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Genome edited plants in the EU

A scientific critique of Leopoldina and EASAC statements

The Greens/EFA Group has commissioned the European Network of Scientists for Social and Environmental Responsibility (ENSSER) and Critical Scientists Switzerland (CSS) to critically assess the scientific foundation of a statement published by German National Academy of Sciences Leopoldina in 2019 on the regulation of genome-edited plants in the EU.

These are the main findings of the scientific critique:

"The EASAC-endorsed Leopoldina Statement on the regulation of 'genome edited' plants is based on a limited number of selected publications. It fails to reflect the findings of at least 200 highly relevant published scientific studies.

These studies document adverse effects of existing genetically modified organisms (GMOs) on the environment and human health, and demonstrate the potential for negative outcomes of more recent genetic engineering tools.

They show that existing GMOs have failed to deliver on their claimed benefits, such as effective control of weeds and pests, resistance against diseases, drought tolerance, enhanced nutritious value and intrinsic yield gains. They also demonstrate the ecological and economic consequences of genetic contamination, as well as detrimental effects on smallholder farmers.

With regard to 'genome editing', the scientific evidence ignored by the authors of the Leopoldina Statement demonstrates that, contrary to their claims, the genetic alterations caused by these methods are fundamentally different from naturally occurring mutations.

The 'genome edited' crops listed in the Statement to illustrate the potential benefits of 'genome editing' are at preliminary exploratory research stages and most even miss functional proof of efficacy. They cannot be taken as evidence that expectations of beneficial traits are justified.

Similarly, the Statement's narrative equating precision = control = safety is not supported by the scientific evidence - not for older forms of genetic engineering and not for more recent forms of genetic engineering.

The Statement ignores the growing recognition among experts that the root causes of hunger are related to social and economic issues (conflict, poverty, exclusion, etc.) more than to crop yield. There is no record of

GMO interventions increasing crop yields as such, or indeed reducing hunger. In contrast, a series of widely accepted expert reports have called for a rapid shift from input-intensive industrial agriculture to agroecological farming methods.

Based on a selective reading of the scientific evidence, the Leopoldina Statement recommends that the EU should exempt certain 'genome edited' organisms from the scope of its GMO legislation. It also calls for the longer-term loosening of GMO regulations applicable to existing transgenic organisms. Following that advice would move the EU away from the precautionary approach that is enshrined in the EU's founding treaties, and towards the US approach of ignoring potential risks and harm.

The body of evidence ignored by the Leopoldina Statement supports a conclusion contrary to Leopoldina's, namely that EU GMO regulations must be strengthened in order to take account of a new generation of GM organisms created with 'genome editing' tools."

- READ THE FULL REPORT
- READ THE EXECUTIVE SUMMARY :
  - in English
  - in German
  - in French
  - in Italian
- **BRIEFING ON THE EU DEBATE ON 'NEW GENOMIC TECHNIQUES'**

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Contact person

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Attached documents

Report on genome edited plants in the EU
Executive summary - genome edited plants in the EU
Zusammenfassung - STELLUNGNAHMEN ZU GENOM-EDITIERTEN PFLANZEN
Résumé - Critique déclarations RÉGULATION DES PLANTES AU GÉNOME ÉDITÉ
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