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Approaches and innovations to improve farm productivity while looking after the environment

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Productivity – what does it mean and what’s the problem?
Some big issues

Economy
• Agriculture is 3x less efficient than other sectors of the economy
• Farm productivity in the UK has not increased since the early 1980s

Environment
• Agriculture accounts for 9% of UK GHG emissions, and 30% of global GHG emissions
• UK Government is committed to reaching net-zero in carbon emissions by 2050. NFU is aiming at net-zero for UK agriculture by 2040.

Population
• World population set to reach 9.6 million by 2050
• UK population has increased by 12.5% since 2001 – expected to increase by further 10% by 2041
Addressing Low Productivity

The Food & Drink Sector Council’s Agricultural Productivity Working Group has made 5 recommendations to address low productivity growth. We’ll be working closely with industry to develop these ideas further:

1) Drive effective use of data
2) Transform knowledge exchange
3) A collaborative Mission-led approach to innovation
4) Drive uptake of professional training and development
5) Enable Rural Infrastructure
Farming: Supporting sustainable innovation and productivity

**Investment**
*Grants for farmers to support sustainable productivity*
- Funding for equipment, technology, and infrastructure that will improve productivity, deliver public goods, reduce emissions, and improve the environment.

**Supporting R&D**
*Enabling science based approaches to innovation*
- Developing follow-on to £90m ‘Transforming Food production’ so that it:
  - Supports collaborative R&D
  - Encourages industry-led research syndicates
  - Accelerates rate of adoption of new technologies

**Structural Changes**
*Improving fairness and flexibility for farmers in the supply chain and tenancy agreements*
- Regulation of contracts in supply chains.
- Improving data transparency in supply chains
- Creating a domestic producer organisation regime
- Reforming agricultural tenancies

**Capability and Skills**
*Increase business performance of farms and farmers*
- Supporting industry-led skills and education initiatives
- Promoting knowledge exchange, farmer to farmer learning, and benchmarking against standard key performance indicators
Case Studies

Smart Crop Protection

Tuberscan
Case Studies

Smart Crop Protection

Using AI to develop blackgrass forecasting models that could save farmers in the region of £0.58 billion per year. Farmers across the country will be able to input data on blackgrass and identify successful management strategies and improve productivity.

Tuberscan

Seeking to develop new non-destructive technologies that can measure potatoes as they grow in fields, ensuring the potatoes can be harvested at the most appropriate stage thereby optimising crop yield and resource use.
Some Questions

• What can we (that’s government and farmers) do to be more productive and sustainable?
• Do the measures I’ve outlined look right?
• What are the barriers and how do we overcome them?