

A. The Americas

MEXICO

Genetically Modified Corn at its Center of Origin

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In Mexico, the debate over the cultivation of genetically modified organisms (GMOs) has centered on corn. Corn is the country's most important crop, the core of peasant agricultural production and organization, the staple of the popular diet, the most widely consumed grain, and the heart of the culture. It is also considered part of the human heritage; in Mesoamerican creation stories, the human race was modeled out of cornmeal, not clay.²²

Mexico and Mesoamerica are where corn originated and diversified into the varieties of today. Maize cultivation was the grand achievement of Mesoamerican civilization. Mexico leads all nations in its wealth of landraces and varieties²³; there are more than 60 landraces and thousands of native varieties, as well as varieties of the wild ancestor of the grain called "teocintle."²⁴

The corn plant reproduces by cross-pollination, unlike other basic grains like wheat and rice that are self-pollinated. When corn reproduces, the pollen of one plant pollinates neighboring plants, and all the plants in a cornfield will be different from the previous generation and from each other.²⁵ Under favorable conditions pollen can travel long distances and still be effective for fertilization. Therefore, it's inevitable that genetically modified (GM) corn will contaminate native corn. As a recent study puts it: "...it is very easy to insert new genes into the system, but very difficult—if not impossible—to eradicate them."²⁶

Although many other crops are also genetically diverse, corn is remarkable for the genetic diversity found in a single plot. It is common to find three or four or even more varieties of corn together in a field. Seed selection and seed exchange among small farmers is a fundamental part of this process; there is constant flow of genetic material between communities and geographic regions as a result.

Corn is the basic food of Mexico. The consumption of corn by the Mexican population is one of the highest in the world and most people object to having a diet based on GMOs. For Mexicans, corn is also the heart of the culture and maize seed is a legacy of the ancestors. Defense of corn is a defense of

²² Hernández Navarro Luis, "En defensa del maíz", *La Jornada*, enero 2002

²³ CIMMYT, INIFAP, CNBA, *Flujo genético entre maíz criollo, maíz mejorado y teocintle: implicaciones para el maíz transgénico*. Memoria del Foro. México, September 1995. p. 105

²⁴ In the Western Hemisphere there are between 220 and 300 races of maize (Brown and Goodman, 1977; Vigouroux *et al.* 2008; in Mexico, according to different authors and institutions there are between 41 and 65 races, see 41 (Ortega-Paczka *et al.* 1991), 59 (Sánchez *et al.* 2000) or 65 (LAMP, 1991) cited in: Kato Ángel, Cristina Mapes, *et al.*, *Origen y diversificación del maíz. Una revisión analítica*, México, UNAM, Instituto de Ecología, UACM, CP, Semarnat, Conabio, 2009.

²⁵ CIMMYT, "Assessing the Benefits of International Maize Breeding Research: An Overview of the Global Maize Impacts Study" in: *World Maize Facts and Trends*, CIMMYT 2000 p. 26

²⁶ Serratos J.A., Islas F. and J. Berthaud, "Producción de maíz, razas locales y distribución del teocintle en México: Elementos para un análisis GIS de flujo genético y valoración de riesgos para la liberación de maíz transgénico", paper presented in Brasília, forthcoming, 2001

personal, collective, and national identity. It is perceived as a shared struggle and an obligation derived from the country's history.

NAFTA—The Vehicle Of GM Corn Into Mexico

Following passage in 1994 of the North American Free Trade Agreement (NAFTA) corn imports increased exponentially from just 154 thousand tons in 1993, to 5.6 million tons in 1996. As a result, incomes of the 3.2 million corn producers, the majority of the small-scale producers in the country, dramatically dropped. Between 1993 and 2006 Mexican producer prices dropped by 50 percent, pressured by imports without tariffs.²⁷

The increase in imports was not due to a lack of production in Mexico —corn production has increased and currently stands at over 20 million tons. For several years prices paid for imported corn were higher than prices paid for Mexican corn. The heart of the matter can be found in the support programs for agricultural and livestock exports that the U.S. government provided to its producers through the Commodity Credit Corporation (CCC). Through this program corn importers could obtain long-term soft loans. Importing grain became a profitable financial operation. Mexico is the second largest export market for U.S. corn. The source of the native corn transgenic contamination was imports of corn from the United States without segregation or labeling.

