

Can UK agricultural R&D do better for the industry through stronger partnerships?

Graham Jellis

Chair, AgriFood Charities Partnership

The decline in applied agricultural research

- The start of my career seemed to coincide with a decline in the major expansion in agricultural research which followed World War 2, and by the mid 1980s, government funding was reducing.
- Reduction in research institutes (eg closure of Grassland Research, Long Ashton, Glasshouse Crops, privatisation of PBI, Silsoe etc.), and staff redundancies
- Universities either closing or amalgamating departments related to agriculture
- By the mid 80s, the advent of biotechnology attracting the funding –and people.
- Privatisation of ADAS (1997)
- Closure of DEFRA LINK programmes (eg Sustainable Arable LINK) -although BBSRC LINK continuing

The importance of agriculture to the British Economy

Agriculture in the United Kingdom **uses 69% of the country's land area**, employs **1.5% of its workforce** (476,000 people) and contributes **0.62% of its gross value added** (£9.9 billion). The UK produces less than 60% of the food it eats.

The Agri-food sector contributed **£121.7 billion** to the UK economy in 2017 and employed **12.5% of its workforce** (4 million people).



The need for a new vision for agricultural research and development

The Commercial Farmers Group 2008

“The continuing decline in agricultural R&D is reducing the competitiveness of the UK agricultural industry and putting food security at risk. A new vision is urgently required to develop innovative agricultural systems that are competitive, which reduce reliance on food imports but which also deliver the required environmental benefits.”

Commercial Farmers Group 2008

- World class basic research **at the expense of applied R&D**
- Major erosion of research infrastructure and expertise at universities and research institutes
- Not only new science not translated successfully, also **stifled innovation at applied level**
- The impact on agricultural R&D has been a major erosion of research infrastructure and expertise in both universities and research institutes. **A vacuum has been created between basic scientific research and practice.** This vacuum has not only reduced the ability of new science to be translated successfully into practice, it has also stifled innovation at the applied level.



Government
Office for
Science

 Foresight



The Future of Food and Farming:

Challenges and choices for global sustainability

FINAL PROJECT REPORT

Published 2011

Recommendations for the Research Community and Funders

- Increase the priority of natural and social science research in the sustainable food system, **from the fundamental knowledge base to outcome-led interdisciplinary work.**
- In addition to pursuing research in biotechnology, **also target research investment in other relevant but currently neglected areas (for example, agronomy, agro-ecology and soil science),** and ensure a coherent approach to discovering knowledge important to the food system at a time of global change.

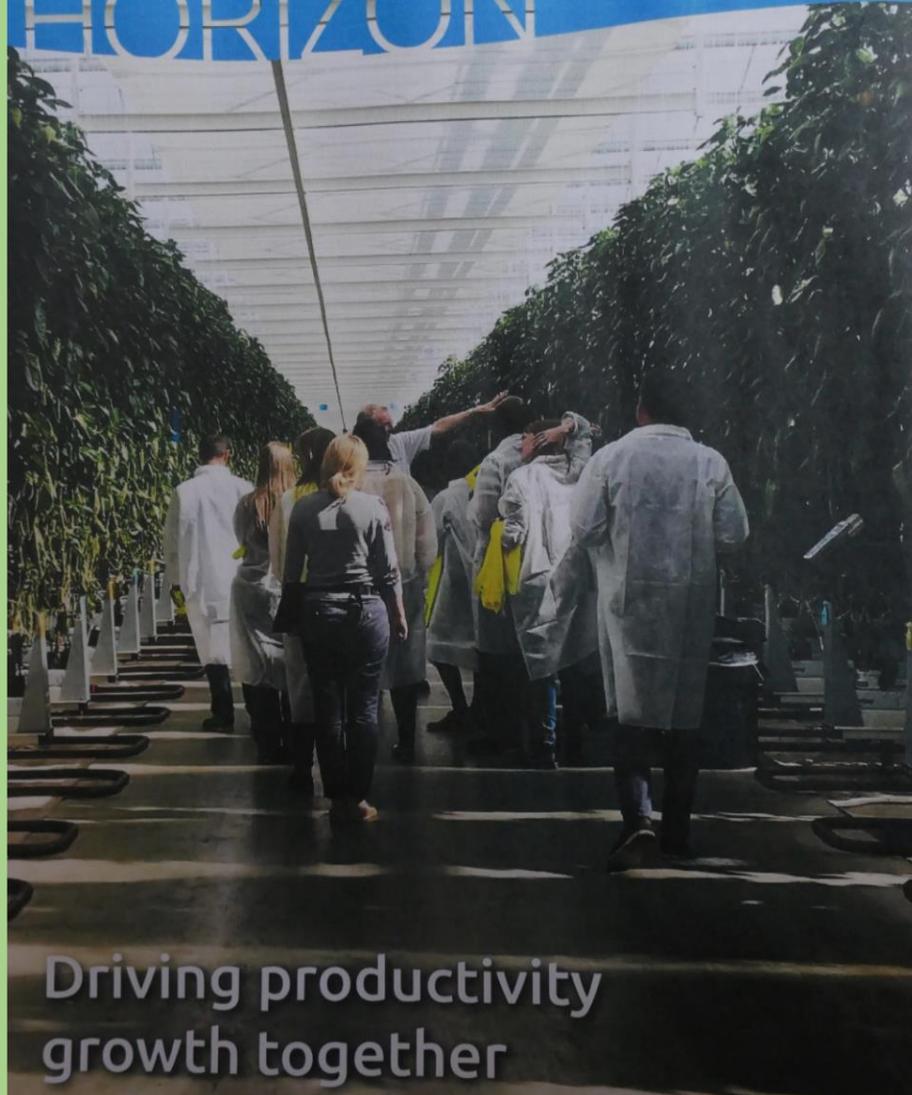
Recommendations for the Research Community and Funders

- Pursue **multiple scientific approaches** to achieve growth in sustainable productivity and wider sustainability, and climate change adaptation; and rigorously assess the benefits and safety of novel technologies.
- **Increase and develop new partnerships between public, private and third-sector funders.**
- Ensure the preservation of multiple varieties, land races, rare breeds and closely related wild relatives of domesticated species.

