European Group on Ethics presents report on New Genetic Engineering

Testbiotech criticises lack of balance

22 March 2021 / The European Group on Ethics in Science and New Technologies (EGE), which advises the EU Commission, has published its report on New Genetic Engineering (New GE or Genome Editing). The report deals with New GE applications in humans, animals and plants. An analysis of the report carried out by Testbiotech has found that the chapter on plants lacks the necessary balance and scientific accuracy. Testbiotech has therefore criticised the EGE for presenting conclusions on risks associated with genetically engineered plants without sufficient scientific backing.

The EGE claims, for example, there is no evidence of adverse environmental effects caused by the cultivation of transgenic plants which is not correct. Further, the report does not explain the differences between traditional breeding and genome editing sufficiently and, in addition, does not show the specific risks associated with the respective New GE techniques. The report also takes a very one-sided approach in regard to the cost of applications and New GE risk assessment as well as the implications of patenting.

In summary, the potential benefits are disproportionately emphasised in comparison to the risks than can be justified from the scientific evidence. Consequently, the EGE does not fulfill the high standards which it needs to follow in its high ranking publications. Testbiotech finds this regrettable as other chapters of the report are much more balanced in regard to the underlying science and conclusions. One possible reason for the difference in quality of these specific chapters seems to be that there is only one EGE member with expertise in genetic engineering in agriculture.

Just recently, Testbiotech published its own report on the regulation of New GE applications in plants. This report shows that genome editing applications, especially those using CRISPR/Cas ‘gene scissors’, all need to undergo scientific risk assessment before any conclusions can be drawn on their safety. Contrary to these findings, the EGE claims that risk assessment is only necessary where there are complex genetic alterations, such as the knock-out of several genes, or if the intended results could not have been achieved with conventional breeding methods.

However, reality is far from being that simple. CRISPR/Cas applications are based on a multistep procedure; frequently, the genetic changes are nowhere near as precise as intended. Therefore, it is not sufficient to simply assess the intended characteristics of the plants. In many cases, it is only after detailed examination that an assessment can be made on whether the new characteristics could also have been achieved with conventional breeding.

Consequently, Testbiotech rejects the EGE proposal to only subject some specific plants to a mandatory approval process. Moreover, even if risk assessment needs to be adapted to New GE plants, there is enough flexibility within the existing approval process. There is no justification for exempting the respective plants from risk assessment.

Testbiotech is further raising questions in regard to the independence of the experts involved. Julian Kinderlerer is the leading (and presumably only) expert of the EGE group dealing with New GE applications in plants. He has also acted as a leading member of organisations funded by the biotech industry. He is known for his activities in the PRRI (Public Research and Regulation Initiative) and the ISBR (International Society for Biosafety Research). Kinderlerer is a member of the Steering Committee at PRRI and was treasurer at ISBR.

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Further information: The EGE opinion [2]
Testbiotech report on regulatory questions in regard to New GE [3]
Recent publication on adverse environmental effects caused by transgenic plants [4]
Details regarding funding of PRRI [5]
Details regarding funding of ISBR [6]

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