Corporations, Scientists, and the Mexican Government

The Mexican government actively promotes GM corn, acting in favor of the corporations that produce GM seed and against the popular will. Both houses of Congress have passed laws that undermine the public good and resources to favor corporate interests. Among these are the Biodiversity and Genetically Modified Organisms Law (2005) - popularly known as the Monsanto Law and the Law of Seeds²⁸ (2007) - which seeks to make the exchange and marketing of peasant seed illegal.

The debate on GMOs has placed the government and private companies in opposition with society, especially indigenous and peasant communities and organizations, independent scientists, environmental and civil organizations and a growing number of citizens.

The analysis of the risks of GM corn for the diversity of landraces and varieties of native corn in the center of origin began among scientists at public research institutes. At first, study and debate was limited to a handful of specialists. In 1995, national and international maize specialists pointed out that "if GM corn is deregulated in the United States, it is very probable that it will get to Mexico in a short period of time."²⁹ In 1998, the corporations that produce GM seed increased the pressure on the Mexican government to allow experimental plantings on several hectares. Some scientists from the National Council of Agricultural Biosecurity charged with approving permits for sowing, proposed a *de facto* moratorium on experimental and commercial cultivation of GM corn. The moratorium went into effect in 1999 and was in place until 2009.

²⁷ (de Ita Ana, *Fourteen Years of NAFTA and the Tortilla Crisis*, Americas Program Special Report, January 2008).

²⁸ Ley Federal de Producción, Certificación y Comercialización de Semillas 2007.

²⁹ CIMMYT, INIFAP, CNBA, *Op. Cit.*, 1995.

Moving quickly in the opposite direction, the Mexican government has not done anything to stop the entry of GM corn and other crops into the country and instead has promoted them.

In November of 2001 two scientists working at the University of California, Berkeley — Ignacio Chapela and David Quist — found native corn varieties contaminated with transgenes in some parts of the Sierra Norte of Oaxaca and Puebla.³⁰ The biotechnology industry, behind scientist members of the AgBioWorld electronic discussion group moderated by biotechnology professor CS Prakash, led a campaign to discredit both the scientists and their findings successfully pressured *Nature* magazine to retract the publication of Chapela and Quist's findings.³¹ However, the Mexican National Ecology Institute and National Commission on Biodiversity (Conabio) confirmed the existence of GM contamination in native corn in their own analyses. They also discovered that the governmental food program Diconsa in Ixtlán, Oaxaca, had found GM contamination of corn destined for human consumption.³²

Corn imported from the United States was the source of the native corn contamination. Following the passage of the North American Free Trade Agreement (NAFTA), imports increased exponentially. Mexico is the second largest export market for U.S. corn, but the Mexican government has never required GM corn to be segregated or labeled.

Diconsa, a state-run agency for public food supply in rural zones, distributed imported corn in 23,000 rural stores. In some places, farmers planted this corn and the cultivation of imported GM corn contaminated native varieties.³³ Mexico imports more than eight million tons of corn annually — nearly all from the United States. By 2010, 86 percent of all U.S. corn produced was genetically modified.³⁴

In 2003 the Mexican government signed an agreement with the United States and Canada to remove the requirement that cross border shipments of grain contain less than five percent genetically modified material.³⁵ At the meeting of the Cartagena Protocol in Kuala Lumpur in 2004, the Mexican government blocked consensus on a requirement to label GM products, as a favor to the U.S. government.

The North American Commission on Environmental Cooperation (CEC) did a study on the implications of sowing GM corn in Mexico at the request of several grassroots organizations.³⁶ Among

³⁰Chapela I., Quist D., "Transgenic DNA introgressed into traditional maize landraces in Oaxaca, Mexico", in: *Nature*, vol. 414, November 29, 2001. p. 541-543

³¹ George Monbiot, "The fake persuaders. Corporations are inventing people to rubbish their opponents on the internet", *The Guardian*, 14 May 2002. <http://www.guardian.co.uk/politics/2002/may/14/greenpolitics.digitalmedia#history-link-box>

³² INE, Conabio, *Evidencias de flujo genético desde fuentes de maíz transgénico hacia variedades criollas*, enero 2002. The National Ecology Institute and the National Commission for the use and Conservation of Biodiversity are agencies under the Environmental Ministry.

