

EU-SAGE is a network representing plant scientists at 134 European plant science institutes and societies that have joined forces to provide information about genome editing and promote the development of European and EU member state policies that enable the use of genome editing for sustainable agriculture and food production.

The trigger for the EU-SAGE network

In July 2018 the Court of Justice of the European Union stated in its ruling in case c-528/16 that:

(1) organisms made using mutagenesis are genetically modified organisms (GMOs), and
(2) organisms made using modern, targeted forms of mutagenesis do not fall under the article 3, Annex B exemption of European Directive 2001/18/EC (known as the GMO Directive).

Consequently, the European legislation is interpreted to mean that genome edited crops are subject to the GMO regulatory provisions, also in cases where the edit is not different from what is present in nature or can be achieved by conventional breeding methods.

Immediately after the ruling, scientists all over Europe formulated deep concerns on the consequences of this ruling, because regulating genome edited organisms as GMOs would *de facto* block the application of genome editing in agriculture and food. In October 2018, leading scientists representing more than 85 plant and life sciences research centers and institutes endorsed a first position paper, initiated by the VIB-UGent Center for Plant Systems Biology, that called upon European policy makers to safeguard innovation in plant science and agriculture. During 2019 this evolved into a network of 129 European plant science institutes and societies, which amongst others, wrote a letter to the European Commission and published an Open Letter on 25 July 2019 to once more call upon European policy makers and politicians to take appropriate action to safeguard genome editing for sustainable agriculture. This network is now called **EU-SAGE, European Sustainable Agriculture through Genome Editing**. The network is coordinated by the VIB-UGent Center for Plant Systems Biology.

It is the firm conviction of EU-SAGE that Europe should be able to use genome editing techniques where they contribute to a more sustainable agriculture and food production. Crop improvement has been done for centuries by means of conventional plant breeding techniques, all leading to genetic changes in the plant. Today, innovative precision breeding techniques such as CRISPR-Cas enable the introduction of important properties into crops in a very efficient way.

Innovative plant breeding methods necessary to meet the challenges of climate change

Agriculture feeds the world. On that account, the breakdown of food systems is one of the biggest risks of climate change. Crops that are more tolerant to rapidly changing and harsher environments, such as recent periods of extreme drought in parts of Europe, will be crucial for the success of tomorrow's food production approaches. Precision breeding can contribute to tailoring crops to a specific area, considering the environmental factors of a certain region. Precision breeding is also used to generate crops with improved nutritional composition, improved digestibility, lower content of anti-nutritional components, reduced allergenicity or requiring less input, which has a direct benefit for our environment.