

**Public Comments for Part C Notification C/NL/06/01**  
**FLORIGENE Moonaqua™ (123.8.12)**

-----Original Message-----

From: Miep Bos [mailto:miep@miepbos.nl]  
Sent: 22 November 2006 20:01  
To: gmoinfo-comments@jrc.it  
Subject: Comment on SNIFC/NL/06/01

L.S.,

Ik maak bezwaar tegen deze markttoelating.

Deze anjers kunnen wortels krijgen als zij in het water staan, vooral de speciale spruiten die er aan zitten, dan kunnen zij in het voorjaar en de zomer geplant worden. Zelfs als je een anjer zonder wortels in de grond steekt, kan hij wortel schieten.

De CaMV 35S promoter in de planten kan daardoor vervuiling geven.(A)

Ik vind het absoluut nodig dat de bossen bloemen voor de consument elk een aanduiding krijgen dat het gentech bloemen zijn. Nu zie je geen enkele aanduiding op de al aanwezige gentech bloemen. Dit is misleidend.

Vriendelijke groeten,

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(A)

<http://www.i-sis.org.uk/TransgenicPollution.php?printing=yes>

## Transgenic Pollution by Horizontal Gene Transfer?

Landraces of indigenous maize growing in remote regions in Mexico have been found contaminated with transgenic DNA. Molecular analysis suggests horizontal gene transfer mediated by CaMV 35S promoter. Dr. Mae-Wan Ho <<mailto:m.w.ho@i-sis.org.uk> reports.

Researchers in University of California Berkeley collected 3 maize cobs of native, 'criollo' landraces from fields in each of 2 locations of Sierra Norte de Oaxaca in South Mexico, more than 20 kilometres from the main mountain crossing road. A cob contains 150 to 400 kernels, each kernel resulting from an individual pollination event. A bulk grain sample, Diconsa, was obtained from local stores of the Mexican government agency that distributes subsidised food throughout the country. These seven samples were analysed for transgenic DNA using probes for the cauliflower mosaic virus (CaMV) 35S promoter, as this promoter is in all transgenic crops planted or sold commercially.

Four of the six samples of criollo landraces tested positive for the CaMV 35S promoter, whereas cob samples from blue maize of Cuzco Valley in Peru and seed samples from historic collection in Sierra Norte de Oaxaca both tested negative. The bulk grain sample Diconsa tested strongly positive, as strongly positive as the Roundup Ready maize and Bt-maize from Monsanto, confirming that unwanted transgenic food is being dumped as 'food aid' in many countries.

The Mexican government independently found transgenic contamination of land races in Oaxaca as well as in another state. Analysis of individual kernels on a single cob found 3-10% had transgenes, similar to the level found by the Berkeley scientists.

Two of the four criollo samples that tested positive for CaMV 35S promoter also tested positive for the terminator (T-nos) from *Agrobacterium tumefaciens*, as did the Diconsa sample. In a third that tested positive for CaMV 35S promoter, Bt gene sequence was present.

The researchers then analysed the sequences at the site of insertion of the transgenic DNA, next to the CaMV 35S promoter. Each sample yielded 1 to 4 DNA fragments differing in size. The sequences found next to the CaMV 35S promoter were diverse. Two sequences were similar to synthetic constructs containing regions of the *adh1* gene found in transgenic maize currently on the market, such as Novartis Bt11. Other sequences represented the criollo maize genome, including retrotransposon regions, whereas others showed no similarity to any GenBank sequence.

How did the landraces growing in such remote regions become contaminated? A moratorium on planting transgenic maize has been in place in Mexico since 1998. Is the contamination due

to "loose implementation of the moratorium"? Or to "introgression before 1998 followed by the survival of transgenes in the population"?

However, simple cross-pollination cannot explain the fragmentary, diverse nature of the transgene contamination, which is a sign of horizontal gene transfer and recombination. The researchers themselves did not raise this possibility, however. It is significant that all the contaminated samples had acquired the CaMV 35S promoter, with the rest of the transgenic construct either missing or recombined.

This observation is consistent with our warning that CaMV 35S promoter has a recombination hotspot, where it tends to fragment and join up with other DNA, and is hence expected to enhance horizontal gene transfer and recombination [2-4]. We have demanded all transgenic crops with CaMV 35S promoter to be immediately withdrawn in 1999. Since then, the researchers who have discovered the CaMV 35S recombination hotspot have recommended that the promoter should no longer be used [5], but fell short of calling for existing crops containing it to be withdrawn.

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5. Christou P, Kohli A, Stoger E, Twyman RM, Agrawal P, Gu X, Xiong J, Wegel E, Keen D, Tuck H, Wright M, Abranches R and Shaw P. Transgenic plants: a tool for fundamental genomics research. John Innes Centre & Sainsbury Laboratory Annual Report 1999/2000, p. 30. See "Top research centre admits GM failure <<http://www.i-sis.org.uk/isisnews/i-sisnews7-4.php>" *ISIS News* 7/8, February 2001, ISSN: 1474-1547 (print) ISSN: 1474-1814 (online) [www.i-sis.org.uk](http://www.i-sis.org.uk) <<http://www.i-sis.org.uk/>