transgenic maize production~~
Effects of indigenous practices on the movement of transgenes into and among Mexican land races

~~Background on social and cultural aspects of land race improvement and conservation of wild relatives~~ [Moved to chapter 1]

~~Effects on farmer choice and rights~~

Description of indigenous practices and how they have effected the evolution of Mexican land races

Interactions between indigenous practices and the introduction and persistence of transgenes

~~Effects on productivity, yields and farm income~~

~~Effects on cultural practice, identity, and customs~~

~~Chapter 7. Assessment of human and animal health effects~~

~~Human food safety~~

~~Animal feed safety~~

~~Long term monitoring and evaluation~~

~~Chapter 8. Framework by which potential benefits and risks can be judged~~

~~Economic valuation models of genetic diversity~~

~~Economic analysis of agricultural productivity~~

~~Ethical and political considerations of changes in agricultural practice~~

Chapter 9. Identification of management tools to mitigate or avoid the potential risks and to enhance or realize the potential benefits

Biological tools for cultivation, monitoring and response

Oversight/regulatory tools and intergovernmental agreements that could affect these

Chapter 10. Analysis of management options, including identification of possible tradeoffs



Doreen Stabinsky, PhD
Science advisor, Greenpeace USA

Greenpeace USA appreciates the opportunity to submit comments to the CEC on the terms of reference and preliminary outline for the Article 13 report “Maize and Biodiversity: The effects of transgenic maize in Mexico.” We include here general comments relevant to both documents, as well as comments specific to each.

In summary, we find the terms of reference and preliminary outline lacking in important ways:

- The terms of reference and preliminary outline do not comprehensively address the requests made in the Article 13 petition.
- Mechanisms for liability and redress should be explicitly mentioned in the terms of reference as they are important policy tools intrinsically linked to addressing the damage caused by contamination.
- The terms of reference should make explicit reference to *direct and indirect* environmental impacts, as requested in the Article 13 petition. A minimum list of direct and indirect impacts to be investigated should be summarized in the preliminary outline.
- The terms of reference should be explicit about including analysis of impacts on *agroecosystems*.
- The terms of reference should explicitly recognize the need to examine consequences not only of contamination and introgression, but also the spread of transgenes throughout populations of maize and teosintes throughout Mexico.
- The preliminary outline should be clear as to which maize varieties will be assessed, and explicit that attention will be paid to stacking of transgenes from different varieties. Additionally, the outline for chapter 7 should give an indication of the range of impacts that will be considered and the methodologies for their consideration.

Additionally, we **strongly** object to:

- Inclusion in the terms of reference instructions for research that is outside the areas requested in the Article 13 petition.
- Reliance on economic valuation models and cost-benefit analyses. These are inappropriate impact assessment methods for the complex, multidimensional and non-monetizable impacts that result from damage to biological diversity.

Comments common to both documents

The documents do not comprehensively address the requests made in the Article 13 petition. We refer back to the initial Article 13 request for a report. There are two specific requests that do not appear to be reflected either in the terms of reference or in the preliminary outline. We quote the English version below, noting that the translation from the original Spanish is a bit awkward.

4. to detect the sources by which this contamination of the native corn varieties exists by transgenic corn species. ...

6. some recommendations to the Mexican Government are issued in order to face the damage caused to the native corn varieties by the contamination produced by the liberation of transgenic corn.

We understand these paragraphs to request:

1. the identification of the sources of transgenic maize contamination, and
2. recommendations to the Mexican government regarding how to address the damage done by the current contamination of landraces.

These points are not currently addressed in either the terms of reference or the preliminary outline. As these are specific items from the request for an Article 13 report, it is essential that they are part of the study.

Mechanisms for liability and redress are important policy tools to be considered and should be explicitly mentioned in the TOR as they are intrinsically linked to addressing the damage caused by the contamination.

The CEC must ensure that the Article 13 inquiry responds directly to the petitioners request, and that it does so in as complete a way as possible.

