Deliberations on two papers on GM maize

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In its meeting on 27/28 January 2010 [1], the EFSA GMO Panel discussed the peer-reviewed scientific paper concerning effects of GM maize on mammals: "A Comparison of the effects of three GM corn varieties on mammal health" (Vendômois et al. 2009) concerning MON810, MON863 and NK603; and comments from Austria about bioinformatic data of NK603. In both cases the GMO Panel did not see any reason to re-consider their earlier assessments.
In fact the one page statement the GMO Panel concludes that Vendômis et al.'s "claims regarding new side effects indicating kidney and liver toxicity, are not supported by the data provided in their paper." The GMO Panel also dismisses criticism on the experimental design. As the Panel lists in more detail: this is not the first time that peer-reviewed articles bythe scientists of the research institute CRIIGEN have been dismissed in favour of Monsanto's company research.

MON810, MON863, NK603: adverse health effects
When asked by EFSA GMO Watch, Gilles-Eric Seralini from CRIIGEN, one of the authors of the paper, commented:
"The CRIIGEN research group has published several papers on the signs of alert of chronic pathologies that could be developed after GMOs consumption by mammals (Seralini et al., 2007, 2009; Spiroux de Vendômois et al., 2009, papers joined) in international peer reviewed journals. These are counter expertises of Monsanto confidential results previously accepted by authorities as sufficient. By contrast, the public opinions about this paper by 'official' committees are not published in scientific journals.
We are surprised not to have been contacted by any of those, to ask questions or for counter expertise of the results. Moreover, it is clear that our paper questions the competence or the scientific honesty of committees that have already given positive opinions on the commercialization of these maizes, such as EFSA or Monsanto, or the French committee. In this regard, we are not surprised by their reactions, and we claim that, as they were involved in the process of commercialization accepting previously Monsanto results, they are not independent anymore for the counter expertise of our work."

In their paper, the CRIIGEN scientists re-evaluated data from 90-day feeding studies on rats, provided by Monsanto as part of their application have MON810, MON863 and NK603 authorized as food and feed in the EU. With 90 days they are the longest studies conducted. Even though this company data is part of the authorization procedure, access to it was only possibly due to court action lost by Monsanto as well as due to the courtesy of governments and Greenpeace lawyers.
The re-evaluation first of all showed that "the statistical power is insufficient in these studies to allow an
a priori dismissal of all significant effects." Nevertheless, Seralini and his colleagues came to the conclusion that the data did in fact show a number of health effects, that could not be dismissed.
Our analysis clearly reveals for the 3 GMOs new side effects linked with GM maize consumption, which were sex- and often dose-dependent. Effects were mostly associated with the kidney and liver, the dietary detoxifying organs, although different between the 3 GMOs. Other effects were also noticed in the heart, adrenal glands, spleen and haematopoietic system. We conclude that these data highlight signs of hepatorenal toxicity, possibly due to the new pesticides specific to each GM corn. In addition, unintended direct or indirect metabolic consequences of the genetic modification cannot be excluded." (Vendômois et al. 2009)

All three GMOs had received positive opinions from the GMO Panel and were subsequently authorized by the EU Commission, even though the member states did not vote with a qualified majority in favour of them.
The re-evaluation of this data is not only important because it shows health risks for animals already feeding on them, but also because Monsanto has filed applications for a growing number of GM maize hybrids that contain one, two or even all three of this GM maize events. Their risk assessment

is based on the positive opinions already given on the individual events.
The mentioned scientific studies of CRIIGEN also show two fundamental flaws in the risk assessment of GM crops in the EU. First of all the risk assessment undertaken by the EFSA is only based on the written material provided by the company. Secondly, other scientists are not able to conduct their own studies with GM crops because they need to permission of the patent holder of the GM crop to do so. Even when a permission is given, the companies usually reserve a right to approve of the results before publication. Experiences over the last years show that such permissions are not given (anymore) to scientists who publish results that contradict the company research.

NK603: different bioinformatic data
The GMO Panel also dismissed a comment by Austria about discrepancies in the bioinformatic analysis of the genomic flanking regions in maize event NK603.

The comments were not published as an opinion of the GMO Panel and also are not listed in the registry of EFSA questions, but are a pre-published part of the meeting notes from the 55th meeting on 27/28 January 2010. The final notes will only be adopted at the next meeting (10/11 February 2010) and are then usually published a few weeks after that.

Related events: Event MON810 [2]
MON863 [3]
Event NK603 [4]
Related application(s): MON810 renewal [5]
NK603: cultivation and food/feed application [6]
MON89034 x NK603 cultivation [7]
MON89034 x NK603 for food/feed [8]
Links & resources: Vendômois et al. (2009): A comparison of the effects of three GM corn varieties on mammalian health [9]

Links
[1] https://www.testbiotech.org/en/node/328 [2] https://www.testbiotech.org/en/content/event-mon810 [3] https://www.testbiotech.org/en/content/mon863 [4] https://www.testbiotech.org/en/content/event-nk603 [5] https://www.testbiotech.org/en/content/mon810-renewal [6] https://www.testbiotech.org/en/content/nk603-cultivation-and-foodfeed-application [7] https://www.testbiotech.org/en/content/mon89034-x-nk603-cultivation [8] https://www.testbiotech.org/en/content/mon89034-x-nk603-foodfeed [9] https://www.testbiotech.org/en/sites/default/files/Spiroux_etal-3GMOs-2009.pdf