



NEW GENOMIC TECHNIQUES
NEW FOOD SYSTEMS

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NEW GENOMIC TECHNIQUES PROJECT SET TO MAKE FOOD SYSTEM MORE SUSTAINABLE AND TRANSPARENT

The new EU-funded project DARWIN will co-develop new-generation NGT detection methods and new digital solutions to help create a fair, healthy, safe and environmentally friendly food system.



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A new EU-funded project – DARWIN – has been launched to co-develop the next generation of NGT* detection methods for plant-based products. It will also pioneer digital solutions. The aim is to ensure better traceability and authenticity, in line with the EU's Farm-to-Fork strategy.

Scientific and technological barriers in detecting and identifying NGT products that comply with European legislation are causing ambiguity. Law enforcement authorities and agri-food operators are concerned over food producers' and consumers' lack of clear and transparent information to make informed food choices. At the same time, European citizens appear to be quite doubtful about NGT products and demand a legislative framework that can help them choose consciously what to buy as consumers.

In this respect, DARWIN will put in place a large group of scientists who will validate and deliver 9 reliable DNA-based targeted and untargeted detection methods for plant products obtained through NGTs. This would not only make it possible to detect known DNA sequences (targeted detection) but also identify the method used to generate the DNA changes. Consequently, it would be possible to differentiate between DNA alterations caused by mutations and those caused by NGT methods.

In addition, four digital solutions with selected tomato and rice pure products and mixture will be deployed, ensuring transferability to other species and wide applicability of these methods. A DARWIN data space and 3 AI models will also be developed to increase the capacity of these new detection methods and identify unauthorized NGT products.

Cost-effectiveness assessment for future implementation by agri-food operators and law enforcement authorities will also be undertaken.

Thanks to these endeavours, the DARWIN project aims to deliver policy and governance recommendations concerning the legal framework and a reliable labelling scheme for NGT products in Europe.

“The results of the DARWIN project will be a game changer as detection methods for NGTs is a milestone on the road to the sustainable use of genetic engineering” stated **Odd-Gunnar Wikmark**, DARWIN project coordinator. *“Validated detection methods will enhance traceability to allow consumers and producers to make informed choices, they will secure legislative compliance, provide transparency and ultimately secure public trust. We are confident that the DARWIN project will significantly contribute to sustainable innovations in the food system.”*

With a 15-strong consortium from 11 countries, the DARWIN project runs from January 2024 to June 2027.

* New Genomic Techniques



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