



All-Party Parliamentary Group on
Science and Technology in Agriculture

INNOVATION AGENDA FOR UK AGRICULTURE

30:50:50

A new vision to re-frame the farm policy, regulatory
and R&D agenda for UK agriculture





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WELCOME

George Freeman MP, APPGSTA chair

30:50:50 Agri-Science Summit

3 November 2025

Portcullis House, Westminster



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The 30:50:50 Innovation Agenda

- A bold mission to increase UK agricultural output by 30% by 2050 while reducing farming's environmental footprint by 50%.
- Raise domestic food self sufficiency to 75% from current ~60% (by volume).
- Provide long-term clarity of direction for UK agriculture, promoting domestic resilience and economic growth.
- Address global challenges of food security, climate change, and nature conservation.



UK Agriculture at a Crossroads

- Strong foundations: professional farming sector, good soils and climate, world-class agri-science base.
- Challenges: fragmented farm support policies, inconsistent regulation, weak transfer of research into practice, stalling productivity, land use pressures from solar, tree-planting, housing, infrastructure.
- Lack of clarity over what *'food security is national security'* means in practice: producing more of our own food or easing import access?
- Without reform, risks include falling UK productivity, rising import dependence, and declining investment in critical infrastructure, innovation and input supply.



What if we do nothing?

- Modelling study led by former NFU chief economist Dr Derrick Wilkinson identified major food security risks of “business as usual”.
- Farmland loss is accelerating: under full implementation of the government’s land use, environmental and net-zero policies, nearly a quarter of farmland could disappear – most of it high-value arable land.
- Declining productivity: rate of growth in agricultural yields and output has slowed markedly over the past 10–15 years.
- Increased imports: in a worst-case scenario, domestic food production could fall by more than 32% (39% per capita) by 2050, increasing import dependence and exposing the UK to increasingly volatile global markets.



International Context

- Other nations are realigning their agricultural policies to combine increased food production with sustainability goals.
- US Agricultural Innovation Agenda aims for 40% increase in output and 50% reduced footprint by 2050.
- EU's new 'Vision for Agriculture and Food' prioritises innovation-led growth, marking a departure from production-limiting Farm to Fork Strategy.
- Recent FAO-OECD Outlook 2025–34 report emphasises the need for uptake of new farming technologies to reduce emissions and enhance productivity.



The 30:50:50 framework

The 30:50:50 vision envisages a structured, outcomes-focused framework for long-term alignment of food security and environmental objectives.

- **Farm Policy** – Aligning land use and farm support frameworks with sustainable productivity outcomes.
- **Regulation** – Ensuring proportionate, enabling rules for new agricultural technologies, innovations and inputs.
- **Research & Innovation** – Strengthening translational research and aligning R&D priorities with industry needs.
- **Farm data** – Establishing a co-ordinated infrastructure for real-time farm-level data collection, benchmarking and analysis.



Stakeholder engagement

- 100+ organisations and individuals across agri-food, science, and technology sectors provided feedback and input.
- Three key take-aways:
 - 30:50:50 is widely endorsed as a long-term strategic ambition, and a unifying point of reference to align relevant policy goals.
 - Strong agreement that 30:50:50 is achievable, but the current policy framework is not fit-for-purpose to deliver against a ‘more from less’ agenda.
 - Broad consensus that science, technology and innovation must be central to a re-framing of the farm policy, regulatory and R&D agenda for UK agriculture, with a new national farm data initiative at its core.



Stakeholder insights

- Current farm policy promotes environmental goals over food production.
- UK regulation of farming innovations is overly cautious and under-resourced.
- Translation of research into on-farm innovation is a major weakness.
- UK-EU reset will benefit trade, but may put UK-based innovation at risk.
- UK farm data landscape is fragmented; interoperability of data platforms and harmonisation of data collection methodologies are critical to progress.
- Real-time data and AI-assisted decision-making could transform productivity and sustainability if backed by skills, data and infrastructure.
- Genetic innovation in crops and livestock is the primary driver of productivity and sustainability gains – policy and research priorities must reflect this.



Key policy recommendations (1)

- Elevate the strategic importance of food security alongside environmental goals by **embedding the 30:50:50 mission, and its associated target for 75% domestic food self-sufficiency by 2050**, as a consistent, cross-departmental reference point across all food, farming and land use policies.
- Develop a new **National Farm Data Initiative (NFDI)** to benchmark and monitor progress against the 30:50:50 objectives, with an urgent remit to co-ordinate the collection and integration of farm data; to harmonise data collection and reporting methodologies; and to deliver interoperability between data platforms.



Key policy recommendations (2)

- Stimulate development and uptake of **real-time data capture and AI-enabled decision support systems** to unlock the productivity benefits of data collection and analysis, transforming data-sharing from a perceived threat into a demonstrable benefit.
- Adopt an **outcomes-based approach to the delivery of farm support policies to incentivise measurable progress against 30:50:50 objectives**, moving away from the current model based on simply rewarding uptake of particular practices.
- Ensure future land use and farm support policies **protect our most productive farmland for high-yield, efficient food production**.



Key policy recommendations (3)

- Conduct an urgent **root and branch review of the core, applied and translational research landscape for crop science** in the UK to support improved transfer of discovery science into farm-level applications, learning from countries such as the Netherlands and New Zealand which have undertaken similar reviews with resulting benefits for innovation and agricultural productivity.
- Establish a new **national Knowledge Exchange capability**, building on the ADAS Yield Enhancement Network, to provide a detail-oriented approach to sustainable yield improvement and with a clear ambition to close a widening yield gap in our major food crops.



Key policy recommendations (4)

- **Unlock the full potential of genetics and biotechnology** by prioritising genetic innovation in crops and livestock as the main driver of productivity and sustainability gains, for example through early implementation of the animal provisions of the Precision Breeding Act, and safeguarding full implementation of the Act for plants and animals in UK-EU realignment talks.
- Commission an urgent **review of current regulation of farming innovations**, led by the new Regulatory Innovation Office, to identify potential opportunities to accelerate the route to market for inputs and technologies with potential to reduce emissions and improve productivity in UK agriculture.



A unique reset moment ?

- Combined Government initiatives on farming roadmap, land use framework, food strategy and farm profitability review present a unique opportunity to set a bold, long-term vision for the farming industry to produce 'more from less' by harnessing the latest advances in agricultural science and innovation.

Eastern Daily Press

Government urged to boost UK food production by 30pc by 2050

farminguk

Government must boost UK food production by 30% by 2050, MPs say

THE SCOTTISH Farmer

APPG chair calls for major ag policy reset

Farming policies 'must support increase in food production'

FARMERS WEEKLY



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Thank you!



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