



# Maize Consensus Document

INIFAP-CIMMYT

ODEC-EHS-BIOT

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## Consensus Document on the Biology of Maize

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This page serves as a channel of information for the general public about progress in the development of the Consensus Document on the Biology of Maize. It explains the reasons for developing the document, the issues that will be addressed, and Mexico's role in its development.

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#### Why a Consensus Document?

In every field, technology is achieving fast and astonishing results, and biotechnology and agriculture are no exception. The application of genetic engineering to food crops has raised concerns but has also given hope for reaching desirable and promising alternatives. These alternatives may make it possible to satisfy the world's growing need for food while reducing damage to the environment, alleviating the continuous loss of arable land, and improving the treatment of liquid and solid wastes.

Crops and other products produced by means of modern biotechnology will need to be marketed and transported to areas outside the country or region where the product was originally produced. Such trade requires international regulations to ensure that adequate safeguards for the environment exist. The Organisation for Economic Co-operation and Development (OECD), which established a Programme of Work on the Harmonization of Regulatory Oversight in Biotechnology for 1997–1999, has taken the initiative in promoting international harmonization of biotechnology regulations. The OECD has focused on the development of consensus documents for acceptance among OECD member nations.

#### What Is the Role of Mexico?

Environmental safeguards are particularly important when commercial agricultural products developed outside centers of crop diversity are exported to centers of diversity. Mexico is the center of origin and diversity of several of the world's most important crops (hot peppers, beans, squash, cotton, and maize). As an OECD member, Mexico is committed to helping develop the consensus documents that will serve as the basis for a regulatory framework that can achieve positive, balanced results. Mexico's contribution to this effort will be a consensus document on maize (*Zea mays*).

Although the development of this document is of great importance for Mexico, the only Latin American member of the OECD, it is not a simple task. Many conflicting interests are involved. The ultimate goal is to maintain economic development while ensuring the safety of the environment and biodiversity, which sometimes are difficult issues to reconcile. This dilemma is especially true for maize in the context of the peoples and culture of Mexico and of the other Latin American countries that constitute the center of origin of maize.

### Which Issues Will the Document Address?

Several topics related to the use of transgenic maize have already been identified for consideration in the consensus document, including potential effects on subsistence farming in centers of diversity, maize and its role in society, economic impact of transgenic maize, and special considerations relevant to centers of diversity. These topics are highly relevant to the interests for which the OECD has been working. They have been drawn from current OECD policies and augmented by an assessment of the multidisciplinary issues involved in the introduction of transgenic maize.

Other important issues to be addressed include trade and trade-related policies affecting the use of biotechnology and the trade of biotechnology products, including intellectual property rights protection, standards and safety regulations, certification systems, marketing, and product labeling.

It is foreseen that any proposed use of transgenic maize plants, from small-scale or large-scale product development to commercial use, must be reviewed case by case, as the specific interactions and environment in which such plants will be grown have implications for the issues described above, such as biosafety.

Note that the consensus document is not intended to be an encyclopedic review of all research pertaining to transgenic maize. Nor will the document dictate to regulatory authorities in any country the procedures for reviewing requests for field testing, deregulation, or commercialization of transgenic maize plants. Instead, the consensus will attempt to describe the current state of experience pertaining to maize. It will draw upon a wide range of sources in an effort to capture the current "state of the art" in transgenic maize. It will seek to present factors relevant to addressing the biosafety concerns raised in relation to transgenic maize. The regulatory measures adopted by a country that is a center of diversity must comply with the current international concern of protecting the environment and biodiversity. This issue is highly significant for many groups and nations throughout the world, as the world's biodiversity is precious to all and not just to those countries which happen to be centres of diversity. This fact makes the task considerably more complex.

### Who Will Develop the Document?

The consensus document on maize will be developed under the auspices of the OECD's Expert Group on Harmonization of Regulatory Oversight in Biotechnology. The document will be drafted by a group of experts (biological scientists and academicians) representing various disciplines. This group is coordinated by **J. Antonio Serratos-Hernández** from the National Institute of Forestry, Agriculture, and Livestock Research (INIFAP), who is also Mexico's representative in the OECD Expert Group. The **draft** will be reviewed by members of administrative, governmental, and non-governmental organizations within Mexico. The revised document will be forwarded to OECD countries for their comments and further revisions. The Joint Meeting of the Chemicals Group and Management Committee of the Special Programme on the Control of Chemicals has recommended that this document be made available to the public. It will be published on the authority of the Secretary-General of the OECD.

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## Draft Consensus Document on Biology of *Zea mays* subsp. *mays* (maize)

Maize is a member of the Maydeae tribe of the grass family, Poaceae. It is a robust monoecious annual plant which requires the help of man to disperse its seeds for propagation and survival. Corn is the most efficient plant for capturing the energy of the sun and converting it into food, it has a great plasticity adapting to extreme and different conditions of humidity, sunlight, altitude, and temperature. It can only be crossed experimentally with the genus *Tripsacum*, and member species of its own genus (teosinte) easily hybridize with it. Transgenic maize is already being used as a crop not only with agricultural purposes in various non-centers of origin areas.

This document describes the particular condition of maize and its wild relatives in Mexico, and the interactions between open-pollinated varieties and teosinte. It refers to the importance of preservation of

native germplasm and it focus on the singular conditions in its center of origin and diversity. Several biological and socioeconomic factors are considered important in the cultivation of maize and its diversity, therefore are as well described.

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**General content guidelines will be given in the future!!**

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