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The Genetic Shell Game, or, Now you see it! Now you don't! Industry exploits new study on transgenic maize in Oaxaca, Mexico

Biotech proponents are using a new scientific study – which finds no evidence of DNA contamination from genetically modified (GM) maize in one area of one Mexican state (Oaxaca) – to claim that Mexico's native maize was never threatened, and even if it was at one time, the issue has now miraculously evaporated. One representative of agribusiness in Mexico, eagerly concluded that, "this study paves the way for the commercial planting of GM maize in Mexico."¹

According to Silvia Ribeiro of ETC Group in Mexico: "It's no surprise that the industry is using the findings to serve its own interests – as 'proof' that contamination no longer exists and that GM crops should have free reign everywhere, even in the South's centers of crop genetic diversity. Indigenous and farming communities vigorously disagree with the biotech industry's self-serving interpretation of the study."

According to peasant communities in Oaxaca, the new findings are not terribly surprising. Baldemar Mendoza of UNOSJO (Union of Organisations of the Sierra Juarez of Oaxaca) – who lives in the region covered by the new study – said, "We took samples in 3 of the 18 communities that the new report mentions (San Juan Ev. Analco, Ixtlan and Santa Maria Jaltianguis) and our results were also negative in those three communities." Mendoza points out that the geographic area sampled by the new study is small and the 18 communities are predominantly forest communities, which means that their main activity is not planting maize. Mendoza also points out, "The new study doesn't refer to any other part of Mexico where contamination has been found but some in the media are already making the false claim that 'there is no contamination in the whole state of Oaxaca or even all of Southern Mexico.'"

Four years ago the Mexican government first verified that GM maize had contaminated native maize grown and developed by indigenous farmers in at least two Mexican states – including Oaxaca and Puebla. It has been illegal to plant GM maize in Mexico (either for research or commercial plantings) since 1999. The contamination most likely came about after peasant farmers unknowingly planted a small percentage of imported maize (intended for feed – not for seed). Evidence of contamination was confirmed by subsequent studies and has been widely acknowledged. Indigenous peoples, peasant farmers and civil society have sharply criticized the lack of government efforts to prevent GM contamination and protect native maize.

On Tuesday a new study authored by Mexican scientists and US researchers reports no signs of contamination from genetically modified maize (transgenes) in native maize in one area of Oaxaca. "Absence of detectable transgenes in local landraces of maize in Oaxaca, Mexico (2003-

2004)" was published in the *Proceedings of the National Academy of Sciences* (US).² The Mexican scientists who authored the report currently or previously worked for the Mexican government and participated in prior government studies confirming DNA contamination in Mexico. However, the Mexican government's earlier studies were not published.

The authors of the study published this week accept the evidence of earlier studies showing contamination, and caution that their results "should not be extrapolated to other regions of Mexico without quantitative data nor is the current situation likely to remain static." The authors also conclude, "we expect that the prevalence and variety of transgenic traits in maize will increase because … the global area of GM maize cultivation is increasing rapidly."

In October 2003 a network of farmers, indigenous communities and civil society organizations in Mexico ("In Defense of Maize") conducted their own study of GM contamination in nine Mexican states. Using commercial detection kits, community groups sampled 5,000 plants from 134 communities – the results showed contamination in all nine states, to differing degrees.³

Baldemar Mendoza of UNOSJO explains, "It is clear to everyone that Mexican native maize is contaminated with GMOs in Oaxaca and many other parts of Mexico. The government has known about it for four years and has done nothing to stop the sources of contamination. In fact, they've done the opposite: they have increased the imports of transgenic maize from the US; they've lifted the moratorium on planting GM maize in Mexico without even consulting with the victims of contamination; and, thanks to the recently approved biosafety law, they have allowed the companies responsible for contamination, such as Monsanto, to proceed with impunity. It is ironic that the only study that governmental sources have published minimizes the problem."

Mendoza continues, "The absence of contamination reported in the new study could mean that the level of contamination has always been very low in that particular area, or it could be that the de-contamination work done by many communities and has been successful – and, of course, that would be good news. If de-contamination efforts have been successful, however, it's not the result of the government's so-called 'education campaign,' it's the result of community efforts to recuperate our seeds by controlling which seeds come into the community and eliminating any strange or deformed plants we see."

Silvia Ribeiro of ETC Group points out that, "The study doesn't explain how the contamination could disappear in such a short amount of time. It could demonstrate that the testing technology is every bit as unreliable as the genetic transformation technology – since the behavior of transformed genes isn't always predictable."

Many observers are uncomfortable with the fact that the editor of the study released this week is Barbara Schaal, who works in the Monsanto Laboratory of Washington University, St. Louis. Monsanto is a major corporate funder of biotech research at Washington University and is the company whose technology accounted for almost 90% of the worldwide area planted in GM seeds in 2004.

Others question the value of the findings. According to Peter Rosset, biologist and former professor of statistics, as well as researcher at CECCAM (Center for the Study of Rural Change in the Mexico), the study is statistically inconclusive: "The researchers did not provide a lot of detail on their methodology, but it seems they erroneously inflated their sample size, thus giving their results an unwarranted appearance of accuracy." He adds that, "because they used commercial testing companies that use conservative, or low resolution tests, they would have

been unlikely to detect the levels of widespread, low-level contamination that other researchers found when using higher resolution methods."

For Baldemar Mendoza, "it's profoundly troubling that this study is being used to 'green light' the cultivation of transgenic maize in Mexico, while putting the burden of controlling it on the backs of indigenous peoples and peasants. The only real way to control contamination is not to plant transgenics. We don't need more studies or education campaigns. We don't want genetically modified seeds; they are here only to increase the profits of transnational companies while putting our maize heritage – the work peasants have done over the last 10,000 years – at risk."

For more information:

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The Action Group on Erosion, Technology and Concentration, formerly RAFI, is an international civil society organization headquartered in Canada. The ETC Group is dedicated to the advancement of cultural and ecological diversity and human rights. www.etcgroup.org. The ETC Group is also a member of the Community Biodiversity Development and Conservation Programme (CBDC). The CBDC is a collaborative experimental initiative involving civil society organizations and public research institutions in 14 countries. The CBDC is dedicated to the exploration of community-directed programmes to strengthen the conservation and enhancement of agricultural biodiversity. The CBDC website is www.ebdcprogram.org

http://www.pnas.org/cgi/content/abstract/0503356102v1

¹ Elizabeth Velasco, "El maíz criollo de Oaxaca, libre de contaminación genética: científicos". *La Jornada*, Mexico, Aug. 10, 2005.

http://www.jornada.unam.mx/2005/ago05/050810/047n1soc.php

² S. Ortiz García, E. Ezcurra, B. Schoel, F.Acevedo, J. Soberón and A.A. Snow: "Absence of detectable transgenes in local landraces of maize in Oaxaca, Mexico (2003-2004)", *Proceedings of the National Academy of Sciences*, August 9th, 2005.

³ For more information, see <u>http://www.etcgroup.org/article.asp?newsid=410</u> The nine states where GM contamination was found include: Oaxaca, Puebla, Chihuahua, Morelos, Estado de México, San Luis Potosí, Durango, Tlaxcala y Veracruz