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Government Inaugurates Germoplasm Bank, Research Center for Mexico's Native Corn Varieties

by *Carlos Navarro*

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As the debate on Mexico's policies regarding genetically modified organisms (GMO) rages on, President Felipe Calderón's administration has taken steps to preserve some of the native species of corn that are said to be threatened by imports of altered corn and from test plots that have been planted with GMO corn. In mid-August, the Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación (SAGARPA) inaugurated a germoplasm bank for Mexico's native-corn varieties at the Universidad Autónoma Agraria Antonio Narro (UAAAN) in Coahuila state. Many see the creation of this depository, known as Banco de Germoplasma, as an important step to preserve Mexico's native corn, along with the traditions it represents. But the Calderón administration is seen as inconsistent on this issue, since the government approved several test sites in 2009 to cultivate GMO corn in Mexico (SourceMex, March 25, 2010 article ID 050885). Ironically, Coahuila is one of the northern states where test plots for GMO corn have been approved

Universities, producer groups partners in new center

In a document released along with the official launch of the germoplasm bank, SAGARPA emphasized the importance of corn to Mexico. "Corn is our most important crop and is also the agriculture product that has the most impact on our economy," said SAGARPA. "This is the most important renewable resource for Mexico."

SAGARPA also reiterated that the project was a joint effort with producer organizations from around the country, which would have a major role in preserving Mexican corn. "The custody of genetic resources will be in the hands of producers, with the assistance of scientists, researchers, academics, and students at the UAAAN," said SAGARPA. "They will benefit from advances and new data uncovered from the corn that has been deposited at the bank."

Although the effort will be housed physically at the UAAAN, the Banco de Germoplasma is supported by 50 universities and civil organizations throughout Mexico. More than 270 researchers will take part in the project.

"It's the same as depositing your treasure in a bank," said José Luis Herrera Ayala, director of Banco de Germoplasma. "An institution like this one guarantees that we can safeguard the genetic base of our foodstuffs, both in the field as well as within the walls of this building."

SAGARPA said creating the center is part of a master plan unveiled in 2008 to develop a wider system (Sistema Nacional de Recursos Genéticos, SINARGEN) to preserve genetic resources for a wide range of species in agriculture, forestry, animal husbandry, marine life, and microbes.

The facility will have a storage area of 435 cubic meters, with a capacity to store 100,000 samples of corn. A second stage of the project involves constructing an interactive museum for corn and a new research center (Centro de Investigación de Maíces Criollos) that will develop corn for the use of producers.

The first producers to make a deposit at the new facility were 200 growers from Puebla state in central Mexico, who entered more than 60 species of corn into the bank.

"I am pleased with this effort to preserve the native corn of our country," said Agriculture Secretary Francisco Mayorga Castañeda during an Aug. 12 ceremony launching the depository.

Some states taking own steps to protect corn

Mexico's largest corn-producers organization, the Confederación Nacional de Productores Agrícolas de Maíz de México (CNPAMM), has been part of the project from the beginning. "Germoplasm banks are an indispensable element of a comprehensive policy to conserve the wealth of Mexican corn varieties," CNPAMM president Efraín García Bello said at the ceremony.

García Bello said corn producers face a diversity of challenges, such as generating more food, creating new products from corn, responding to the threat of climate change and drought, and improving the quality of life in their communities with greater earnings.

But the CNPAMM and the government are expected to face some obstacles in promoting the use of native corns, as many producers are now resorting to higher-yielding non-native seeds. For example, a survey of farmers in the Tepoztlán region in Morelos state indicated that nearly half of respondents said they were not using native varieties. One of the responses was that native corns are "no longer reliable."

Mauricio Bellón, a scientist at the Centro Internacional para el Mejoramiento de Maíz y Trigo (CIMMYT), said there are two threats in the effort to preserve native corn: commercial agriculture and a depressed rural economy, which has prompted many smaller producers to abandon agriculture altogether. It was these smaller producers that tended to grow the native varieties.

Biologist Eglantina Canales, who coordinates a protected area in the Sierra de Arteaga region in Coahuila, said authorities there have also taken steps to protect corn grown within the state borders. About 700 producers in Coahuila are cooperating in this effort. "We have a program to preserve native corns, which we are losing quickly because of genetic contamination," said Canales, who is also working with the organization Profauna.

"Of the corn we grow in Mexico, about 80% is for personal use," said Héctor C. Salazar, one of the producers participating in the Coahuila program, which is separate from the activities at the UAAAN. "Therefore, preserving these samples gives producers recourse in case of catastrophe."

There is also an effort in Michoacán to preserve the corn that is grown within the state's borders. State representative Jaime Hinojosa Campa, the author of the legislation, known as the Ley de Protección del Maíz como Patrimonio Alimentario del Estado de Michoacán, said one of the bill's main provisions is to keep GMO corn from entering the state. The legislation would "guarantee the economic survival of the citizens of Michoacán by preserving customs, culture, and agricultural traditions."

