

New Genomic Techniques Policy Directions

February 2024

IN THIS POLICY BRIEF:

- Policy Options and Their Impacts
- Stakeholders Perspectives
- Case Studies:
 - NGT Potato
 - NGT Microalgae



»»» INTRODUCTION

How should the products of New Genomic Techniques (NGTs) be regulated in the EU? This Brief highlights important regulatory, technical, social and other aspects relevant for the ongoing EU discussion, and that may be taken into consideration by policy- and decision-makers, developers and other stakeholders.

This Policy Brief is based on an extensive report [published here](#) by GeneBEcon.

»»» POLICY OPTIONS AND THEIR IMPACTS

In the EU, **regulatory uncertainty** reduces investment in NGTs at several levels, including research, innovation, product development and scaling-up of production processes.

GeneBEcon has defined and analysed **six different regulatory options for NGT products**, using gene-edited potato and microalgae as case models ([read more](#)). These regulatory options reflect the positions and perspectives voiced by stakeholders and policy-makers in the ongoing regulatory reform process.

The qualitative assessment of **safety data requirements** for the two case models indicate that basic molecular information is required and sufficient for a solid biosafety conclusion of a “conventional-like” status.

The two options **Regulatory differentiation according to risk profile**, or **Foreign DNA as a regulatory trigger** seem to most optimally address both protection goals (human health/environment) and economic benefits.

These two options overlap to some extent with the **European Commission’s proposal** for regulating NGT-Category 1 plants.

DID YOU KNOW ?

New Genomic Techniques - a part of the breeders’ toolbox - are anticipated to close the gap between what is artificial and what occurs naturally.





STAKEHOLDER PERSPECTIVES

By including the perspectives and insights of a diverse group of stakeholders through **Systems Mapping and Responsible Research and Innovation (RRI)** ([read more](#)), GeneBEcon evaluates the benefits and risks of introducing NGT-derived products in European agriculture and bioeconomy and analyses the consequences across the food and feed value chains.

The first **Systems Mapping workshop** ([read more](#)) (01 March 2023) looked at the potato and microalgae cases to identify ecological, economic, social and regulatory impacts of introducing NGT products in the production, processing and consumption.

In the **first RRI workshop** with stakeholders ([read more](#)) (09 Nov 2023), the weaknesses and threats of NGT product use in agriculture, food and industry were investigated and prioritised. The **second RRI workshop** ([read more](#)) (21 Feb 2024) discussed with stakeholders how to turn these into strengths and opportunities with specific actions. The RRI work will now continue with formulating an actionable Transition Plan.

On 20 Feb 2024, GeneBEcon hosted close to 80 project partners, stakeholders across the agrifood value chain, and policy makers, at its **Midterm Symposium** ([read more](#)) in Brussels. The Symposium served as a communication, dissemination and engagement event to discuss the progress of NGT legislation and the project's outcomes so far.

CASE STUDIES

Through the work with gene editing in potato and in microalgae, GeneBEcon aims at contributing to sustainability and a circular bioeconomy, having a direct positive impact on the environment, the economy of farmers and companies, and the well-being of consumers.



NGT POTATO

GeneBEcon is using gene editing to develop potato which is resistant to the severe PVY virus disease and that has an optimised industrial starch quality in the tubers. This will save pesticides in the field and processing chemicals in the starch factory.



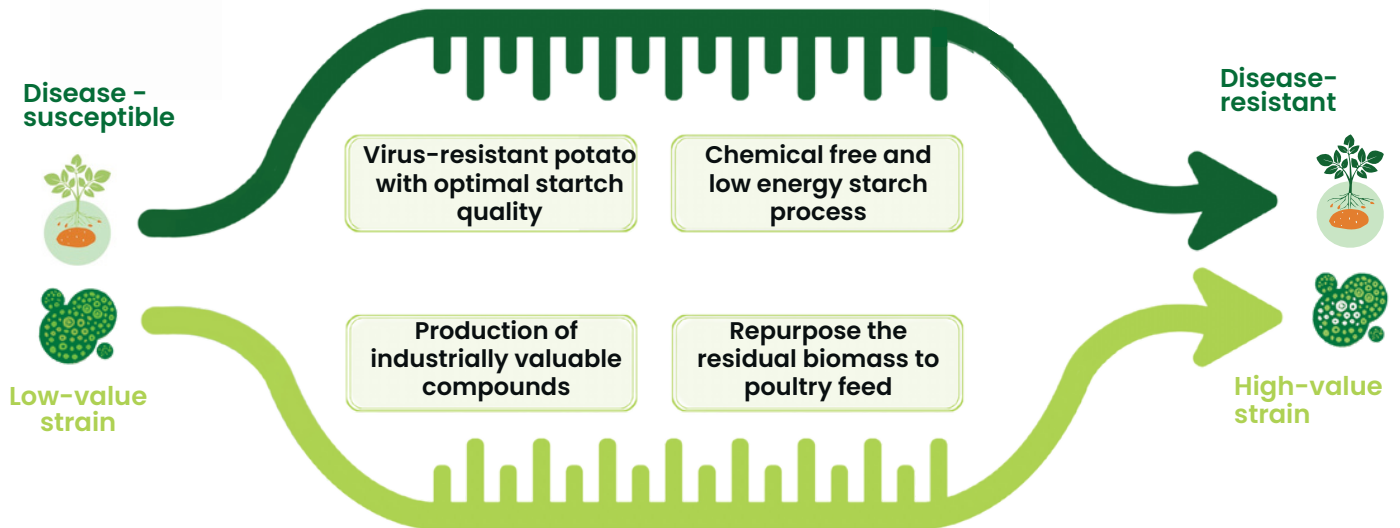
NGT MICROALGAE

GeneBEcon is using gene editing to increase the production of valuable compounds in microalgae, while using the residual biomass as chicken feed for a zero-waste bioeconomy.

DID YOU KNOW ?

Products like vegan cheese, pastries and many other food products use chemically treated conventional potato starch, which requires 7.5 GWatt hours and 75,000 tonnes of chemicals yearly in the EU - equivalent to 4,000 truck-loads!

Capturing the Potential of Gene Editing for a Sustainable BioEconomy



CONSORTIUM



www.genebecon.eu



GeneBEconEU Project



@GeneBEcon

CONTACT US



Dennis Erikson - SLU
 (Swedish University of Agriculture Sciences)
dennis.eriksson@slu.se
www.slu.se



This project is funded by the European Union under the Grant Agreement no. 101061015. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.

The contribution by the Federal Office of Consumer Protection and Food Safety (BVL) does not represent an official opinion of the German Government.