³³ de Ita, Ana, "Diconsa en la contaminación transgénica del maíz nativo," en: *La Jornada*, March 16, 2002

³⁴ United States Department of Agriculture, Economic Research Service <http://www.ers.usda.gov/Data/BiotechCrops/ExtentofAdoptionTable1.htm>

³⁵ "Requisitos para la documentación de organismos vivos modificados para alimento humano o animal o para procesamiento"

³⁶ Ver *Infra*. 22 indigenous communities, among which 15 were found with GM-contaminated corn, carried out by GreenPeace, UNORCA, Ceccam, Cenami.

its main conclusions was that the Mexican government should *strengthen* the moratorium on the commercial planting of GM corn, and minimize the imports of GM corn capable of reproducing. It also recommended doing a scientific analysis of the effects of GM corn on health, given that the *per capita* consumption of corn by Mexicans is extremely high. The Mexican government ignored these recommendations and moved in the other direction by promulgating the 2005 Biosecurity and Genetically Modified Organisms Law that places the interests of business to sell patented GM seed in Mexico over concerns for the common good.

The Biosecurity Law was the instrument used to lift the moratorium on experimental and commercial planting of GM corn in Mexico. This law establishes three steps toward cultivation of GM organisms for commercial use: 1) a period of experimental cultivation, 2) a pilot project and, 3) the receipt of a permit for a company or farmer to cultivate commercially.

On March 9, 2009, Mexican President Felipe Calderon decreed the end of the *de facto* moratorium that had prohibited the experimental or commercial production of GM corn in Mexico since 1999. His decision came shortly after a meeting with the president of Monsanto Corporation in Davos, Switzerland. The decree gave the go-ahead to companies to apply for permission to sow GM corn in various parts of the country.

At the same time, the Mexican government also reformed the Law on Seeds in 2007.³⁷ This law follows the international tendency to promote the use of commercial hybrid seed, controlled by a small group of powerful transnational companies, by making peasant farmers' seeds illegal.³⁸ In Mexico, 75.3 percent of agricultural producers plant their own saved seeds.³⁹

Several government programs actively promote the use of hybrid seed, leading to the loss of peasant seed varieties. For example, according to one scientific study, between 1996 and 2001 the program Kilo by Kilo gave out corporate corn seed that could very possibly have been genetically modified despite the continuing moratorium.⁴⁰ The government support program for small-scale producers of beans and corn (PROMAF is its Spanish acronym) pushes the use of hybrid seed and chemical fertilizers.

The Status of GMOs in Mexico

Mexico is the place of origin for more than one hundred cultivated plants, such as tomato, cotton, and corn--all crops that now have GM varieties.

Tomatoes

Although Mexico is considered, along with Peru, to be the center of origin and domestication of tomatoes, the GM variety known as *Flavr Savr* produced by the Calgene company (later bought up by Monsanto), was the first GM crop released from regulatory constraints and opened up for commercial

³⁷ Ley Federal de Producción, Certificación y Comercio de Semillas, (2007)

³⁸ Ceccam, Red En defensa del maíz, *Las semillas del hambre: ilegalizar la memoria campesina*, México, 2009

³⁹ INEGI, Censo Agropecuario, Mexico, 2007

⁴⁰ Álvarez Buylla, Elena, Ed., *Dispersal of Transgenes through Maize Seed Systems in Mexico*, PlosOne, 4(5): e5734. doi:10.1371/journal.pone.0005734. 2009

cultivation in 1996. It was not popular on the international market and producers soon changed to the non-GM variety *Divine Ripe*.

Cotton

Experimental plantings of GM cotton began in 1995. Cotton is native to Mexico and has been cultivated for centuries, but companies argued that in the northern region of the country there are no native varieties that could potentially be contaminated. They sow their GM crops in these areas, which are zones of industrial agriculture and modern irrigation systems.

GM cotton covers the greatest land area of all GM crops in Mexico and is located in nine northern states. Between 1996 and 1999 the land area authorized to Monsanto for production of GM cotton expanded to 83,799 hectares. The Center for Study of Rural Change in Mexico (Ceccam) carried out a field study and discovered that the Mexican government's "Alliance for the Countryside Program" explicitly subsidizes 45 percent of the value of the GM seed purchased and the royalty payments to Monsanto. GM cottonseed is 25 percent more expensive than non-transgenic seed and license cost US \$80 per hectare. The Mexican government subsidized Monsanto with 45 percent of the value of these inputs between 1998 and 2001.⁴¹

Corn

The moratorium on the experimental and commercial sowing of GM corn was lifted by presidential decree in March 2009. Between 2009 and March 2011, Monsanto, Dow AgroScience, Pioneer Hi-Bred International, and Syngenta, have all together requested 110 permits to plant GM corn in the northern states of Sonora, Sinaloa, Chihuahua, Tamaulipas, Coahuila, Durango, Nuevo Leon and even Jalisco. Of these, 67 have been approved for experimental cultivation on nearly 70 hectares and the rest of the requests are still being evaluated.

