Cotton GHB614

Organisation: The European GMO-free Citizens (De Gentechvrije Burgers)
Country: The Netherlands
Type: Others...

Comments:

Subject: genetically modified cotton GHB614

Even after the re-evaluation, the requirements regarding molecular characterisation laid down by the Netherlands Commission on Genetic Modification (COGEM) in 2008 remain largely the same. This means, for example, that the analysis of new, open reading frames ("fusion ORFs") is still required. Although the probability of a fusion ORF being read and resulting in a protein is very low, it cannot be ruled out. Nor can the possibility of the potential product of the fusion ORF having toxic characteristics be ruled out. The COGEM also considers that the environmental risk analysis must include consideration of any insertion into a endogenous gene of the modified plant. It cannot be ruled out that unexpected changes may occur in the biological characteristics of the plant if one or more genes are turned off. Microsoft Word - 140929-02 *Heroverweging van de criteria voor de moleculaire karakterisering van gg-gewassen.docx* (cogem.net) [Review of the criteria for the molecular characterisation of GM crops]

The ecological reasons why hybrid Bt cotton failed in India

Andrew Paul Gutierrez 1,2 & Luigi Ponti 3 1 CASAS Global (Center for the Analysis of Sustainable Agricultural Systems), Kensington, CA 94707 http://cnr.berkeley.edu/casas 2 Division of Ecosystem Science, University of California, Berkeley, CA 94720 3Agenzia Nazionale per le Nuove Tecnologie, l'Energia e lo Sviluppo Economico Sostenibile (ENEA), Centro Ricerche Casaccia, Via Anguillarese 301, 00123 Roma, Italy

http://www.kisanswaraj.in/wp-content/uploads/Prof-Andrew-Gutierrez-Bt-cotton-in-India-webinar-CSA-Jatan-ASHA-Aug24th-20201.pdf

From Twitter:

1/3 Evidence-based evaluation webinar with globally renowned researchers on #Btcotton in India just finished. Can be watched via the link. The govt is using the myth of Bt success to push through the wholsesale entry of #GMO food crops into the country

QrDk https://www.youtube.com/watch?v=i4o4clmQrDk

Powered by Restream https://restream.io/ International Webinar on Bt Cotton in India: Myths and Realities (An Evidence-based Evaluation) Bt cotton is the first and only GM (genetically modified) crop that has been approved in India. It has been cultivated in India for more than 20 years, first illegally then legally. Perception of its performance has ranged from it being declared a great success to it being an unmitigated disaster. How has Bt cotton really performed? What are the lessons to be learnt from it? This discussion is crucial since many other GM and GE (gene-edited) crops are in the research and approval pipelines and promoted for clearance based on claims about Bt cotton in India. A not-to-be-missed webinar where a galaxy of eminent speakers share their assessment about the reality of Bt cotton.

2/3 Experts debunk false claims that GM Bt cotton in India has been a grand success

“By nearly all measures, hybrid GM Bt cotton in India is a failure”

gmwatch.org 3/3 Functioning of regulatory bodies is dogged by endemic conflicts of interest and lack of expertise in GMO risk assessment protocols. We need sustainable food and nutrition security, not value-capture roll-out of GMOs - Kesavan and Swaminathan paper: www.currentscience.ac.in/Volumes/115/10/1876.pdf

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“Tula” A Return to India’s Regenerative Cotton Roots - Resilience

Indian

occur in farmers are cultivating organic cotton in response to the many suicides among Indian cotton farmers.

Most suicides among farmers India’s cotton-growing regions, and they are often the result of victims drinking the same pesticides as they use on their cotton fields. If they wish to grow “BT Cotton”, they have to buy these expensive pesticides and insecticides additionally. The farmers have to buy new cotton seed every year, the yield is lower and the costs of cultivation are higher.

“Genetically modified cotton — introduced into India by Monsanto as “BT Cotton” in 2002 — within one decade became ~95% of India’s cotton production, and requires farmers to buy expensive seeds every year, rather than saving and owning their seeds themselves as in our native farming methods.”

https://www.resilience.org/stories/2020-08-17/tula-a-return-to-indias-regenerative-cotton-roots/

Inferior cattle feed

The market is saddled with denatured, inferior cattle feed that contains herbicide residues. Through this feed, the residues get into milk and eggs, and thus into food for human consumption.

Any attempt to trivialise the harmfulness of the residues is pointless. Milk factories want to be supplied with milk containing no foreign substances whatsoever (Coberco spokesperson). Especially in Germany! Moreover, the harmfulness of very small amounts of residues has been established: brain damage in small mammals, manifested in behavioural disorders (Professor Fujii, University of Tokyo). We believe that there is no way this milk can be used. What is the situation with babies in this regard?

Glufosinate-ammonium (GLA)

The cotton contains a new protein: phosphinothricin acetyltransferase.

