

Plant Breeding Matters



**BRITISH SOCIETY OF
PLANT BREEDERS LTD**

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Information from the British Society of Plant Breeders

AUTUMN/WINTER 2021

I have had a somewhat challenging start as BSPB Chair since taking on the role in 2019. Covid-19 and Brexit has made meeting many of our members impossible at times and only now are we starting to catch up and connect again.

At the recent AGM we enjoyed some excellent speakers, and it was heart-warming to see so many familiar faces for what I thought was a great event. Looking forward you are also invited to a dinner event in York on 2nd December. If you want further details on this, please contact the BSPB office.

Sam and the team have progressed the BSPB brand and website immeasurably. It is hoped that by making the declaration and payments system more intuitive and easier to manage online that we will also reduce the very small percentage of farmers who don't declare farm saved seed.

The soon to be launched Trait Protection Scheme offers plant breeders a new way to protect their intellectual property. We all understand the importance of protecting new traits and I welcome what I believe to be an innovative way to protect the hard work of plant breeders.

BSPB will be at the forefront of discussions with Defra and the Government to find a sensible solution to the recent gene editing consultation. The BSPB's goal is to promote the potential of this technology by educating those involved to understand that gene editing is an opportunity, not a threat.

 **Andrew Newby / BSPB Chair**



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GENE EDITING

The Defra gene editing (GE) consultation has ignited the need for clarity in policy regarding how GE techniques should be governed. CEO Sam Brooke was recently featured on the BBC Radio 4 Farming program during which she explained the benefits of GE and how there is a current and future farming need for this technology.

The Government has since announced new plans to unlock the power of gene editing to help farmers grow more resilient, nutritious, and productive crops. Sam commented on the Defra announcement saying: “This is the most significant policy breakthrough in UK plant breeding for more than 20 years. We welcome confirmation that Defra will adopt a more scientific and proportionate approach to the regulation of genetic technologies such as gene editing.”

In a ‘two step’ approach, the Government plans to first ease the burden on developers undertaking research involving plants developed using genetic technologies, such as gene editing. This seeks to bring forward primary legislation to amend the regulatory definition of a genetically modified organism (GMO) to exclude organisms that have genetic changes that could have been developed by traditional breeding or could have occurred naturally, and we are hopeful that changes in regulatory measures will drive a route to market for products created by gene editing techniques. Developing an improved crop variety using conventional breeding to improve its yield, nutritional quality, or resistance to disease can take up to 15 years. However, gene editing can help reduce that timescale significantly. This is why this change in legislation is so important and needed now.

A recent study conducted by Stephen Noleppa from HFFA research, confirmed that plant breeding innovation such as gene editing can reduce this gap by 2 years, thus speeding up plant breeding progress by 18% and delivering a 1.34% annual yield increase.

By 2040 this would mean across Europe plant breeding innovation could feed 20 million more



humans, avoid GHG of circa 350 million tonnes and save an additional 2 million hectares of land undergoing land use change into food production.

Acting on this policy breakthrough, with the knowledge of what new breeding techniques can bring, has never been more important. The emphasis is to ensure that there is a clear route to market for products produced by new breeding techniques to ensure research is maximised.

The National Listing system of plant variety registration only allows new food crops to be approved that offer in-field performance and food quality characteristics improvements. This involves extensive testing of new varieties which supports safer and more sustainable food production. This tried and tested regulatory system can also embrace new varieties produced using gene editing techniques, which replicate what plant breeders are already doing, but in a much quicker and more targeted way.

The BSPB will now work with Defra and the Government's regulatory agencies to promote and facilitate the benefits of gene editing, looking to a clear and transparent route to market.

NIGEL MOORE, CEREALS DEVELOPMENT MANAGER FOR KWS

Defra's confirmation that gene editing (GE) should be regulated differently to genetically modified organisms (GMOs) is a welcome decision that will help research and development (R&D) efforts in the UK.

Plant breeders are already addressing demands for varieties that offer more sustainable production, through higher yields, improved disease resistance, and the freeing up of R&D in gene editing will help accelerate this.

To ensure that plant breeders and researchers of all sizes and backgrounds can make the most of this decision a clear and streamlined route to market needs to be established.

