



**Science** *for*  
**Sustainable  
Agriculture**

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## **Pro-innovation think tank sets out five ag policy priorities for the next UK Government**

**As the general election approaches, the major political parties have emphasised the importance of domestic food security, and the need to achieve a better balance between farming and the environment. But the critical role of agricultural science and innovation in delivering those objectives has scarcely been mentioned. Here, five members of the pro-innovation think tank Science for Sustainable Agriculture set out their top policy recommendations for the next Government.**

### **Implement precision breeding rules for plants and animals**

Professor Helen Sang OBE – livestock scientist

“The Precision Breeding Act, which received Royal Assent in March 2023, was a major milestone towards freeing up the safe use of gene editing technologies in plant and animal breeding, bringing our rules more into line with other countries such as Canada, USA, Japan and Australia. These techniques can help accelerate the development of higher-yielding, more climate resilient crops requiring fewer inputs, and farmed animals with genetic resistance to previously intractable disease problems, such as PRRS in pigs, avian influenza in poultry and BVD in cattle.

“With a virulent strain of PRRS wiping out pig herds in Spain, African Swine Fever on the march north through Europe, and bird flu virus detected in both dairy cattle and their milk in the US, the importance of enabling all possible solutions, including precision breeding, cannot be over-stated.

“However, until more detailed implementing rules are in place for both plants and animals, the Precision Breeding Act as it stands serves no functional purpose. It is extremely disappointing that the outgoing administration was not able to bring forward the necessary secondary legislation before the election was called, and this must be an absolute top priority for the next Government.”

### **Bring forward a science and evidenced-based land use framework**

Graham Brookes – agricultural economist

“A land use framework was repeatedly promised by the previous Government, but remains another item of unfinished business. Indeed, the post Brexit re-set for UK agriculture should have begun with a coherent land use strategy, as knee-jerk policy changes of imposing a 25% cap on the amount of land allocated to certain SFI options

have demonstrated. A more science-based land use framework must certainly be prioritised by the next administration.

“The scientific evidence indicates that a three-compartment approach provides the best model for a future land use framework, recognising that a combination of high yield farming, natural habitat and some extensive farming will support the optimum balance in terms of food production, nature and the climate.

“A key challenge lies in allocating the right amount of land to each of these three compartments. Detailed research to answer this question, covering two regions of England – Salisbury Plain and the Fens – has for example shown that a land use split of roughly 60% in high yield farming, 25% natural habitat and 15% in more extensive farming for the country as a whole might be appropriate.”

### **Push forward with plant variety registration reform**

Peter Button – IP expert

“Access to genetic innovation is more critical than ever in the face of climate change, new pest and disease pressures, and the removal of key crop protection tools. Independent research covering the period 2000-2020 has shown that, without improved varieties, UK crop yields would be 19% lower, and 1.8 million hectares of additional land would be needed in other parts of the world to meet our food needs, causing more than 300 million tonnes of additional GHG emissions.

“And yet the reality of leaving the EU for the UK plant breeding and seeds sector has been a marked increase in regulatory costs, delays and uncertainty. Each new variety must now be separately registered in the UK where it was previously covered by an EU-wide approval. New plant health arrangements have also brought major disruption moving seed and breeding material to and from the EU.

“Left unchecked, these operational challenges will have damaging consequences for future breeding investment, and reduce access to genetic innovation for growers and their customers. The UK must adopt a smarter approach to registering new crop varieties, and explore all available options to minimise costs and time, learning from the more streamlined approaches to variety registration taken in other countries.”

### **Adopt consistent, outcomes-based sustainability metrics**

Dr Derrick Wilkinson – international economist

“Recently published scientific studies comparing the environmental footprint of different farming systems challenge popular assumptions that premium-priced food labels such as organic represent more sustainable choices. In fact, the evidence indicates that they may be significantly worse for the planet in terms of resource use and greenhouse gas emissions.

“A move towards the adoption of consistent, outcomes-based sustainability metrics at farm level would offer consumers more meaningful choices, indicating how different products compare in terms of their impact across a range of sustainability factors, including land and water use, carbon emissions, as well as their effects on soil health, water quality and biodiversity.

“It would also provide the basis to embed farm-level data at the heart of an evidence-based policy agenda focused on securing the optimum balance between each unit of food produced and its external impacts across a range of societal concerns. This in turn would support improved understanding and dissemination of best practice advice to individual farmers, and allow the development of more coherent R&D programmes and objectives.”

## **Review the delivery of agricultural research and innovation in the UK**

Professor Tina Barsby OBE – plant scientist

“Expressed per head of population, or in relation to GDP, the UK leads the world in terms of high-citation academic publications in agriculture, according to a recent study. High-citation papers are recognised as those most likely to support innovation and deliver impact. But UK leadership in academic science is not translating into agricultural productivity growth, in which the UK continues to lag behind most other developed agricultural economies. Nor has it positioned Britain as a major destination for private sector investment in agricultural innovation compared, for example, to Britain’s healthcare or medical life science sectors.

“To deliver value for taxpayers’ money, the next Government must initiate a strategic review of the UK’s agricultural research landscape, including the balance between fundamental and applied research funding, the significance attached to monitoring the farm-level impact of research investment, and also whether UK expenditure on agricultural R&D is focused on the right priorities, and allocated in the most transparent and/or effective way.

“In terms of the R&D environment, the review must also explore whether there are lessons to be learned from countries which have successfully maintained high levels of agricultural productivity growth, such as the Netherlands, for example, with its ‘triple-helix’ approach to fostering more effective R&D collaboration between government, industry and the science base. We might also look to China, which over the past six years or so has adopted a relentless focus on unleashing crop genetic innovation as a strategic response to food security and climate change concerns.”

**ENDS**

### **Notes**

Science for Sustainable Agriculture (SSA) is a new policy and communications platform, offering a focal point for information, comment and debate around modern, sustainable agriculture and food production. Supported by an independent advisory group of political, scientific and industry leaders from a range of sectors and backgrounds, SSA’s aim is to promote a conversation rooted in scientific evidence, rather than ideology. Science for Sustainable Agriculture provides a platform for like-minded individuals and organisations to champion and explain the vital role of science and technology in safeguarding our food supply, tackling climate change and protecting the natural environment, as well as to expose, comment on and challenge unscientific positions or policy decisions in relation to sustainable agriculture.

Further information about Science for Sustainable Agriculture is available [here](#).