In 1987, Thompson, C.J., *et al.* reported in

"Characterisation of the herbicide resistance gene bar from S.hygroscopicus" in EMBO J. 6 (9) 2519-2523, that the protein in question also had glutamic acid as a substrate.

In a report (NOT published in a journal), Hoechst has tried to show that this is NOT the case, and that phosphinothricin is the only substrate.

Dr. Arno Schulz: "L- Phosphinothricin N-Acetyltransferase Characterisation". Hoechst Report No 93-01 dd. 13-05-1993.

To that end, Dr Arno Schulz subjected mixtures of phosphinothricin and various amino acids to the action of the acetyltransferase.

He found only acetylated phosphinothricin.

We believe that this is not an argument for ruling out other amino acids as a substrate for acetyltransferase.

After all, in a mixture of acetylated amino acids and phosphinothricin, the phosphinothricin acetyltransferase will be able to use the acetyl group of the amino acid (and thus to deacetylate it).

If phosphinothricin is not present, the acetyltransferase will acetylate the amino acid.

Thompson's observations still apply in full, with ALL THE TOXICOLOGICAL CONSEQUENCES thereof.

Furthermore, we consider the toxicological arguments for the safety of the cotton (with the new protein, phosphinothricin acetyltransferase) and the glufosinate residues insufficient in an era in which the approach of the Rowett Institute of Aberdeen is setting the trend for toxicological research: long-term feed tests and observation of all organs of test animals (brains, immune system, blood, stomach, small intestine, large intestine, pancreas, liver, kidneys, etc.) and of their progeny.

We consider it reprehensible that new toxicological data on very SMALL doses of glufosinate (Fujii, Watanabe: brain damage, Two Japanese researchers described the neurotoxicological effects of GLA and apoptosis in embryos (Fujii/Watanabe) are systematically ignored.

Resistance

As a result of resistance, the herbicide becomes established in the plant in the form an acetylated product, from which the herbicide is once again released in the gastrointestinal tract of warm-blooded animals (demonstrated in rats, chickens and goats used as test animals: M.N. Huang *et al.,* Metabolism of (^{14}C)-glufosinate and (^{14}C)-N-acetyl glufosinate in a lactating goat and in laying hens, AgrEvo Frankfurt); the herbicide thus also enters the human food chain, with all the resultant implications (source: Eijsten and Van der Meulen).

Our comment: EFSA should certainly assess this.

Furthermore, the fact that EFSA writes that it is not up to them to carry out this assessment is a misconception - we are talking here about processes that take place within the plant.

* 2 The residue glyphosate is present in this glyphosate-resistant cotton as well, as an adduct, namely a protein adduct. Here too the herbicide is released again in the intestinal tract.

We are not talking generally about herbicide residues but very specifically about the residues of herbicides to which the crop has been made resistant, and very specifically about the characteristics of those particular residues, and very specifically about the mechanisms by which precisely those herbicide residues can enter the food chain.

And this is why we find this inconceivable:

The Dutch CA has assessed the dossier with respect to the food, feed and environmental safety of event GHB614 x T304-40 x GHB119 cotton and has no comments or requests for additional information in relation of the safety of the GM event. Comments from the CA.

A new study from Argentina on glyphosate and glyphosate herbicides shows that “exposure to low doses could alter the development of the female reproductive tract, with consequences on fertility.”

This finding is significant considering that glyphosate proponents argue that low dose exposure to this chemical through food consumption is not of concern to human health.

More:
https://www.momsacrossamerica.com/monsanto_s_assault_on_motherhood_must_stop?utm_campaign=assault_on_motherhood&utm_medium=email&utm_source=yesmaam

Molecular and Cellular Endocrinology

Available online 10 July 2020, 110934

In Press, Journal Pre-proofWhat are Journal Pre-proof articles?

Are glyphosate and glyphosate-based herbicides endocrine disruptors that alter female fertility?

Author links open overlay panelPaolaIngaramoRamiroAlarcónMónicaMuñoz-de-ToroEnrique H.Luque

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Highlights

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Glyphosate and glyphosate-based herbicides are endocrine disruptors.

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Glyphosate-based herbicides alter reproductive outcomes in females.

•

Exposure to low doses of glyphosate may alter ovarian and uterine functions.

•

The estrogenic potential of GBH depends on pure glyphosate and/or its adjuvants.

https://www.sciencedirect.com/science/article/abs/pii/S0303720720302343?via%3Dihub

The five Argentinian scientists further revealed, “Studies have also demonstrated that the exposure to GBHs alters the development and differentiation of ovarian follicles and uterus, affecting fertility when animals are exposed before puberty.” Glyphosate herbicides do not wash, dry or cook off; our children are eating these residues in food thousands of times before puberty.
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https://apps.who.int/iris/handle/10665/37968 Pesticide residues in food : 1994, toxicology evaluations, Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Expert Group on Pesticide Residues, Geneva, 19-28 September 1994. Part 2., Toxicology

Further evidence about the action of glyphosate and other pesticides as endocrine disrupting chemicals in the International Journal of Environmental Research and Public Health.