Monsanto and Pioneer-Dupont solicited 11 permits for pilot plantings of GM corn in Sinaloa, Coahuila, Durango, Tamaulipas and Chihuahua. On March 8, 2011, the Ministry of Agriculture issued the first permit for a pilot planting of GM corn to Monsanto. The permit covers a planting of the MON 603 variety of yellow corn on less than a hectare of land in Tamaulipas. The Ministry is in the process of analyzing other requests for pilot plantings. This process brings the country much closer to open commercial cultivation.

Since 1996 the Mexican government has promoted programs to restore cultivation of soybean and rapeseed using GM varieties in states in the north and southeast.

Grassroots resistance against GM Crops

Mexican peasant and indigenous farmers have been the main actors in the resistance to GM crops, along with independent scientists and some non-governmental and environmental organizations.

Scientists who anticipated the dangers helped establish the *de facto* moratorium in 1999 on experimental

⁴¹ Ana de Ita, "Alianza para Monsanto", en: La Jornada, 1 de junio, 2002.
<http://www.jornada.unam.mx/2002/06/01/020a2pol.php?origen=opinion.html>

and commercial cultivation of GM corn in Mexico. They organized scientific seminars, and participated in international forums organized by civil society to publicize the importance of maintaining the origin and diversity of native varieties, and to highlight that it is impossible for GM corn to co-exist with conventional corn without contamination. These scientists were key in the detection of transgenic contamination in communities of the Sierra Juarez of Oaxaca.

Some scientists helped Ceccam and grassroots organizations by providing specialized knowledge to carry out tests to detect GM contamination. They also did their own analyses and proved that the contamination was much more extensive than the Mexican government had admitted. Several participated in the study coordinated by the North American Commission for Environmental Cooperation (2004).

The 2002 Conference of Pugwash, organized by the Institute of Ecology UNAM, was dedicated to the analysis of the risks of GM crops. The conference concluded that “our current knowledge is insufficient to evaluate the risks and benefits of genetically modified organisms (GMOs), particularly in light of the short and long term consequences that these technologies could imply for the biosphere and future generations.” In a specific reference to corn, the report notes: “Since many of the short and long term consequences of GMOs are unknown, certain activities should not be carried out until more is known about the biological and social consequences. For example, current efforts to develop corn that produces non-edible chemicals and pharmaceuticals are of grave concern, since corn is a basic food crop widely cultivated and openly pollinated.”⁴²

Many prominent scientists analyzed the Biosecurity Law and published their conclusions, demanding acknowledgement of the precautionary principle and criticizing the bias in favor of the biotech industry. A large number of scientific studies have been published calling on the government to maintain the moratorium on sowing GM corn. In 2006 a group of scientists in Mexico formed the Union of Concerned Scientists-Mexico that has become an important point of reference on the issue of GM corn.

The USC participated in the public consultation on the first requests for permits for experimental plantings of GM corn, bringing in technical arguments. They also supported the debate on the importance of maintaining crop diversity. Scientists have cited the recent collections of landraces and native varieties of corn to stop the advance of the pilot plantings in Sinaloa (2011). The USC has been a source for informing the public and counterbalancing the widely publicized views of scientists on the payroll of the corporations.

Indigenous and Peasant Opposition

In the summer of 1998, small farmers belonging to the French Peasant Confederation and Via Campesina, among them José Bové, held an action in France against Novartis GM corn. The action was held in solidarity with Mexican peasants, the heirs of the ancestral farmers who domesticated corn. The news spread to Mexican farm organizations.

⁴² Ribeiro Silvia, “Científicos demandan una moratoria total a los transgénicos”, Mexico, June 2002

Peasant organizations linked to the international movement *Via Campesina*, especially the National Union of Regional Autonomous Peasant Organizations (UNORCA, by its Spanish initials) and Ceccam, organized a workshop in 1998 to train farmers on GMOs. Arnaud Apoteker, an activist in the French peasant movement, taught the course. They also organized a public conference with the attendance of Vandana Shiva of India, who spoke about Indian peasants committing suicide because of the debt they have accrued growing *Bt* cotton. Mexican civil society began to take interest and peasants began to learn about the impacts of GM crops. In 1999, during the Ministerial Meeting of the World Trade Organization in Seattle, Mexican organizations participated with *Via Campesina* in demonstrations against GMOs and repressive intellectual property laws.

