



Wissenschaftlerkreis
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Bezug Comments to the publication of Shen, C., Yin, X.C., Jiao, B.Y. et al. (2022): Evaluation of adverse effects/events of genetically modified food consumption: a systematic review of animal and human studies. Environ Sci Eur 34, 8
<https://doi.org/10.1186/s12302-021-00578-9>

Dear Prof. Hollert,
Dear colleague,

Members of the Wissenschaftlerkreis Grüne Gentechnik e. V. (WGG) and the GDCh Division of Senior Expert Chemistry (SEC) have taken note of the publication by Shen et al. There is surprise that the publication could be published in its form and with their comments/conclusions in this peer reviewed journal. We are of the opinion that the paper does not meet current scientific standards, misinterprets scientific data from the cited studies and does not correlate them concretely with adverse effects and the intake of products from genetically modified plants (GM plants) or organisms. In part, one could even suspect that data are deliberately interpreted in a manipulative way, but this is not the subject of our criticism and we **do not want to impute** this to the authors.

Our comments in detail:

The paper gives a good overview of feeding studies with products from (with) GM organisms and GM plants on laboratory and livestock organisms. In the studies cited (ref. 19 - 197), adverse effects from the ingestion of GM products are observed. The authors of those references name the adverse effects and evaluate them, while the authors* of the Shen et al. publication fail to name or define the adverse effects except in Tables 3 - 5. They differentiate between mild and severe effects without specifying them more precisely. Which studies are to be assigned to mild or moderate adverse effects is not evident.

In the references (76 - 87) to the scientific opinions of the European Food Safety Authority (EFSA) on food enzymes, no adverse effects are explicitly mentioned, except that the possibility of an allergic reaction cannot be excluded. The triggering of an allergic reaction cannot be completely ruled out even with "conventional" enzymes. Where do the authors see the genetic engineering-specific adverse effect here?

In 51 references reviewed, the scientists of the studies state that the observed effects cannot be correlated or related to the consumption of the GM product, and that the tested product is just as safe as the comparison product. The authors do not address these statements at all and do not discuss why they disagree with the scientists who conducted the relevant studies.

Two examples from Table 2 and 3

Table 2: Human experiment: Adverse effects from ingestion of oil from genetically modified flax
West A.L., Miles E.A., Lillycrop K.A. et al (2019) Postprandial incorporation of EPA and DHA from transgenic *Camelina sativa* oil into blood lipids is equivalent to that from fish oil in healthy humans. *Br J Nutr.* 121(11):1235-1246. | <https://doi.org/10.1017/S0007114519000825>
<https://www.cambridge.org/core/journals/british-journal-of-nutrition/article/postprandial-incorporation-of-epa-and-dha-from-transgenic-camelina-sativa-oil-into-blood-lipids-is-equivalent-to-that-from-fish-oil-in-healthy-humans/15260D4F130BE0BCC2F6AA86359F0A34>

Ref. 97; Excerpt from publication:

"There were two cases of mild upper respiratory tract infections (one cold and one tonsillitis) among the seventy-two postprandial sessions. One participant had a nosebleed a few hours after a postprandial session, but stated that he had a previous non-clinical tendency to do so. One participant developed pyelonephritis between postprandial sessions, which resolved completely. Three participants reported headaches during the postprandial sessions.

None of these mild illnesses were associated with consumption of a particular oil and all were considered unlikely to be caused by consumption of a particular test oil.

Participants reported no major adverse symptoms or health effects"

Where is the link here between the effects and consumption from GM linseed oil? From a scientific point of view there is none!

Table 3; Ref.26.: Carman J.A., Vlieger H.R., Ver Steeg L.J. et al. (2013) A long-term toxicology study on pigs fed a combined genetically modified (GM) soy and GM maize diet. *J Organic Systems* 1: 1–12 | <https://www.organic-systems.org/journal/81/8106.pdf>

Ref. 26; Excerpt from publication

There were no statistically significant differences in feed intake, feed conversion, number or type of diseases, number or type of veterinary procedures, veterinary costs, or mortality between the non-GM-fed and GM-fed groups of pigs. The mortality rate was 13% and 14% for the non-GM-fed and GM-fed groups, respectively, which is within the expected range.

What do the authors see as the serious adverse effect if the death rates in the control group are equal to those in the experimental group?

It is incomprehensible that the authors regard experimental errors in gavage feeding as a serious effect with fatal consequences as a result of the intake of a GM product and document this in the table as a serious adverse effect (e.g. Ref.35). In our view there is a false correlation made.

Die Ref. 32 (Cyran N., Gully C., Handl S. et al. (2008)) should correctly read: Velimirov A., Binter C., Zentek J. (2008): Biological effects of transgenic maize NK603 x MON810 fed in long term reproduction studies in mice. Research Reports of Section IV (Volume 3/2008) of the Federal Ministry for Health, Family and Youth.

This report was not peer reviewed. The research was funded by the Austrian Ministry for Health, Family and Youth. However, the Ministry withdrew the report after errors/inadequacies in the mating trials and deficiencies in the statistical analyses were revealed. The ministry declared the research results inconclusive and not usable. The authors should have pointed out this fact instead of concealing it.

Due to the deficiencies listed here, we are of the opinion that you should call upon the authors of the publication to correct it accordingly or to withdraw their publication.

* meaning always the authors of the publication Shen, C. et al. (2022)

With best regards

Mit freundlichen Grüßen



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