



By Michael Barker

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Plant breeding 'vital for sustainable agriculture'



Major Brussels report paints a picture of the vital role plant breeding has played in feeding the world

Plant breeding has a pivotal contribution to make for sustainable agriculture across Europe in the coming years as pressure ramps up to reduce chemical inputs, a major new report has claimed.

The 327-page report, released in Brussels by independent scientific consultancy HFFA Research, concludes that innovation in European plant breeding has also contributed significantly to wider socio-economic and environmental goals such as improved farm incomes, food price stability, reduced greenhouse gas emissions, and conservation of key natural resources such as land, water and biodiversity.

In the context of the EU's Farm to Fork Strategy commitment to reduce pesticide and fertiliser use by 50 and 20 per cent respectively by 2030, the report's authors Steffen Noleppa and Matti Carlsburg conclude that even greater investment and innovation in plant breeding will be essential to mitigate future crop production losses.

Accelerated plant-breeding techniques

While those losses could potentially be halved with plant-breeding improvements at current pace, the authors suggest that access to accelerated plant-breeding techniques such as gene editing will be a potential game-changer in closing the expected gap in EU food production.

They call on policy makers to do more to support the development of new and improved seed varieties, for example by strengthening support for early-stage and translational research, ensuring an evidence-based regulatory framework – including for new breeding techniques – and encouraging greater public awareness of the benefits of plant breeding in agriculture and beyond.

The report stated plant breeding contributes to global food security, with genetic improvements in the past 20 years assuring additional food availability for 168 million humans at global scale. By generating higher yields

per unit of area, plant breeding has helped reduce global demand for agricultural land use by more than 21.5 million hectares, also saving almost four billion tonnes in direct CO2 emissions over the past 20 years.

'More explicit policy focus'

British Society of Plant Breeders chief executive Samantha Brooke welcomed the report's findings as "further independent confirmation that continued innovation in plant breeding will be the single most important factor in helping farmers respond to the urgent global challenges of food security, climate change and sustainable development."

She added: "This comprehensive report crystallises within a single document the contribution of plant breeding not only to sustainable agriculture and food production, but also to the delivery of wider socio-economic, climate, biodiversity and resource conservation objectives," she said.

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“BSPB will use the information contained in this report, including the specific analysis for the UK, to make the case for a more explicit focus on the policy measures needed

to boost investment in the UK-based plant breeding and seeds sectors, from research funding priorities to the development of a more enabling and proportionate regulatory environment for genetic innovation.”

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