The National Indigenous Congress and the Zapatista Army of National Liberation took up the problem of GMOs and biodiversity as part of their defense of territory and of the rights of indigenous peoples. In 2001 they invited José Bové to participate in the “Color of the Earth March,” which linked the indigenous movement with the international peasant movement and again turned attention to the problem of GMOs.

The findings of Quist and Chapela regarding native corn contaminated with transgenes in the Sierra Norte of Oaxaca in 2001 catalyzed the organization of the grassroots opposition and the integration of new communities, organizations and sectors in the *In Defense of Corn Network*, during an international meeting in January 2002.⁴³

Network members discussed the threats to corn, small farmers, biodiversity and to the maize-centric culture by transgenic contamination of native maize varieties, economic liberalization and the lack of policies to promote rural economy. They united citizen efforts to oppose the importation of U.S. GM corn; to organize campaigns for agricultural policies based on the principle of food sovereignty; to recognize struggles for the autonomy, territory, and the rights of Indian peoples; and to acknowledge the demands and concerns of environmental and rural development organizations, and scientists. The broad-based group declared:

- *Maize is the heritage of humanity, a result of the labor of Mesoamerican indigenous peoples to domesticate the plant for more than 10,000 years and not of the laboratories of transnational corporations.*
- *GM contamination of native varieties of maize damages the genetic memory of traditional Mexican agriculture, possibly irreparably.*
- *Agriculture and trade policies undermine national corn production, the backbone of the rural economy and of the organization of rural producers, and work against food sovereignty.*
- *Maize is the heritage of the Indian peoples of Mexico. Maize cultivation is the heart of community resistance.*
- The main demands and proposals of the Network in Defense of Maize were:
- Maintain and make legally binding the *de facto* moratorium that prohibits the deregulation of commercial or experimental cultivation of GM corn.

⁴³ *Network in Defense of Maize*, proposals and demands of the I and II forums “In Defense of Maize”, held in Mexico City on January 23 and 24, 2002 and December 4-6, 2003.

- Immediately suspend imports of GM corn from the United States. Imports are the principal source of contamination of indigenous corn varieties.
- Declare corn a strategic resource of national security and establish policies of protection and promotion.

The forums proclaimed, “We hold the multinationals that produce genetically modified organisms responsible for the contamination, especially Monsanto, Syngenta, Bayer, Dupont, Dow, BASF, and we reject their lawsuits for the unauthorized use of a patent, which represent an attack on our rights as farmers.”⁴⁴

The National Indigenous Congress demanded an indefinite government moratorium on the introduction of GM corn and rejected any extension of intellectual property laws that allow the private appropriation of biodiversity and knowledge (traditional or not).⁴⁵

In October 2003, representatives of indigenous and peasant communities from Oaxaca, Puebla, Chihuahua, Veracruz, Jalisco, Durango, and the organizations Ceccam, Cenami, ETC Group, Casifop, UNOSJO y AJAGI released the results of the tests on GM contamination of peasant corn. It found that native corn varieties were contaminated in nine states. In 18 of the 104 communities sampled, between 1.5 and 33.3 percent of the samples registered positive results for the presence of transgenes.⁴⁶ In the states of Oaxaca and Chihuahua some deformed plants were found that registered the presence of two or more transgenes.

The Mexican government chose to ignore the findings of the organizations. Led by the ETC Group (Erosion, Technology, and Concentration), an international campaign resulted in a letter to the Mexican government. Signed by 302 organizations from 56 countries, the letter demanded action to stop the contamination and prevent further contamination in centers of crop origin and diversity.⁴⁷

In some cases, the affected communities denounced the government’s irresponsibility. In others, they held purification rituals for the maize and its farmers; in others, they danced and organized ceremonies. All reflected on the problem and sought collective solutions. They know that to defend maize is to defend life, their sense of community and their rights as peoples.

Indian peoples showed their determination to defend maize, the sacred sphere in which it is venerated, the ancestral knowledge that brought it into being, and the autonomy that sowing corn for their family’s consumption gives them. They joined this struggle along with the struggle for defending other resources such as water, forests and territory, and their many projects for sustainable development and community development.

