

Centerpiece

Turn to transgenics spurs GM-free zones

San Andrés de Sotavento, Colombia

For more than a decade, thousands of Zenú Indians have gathered at monthly fairs throughout their indigenous reserve here in northern Colombia to exchange seeds of native fruits and vegetables and to preserve the tribe's agricultural biodiversity. At such fairs, the Zenús often end up talking about corn. They say it propelled their ancestors to create one of the most advanced civilizations in the Americas, with dazzling gold work and engineering. Corn, they say, is their "sacred food" and "spiritual father."

So when Zenú leaders discovered last year that a government research institute was testing genetically modified (GM) corn just 60 miles (100 kms) from their reserve, they moved fast. In August of last year, they dispatched tribal representatives to Mexico to consult with Indian and peasant leaders about the effects of transgenic corn there. Then, in October, they gathered here and announced they would prohibit cultivation of gene-modified crops in their 54,000-acre (22,000-ha) reserve, which spans the northern Colombian states of Córdoba and Sucre and is home to 17,000 people.

Wearing straw hats and holding palm-fiber bags in an open coliseum surrounded by corn fields, 300 Zenú leaders also called on authorities to ensure gene-altered foods are not transported through Zenú territory or introduced through food-aid projects. They vowed to protect native plant varieties and traditional farming techniques.

"We are [continuing] the traditions of our ancestors, who produced healthy, organic foods," says Clemente Ortiz, leader of the town council, or Cabildo Mayor, in the Zenú reserve community of San Andrés de Sotavento. "We will preserve for ourselves and all the Indian peoples of Colombia the genetic resources that could prove crucial for our race in hard times."

In Europe, over 3,500 regional and local jurisdictions have declared themselves GM-free, citing possible health and environmental risks from growing and consuming gene-modified crops. So have counties in Australia, Canada and U.S. states including California, Colorado, Hawaii, New York, Missouri and North Dakota.

But for the Zenú and other Indian and peasant groups in Argentina, Costa Rica and Mexico that have banned transgenic crops, larger issues are at stake. Latin America is a center of origin and of biological diversity for vital plants including corn, potatoes,

yucca, beans, tomatoes and cotton. Maintaining this biodiversity not only guards against future crop failures, it also preserves a low-cost form of chemical-free farming that for centuries has allowed indigenous communities to sustain themselves without harming the environment.

Transgenic crops, which can mingle with traditional crops by way of wind-blown pollen and other means, are seen by such communities and by many environmentalists as a threat. In part, the concern is that they could contaminate the genes of key staples. But those promoting GM-free zones also worry that the type of farming associated with transgenics—intensive and monoculture—often is too expensive for

traditional communities to afford and frequently involves destruction of forestland habitat that indigenous groups depend on.

Gene-altered crops, say critics, are made for an agriculture without people. "GM production is designed for large agro-industrial concerns that can afford expensive seeds and an equally expensive array of inputs," says Germán Vélez, the director of Grupo Semillas, a Bogotá-based non-governmental organization dedicated to sustainable agriculture. "As a result, it is unsuitable for most small- and medium-sized producers in Latin America. It leads to dramatic changes in the landscape. And it causes a dramatic concentration of income and land. In Argentina, with 16 million



