

EASAC and the New Plant Breeding Techniques

The forthcoming decision by the European Court of Justice on the regulatory situation relating to those techniques in plant breeding that draw on advances in molecular biology, is anticipated to be very significant for agricultural innovation in Europe.

It is expected that the decision will clarify the status of certain new plant breeding techniques, including genome editing. We welcome the efforts to resolve current legislative uncertainties. New Breeding Techniques have the potential to contribute much to intensified crop productivity, sustainable agriculture and the response to climate change. For example, research aims to develop new cultivars with higher yield potential, enhanced abiotic and biotic stress resistance and improved nutrient composition. The increasing precision and targeting now possible in plant breeding represents a big change from conventional breeding approaches.

EASAC has previously advised that responsible innovative agriculture merits consideration of deployment of all available approaches, traditional and novel, building on existing achievements for good agronomic practice. Moreover, setting priorities for sustainable agricultural production within an integrative food systems approach must also take account of pressures on other critical natural resources and encompass both supply-side and demand-side issues: reducing food waste and changing to healthier consumption patterns. Molecular biology can play its part and we now take this opportunity to reiterate EASAC's previous advice on general principles on how best to capitalise on genomics research as one of the approaches to tackling the challenges for food and nutrition security:

- New technologies should be evaluated according to the scientific evidence base.
- The potential costs of not using a new technology, or being slow in adoption, must be acknowledged. There is no time to lose in resolving the problems for food and nutrition security in Europe.
- If a product of genome editing does not contain foreign DNA, it should not fall within the scope of EU legislation on Genetically Modified Organisms.
- More broadly, there should be full transparency in disclosing the process used and the EU should seek to regulate the trait and/or product rather than the technology used in generating that product. That is, when considering safety issues, the focus should be on assessing whether the novel attributes of the plant might represent a risk to the environment or human health, irrespective of the breeding technique employed.
- The European Commission and Member States should continue to commit to supporting fundamental research in plant sciences to provide the tools and other resources for future innovation in plant breeding and farming practices.
- There is also continuing need for wide-ranging engagement to discuss critical issues, to build trust between scientists and the public.

In conclusion, reforms are needed if objectives for EU innovation for sustainable agriculture and the bioeconomy are to be met. In addition, it should be appreciated that EU policy decisions have implications elsewhere: in the past with negative impact on innovation in developing countries who have concerns about their export markets or who have been inclined to look to the EU to express leadership in research and development. It is vital that EU actions take account of our responsibilities in the wider international contexts.

Sources:

[New Breeding Techniques, EASAC Statement 2015](#)

[Genome editing: scientific opportunities, public interests and policy options in the European Union, EASAC Report 2017](#)

[Opportunities and challenges for research on food and nutrition security and agriculture in Europe, EASAC Report 2017](#)