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To Members of the Science and Technology
Committee
House of Commons
London
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Dear Members,

Genetic Technology (Precision Breeding) Bill

I am pleased to inform you that the Genetic Technology (Precision Breeding) Bill has been introduced into the House of Commons. I believe this will be of interest to the committee and would welcome any questions.

Background

The UK is home to some of the world's best agricultural research institutes. From the National Institute of Agricultural Botany to the James Hutton Institute, Rothamsted Research, Aberystwyth and the Roslin Institute, there is pioneering and cutting-edge research being done across the UK. With the introduction of our Bill, we will drive even more investment into agritech innovation in the UK.

Precision breeding describes a range of breeding technologies, such as gene editing, that enables DNA to be edited much more efficiently and precisely than traditional breeding techniques. These technologies can make targeted genetic changes to produce beneficial traits that can also occur through traditional breeding and natural processes. This is, therefore, different to genetic modification where modern techniques are used to insert functional DNA from an unrelated species into another species.

Through the Bill, we are going to remove unnecessary barriers inherited from the EU to enable the development and marketing of precision bred plants and animals. This will help our farmers and producers grow more productive, nutritious and resistant crops, in turn boosting food security and the sustainability of our farming system, thereby reducing not only costs for farmers, but pesticide requirements as well. This will align us with other countries who have already amended or are thinking about regulating Precision Bred Organisms differently from Genetically Modified Organisms (GMOs). Argentina, Brazil, Canada, Japan, and the US have already taken a different approach to the EU in deciding that precision bred organisms are not to be regulated as GMOs.

New Policy

The Bill will create a new, simpler regulatory regime for precision bred plants and animals that could have arisen through traditional breeding or natural processes. It will introduce two new notification systems for research and marketing purposes and develop a new science-based authorisation process for food and feed products developed using precision-bred organisms. We also recognise that there is a need to safeguard animal welfare in the new regulatory framework. That is why we are taking a stepwise approach, enabling use of precision breeding technologies with plants initially followed by animals later.

Benefits

The Bill will encourage the use of precision bred technologies to tackle the key challenges of our age, such as water scarcity and climate change. An example that could help tackle these issues is wheat that is resilient to climate change, which could help to increase food production from a crop that 2.5 billion people are dependent on globally. Researchers at the John Innes Centre have used gene editing techniques to identify a key gene in wheat that can be used to introduce traits such as heat resilience whilst maintaining high yield.

Likewise, the ability to develop crops that need less fertiliser or pesticide, and have a natural resistance to diseases, would benefit the environment and reduce input costs for farmers. For example, virus yellows are a group of viruses that can cause yield losses of up to 50 percent in sugar beet. By introducing resistance to virus yellows, we would reduce the need for pesticides and increase food production.

Precision breeding can also be directly applied to provide human health benefits. For example, researchers at Rothamsted are testing a wheat that has been gene edited to have lower levels of the amino acid asparagine, which turns into a cancer-causing compound when food products, like bread, are heated.

In summary, precision breeding technologies have great potential to enhance food security and help this country and communities around the world adapt to the impacts of climate change and reduce agricultural greenhouse gas emissions, enabling natural resources to be used more sustainably and efficiently. Through improving crop resistance to pests and diseases, precision breeding techniques have the potential to reduce the need for pesticides and increase crop yield, freeing up land for alternative uses, directly beneficial to the environment. Precision breeding techniques also have the potential to improve the health and welfare of animals and improve the sustainability and resilience of farming systems. I have attached a factsheet of the Bill for your information. Please let me know if I can be of any further assistance.

Kind regards,



JO CHURCHILL MP