

Oilseed rape MS11

Organisation: The European GMO-free Citizens (De Gentechvrije Burgers)

Country: The Netherlands

Type: Others...

Comments:

The following statement has come to our attention:

“Statement complementing the EFSA Scientific Opinion on the assessment of genetically modified oilseed rape MS11 for food and feed uses, import and processing, under Regulation (EC) No 1829/2003 (application EFSA-GMO-BE-2016-138)

EFSA Panel on Genetically Modified Organisms (GMO), Ewen Mullins, Jean-Louis Bresson, Tamas Dalmay, Ian Crawford Dewhurst, Michelle M Epstein, Leslie George Firbank, Philippe Guerche, Jan Hejatko, Hanspeter Naegeli, Francisco Javier Moreno, Fabien Nogue, Nils Rostoks, Jose Juan Sanchez Serrano, Giovanni Savoini, Eve Veromann, Fabio Veronesi, Andrea Gennaro and Franco Maria Neri.”

Abstract

“In a previous scientific opinion on application EFSA-GMO-BE-2016-138, the EFSA Panel on Genetically Modified Organisms (GMO Panel) could not conclude on the comparative analysis and on the food/feed safety assessment of genetically modified (GM) oilseed rape (OSR) MS11 because of the lack of an appropriate compositional data set. Following a request from the European Commission, the GMO Panel assessed additional information related to OSR MS11 to complement the original scientific opinion. The GMO Panel concluded that the information submitted (on the composition of the two-event stack MS119RF3) could not be used for the assessment of the composition of OSR MS11 and requested the applicant to perform a complementary set of field trials to generate additional data. The applicant did not perform the requested field trials and did not provide any new experimental data on the composition of OSR MS11. Hence, the GMO Panel is still not in the position to conclude on either the compositional analysis or the toxicological, allergenicity or nutritional assessment of OSR MS11. Therefore, the previous conclusions of the GMO Panel still hold.”

Statement complementing the EFSA Scientific Opinion on the assessment of genetically modified oilseed rape MS11 for food and feed uses, import and processing, under Regulation (EC) No 1829/2003 (application EFSA-GMO-BE-2016-138) (wiley.com)

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Keywords: GMO, oilseed rape (*Brassica napus*), MS11, Regulation (EC) No 1829/2003, Barnase, Barstar, PAT/bar

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Our comments:

How can you approve the genetically modified oilseed MS11 before adequate field studies have been performed? It is unfathomable why anyone would want to place this stuff on the market.

Below, you will find just one of many papers which confirm the toxicity of various herbicides which are used to make this maize resistant. And this is not the first time.

Members of the European Parliament have often spoken out against the presence of GM crops in the EU, whether on the market or in the fields. And yet GM crops are approved every time, via an undemocratic procedure and by a highly placed person who has not been democratically elected.

The GMO-Free Citizens repeat that they do not want GM crops: neither on their dinner plate nor in the fields; neither for livestock nor for humans. In future, only biological crops should be grown. We find it shocking that, despite the patchy data, an application for EU marketing authorisation is being made in Belgium.

The following is an excerpt from a paper on PAT/bar, 'Ignored side-effects of glufosinate herbicide', published by Dr Joe Cummins on 16 February 2002:

“Glufosinate causes convulsions in humans and experimental rodents by brain cell glutamate receptor activation (glufosinate and glutamate are structurally similar) according to Matsumura et al (1). Glufosinate also stimulates nitric oxide production in the brain through N methylDAspartate (NMDA) receptors (2). Birth defects have been caused by exposure of the human father to the herbicide (3).”

For more on this, see: Ignored side-effects of glufosinate herbicide (gmwatch.org) <https://gmwatch.org/en/main-menu/news-menu->

title/archive/41-2002/2001-ignored-side-effects-of-glufosinate-herbicide-1622002

STUDY BY HOECHST (DR ARNO SCHULZ) OF THE SUBSTRATES OF PHOSPHINOTHRICIN ACETYLTRANSFERASE (PAT)
(*ONDERZOEK VAN HOECHST (DR. ARNO SCHULZ) BETREFFENDE DE SUBSTRATEN VAN PHOSPHINOTHRICINACETYLTRANSFERASE (PAT)*)

Amsterdam, 7 November 1999.

