

On New Breeding Techniques

- Ensuring an Innovative and Diversified European Agriculture -

The contribution that the EU agriculture sector makes to building the Knowledge-Based Bio-Economy, to achieving the challenges of food security and safety, to mitigating climate change and maintaining employment in Europe is vital. Faced with rising world food demand and increased risks to food production from climate change and greater market volatility, it is more important than ever for the EU to maintain agricultural activity and competitiveness. In 2011, G20 called for an increase of world agricultural production through an improvement of productivity. The EU, which is currently a net importer of agricultural productions, including field crops, has a great role to play.

Modern biotechnology is a key enabling technology that can contribute significantly to addressing these challenges, by introducing desired characteristics more precisely and efficiently in a variety of crops. Agricultural crops must produce higher yields and be more resistant against diseases, pests, heat, drought, flooding, combined with improved nutrient uptake and efficiency. Modern plant breeding and plant biotechnology not only help produce more high value protein from less land, but also have a net positive impact on the environment and biodiversity contributing to achieve the goal of sustainable agriculture. This is why **the European Technology Platform 'Plants for the Future' (Plant ETP) is convinced** that Europe cannot do without continuous progress in plant breeding techniques, which can help to overcome some limitations of traditional breeding and enlarge the portfolio of products developed in the EU providing more choice of products specifically targeted to the needs of Europe's farmers, growers, processing industries and consumers.

The European companies and public research institutes based in the EU have played and continue to play a prominent role in research and development activities in new plant breeding techniques⁽¹⁾. **Plant ETP reinforces** its principal policy position on this subject which is very much at the core of the platform's mission: to promote and advocate strategic and internationally competitive research in Europe as a joint basis for European plant sciences between industry, farmers and academia. As for any economic business, innovation is essential for an efficient and sustainable agriculture industry and farmer's competitiveness. Industry, farmers and academia are therefore following the current debate on a legislative classification of new breeding techniques (NBTs) along the lines of European GMO legislation with great concern. **Plant ETP is concerned** that more and more processes and products will have to undergo expensive and lengthy authorisation procedures - similar to that of genetically modified organisms (GMOs) - even in cases where no foreign DNA is contained in the commercial plant (the end-product) or where these products are completely indistinguishable from traditionally bred crops.

The European Commission has charged several scientific bodies with an **assessment and evaluation of eight different breeding techniques** (Oligonucleotide Directed Mutagenesis; Zinc Finger Nuclease Technology; RNA-dependent DNA methylation; Cisgenesis; Grafting on a GMO rootstock; Reverse Breeding; Agro-Infiltration; Synthetic Genomics) which most have already found their way into breeding research and some also into breeding practice. **Plant ETP welcomes the reports** of the Expert Working Group of EU Member States⁽²⁾, of the European Food Safety Authority (EFSA)⁽³⁾ and of the EU Joint Research Centre⁽¹⁾. All these reports come to the conclusion that the legal definition of a GMO does not apply to most of the new breeding techniques or that these techniques fall under the exemptions already established by the legislation or should be exempted as they are not different from plants obtained by traditional breeding⁽²⁾.

(1) JRC-Report New Plant Breeding Techniques: State of the art and prospects for commercial development, 2011

(2) New Techniques Working Group (2012) Final Report of the European Commission

(3) EFSA Panel on Genetically Modified Organisms (2012) Scientific opinion addressing the safety assessment of plants developed through cisgenesis and intragenesis.

Plant ETP supports this interpretation and calls upon the European Commission:

- ⇒ **To take account of this new science-based evidence** in considering the regulatory options for managing the new breeding techniques arising from modern biotechnology. Where required by the respective Directive 2001/18, breeding techniques will be assessed.
- ⇒ **To ensure that the process of deciding the regulatory oversight is transparent** and that the evidence base used for decision-making is accessible by the wider scientific community. Plant ETP asks that the regulation of the new breeding techniques must continue to have a firm foundation in sound science, capitalizing on the evidence and analysis available.
- ⇒ **To provide legal certainty to the plant and agricultural sectors.** Plant breeding and variety development generally require periods of 7 to 10 years from basic research to commercial product. It is thus crucial for companies to be certain now that their investments will not be in vain and that their future products will not be subject to the uncertain outcome of politicized regulatory procedures, as it is the case with GMOs.
- ⇒ **To take account of the European Seed Association (ESA)'s recommendation⁽⁴⁾** to issue a European Commission Interpretative Communication Document on the base of the EU Member States Experts Report, which provides the interpretation of Directive 2001/18 for the breeding techniques currently under discussion and may also serve as reference for such interpretation for future NBTs. This reference document would create the necessary strong basis of legal certainty for the continued investment in R&D and application of these NBTs.

If varieties bred using new breeding techniques are to be regulated as GMOs in the EU, this will have negative economic consequences and create a serious barrier for their commercialization, especially for SMEs. In turn, this could hurt the competitiveness of farmers in Europe and ultimately affect consumers through a negative impact on food prices. In addition, a deviating classification of crops developed through new breeding techniques would lead to a loss of competitiveness with the rest of the world, as is already the case for varieties currently defined as GM-varieties. This will further favor imports rather than own European investments in development, breeding and production, and will lead to an exodus from Europe of plant breeding activities together with the know-how. Any uncertainties about the effect of the European GMO legislation on the progeny of new breeding techniques in the present "anti-technology" atmosphere in Europe will lead to these innovations not being used and progress towards improved varieties will be slowed down.

It is the **Plant ETP's mission** to assure that Europe's plant and agricultural sectors remain innovative, high-performing and internationally competitive. Consequently, Plant ETP wishes to underline that the overall policy goals of the EU - fostering the innovation capacity, especially of SMEs and making Europe a Knowledge Based Bio-Economy - must not be obstructed by unjustifiable and unnecessary burdensome regulatory requirements as it is currently the case with GMOs. Plant ETP calls upon the European Commission to actively support both in European regulation and in the public debate a reasonable approach towards new breeding techniques.

(4) ESA Position on New Breeding Techniques - Ensuring Progress and Diversity in Plant Breeding
http://www.euroseeds.org/position-papers/research-innovation/esa_12.0446.2/view