Scientific publication on new genetic engineering calls attention to a previously unknown dimension in environmental risks

Warning against hasty releases

25 April 2023 / A recent scientific publication has shown that releases of organisms obtained from new genetic engineering (also known as new genomic techniques, NGTs) carry much higher risks than previously thought. It is the first scientific publication to focus on interactions between NGT organisms with various traits after their release into a shared environment.

A large number of NGT organisms across a broad range of traits and species have been developed in laboratories in recent years. Many of them may be released into the environment in the near future.

Tools such as CRISPR/Cas gene scissors allow a new depth of genetic intervention that can result in extreme biological characteristics or unintended genetic changes that are unlikely to occur with conventional breeding methods. Potential NGT applications include, e. g. crops, trees, insects, soil organisms, or even viruses.

Ongoing parallel research is currently looking at a number of different traits within individual species. For example, there are already dozens of research projects underway, with different goals in engineering plant species such as wheat, tomatoes and camelina. Many of the plants are affected by ‘trade-offs’ and show major changes in their metabolism and composition.

The new publication summarises the current state of research. It shows the need for developing complex scenarios in order to investigate the numerous potential interactions - and the potential damage they can cause to health, the environment and nature.

Similar to environmental pollution with plastics and chemicals, it is not always an individual organism which may create problems, but rather the sum of diverse effects on the environment. Environmental problems created by the release of NGT organisms may last as long as or longer than those caused by plastics and pesticides – thus impacting many future generations.

Hasty approvals and uncontrolled releases NGT organisms can rapidly overwhelm the adaptability of ecosystems and may cause destabilisation of ecosystems. Consequently, releases of genetically engineered organisms into the environment should be restricted as far as possible. Against this backdrop, Testbiotech has welcomed recent indications from the EU Commission that it will postpone the legislative proposal on NGT plants and continue to hold further discussions.

Contact:
Christoph Then, info@testbiotech.org [1], Tel + 49 151 54638040

Further information: The new publication [2]

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