

New scientific publication shows differences between genome editing and conventional breeding

Outcome of German research project published in Frontiers in Plant Science

24 April 2019 /A new peer reviewed publication provides an overview of several differences between genome editing (CRISPR/Cas) and conventional plant breeding on the molecular level. It is the first scientific review specifically exploring this issue, and is the outcome of a German research project in horizon scanning of new methods in genetic engineering from the perspective of the protection of health, the environment and nature ("Fachstelle Gentechnik und Umwelt"). The publication is authored by Dr. Katharina Kawall and was published today in the Journal Frontiers in Plant Science.

The publication reviews applications of CRISPR/Cas in plants and shows some differences to conventional mutagenesis used in plant breeding and to spontaneous mutations. In conventional breeding and in natural processes some regions of the genome e.g. undergo changes less frequently than others because these regions are protected by repair mechanisms of the cell. CRISPR/Cas applications can bypass these naturally occurring processes.

"In the debate on new methods of genetic engineering you often hear that changes induced by CRISPR/Cas are equivalent to naturally occurring processes. However, this perception is too simplistic in regard to both natural biological processes and the real potential of genome editing," says Katharina Kawall, who has worked with CRISPR/Cas in the laboratory herself.

There have been some ongoing and highly dynamic developments in biotechnology in the last few years. The research project "Fachstelle Gentechnik und Umwelt" (FGU) aims to provide scientific assessment of these recent developments independently of the interests of the applicants and promote public participation.

Further information: [The publication](#) [1]
[Website of FGU](#) [2]

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