“Two studies from which diametrically opposed conclusions were drawn, namely:

1. Charles J. Thompson, 1987: Characterization of the herbicide-resistance gene bar from *Streptomyces hygrosopicus*:
2. Dr Arno Schulz, 1993: L-Phosphinothricine N-Acetyltransferase - Biochemical Characterization - report included in Wehrmann, 1996 (Schulz is the co-author).

The subject of the study is the characterisation of the enzyme phosphinothricin acetyltransferase PAT and, in particular, the specificity of the substrates.

The first study concerns the reaction between phosphinothricin and acetyl co-enzyme A under the influence of the PAT enzyme, and compares it to a number of structural analogues of PPT phosphinothricin.

One of the analogues was L-glutamate.

The reaction products were identified using a mass spectrogram, and the equilibrium constants (affinity) were measured.

In addition to phosphinothricin (PPT), a number of structural analogues were tested to determine whether an acetylation reaction had occurred.

L-Glutamine acid was one of the substances which were investigated.

Compared with PPT, the affinity of most of the substances was low, and one substance did not react at all.

This test caused a reaction which gave rise to an identified product (the detection level is not an issue here) which can be reported in numerical terms and leaves no room for doubt that glutamine acid is a substrate of PAT.

The second study concerns the reaction between a large number of amino acids, including L-glutamine acid, which also featured in the first study, in a reaction mix with a 100% excess of PPT compared with the acetyl source acetyl coenzyme A and PAT. Reaction products were identified by means of chromatography.

Even with a very large excess of L-amino acid, no products of reaction with the amino acids were detected. Only acetylphosphinothricin was detected.

The authors concluded that PAT's only substrate is PPT.

To counter this conclusion, which conflicts with the findings of the first study, we would point out the following. (Incidentally, the first study is cited in the literature list of the second study.)

1. No detection limit was determined for acetylated L-glutamine acid.
2. The possibility of acetylated glutamine acid being a source of acetyl for the acetylation of PPT is ignored. The study could have investigated this possibility by adding acetylated glutamine acid to the reaction mix in a quantity above the detection level and then determining whether the added quantity disappears during the reaction.

In the light of the first study, it is beyond doubt that it does precisely that!

3. A reaction mix was used which contained a much larger amount of a competing substrate (PPT). No observations were made with respect to pure amino acids.
4. A discussion of the earlier findings, particularly as to why they are so different from those of the second study, is conspicuous by its absence.
5. Essentially, the authors of the second study are accusing the authors of the first study of fabrication and fraud (the first study contains a wealth of numerical data; the second lacks any at all). The second study does not adequately explore this aspect.

The reasoning behind the conclusion that PAT has only one substrate (PTT) is as follows:

The gene-product (PAT) occurs in herbicide-resistant (i.e. PTT-resistant) crops.

In order for market authorisation to be granted, the toxicity of this gene-product would first need to be investigated.

Could this gene-product react with the CONTENTS OF OUR GUT, for example with L-glutamine acid, which is an important amino acid?

It would require fistfuls of research money to trivialise this. HOECHST's preferred strategy seems to be one of total denial!

We believe that the second so-called 'study' (it does not deserve the name) arrives at a completely baseless conclusion. It reeks of incompetence, and the people who cite it need to have this pointed out to them."

J. van der Meulen, L. Eijsten. Reproduced with permission.

<https://www.gentechvrij.nl/dossiers/archief-lily-eijsten/onderzoek-van-hoechst-dr-arno-schulz-betreffende-de-substraten-van-phosphinothricinacetyltransferasepat/>

Let us round off with another quote:

"Recombinant DNA technology [genetic engineering] faces our society with problems unprecedented not only in the history of science, but of life on the Earth. It places in human hands the capacity to redesign living organisms, the products of some three billion years of evolution."

Prof. George Wald

* Nobel Laureate in Medicine (or Physiology) 1967

* Higgins Professor of Biology, Harvard University.

<https://www.gentechvrij.nl/2020/11/27/book-eijsten/>