Comments on the Terms of Reference

The terms of reference contain instructions for research that is outside the areas requested in the Article 13 petition and that should be deleted. In the second paragraph of the TORs are five areas for analysis of the impacts of transgenic maize. Four of these areas address requests in the original petition, a fifth – economic development – oddly appears here in the TORs. Curiously, this area is completely unrelated and irrelevant to the entire scope of the original request, which focuses on ecological and cultural impacts of transgene contamination. Moreover, there is no other reference in the entire rest of the TORs that even remotely relates to economic development, which makes its inclusion in this list of areas for assessment even more bizarre. Given the already extremely large research agenda before the CEC resulting from this petition, and the irrelevance of “economic development” to the questions posed by the petitioners, it is extremely difficult to understand why this phrase is included here.

We **strongly** object to the inclusion of this item as part of the terms of reference, as it is outside the mandate, purview and rationale of the inquiry, and we must **insist** on its deletion.

The terms of reference should make explicit reference to *direct and indirect* environmental impacts, as requested in the Article 13 petition.

The terms of reference should be explicit about the entire range of natural ecosystems and agroecosystems that will be addressed in the report. The phrase “b) agricultural and natural biodiversity” is not as inclusive as “biodiversity of natural ecosystems and agricultural ecosystems.” We recommend wording changes to communicate this broad understanding of the biological diversity that is being considered for study.

The terms of reference should explicitly recognize the need to examine consequences not only of contamination and introgression, but also the spread of transgenes throughout populations of maize and teosintes throughout Mexico.

Comments on the preliminary outline

Economic valuation models and cost-benefit analyses are inappropriate impact assessment methods for the complex, multidimensional and non-monetizable impacts that result from damage to biological diversity. Given the significant number of substantive critiques of economic valuation in the literature, and indeed the many problems with these methods cited in the background document prepared for the CEC on this topic, it is incomprehensible that the CEC has chosen to rely on an economic framework for the evaluation of risks and benefits. Economic analyses are part of risk analysis procedures, however they cannot be seen as the basis for decision-making. This is particularly true for impacts such as the ones being considered in this study – impacts that are multidimensional, long-term, complex and uncertain, with impacts on multiple generations, and with respect to public goods such as biodiversity, ecosystem services, and culture, which are difficult or impossible to monetize. Many other evaluation tools that are much more appropriate to assessing the impacts of transgenic maize can be found in the risk analysis literature, such as technological options analysis, multicriteria mapping, and integrated environmental assessment. **It is absolutely essential for the CEC to expand the contents of chapter 8 to include more relevant frameworks for assessing benefits and risks than economic valuation models.**

The outline should be clear as to which maize varieties will be assessed. There are currently a large number of maize varieties on the market and in development. Moreover, there are numerous maize varieties being cultivated in the United States that produce pharmaceuticals and industrial chemicals. The analysis should at least include all of the varieties being grown in the United States today, whether in field trials – which is how the pharmaceutical and industrial chemical maize is regulated – or at the commercial or near commercial level. Additionally, the analysis must include an evaluation of impacts if more than one transgene becomes stacked in wild relatives and landraces. The stacking of numerous transgenes has happened in a very short amount of time in canola in western Canada and therefore, stacking of transgenes in maize must be considered in the impact evaluations.

The outline for chapter 4 should provide a list of the range of ecological effects that will be investigated – short-term or long-term – and which components of the natural and agricultural environments will be the objects of study. At the very least investigations must include evaluation of impacts on important functional categories of organisms:

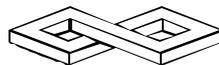
- Soil macro-organisms, soil functions, soil-plant-microbe interactions
- Non-target herbivores
- Natural enemies
- Pollinators and pollen feeders
- Species of conservation concern – endangered species, species of ecological, cultural and/or economic significance
- other important functional components of ecosystems determined on a case-by-case basis for all the ecosystems where teosintes and maize might be found

It should be clear from the outline of chapters 4 and 5 that attention is also being given to the agroecosystem. Impacts on natural enemies would be extremely significant for future agricultural production, and hence should be an essential element of any evaluation. Similarly, the impact on the soil ecosystem is also essential to consider.

