

## CIMMYT Responds to “Joint Statement” on Genetically Modified Maize in Mexico

February 22, 2002

El Batán, Texcoco, Mexico—On 19 February 2002, a “Joint Statement,” formulated primarily by the Action Group on Erosion, Technology and Concentration (ETC, formerly RAFI) and Food First, on behalf of a group of civil society organizations, was posted on various web sites and listservers. At issue is the possible introgression of transgenes into Mexican maize landraces or *criollos*, which is of particular concern because Mexico is the center of origin and domestication for maize. The issue is extremely contentious, as some believe that the introduction of a transformed gene into the landraces will decrease genetic diversity, whereas others maintain that it will not affect diversity at all, or indeed would enhance diversity. It also raises issues of intellectual property management.

CIMMYT welcomes active and informed debate on important food and agricultural issues, and certainly maintaining the genetic diversity of one of the world’s staple cereals—maize—constitutes a critical issue. In fact, CIMMYT has worked hard during the 1990s to maintain such diversity, both in Mexican farmers’ fields and in our gene bank, the Wellhausen-Anderson Plant Genetic Resources Center. We very much regret, however, that in trying to make its point, the Joint Statement at times resorts to inaccurate and/or unsubstantiated information. CIMMYT prefers to let science and facts speak for themselves, but because we are directly cited and sometimes misrepresented in the Joint Statement, we are compelled to respond.

The Joint Statement declares that the Director General of CIMMYT, Professor Timothy Reeves, “has stood by . . . two main points: there is contamination [sic] in a Center of Diversity, and it is only a matter of time before that contamination [sic] reaches into the gene bank—if it hasn’t already occurred.” The Statement goes on to accuse CIMMYT of being silent on this issue and “hiding behind a debate they themselves understand to be irrelevant on methodologies of GM detection.”

On the introgression of transgenic DNA into Mexican landraces: Has it occurred? Possibly. CIMMYT has relied on information from others on this topic. Like the general public, CIMMYT researchers first learned of a promoter used for transgenic maize (cauliflower mosaic virus, CaMV 35S) being discovered in Mexican landraces from the “News” and “Letters to Nature” sections of *Nature* (issues 27 September and 29 November 2001, respectively), which referred to a study by David Quist and Ignacio Chapela. CIMMYT immediately began to review the study’s implications for our own research and for genetic diversity in Mexico.

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Since the Quist-Chapela study was reported in *Nature*, however, other scientists have raised serious questions about the study's methodologies, results, and conclusions (e.g., *Transgenic Research* 11:iii-v, 2002). Today, Mexican authorities are conducting rigorous experiments that look for the expression of a transgene rather than just the presence of the promoter, to get a clearer picture of whether transgenes have actually arrived and, if so, assess the extent of the introduction. CIMMYT scientists are actively involved with some of these efforts. We understand that a major report will be presented in the coming weeks.

The contention that CIMMYT is "hiding" behind arguments about methodology on this issue is false. Regardless of whether the conclusions of the Quist-Chapela study are accurate, and regardless of questions about their methodology, we have made it very clear that the issue they raise is important, and that careful research must be undertaken without undue delay to evaluate the situation in Mexico. Perhaps CIMMYT's adherence to science (and rigorous research methods) rather than sensational speculation has been misconstrued. "Reliable statements cannot be made about the status of transgenic maize in farmers' fields in Mexico or in gene banks unless a strong methodology is used to evaluate the genetic resources in question and produce reliable results," says CIMMYT Director General Reeves. "We believe such results are still lacking, although there seems to be no hesitancy on the part of others to use preliminary and sometimes unsubstantiated results to support their cause."

The accusation that CIMMYT has remained "silent" on this issue is simply not true. A scant seven days (4 October 2001) following the publication of the September 2001 *Nature* News item, CIMMYT posted the following statement on its public web site:

The International Maize and Wheat Improvement Center (CIMMYT), headquartered in Texcoco, Mexico, regards this as a serious development and offers its considerable expertise to the appropriate Mexican institutions to (1) help identify the type and source of the introduced gene(s), (2) assess potential impacts to biodiversity, the ecology, and the socioeconomic environment, and (3) to explore possible responses . . . . To date, details of the studies referred to in *Nature* (Vol. 413) about the discovery of transgenes in Mexican landraces have not been released to the public. CIMMYT looks forward to obtaining and reviewing the data and determining the implications both for Mexico and for CIMMYT's work. The Center is in a unique position to assist in such investigations, and, given our mandate to serve the resource poor of the developing world, to work on approaches to maize improvement that benefit poor farmers while protecting valuable genetic resources and the environment.

Following CIMMYT's initial response, results from ongoing screens of gene bank accessions for the CaMV 35S promoter were posted regularly on our web site. Public discourse and publications on this issue by CIMMYT over the years have been considerable. In 1995 (when others were silent on the topic), CIMMYT conducted a workshop on "Gene Flow Among Maize Landraces, Improved Maize Varieties, and Teosinte: Implications for Transgenic Maize." Proceedings of this workshop were published in early 1997 and were made available on the CIMMYT web site. In addition, CIMMYT scientists have regularly written journal articles and given conference presentations on related topics and in recent months spoken extensively to the local and international media on the subject. We have hardly been silent.

In regard to insinuations that transgenes have already found their way into the Wellhausen-Anderson Plant Genetic Resources Center, tests conducted by CIMMYT scientists have found no evidence that

transgenic DNA is present in any of the CIMMYT gene bank material that has been tested to date—and the tests are continuing. We have a world-class biotechnology program at CIMMYT and maintain that the statements we make are based on solid scientific evidence.

Lastly, the Joint Statement asserts that CIMMYT Director General Reeves said “it would only be a matter of time before contamination reached the gene banks.” Professor Reeves was quoted out of context and issued the following statement to clarify CIMMYT’s position and avoid further misquotes or misunderstandings:

I will once again state that given what we know about farmers’ management of diversity in Mexico, and given what we know about gene flow in maize, if transgenic maize is being grown in farmers’ fields as reported in January and again in February, then it is possible that material collected from nearby areas could contain transgenic DNA. It is imperative to learn more about the situation in the field through carefully designed studies and to implement procedures that ensure that the status of material is known before it is stored in gene banks. Only further testing using reliable methodology will determine whether landrace material with transgenic DNA has already been stored in one or more gene banks. As CIMMYT has done to date, we will continue to publish the results of our analyses of our gene bank accessions on our website.

CIMMYT continues to welcome dialogue and open scientific exchanges on the issue. We remain firmly committed to maintaining genetic diversity in both farmers’ fields and in our gene bank, a commitment that long pre-dates the flamboyant and often misleading headlines that dominate today’s debate. We have repeatedly emphasized that people and governments must determine for themselves, on the basis of their needs and values, whether and how they will use genetically modified food crops and other products of biotechnology. Most important, we remain focused on our primary objective: improving livelihoods of resource-poor farmers and their communities through the well-considered application of first-class science.