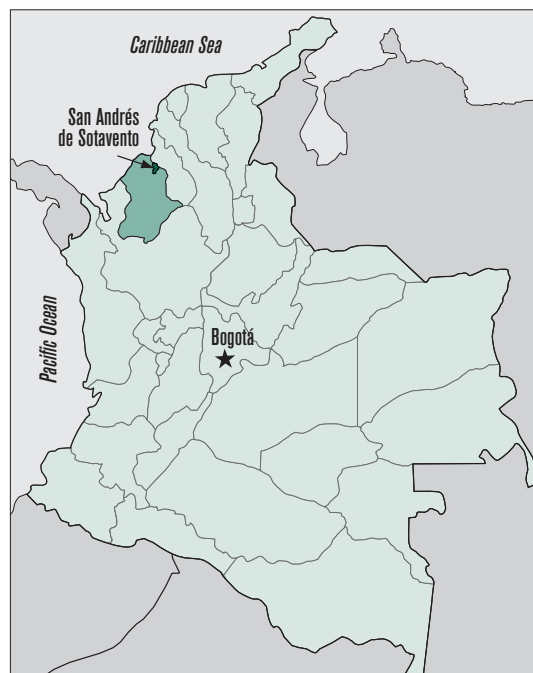
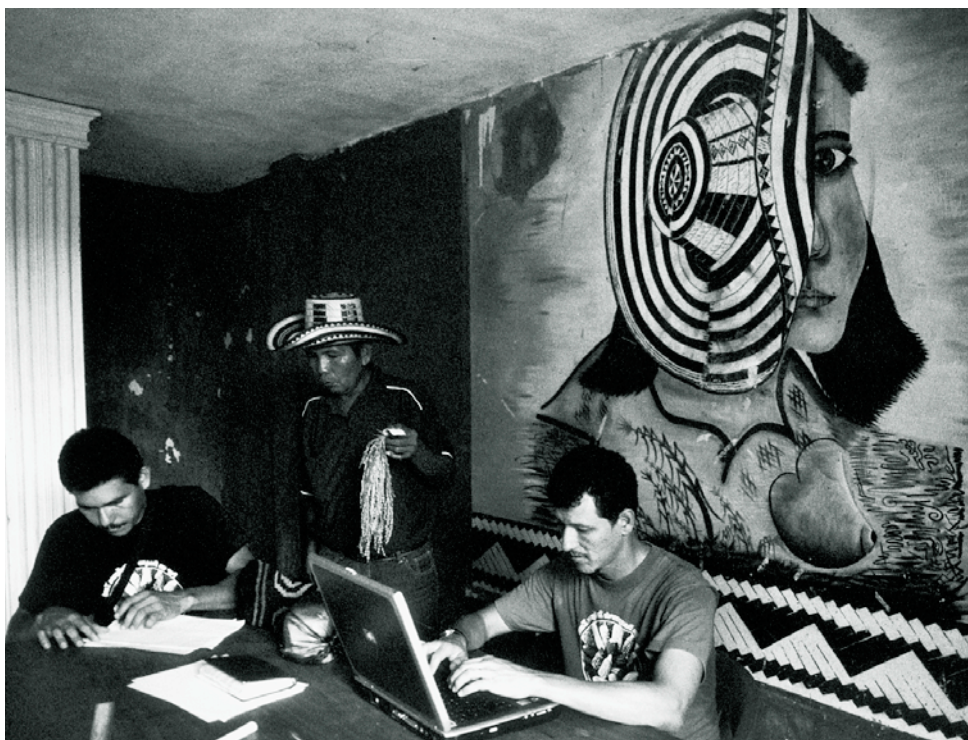
Above: Colombian Remberto Gil picks corn on his organic farm. **Left:** Zenú Indians gathered at outdoor coliseum in San Andrés de Sotavento in October, during the declaration of their reserve's GM-free zone. **Page 7, top:** Member of Zenú community (holding plant) describes characteristics of his farm's rice to two other farmers taking notes. **Page 7, left:** Indians showing off their organic products at the marketplace.

(Photos by Steve Ambrus)

hectares of GM soy, an estimated 60,000 farms have gone out of business over the last decade because of the crop."

Transgenic plant varieties, manipulated genetically to improve performance in such areas as pest and drought resistance, have drawn strong interest in Latin American countries eager to boost farm exports. Government officials in nations including Brazil, Costa Rica, Argentina and Colombia—all of which have legalized transgenics—say the new varieties give them a competitive edge by reducing costs and improving yields for large agro-industrial concerns. Colombia legalized the commercial cultivation of GM cotton in 2002 and approved field trials for four types of GM corn last year.

"We must rid ourselves of myths concerning [GMOs]," Colombian Agriculture Minister Andrés Arias told the daily *El Espectador*. "There's no scientific evidence showing GMOs create health problems in humans." He said producers report transgenic crops "reduce production costs



because they don't have to apply agrochemicals; increase productivity; and are more environmentally friendly..."

GM opponents disagree. In Costa Rica, where seed makers produce transgenic cotton and soy, two municipalities declared themselves GM-free last year. Officials in these municipalities—Paraíso, in the central valley province of Cartago, and Santa Cruz, in the northern province of Guanacaste—say they were motivated by the spread of transgenic cotton, by way of pollen, to family gardens and farms near licensed growers of gene-modified crops.

Both municipalities have tried in recent years to help local farmers move to organic production, achieve self-sufficiency

in food, and reach a stage where they might sell at a premium to supermarkets, hotels and foreign markets. Municipal officials described as a rude shock their discovery that transgenic cotton, and possibly soy, has taken root in their region. "The coexistence of conventional and organic agriculture with transgenic agriculture is technically impossible," reads Paraíso's declaration. The document calls for "protection of agricultural diversity...amid the threat of transgenic contamination."

Paraíso holds weekly fairs where organic food and native seeds are exchanged. Producers and local officials say they support national legislation sponsored by the Costa Rican Organic

Agriculture Movement (Maoco) that would give tax breaks to organic farmers and prohibit GM crops near organic plantations. The bill is being considered by Costa Rica's Legislative Assembly.