Molecular Basis for Endocrine Disruption by Pesticides Targeting Aromatase and Estrogen Receptor

Chao Zhang 1, Tiziana Schilirò 2, Marta Gea 2, Silvia Bianchi 1, Angelo Spinello 3, Alessandra Magistrato 3 , Gianfranco Gilardi 1 and Giovanna Di Nardo 1,*

1 Department of Life Sciences and Systems Biology, University of Torino, 10123 Torino, chao.zhang@unito.it (C.Z.); silvia.bianchi.04@hotmail.it (S.B.); gianfranco.gilardi@unito.it (G.G.)

2 Department of Public Health and Pediatrics, University of Torino, 10126 Torino, Italy;

tiziana.schiliro@unito.it (T.S.); marta.gea@unito.it (M.G.)

3 National Research Council-Institute of Materials (CNR-IOM) at International School for Advanced

Studies (SISSA), 34165 Trieste, Italy; angelo.spinello@sissa.it (A.S.); alessandra.magistrato@sissa.it (A.M.)

* Correspondence: giovanna.dinardo@unito.it; Tel.: +390-116-704-689

Received: 10 July 2020; Accepted: 3 August 2020; Published: 5 August 2020

Abstract: The intensive use of pesticides has led to their increasing presence in water, soil, and agricultural products. Mounting evidence indicates that some pesticides may be endocrine disrupting chemicals (EDCs), being therefore harmful for the human health and the environment.

In this study, three pesticides, glyphosate, thiacloprid, and imidacloprid, were tested for their ability to interfere with estrogen biosynthesis and/or signaling, to evaluate their potential action as EDCs. Among the tested compounds, only glyphosate inhibited aromatase activity (up to 30%) via a non-competitive inhibition or a mixed inhibition mechanism depending on the concentration applied. Then, the ability of the three pesticides to induce an estrogenic activity was tested in MELN cells. When compared to 17_-estradiol, thiacloprid and imidacloprid induced an estrogenic activity at the highest concentrations tested with a relative potency of 5.4 _ 10����10 and 3.7 _ 10����9, respectively. Molecular dynamics and docking simulations predicted the potential binding sites and the binding mode of the three pesticides on the structure of the two key targets, providing a rational for their mechanism as EDCs. The results demonstrate that the three pesticides are potential EDCs as glyphosate acts as an aromatase inhibitor, whereas imidacloprid and thiacloprid can interfere with estrogen induced signaling.

Keywords: aromatase; estrogen receptor; endocrine disrupting chemical; pesticides; neonicotinoids; estrogenic activity; gene reporter assay; MELN allosteric inhibition; molecular dynamics.

https://res.mdpi.com/d_attachment/ijerph/ijerph-17-05664/article_deploy/ijerph-17-05664.pdf

Argentinian City Discovers Strong Link Between Glyphosate Exposure and Asthma

Posted on Aug 15 2020 - 4:47pm by Sustainable Pulse

A new study from Argentina, which used the methodological criteria of the International Study of Asthma and Allergies in Childhood (ISAAC), has identified a relationship between

environmental and residential exposure to glyphosate and the high prevalence of asthma in the small city of Monte Maíz in Argentina.

https://sustainablepulse.com/2020/08/15/argentinian-city-discovers-strong-link-between-glyphosate-exposure-and-asthma-cancer-and-reproductive-disorders/#.Xzt38UBuKUk

Risk of asthma and environmental exposure to glyphosate in an ecological study

Medardo Avila-V´azquez1, Flavia Difilippo1, Bryan Mac Lean1, and Eduardo Maturano1

1Universidad Nacional de Cordoba

August 13, 2020

Conclusion: These results highlight a relationship between environmental and residential exposure to glyphosate and high prevalence of asthma, while experimental studies support the biological plausibility of this association.

https://d197for5662m48.cloudfront.net/documents/publicationstatus/45217/preprint_pdf/3631757d3faac7fc7473e2eca4b0ec72.pdf

Fragment Abstract:

Conclusion: An organic diet was associated with significantly reduced urinary levels of glyphosate and AMPA. The reduction in glyphosate and AMPA levels was rapid, dropping to baseline within three days. This study demonstrates that diet is a primary source of glyphosate exposure and that shifting to an organic diet is an effective way to reduce body burden of glyphosate and its main metabolite, AMPA. This research adds to a growing body of literature indicating that an organic diet may reduce exposure to a range of pesticides in children and adults.

https://www.sciencedirect.com/science/article/pii/S0013935120307933?via%3Dihub

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The GMO-free Citizens, Lelystad, the Stichting Natuurwetmoeders, Bussum, and the Stichting Ekopark Lelystad, do not want this GM cotton to be placed on the EU market.