⁴⁴ Red En defensa del maíz, propuestas y demandas del I y II foro “En defensa del maíz”, realizados en la Ciudad de México el 23 y 24 de enero del 2002 y el 4, 5 y 6 de diciembre del 2003.

⁴⁵ Declaration of the National Indigenous Congress in the Forum “In defense of traditional medicine, San Pedro Atlapulco, September 2002, published in: *La Jornada*, Mexico, Sept. 17, 2002

⁴⁶ Ceccam, “Maíz Transgénico” in: *Sembrando Viento* No. 5, Mexico, 2006

⁴⁷ ETC Group, *Open letter from international civil society organizations on transgenic contamination in the centers of origin and diversity*, November 2003

Alongside the Network in Defense of Maize, organizations in Mexico have carried out dozens of forums, conferences, and meetings; written articles in the press; held community workshops and exchanges with other organizations; invited experts, scientists, activists, and farmers from many countries to inform public opinion on the risks of GM crops and the problem of GM contamination of native corn.

The lack of response from the government and its responsibility in the GM contamination and the advance of GM crops obliged the communities and organizations of the Network in Defense of Maize to take up the defense of maize themselves. Tactics shifted from demands on an unhearing government to community-run programs to protect native corn and resist the infiltration of GM varieties throughout the country.

In the same way that European peasants have declared GMO-free regions, indigenous and peasant communities in Mexico decided to defend their lands from the infiltration of seed from outside by advising local producers of the importance of not sowing unknown seed, not accepting seed distributed by the government, recovering their native varieties, selecting seed from their own harvests, as well as observing the cornfields and eliminating plants that appear odd or deformed and sharing their observations with other communities.

Also they decided to take advantage of the strength that comes from the ejido (collective farms) and called for a consensus to declare in GMO-free ejidos and communities. In some cases ejido rules and community statutes have established a prohibition on sowing GMOs. Some have sought to make neighboring communities aware of the threat of GM contamination and to build a regional defense against the introduction of GMOs.

On the positive side, many communities are recognizing the value of their own seeds. Faced with laws that prohibit marketing, circulation, and exchange of non-commercial seeds (essentially making native seed illegal) they have worked to identify the different varieties and landraces of maize in the region and to promote cultivation of these varieties. They have revived planting rites and the myths around maize. They have promoted regional fairs to exchange seeds, which include conferences and debates and celebrations with regional dishes cooked with locally produced ingredients.

The members of the Network also have organized and participated in national and international forums to share their experience in the defense of maize, to denounce the government's attitude and the advance of GMOs, to express their demands and to reaffirm their identity. They have organized alternative forums in alliances with the Via Campesina and the National Assembly of Environmentally Affected Communities. They have invited international allies and experts to speak.

In 2010 the Network organized the forum *GMOs Rob Us of Our Future* that was held parallel to the FAO meeting on Biotechnology for Countries of the South. They also participated in the Global Forum organized by Via Campesina and the National Assembly of Environmentally Affected Communities during the COP 16 Climate Change Conference in Cancun, with the slogan: "GMOs

Heat Up the Planet, Peasant Agriculture Cools Down the Planet” and presented studies on GMO contribution to global warming of industrial agriculture (2010).

Members of the Network and others participated in demonstrations against the Consultative Group on International Agricultural Research (CGIAR) for its negligence and lack of action in the case of GM contamination. They also organized in front of the headquarters of the Commission on Environmental Cooperation to receive the results of the studies on the effects of GM corn in Mexico (2004). They also attended the alternative conference parallel to the meeting of the Working Group on the Cartagena Protocol on compensation for damages (2008), in meetings of the COP in Bonn, and in the meeting held in Curitiba, Brazil, in favor of maintaining the international moratorium on the Terminator technology (2006).

They have also been invited by partner organizations against GMOs in many parts of the world and have established close ties with organizations of the Via Campesina in different countries, sharing strategies and forms of struggle and organization.

A new stage of struggle

The end of the 2009 moratorium on cultivating GM corn caused a strengthening of civil defense and multiple public forums and initiatives. People became eager to find out more about GMOs since GM corn has received permission for experimental planting.

