

# Testbiotech comment on EFSA Scientific Opinion on an application from Pioneer Hi-Bred International and Dow AgroSciences LLC (EFSA-GMO-NL-2005-23) for placing on the market of maize 59122 for food and feed uses, import, processing and cultivation

## Logo:

TESTBIOTECH Background 27 - 4 - 2013



Testbiotech comment on EFSA Scientific Opinion on an application from Pioneer Hi-Bred International and Dow AgroSciences LLC (EFSA-GMO-NL-2005-23) for placing on the market of genetically modified maize 59122 for food and feed uses, import, processing and cultivation under Regulation (EC) No 1829/2003

### Introduction

Maize 59122 expresses the Cry3AAb1 and Cry35Ab1 proteins from *Bacillus thuringiensis*, which confer resistance to corn rootworm (*Diabrotica variegata*). It also expresses pat gene, which makes Maize 59122 tolerant to the herbicide glufosinate. According to the applicants, Maize 59122 will not be marketed as a glufosinate resistant plant in the EU. The two toxins produced by Maize 59122 have certain synergies, but only in combination do they show sufficient toxicity to have a lethal effect on rootworms. The exact mode of action is not known in all its relevant details.

### Molecular characterization

Open reading frames were identified that can give rise to unintended gene products in the plants. The DNA construct is flanked by DNA that is known to be functional and involved in the plant metabolism. Given these findings, the impact of the additional DNA constructs on the regulation and activity of the plant genome should have been investigated in detail.

### Comparative analysis (for compositional analysis and agronomic traits and GM phenotype)

Many significant differences in compositional analysis were observed in comparison with the plant's conventional counterparts. In the assessment of these findings, reference was made to historical data unrelated to the actual field trials such as the ILSI database (EFSA, 2007). Since it is not sufficiently clear under which specific conditions these additional historical data were generated, this kind of comparison inevitably contains major uncertainties.

Several statistically significant findings in agronomic parameters came to light in the 2004 European field trials (germination, plant height, ear height, final population). According to EFSA, the differences were not consistent in locations and over the years. The reason for this might be that these differences only emerge under particular environmental conditions. The differences should therefore trigger more detailed analyses.

There are no standardized protocols for these Bt toxins in order to achieve reliable results which can be reproduced by other laboratories. (see also Szekacs et al., 2011). The content of the additional proteins Cry3AAb1 produced in the plant is highly variable. This may indicate genetic

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**File attachments:** Attachment



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