In Argentina, the world's second biggest producer of transgenic crops after the United States, three municipalities have declared themselves GM-free: Villa de Merlo in San Luis province (2005); El Bolsón in Río Negro province (2004), and San Marcos Sierra in Córdoba province (2003). The municipalities gave reasons ranging from the defense of organic producers to the defense of tourism. Transgenic crops, El Bolsón's municipal

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council declared, "in other parts of the country have generated poverty and exclusion in addition to irreversible damage to the ecosystem."

In Mexico, some 300 peasant farmers in the Tlaxcala state community of Españita have committed to steer clear of transgenic crops as part of a project called Vicente Guerrero. The Vicente Guerrero project is well-known in Mexico for its success in using terracing, reforestation and the organic cultivation of native vegetables to restore severely eroded slopes. It has boosted productivity in corn from less than one ton per hectare to more than seven tons per hectare and achieved self-sufficiency in food for its peasant-farmer participants. However, participants worry the experiment will be jeopardized by transgenic contamination, says project coordinator Rogelio Sánchez.

Mexico permits experimental planting of soy and cotton and imports nearly 3 million tons of transgenic corn a year for human and animal consumption. Illegal use of such corn has caused wide genetic pollution. In 2003, National Autonomous University of Mexico biologists found transgenics had contaminated native corn in nine states. Since authorities eventually might permit commercial GM cultivation in some northern states, Sánchez hopes to persuade municipal governments in Españita and surrounding areas to set up GM-free zones. But he admits it will be an uphill battle. "They are nervous about the political implications," he says. "They worry it might not be legal."

Brazilian state bans fail

The experience of two Brazilian states underscores why. In 1999, newly elected authorities in Rio Grande do Sul made the state a GM-free zone, banning the production and importation of transgenics. Commercial cultivation of gene-altered crops was still illegal in Brazil; but the new state government, headed by the left-wing Workers Party, knew large quantities of transgenic soy seeds were being smuggled for planting from nearby Argentina.

Rio Grande do Sul authorities, pressured by soy producers to allow transgenics and distracted by accusations that they were soft on crime, did not back up the ban with vigorous inspections. By 2003, the state was overrun with transgenic soy. Faced with the impossibility of cracking down on all the illegal production, Brazil's newly-elected president, Luiz Inácio Lula da Silva, decided that year to legalize transgenics and regulate them by decree—and Rio Grande do Sul ended its ban.

The role of Brazilian rebel was then taken up by Paraná state, which also decided in 2003 to become GM-free. For Paraná, that meant more than simply banning transgenic produc-

tion. It also meant testing the cargoes of grain trucks to prevent genetically modified soy from entering the state on its way to Paranaguá, Brazil's principal port for soy exports.

As thousands of soy-laden trucks waited at the state's border, the ban was challenged in the courts. And on April 10 of this year, Brazil's Supreme Federal Court overturned it, ruling that it conflicted with federal law allowing the transgenic crops. Paraná's GM-free experiment essentially came to an end. All that remains is its policy of requiring terminals at the port to keep transgenic soy and conventional soy separate at receiving, storage and shipping points.

Locals forge ahead

If two Brazilian states were unable to hold the line on transgenics, municipalities and indigenous reserves might be forgiven for questioning their own ability to do so. But GM-free-zone supporters such as Colombia's Zenú appear undeterred. Since the mid-1980s, when the Zenú began occupying lands taken from them by large landowners earlier in the century, they often have been at odds with the government—and often have triumphed. As a result of Colombia's 1991 constitution, tribal authorities now have broad autonomy. And given tribal tradition and unity, they have moral authority to make their laws stick.

"We will draft regulations to make our declaration work," says Edemia Montaña, a Zenú leader. "We still don't know what inspections, if any, there will be at our borders and what punishments we will impose for non-compliance."

Equally important for the Zenú is how controversy over transgenics has forced them to take stock of their native plant varieties, their food security and their chances of selling organic produce nationwide and abroad.

At a recent gathering of Zenú in San Andrés de Sotavento, organic producers piled tables with home-grown corn, spinach, eggplants, yucca and other produce. They talked of planting techniques. And one by one, they climbed a stage to display rare crop varieties and describe their characteristics to others.

Ubadel Pérez, 29, spoke of his medicinal plants, how organic techniques had helped double his production of fruits and vegetables, and how important it was that the tribe had recovered its 27 varieties of native corn. "Our seeds are adapted to our soils and temperatures and are thus more productive than commercial ones," he says. "They are part of our inheritance and our culture, and we have to protect them."

—Steven Ambrus