Establishing a system of transparency, to enable consumer choice, where varieties created by simple gene editing techniques can be tested through the existing rigorous National List system, will provide the confidence needed to progress with these new technologies.

HIGHLIGHTS FROM THE AGM

BSPB members, and invited guests, met in London at The Brewery, hospitality venue, on October 14th for the BSPB AGM. It was heart-warming to see familiar faces and share both industry and personal thoughts over a lovely lunch. Guests were given an introduction and round up from Chair, Andrew Newby before two speakers, Joanna Raymond and Shaun Beck took to the floor.

Joanna is a PhD student at The University of East Anglia, Department of Environmental Sciences. The BSPB is one of the sponsors of Joanna's project, entitled 'Weatherproofing for a smarter, resilient and more sustainable agri sector'. The audience learned of her efforts to use both contemporary and historic data to establish the effect of weather changes on winter wheat varieties. She suggested that by using climate data, dating back to the beginning of the twentieth century, agriculture could adapt to produce varieties of wheat that are more resilient to the climate conditions faced today.

Joanna was able to show that winters in the UK have become warmer and wetter, whilst summers are hotter and drier. Her modelling took the genotype and collated it with the environmental conditions year on year. This produced a genotype by environment, or GxE, which she suggested could be used to help determine wheat yield. "Joanna

offered everyone a superb insight into how we need to consider the impact of environmental pressures on yield. Her research will definitely help plant breeders and farmers consider how to develop, and cultivate, more resilient varieties that are better suited to the changes in climate we are experiencing," commented Samantha Brooke.

Shaun Beck offered a lighter brand of presentation by focusing on the benefits of engaging with people in the workplace. Shaun shared thoughts on how to interact more effectively with employees and how to inspire them. His company, Inspire Ignite, specialises in helping groups of co-workers communicate and develop more engaging ways to work with each other.

At the AGM, Shaun brought a few chuckles as he asked the guests to categorise their personality traits to demonstrate the importance of understanding the needs of the people they worked with. He quoted research that suggested 87% of HR leaders see employee retention as critical for the next five years and that Brexit had led to 11.2 million jobs being furloughed. This surely paints a tricky picture for the months and years to come as we all adjust. However, the presentation focussed on the positives with Shaun advocating trust, engagement, and empathy to help everyone work together more effectively.

PLANT HEALTH UPDATE – IMPORTS AND EXPORTS

IMPORTS

The Government set out a new timetable for introducing full import controls for goods being imported from the EU to the UK.

The revised timetable for the introduction of plant health controls, is now as follows:

- **Since 1 January 2021**, phytosanitary certificates and pre-notification have been required to accompany EU imports of high-priority plants and plant products. Documentary, identity and physical checks of these goods have been carried out at Places of Destination.
- **From 1 January 2022**, the requirement for pre-notification will be extended to all regulated plants and plant products (i.e. not just those which are 'high-priority'). This is not a change on the previous timetable.
- **From 1 July 2022**, physical and identity checks of high-priority plants and plant products will move from Places of Destination to Border Control Posts (BCPs).
- **From 1 July 2022**, the requirement for phytosanitary certificates will be extended to all regulated plants and plant products (i.e. not just those which are 'high-priority'), and they will be subject to physical and ID checks at BCPs.

BSPB continues to work closely with the plant health authorities with the aim of reducing the import plant health requirements on trial and experimental seed.

Import testing remains a challenging area, with often increased tests being carried out over and above those listed on the legislations. BSPB is working with Defra to gain better understanding of why this is happening and how we can support the process having a lesser effect on industry

The frequency of checks for plants, plant products and seed has been reviewed and Defra announced its response with changes to these checks being introduced in July 2022.

We are pleased that by working with Defra the frequency checks for trial seed have been set at 10%, which should help with the smooth flow of seed for official trials, experimental and breeding purposes while keeping costs down. The full report and a BSPB imports overview can be found in the members area of our website.



EXPORTS

You can now register with the Plant Health Export Service (PHES), this will replace eDomero as the plant health system for exporting goods from GB.

If importing into the EU a pre-notification is also required on the EU TRACES NT system.

This system requires the commodity code for the genus/specie you are exporting, you can obtain this from your APHA Plant Health Inspector, but it is critical that this is correct, so it is also worth checking with the importer that it matches their records.

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