

histone deacetylase 1 (HDAC1) plays a crucial role in keeping CD4+ cells in a latent state. So Margolis gave his patients valproic acid, an HDAC1 inhibitor that's licensed to treat epileptic seizures. "It's more of a scalpel than the blunter instruments that we and others have used," agrees ADARC's Ho. "There are caveats about this study, but I'm certainly pleased to see their results."

Virologist Robert Siliciano of Johns Hopkins University in Baltimore stresses that even the 75% reduction of the latent pool has no

clinical relevance. "Partial reductions of these cells sound good, but it's got to be complete to be useful," says Siliciano, whose lab specializes in HIV latency. He notes, too, that he and others disagree with Margolis about the mechanism of latency, questioning the value of HDAC1 inhibitors. "It's likely that there are several mechanisms," counters Margolis, who says this is just a small "proof of concept" study. Other researchers also caution that the assays used by Margolis and his collaborators are highly experimental, and it's unclear

whether valproic acid or the intensification of HAART with T-20 were critical factors.

Roger Pomerantz, who also did eradication experiments in patients before he left academia to become president of the drug company Tibotec, says he's intrigued by the HDAC1 inhibitors, and he hopes the work spurs other clinical studies. Ho, who has taken heat for his earlier optimism, agrees. "It's OK to think about curing HIV," he says. "If we give up, there will never be a cure."

—JON COHEN

BIOTECHNOLOGY

Calming Fears, No Foreign Genes Found in Mexico's Maize

Mexico's transgenic maize scare appears to be over. This week in the online edition of the *Proceedings of the National Academy of Sciences (PNAS)*, a team of Mexican and U.S. scientists report the results of a broad survey for foreign genes in native varieties of corn in southern Mexico. Four years ago, a report that such genes had been detected touched off an international furor. This time, scientists came up empty-handed: They detected no transgenes in seeds from hundreds of corn plants sampled in 2003 and 2004.

The negative results are good news for Mexican scientists and environmentalists, who worried that genes from genetically modified (GM) U.S. corn could contaminate the gene pool of Mexico's traditional varieties (landraces), conferring traits such as insect resistance that could skew their fitness. "The results will ease the concerns of many of us," says Universidad Nacional Autónoma de México ecologist José Sarukhán, who was not part of the study. At the same time, the paper doesn't resolve lingering questions about whether foreign DNA was present in the first place.

That issue exploded in late 2001 when biologists David Quist and Ignacio Chapela of the University of California, Berkeley, reported in *Nature* that they had detected genes from GM maize in four corn cobs collected in 2000 from the state of Oaxaca, part of the center of maize genetic diversity. Even more troubling, the genes were not always in their usual places; they appeared in random locations on chromosomes, suggesting that they could hop around and disrupt normal genes. Mexico had barred the planting of GM corn in 1998, so the reported transgenes suggested that farmers were illegally planting kernels from GM maize imported as food from

the United States. Groups such as Greenpeace and the Mexican Congress subsequently called for a ban on imports of transgenic corn.

The controversy escalated when several molecular biologists questioned the study—particularly the claim that genes were jumping around. They noted that Chapela and Quist used the polymerase chain reaction, which is prone to false positives. In the face of this criticism, *Nature* asked the authors to submit more data using a different technique. The pair did, but the journal's editors were not convinced: They issued an unusual statement saying that



Untainted. A new study finds no trace of foreign genes in traditional maize grown by indigenous farmers in Oaxaca, Mexico.

the original paper should not have been published (*Science*, 12 April 2002, p. 236).

Meanwhile, government scientists had also detected GM genes in 5% or more of native corn samples from some fields. But when they tried to get the data published, reviewers were skeptical, says Exequiel Ezcurra, then president of the Instituto Nacional de Ecología (INE) in Mexico City and one of the investigators. So the Mexican group, led by Sol Ortiz Garcia of INE, decided to start over. They also joined forces with ecologist Allison Snow of Ohio State University in Columbus, who has studied the risks of gene flow from other transgenic crops.

The scientists collected corn from 125 fields across a swath of Oaxaca in late 2003 and 2004 and sent pooled samples of more than 153,000 seeds from 870 cobs to two commercial labs in the United States. The tests found no traces of foreign DNA in the Oaxaca samples, nor in more limited samples of other regions. If the transgenes are present, the levels are below 0.005%, the limit for detection. The results were a surprise. "We were expecting to find transgenes," says Snow.

So what happened to the foreign DNA apparently detected in 2000 corn? The authors suggest that an education campaign may have deterred Oaxaca farmers from planting more GM kernels, and offspring of any transgene-tainted plants may not have done well in Oaxaca's mountains. It's also possible the foreign genes were never present. Ezcurra, now at the San Diego Natural History Museum, believes they were: "I don't think so many labs could have found positives without something going on there." But the Mexican scientists didn't save their 2000 maize samples, he says, so the question may never be settled. Chapela offers another explanation—the sampling and testing methods used in the new study may have missed extremely low levels of transgenes. Otherwise, he says, "it's very hard to make both [papers] compatible."

Assuming transgenes were present but disappeared, that good news is no reason for Mexico to relax, say several scientists. The country could soon allow GM field trials of maize, and strict biosafety rules will be essential, Sarukhán says. Moreover, a "massive flow of maize" continues from the United States, and chances are that GM corn is growing elsewhere in Mexico, says Greenpeace scientific adviser Doreen Stabinsky. Last year, the U.S. and Mexican governments rejected a suggestion from a panel of North American biodiversity experts that Mexico require that U.S. corn be ground up before it is imported. "That's the kind of complacency you don't want this *PNAS* paper to generate," Stabinsky says.

—JOCELYN KAISER