Hinojosa, a member of the center-left Partido de la Revolución Democrática (PRD), said there are important symbolic provisions in the measure, including recognition that Michoacán is one of the states where corn is thought to have originated. While the initiative places great emphasis on corn, it also protects traditional agriculture in general and the customs of indigenous communities.

Genetically altered corn remains a concern

Despite the administration's move to create the new germoplasm bank, preserving native varieties seems incompatible with the Calderón government's move to allow limited cultivation of GMO corn. Although the issue was not addressed directly during the launch of the new UAAAN facility, it remains in the background as a contradiction, given that Calderón approved the test plots in northern Mexico. Calderón's decision to approve the test plots went against the policy of his predecessor, ex-President Vicente Fox, who prohibited the planting of GMO corn in 2006([SourceMex, October 25, 2006](#)).

Many critics charge that the Calderón government has caved to pressures from multinational agribusiness and seed companies to allow the imports to continue and to permit the test plots. In October 2009, when the first permits for test plots were announced, the first 15 permits were awarded to Mexican subsidiaries of US seed companies Monsanto, Pioneer, and Dow Agrosciences.

Administration officials insist that the test plots are in strict compliance with the Ley de Bioseguridad Sobre Organismos Genéticamente Modificados (LBOGM), which contains safeguards to prevent contamination of nearby fields.

And the administration has been forced to defend its support of limited GMO tests at international conferences. Speaking at an international agricultural forum in Mexico City in November 2009, Víctor Manuel Villalobos Arámbula, deputy agriculture secretary for international affairs, touted the benefits of genetically modified crops, which result in much higher yields and greater income for producers. Still, Villalobos Arámbula acknowledged that the government should proceed very cautiously with GMOs, making sure that safeguards are in place to reduce risks to the ecosystem.

But the debate has continued for much of the past decade. The issue surfaced at a meeting of the UN Food and Agriculture Organization (FAO) in Guadalajara in March of this year, which gave supporters and detractors the opportunity to express their views ([SourceMex, March 10, 2010](#)).

Some proponents suggest that the public opposes GMOs because there is very little education about their benefits to Mexico's agriculture, which they say is at least two decades behind other countries. "We have to resolve this matter with public policies, education, increased infrastructure, and increased investment in scientific research and technological development," Marco Antonio Meraz Ríos, executive secretary of the government-affiliated Comisión Intersecretarial de Bioseguridad de los Organismos Genéticamente Modificados (CIBIOGEM), said in 2007.

Meraz Ríos agreed that it is important to preserve native corn varieties, but some flexibility is needed regarding imports and cultivation of genetically modified corn. "No one wants native corns to disappear," said the CIBIOGEM executive. "But the problem is that there are regions with extremely low corn yields. This is where we could recommend the use of modified seeds."

The voices against GMOs are led by environmental groups like Greenpeace México, which staunchly opposed the test plots. The organization has also been advocating for a ban on imports of GMO corn since 1999 ([SourceMex, October 13, 1999 id 054124](#)). Greenpeace and several indigenous and environmental groups succeeded in having the Comisión for Environmental Cooperation (CEC) hear their complaint about how GMO corn would threaten Mexico's native varieties ([SourceMex, May 8, 2002](#)).

The CEC, which was created under the auspices of the North American Free Trade Agreement (NAFTA) recommended that Mexico suspend imports of GMO corn ([SourceMex, September 22, 2004](#)). The CEC does not have enforcement power, however, so the Mexican government did not change its policies allowing imports of GMO corn

Some organizations continue legal efforts to halt imports of GMO corn. In April 2008, a coalition comprising Fomento Cultural y Educativo, Semillas de Vida, and Greenpeace México filed a complaint via the Procuraduría Federal de Protección al Ambiente (PROFEPA), charging that imports of GMO corn had contaminated native varieties grown in Sinaloa state. The complaint—which was backed by research conducted by the Universidad Autónoma de Sinaloa (UAS) and the Unidad de Biotecnología del Campo Experimental Valle de Culiacán-INIFAP—demanded that the government heed the CEC's recommendations, so that Mexico's native corn varieties can be preserved.

PROFEPA did not act on the complaint filed by the coalition, as imports of GMO corn have continued into Sinaloa and other states.

There is a difference of opinion on whether the imports violate the LBOGM. The government insists that the imports do not violate the law governing genetically altered organisms, while groups like Greenpeace argue that the violations are clear. The government argues that allowing the planting of test plots gives the government the power to regulate who plants GMO crops, and this control will prevent contamination. Environmental groups point out that even though the controls are in place, there have been cases of contamination in several states in Mexico. "The positions of the secretaries of the environment and agriculture are puzzling," Aleira Lara, coordinator of Greenpeace México's campaign, said in March 2009. "There have been eight cases where traditional crops have been contaminated, and the government has been unable to do anything about these situations."

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