The outline for chapter 7 should give an indication of the range of impacts that will be considered, and the methodologies for their consideration. Will only current varieties be considered or will there be consideration of all varieties currently being grown in the United States? What parameters will be considered? We consider it essential that among other items, the following should be part of the analysis:

- Long-term impacts
- Identification of unknowns and uncertainties in food/feed safety evaluations
- Implications for food safety evaluation of differences in human maize consumption patterns between US (minimal amounts found in US food supply, in highly processed food products not consumed in great amounts) and Mexico (human consumption on a daily basis, in large quantities, with minimal processing)
- Current critiques of the US regulatory process for food and feed, including shortcomings identified in the scientific literature and by intergovernmental bodies such as the FAO and WHO

In the outline for chapter 9 there should be separate bullet points for oversight/regulatory tools and intergovernmental agreements, as these are clearly separate points. Given the lack of current legal precedents determining the exact nature of the relation between several relevant intergovernmental agreements, and the contested nature of those relations, the discussion of the agreements should be separated from a discussion of the tools themselves.



Stephen B. Brush, Professor
Dept. of Human and Community Development
University of California
Davis, CA 95616 USA
Voice phone; (+1 530) 752-4368
Fax (+1 530) 752-5660

Comments on Preliminary Outline for Article 13 Report “Maize and Biobiversity: The Effects of Transgenic Maize in Mexico”

Chapter 1:

A good way to begin the report. The chapter should also summarize the evidence of the introduction and establishment of transgenic maize germplasm in Mexico: where is it found, what are its likely sources. This chapter should review the trends in Mexican agriculture that relate to the introduction of transgenic maize (e.g., food imports, labor migration).

Chapter 2.

This outline is not very complete. I suggest it follow sections 2 and 3 of the 2002 NRC book, *Environmental Effects of Transgenic Plants*, to review the ecological, genetic and social factors that should be included and the scientific basis of risk assessment. The NRC report balances opposing sides and views on transgenic crops. For the Article 13 report, this chapter needs to discuss the science of risk assessment for two distinct domains that are treated in Chapters 3 and 4: maize and natural ecosystems. Both of these domains need to be disaggregated. The risk of effects from transgenic maize might be compared to risks from other changes that are going on in Mexican agriculture.

Chapter 3

This chapter looks OK. The existing categories are appropriate. The chapter might attempt to estimate the distribution of different types of maize in Mexico as a basis for estimating degree of risk to landraces and wild relative. In other words, you might work from a typology of maize agro-ecosystems.

Chapter 4

This outline is fairly minimal. Again I suggest working from the framework of the 2002 NRC book.

Chapter 5

The effect on farming practices needs to note that these are constantly changing and are not a static set. This chapter might be combined with Chapter 3, to make that chapter a review of effects on (1) maize and maize relatives, (2) other species in Mexican agriculture, including gene flow, and (3) farming practices. The risk of transgenic maize needs to be set in a context of other risk factors.

Chapter 6

Assessment of social and cultural effects should incorporate ethnographic and economic data on the background of maize production. This background should note the nature of change that is currently affecting maize agriculture. Discussion of landrace management and agricultural development is necessary to set the context. Cultural effects are difficult to gauge because of their inherently subjective nature. Methods to appraise farmer attitudes should be discussed. A danger is reification of cultural practices, identity and customs. We know that maize has a local utility value that is not entirely captured in its market or food value, but connecting this utility value to the risk of transgenic maize is hypothetical.