The Network in Defense of Maize issued a declaration, “NO to GM Maize in Mexico!” which was signed by 769 organizations and thousands of individuals from 56 countries and included famous scientists, activists, and politicians, and people throughout Mexico. The declaration was publicized in the media and delivered to the Ministry of Agriculture, the FAO, and the Convention on Biological Diversity.

Via Campesina of North America decided to focus its campaign against transnational corporations on Monsanto and promoted a “Kick-Out Monsanto; No to GM Maize” campaign. Accompanied by representatives of peasant organizations from Canada and the United States, as well as members of the Network in Defense of Maize, it organized massive forums in many regions of the country and the information reached thousands of small corn producers. Some communities painted walls and strung up banners rejecting GM maize.

The experience of small farmers from the United States and Canada where GM crops have been grown for over a decade demonstrated decisively that they do not increase yields, and in fact sometimes reduce them. Also, GM seeds do not reduce the costs of production because the seed and licenses are more expensive than conventional or indigenous seeds and they require a technological package that contains many expensive chemical inputs. They also don’t reduce the use of pesticides, rather they increase them and so are not beneficial to the environment. Studies also show risks to human health. Finally, GM maize invariably contaminates native maize.

Indigenous and peasant farmers' organizations and communities know that their struggle is a global struggle against the transnational corporations and the governments that support them and that the solutions come from the people. To build and promote bottom-up solutions they count on civil society allies in other countries.

In Mexico, along with their ally Via Campesina, who is re-launching their international seed campaign, the Network In Defense of Maize plans to intensify efforts to stop the advance of GM maize into its center of origin, protect their native varieties, and continue to strengthen their communities and their identity as "peoples of maize."

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Bibliography

- Álvarez Buylla, Elena, Ed., *Dispersal of Transgenes through Maize Seed Systems in Mexico*, PlosOne, 4(5): e5734. doi:10.1371/journal.pone.0005734. 2009.
- Ceccam, “Maíz Transgénico” in: *Sembrando Viento* No. 5, Mexico, 2006.
- Ceccam, Red En defensa del maíz, *Las semillas del hambre: ilegalizar la memoria campesina*, México, 2009
- CIMMYT, INIFAP, CNBA, *Flujo genético entre maíz criollo, maíz mejorado y teocintle: implicaciones para el maíz transgénico*. Memoria del Foro. México, September 1995.
- CIMMYT, “Assessing the Benefits of International Maize Breeding Research: An Overview of the Global Maize Impacts Study” in: *World Maize Facts and Trends*, CIMMYT 2000.
- Chapela I., Quist D., “Transgenic DNA introgressed into traditional maize landraces in Oaxaca, Mexico”, in: *Nature*, vol. 414, November 29, 2001.
- de Ita, Ana, “Diconsa en la contaminación transgénica del maíz nativo,” en: *La Jornada*, March 16, 2002.
- ETC Group, *Open letter from international civil society organizations on transgenic contamination in the centers of origin and diversity*, November 2003.
- Hernández Navarro Luis, “En defensa del maíz”, *La Jornada*, January 2002.
- Indigenous testimony, “Native Maize” in *Ojarasca*, No. 58, *La Jornada*, February 2002.
- INE, Conabio, *Evidencias de flujo genético desde fuentes de maíz transgénico hacia variedades criollas*, enero 2002.
- INEGI, *Censo Agropecuario*, Mexico, 2007.
- Kato Ángel, Cristina Mapes, et.al., *Origen y diversificación del maíz. Una revisión analítica*, México, UNAM, Instituto de Ecología, UACM, CP, Semarnat, Conabio, 2009.
- Ley Federal de Producción, Certificación y Comercialización de Semillas, Mexico, 2007.
- National Indigenous Congress Declaration of the Forum “In defense of traditional medicine, San Pedro Atlapulco, September 2002, published in: *La Jornada*, Mexico, Sept. 17, 2002.
- Ribeiro Silvia, “Científicos demandan una moratoria total a los transgénicos”, Mexico, June 2002.
- Serratos J.A., Islas F. and J. Berthaud, “Producción de maíz, razas locales y distribución del teocintle en México: Elementos para un análisis GIS de flujo genético y valoración de riesgos para la liberación de maíz transgénico”, paper presented in Brasilia, forthcoming, 2001.
- Vera Herrera Ramón, Ojarasca, “Ritual huichol en defensa del maíz ante transgénicos”, in: *La Jornada*, June 1, 2002.
- <http://www.jornada.unam.mx/2002/jun02/020601/016n1pol.php?origen=politica.html>