

## How Europe has priced out innovation: the example of plants

Written by Joanna Dupont-Inglis on 16 January 2019 in Opinion Plus  
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Europe is lagging behind on several breakthrough technologies, especially in the field of agricultural biotechnology, explains Joanna Dupont-Inglis.



**Photo Credit: EuropaBio**

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For well over a decade, the EU has set itself a target to increase R&D investment from under two percent ten years ago to three percent of GDP, now aimed for by 2020, reflecting growing recognition that Europe must compete and excel in the new global knowledge economy.

More investment would lead to jobs, growth, and, importantly, to improved sustainability. From climate change and improved health to delivering a truly circular bioeconomy, R&D is and will be critical for delivering innovation for the benefit of people and the planet.

But a decade later, insufficient progress has been made on this goal, and Europe is lagging behind on several breakthrough technologies, especially in the field of agricultural biotechnology.

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Today, 17 million farmers in 24 countries grow genetically modified (GM) crops on over 12 percent of the world's fields. That's because these crops are efficient, reduce the need for using other inputs, like fuel, and improve yields and hence food security.

Although Europe only grows a small fraction of this amount (mainly in Spain), the EU is the world's second largest importer of GM-derived agricultural commodities.

In the EU, the cost of authorising a new transgenic plant is prohibitive, reaching between €11m - €16.7m and taking around six years on average for a mere import authorisation, [both up by over 50 percent compared to a decade ago](#) [6].

This predicament exists despite over 20 years of history of safe use of GM crops and thousands of individual EU and other government approvals confirming their safety.

With such massive investments of time, money and expertise necessary for attaining authorisation, small and medium sized enterprises (SMEs) have been all but excluded from investing in GM crop authorisations in Europe, and even large multinational corporations have given up on GM cultivation in Europe.

The impacts have been devastating, as exemplified by [a 2018 PG Economics report](#) [7] showing that the EU's GMO regulations have cost the UK agricultural sector between €428m and €534m in farm income benefits between 1996-2006, with an additional €65m - €82m still slipping away each year.

"The regulatory burden associated with GMO legislation has already cost Europe millions in terms of lost investment, jobs and brain drain and has increased Europe's susceptibility to trade disruptions, estimated to range in the billions of euros"

Furthermore, the EU's unsupportive regulatory environment drained the country's scientific sector, pushing out 900 jobs and €77m worth of salaries. According to former Romanian agriculture minister Valeriu Tabără, Romania's loss from not cultivating GM soya beans amounted to approximately €1bn annually.

The 2018 Court of Justice of the EU ruling that many plants without a novel combination of genetic material (i.e. non-transgenic plants without added genes) fall under the same prohibitive requirements as transgenic plants only adds insult to injury and contradicts science and common sense.

Thousands of plant varieties come from random, natural, or induced mutations, and the current jurisprudence punishes the most efficient and innovative methods for achieving desired traits in plants in a matter of months, rather than decades or even centuries needed using traditional methods.

From the development of drought tolerant crops to improved insect resistance, the court ruling puts Europe at a major disadvantage in the face of unprecedented global challenges.

The regulatory burden associated with GMO legislation has already cost Europe millions in terms of lost investment, jobs and brain drain and has increased Europe's susceptibility to trade disruptions, estimated to range in the billions of euros.

According to [a report published by the European Commission in 2010](#) [8], the overall cost to the economy in the case of disruption in supplies to the EU because of asynchronous GMO approvals could total €9.6bn.

"I hope that looking forward, the EU will take more leadership on this topic, to ensure that both in Europe and globally we can all benefit from the full spectrum of biotechnology innovation, and that the EU will boost R&D for this purpose in recognition of this potential"

Multinationals have massively divested from the EU and focused their GM product development pipelines on solutions for farmers in other continents.

The same now looks certain to happen with the most modern precision breeding techniques, such as genome editing. Maybe even worse, European public researchers and SMEs will once again have difficulties competing in Europe, while they play a leading role in other parts of the world.

As of August 2018, in the USA alone, 15 gene-edited plants and one gene-edited mushroom were considered as non-regulated. Of these 16 products, which cover a wide range of species and applications, only three are from well-known multinational companies, with the remainder coming from smaller businesses and public research institutions.

Such a variety of players and applications delivering consumer and environmental benefits, like improved nutrition and reduced waste, will sadly be impossible in the EU given the current framework. Most probably, under the current jurisprudence, no gene-edited plants will be available for EU farmers to grow in the foreseeable future.

But despite all these setbacks, Europe, which was after all the birthplace of modern plant biotechnology, can still become a world leader in the global knowledge economy - if it takes action now.

For this to happen, first and foremost, the EU's leaders must recognise that scientifically unjustifiable regulatory burdens have contributed to the EU's loss of competitiveness and to frictions with trading partners.

Secondly, the EU needs a proportionate, fit-for-purpose and science-based approach to modern technologies, which reflects technical progress.

I hope that looking forward, the EU will take more leadership on this topic, to ensure that both in Europe and globally we can all benefit from the full spectrum of biotechnology innovation, and that the EU will boost R&D for this purpose in recognition of this potential.

## About the author

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Dupont-Inglis has been Secretary General of EuropaBio since September 2018, where she has worked since 2009 in a variety of leadership positions.

Prior to EuropaBio she worked for two leading Brussels-based consultancies on agriculture, healthcare, environment and energy policy together with a broad range of industries, international organisations, NGOs and with the EU Institutions.

She has an academic background in environmental science and European studies and is a French-speaking UK/Irish national.

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