January 2018

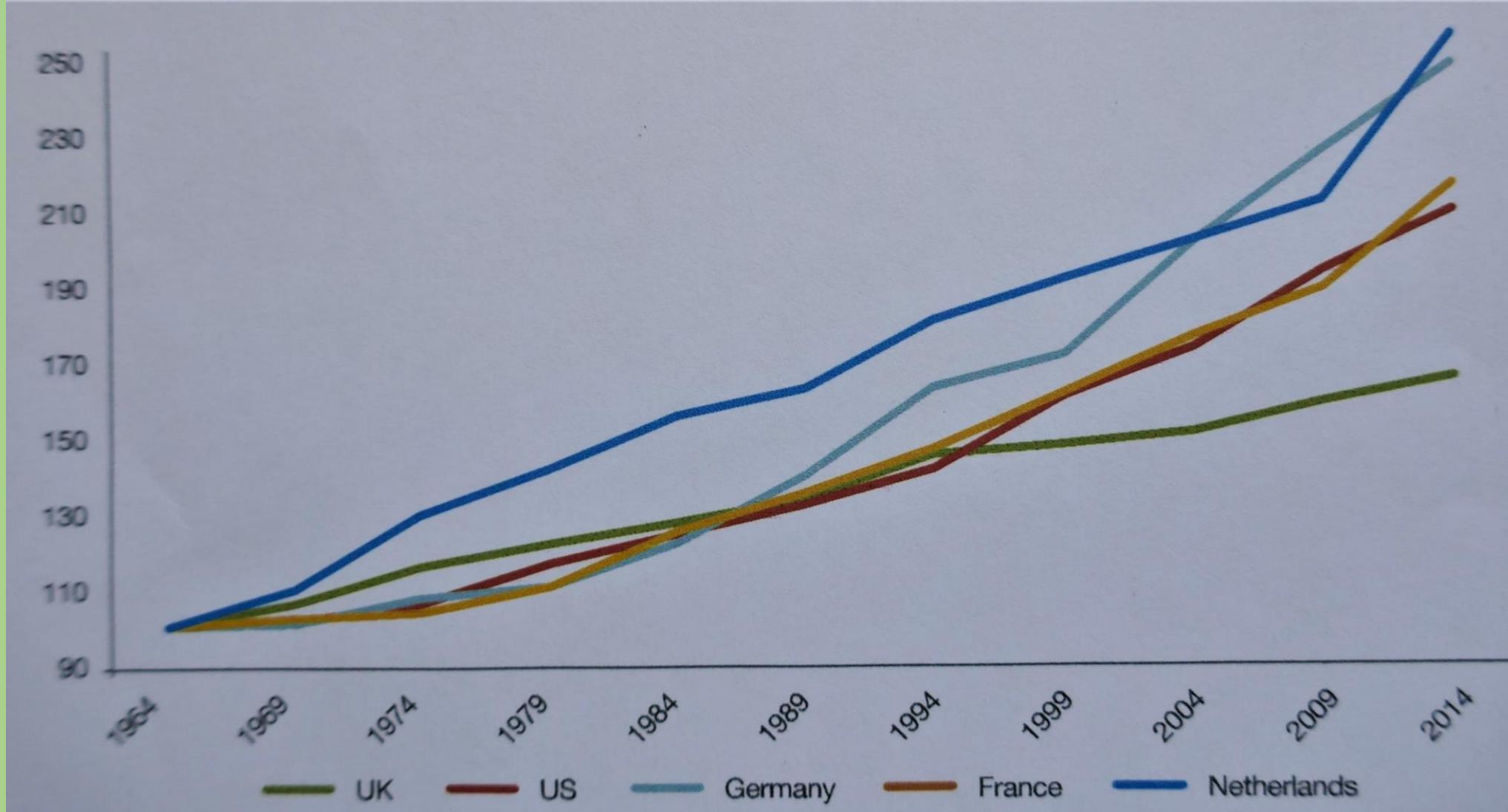
AHDB

HORIZON



Driving productivity
growth together

*Published January
2018*



International comparisons of total factor profitability (effectiveness of converting inputs to outputs) annual growth 1964-2014

AHDB 2018



Innovation and R&D are the main source of agricultural productivity growth in the long run, delivering a return on investment of between 20 and 80 per cent per annum



Public funding of agricultural R&D is still heavily skewed towards blue sky research (in spite of the Government's Agri-tech Strategy). There are widespread concerns that the organisation of funding for R&D suffers from poor coordination and strategic direction.

Can EPIC help?

- The Centre aims to deliver and expand our research ... as well as our **engagement with industry and end users**.
- We reach beyond the confines of academia as EPIC has a **clear mandate to work with to all parts of the agri-tech and environmental industry** to address both fundamental questions and deliver solutions to real-world problems through a productive relationship with academic researchers and business partners.
- We're different because we bring a **commercial mind-set to our work**

Some questions

- Has coordination of agri-food R&D improved over the past few years?
- If not, what should be done about it?
- Are we able to attract talent into more applied research and, if not, what should we be doing?