All-Party Parliamentary Group on Science and Technology in Agriculture

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Ag Bill amendment on precision breeding techniques will protect crops, jobs, investment, food security and the environment in the UK sugar beet sector

The All-Party Parliamentary Group (APPG) on Science and Technology in Agriculture is calling on the Government to support changes to the Agriculture Bill which would pave the way for the UK to ditch damaging EU rules blocking access to precision breeding tools vital for agricultural improvement at home and overseas.

On 7 May the Group's chair, farmer, EFRA Committee Member and York Outer MP Julian Sturdy, wrote to Defra Secretary Rt Hon George Eustice MP, urging the Government to introduce an enabling amendment during the Lords stages of the Bill.

The proposed amendment would provide new powers for the Secretary of State to consult on and, if appropriate, make a simple change to the Environmental Protection Act 1990 giving Britain's scientists, farmers, plant breeders and animal breeders the same access to new gene editing technologies as their counterparts around the world.

In developing this proposal, the APPG considered evidence and views received from a wide range of stakeholders across the R&D, food, farming, plant breeding and international sectors. This note summarises the key points made by Ian Munnery of sugar beet breeders SESVanderHave to a recent online meeting of the All-Party Group (19 May).

Mr Munnery explained that – following the removal of neonicotinoid seed treatments - access to gene editing could radically accelerate the development and availability of varieties with in-built resistance to Virus Yellows (VY), a devastating disease of the sugar beet crop which can reduce yields by up to 50%.

By accelerating the development of VY resistant varieties, gene editing could safeguard the viability of the sugar beet crop, and the British sugar beet sector is 100% behind the All-Party Group's call for the Government to support an amendment to the Agriculture Bill paving the way for better regulation of plant breeding innovation.

FACTFILE – SUGAR BEET

Ian Munnery, General Manager, SESVanderHave UK

Sugar beet is grown on 4.5 million hectares globally, including 120,000 hectares in the UK, where the crop supports 3,000 farmers and 9,500 jobs.

Sugar beet is an important break crop in the arable rotation, making it easier to control pests, weeds and diseases in combinable crops such as wheat, barley and oilseed rape.

UK sugar beet production supplies around 50% of UK sugar demand from four factories. The UK operates highly efficient factories, processing beet for 208 days/year compared with 100-120 days' operation in continental Europe.

Despite these relative efficiencies, however, the UK sugar beet sector is exposed to the world sugar market, where costs of production can be distorted by direct subsidies and indirect aid not available to UK growers.

The current average UK sugar beet yield is 78 tonnes/hectare, but the world record yield (California and Chile) is closer to 170t/ha. With a relatively simple genome, the sugar beet crop offers huge potential for genetic improvement for yield, agronomic and quality traits.

Sugar beet is also a highly versatile crop not only used as a food product, but also as a source of animal feed, pharmaceuticals, nutritional products and renewable fuel (bioethanol).

A major challenge for UK sugar beet producers is infestation of the crop by Virus Yellows (VY), a complex of five viruses and three aphid vectors which can cause yield losses of up to 50%.

The UK is at greater risk because of its relatively mild, maritime climate (the past two years were the mildest on record) and the withdrawal of systemic neonicotinoid insecticides, previously used as seed treatments, which have protected the crop against VY infestation for several decades.

The UK's relative susceptibility to VY infestation, while beet growers elsewhere enjoy state aid and continued access to neonicotinoid insecticides through emergency derogations, undermines the UK industry's competitiveness against imports, and this threatens the future viability of the UK sugar beet sector.

Over the past four years, an Innovate UK-funded study involving the British Beet Research Organisation (BBRO), ADAS and sugar beet breeders Maribo-Hilleshög and SESVanderHave, has identified a number of promising sources of genetic resistance to Virus Yellows.

The urgency now is to transfer these sources of genetic VY resistance into commercial solutions. Precision breeding techniques such as gene editing can accelerate the delivery of beneficial traits into elite germplasm, potentially producing market-ready varieties within 2-3 years rather than 10-12 years.

Access to gene editing techniques within the UK sugar beet sector would therefore protect crops, jobs, investment, food security and the environment.

ENDS

Note to Editors

Julian Sturdy MP, chair of the All-Party Parliamentary Group on Science and Technology in Agriculture, wrote to Defra Secretary Rt Hon George Eustice MP on 7 May 2020 calling on the Government to support a targeted amendment to the Agriculture Bill, paving the way for the UK to adopt a regulatory definition of GMO compatible with the internationally recognised Cartagena Protocol, and thereby exempt simple gene editing applications from the scope of GM regulation and bring UK law into line with the regulatory stance of other countries around the world, such as the US, Argentina, Brazil, Australia and Japan.

A copy of the text of the letter is available here

A statement by the APPG is available here

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