Chapter 7

Seems appropriate and adequate

Chapter 8

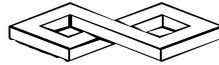
This chapter should include a discussion of the policy context in which the benefits and risks are weighed. Who are the different stake holders? How are they likely to be affected by the diffusion or measures to control diffusion of transgenic maize? A major gap (need) here is to identify what data are available and what data are needed to make policy decisions.

Chapter 9

The 2002 NRC book might be a useful model – in its assessment of the current capacity of US institutions to regulate transgenic crops.

Chapter 10

The preceding chapters should contain most of the material that is shown here. The purpose of this chapter should be to summarize the options and tradeoffs that have been developed in previous chapters.



**Maria Colin
Legal Counsel
Genetic Engineering Campaign
Greenpeace Mexico.**

Tel: (0152) 55906868, 55909474, 85905644/45

Fax: (0152) 55905585

Dear Chantal-Line:

I hope this finds you well. The precautionary principal is another point that must be elaborated on and stated more explicitly in the first chapters of the TOR for the maize submission. In this regard, I am enclosing a document presenting a detailed approach developed by Dr. Joel Tickner of the University of Massachusetts. Please feel free to contact him to enlarge upon this point as necessary.

Finally, I am enclosing the comments of two experts: Elena Lazos, a professor at the Universidad Nacional Autónoma de México (UNAM), and the renowned Mexican geneticist Dr. Ortega Pazcka of the Universidad Autónoma de Chapingo.

Please keep us informed of how our contributions, ideas, and scientific articles will be taken into consideration in the analysis of the submission.

Dear Chantal-Line:

Here are a few comments on the terms of reference:

Chapter 2. Analyze the availability of alternatives with which the alleged benefit of transgenics can be compared.

Chapter 3. Add: Long-term monitoring

Chapter 4. Add: long-term monitoring

Chapter 5. Add: long-term monitoring

Chapter 6. Add the following point:

+Evaluation of the role of peasant and indigenous communities in the conservation of maize genetic resources

Chapter 11. Long-term GMO enforcement and monitoring mechanisms in each sphere covered by chapters 3, 4, 5, 6 and 7 (socioeconomic, cultural, environmental, etc.).

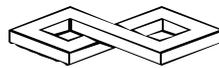
Chapter 12. Mechanisms for guaranteeing access to information and public consultation of peasant and indigenous communities, among others.

Chapter 13. Legal mechanisms making it possible to assign liability in the event of accidental and/or deliberate releases, and to award compensation to the injured parties.

We also enclose the comments we received this week from the renowned maize geneticist Dr. Fidel Marquez.

Best regards,

Liza Covantes and Maria Colin



Comments Received after the February 24th Deadline

Received Monday March 3rd, 2003

Agustí Bordas-i-Cuscó
Americas Branch/Direction des Amériques
Environment Canada/Environnement Canada
10 Wellington, 23rd floor/23ième étage
Hull, Quebec K1A 0H3
tel: 819-956-5947
fax: 819-997-0199
e-mail/courriel: agusti.bordas@ec.gc.ca

Canadian Comments on the Terms of Reference (TOR) for the CEC Secretariat Article 13 Report on Genetic Diversity of Maize in Mexico

- Overall, we have no major concerns about the TOR. However, we feel the TOR would benefit from greater clarity, particularly on the purpose of the report - including a more rigorous explanation of problem the report is intended to address.
- Given that the objective of the Article 13 report is to examine the impact on the genetic diversity of land races of maize in Mexico a broader approach which includes an examination of the extent of gene flow (transgenic introgression) of both transgenic maize and traditionally bred maize on Mexican land races and their wild relatives would provide a more complete picture.
- We would like some indication of how the environmental, economic, social, cultural and health effects will be measured.

- As a general comment, greater clarity could be achieved if basic headings were used for setting out the terms of reference.
- The TOR would benefit from a clearer articulation and definition of the scope of work and the provision of timelines.
- Could you please clarify how the Maize Advisory Group intends, i.e. methodology, to examine "human and animal health" and how this falls under the scope of the TOR?