UK and horticulture

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@timgbenton
What we should be eating (Harvard's Healthy Eating Plate Model)

- Fruits & Vegetables: 49%
- Meat, fish, eggs, beans: 20%
- Oils & Fats: 3%
- Cereals and Starches: 20%
- Milk & Milk Products: 8%

Limit
WHO < 5%

What we are actually producing (According to 2011 FAO)

- Cereals and Starches: 47%
- Fruits & Vegetables: 11%
- Oils & Fats: 11%
- Meat, fish, eggs, beans: 11%
- Milk and Milk Products: 4%
- Sugar: 16%

Evan Fraser, Guelph, FBS analysis, 2015
BREXIT
Our food system is shaped by an interaction of:

- **Trade policy**
  - Tariffs and non-tariff barriers
- **Agricultural support/incentives**
- **Regulatory policy** (food, water, air, biodiversity etc)
- **Exchange rate/Economic performance**
Food imports

- If not EU then where?
- What comes with it?
  - “food standards” e.g. pathogen reduction treatments (PRTs)
  - Quality/reliability
  - Price
  - Impacts on livelihoods
  - Impacts on environment
- How does it compare to UK-grown food and expectations
WHAT ARE WE DOING RE F&V SUPPLY CHAINS?
<table>
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Universities and colleges

Latest News

New Raspberry Demonstration Tunnels
23rd July 2018
James Hutton Limited launched new raspberry demonstration tunnels at Fruit for the Future, the James Hutton Institute’s annual soft fruit-themed event, on Thursday 19 July 2018. The tunnels were officially opened by Kirstene Hair, MP for Angus.

Hutton potato varieties approved for export to Kenya
3rd July 2018
Two potato varieties bred at the James Hutton Institute in Dundee have been recommended for release in Kenya thanks to the concerted efforts of AHDB, SASA, Seeds2B Africa - part of the Syngenta Foundation - and James Hutton Limited.
Independent research institutes

Welcome to NIAB EMR
science for environment, food & horticulture

Research Focus

NIAB EMR – Science in the Garden of England

We are a major organisation in the UK for innovation and research on horticultural crops and plants and their interactions with the environment. Our research on perennial fruit crops is known internationally and we are a significant source of pride regionally.

NIAB EMR delivers knowledge, products and services that benefit public and private customers. NIAB EMR is part of the NIAB group.
Levy board

AHDB teacher survey reveals mounting pressure on workload and time
26/07/2018 | 10:47
1276 teachers responded to AHDB Teacher Survey, survey conducted by
Resilience: Business focused
Sustainability: Using environmental, social and business metrics
Hub: Creating a large central database
GFS resilience programme

Thematic priorities

There are three overlapping thematic priorities in the programme:

1. Optimising the productivity, resilience and sustainability of agricultural systems and landscapes
   At the core of this theme is understanding the relationship and trade-offs between resilience, sustainability to deliver production systems balancing the provision of food with other ecosystem services. This will help address the challenge of feeding a growing population sustainably; ensuring improved environmental, social and economic outcomes.

2. Optimising resilience of food supply chains both locally and globally
   This theme is focused on understanding the economic, environmental, biological and social factors affecting the food supply chain, and the interplay between these, to increase resilience of the food system at a local-to-global level.

3. Influencing food choice for health, sustainability and resilience at the individual and household level
   Central to this theme is understanding the drivers behind food choices and how these impact on the wider food system and production, in order to identify interventions that result in provision of nutritious and sustainable food in more resilient and equitable ways.

https://www.foodsecurity.ac.uk/research/food-system-resilience/

Bananas at a crossroads

10 May 2018
© Dan Bebber

Bananas, the UK’s favourite fruit, appear at first glance to be among our most reliable and resilient fresh produce. They are stocked in every supermarket on every day of the year, and their price seldom varies by more than a few pence per kilo. But beneath this apparently smooth and steady supply lies a complex international network affected by extreme weather, plant disease, social and political shifts, and the looming threat of climate change.

The reliability of banana availability to UK consumers, despite a plethora of diverse threats, and the fact that only one variety of banana is internationally traded (the Cavendish), makes the banana supply chain a fascinating system to study in the context of the resilience of food systems. Will

https://www.foodsecurity.ac.uk/blog/bananas-at-a-crossroads/
Resilience thinking

- Resilience and ecology → resilience and food (+ financial, + climate) systems (May, Beddington, Godfray, Benton)
Food system resilience depends on many factors.

Weather shocks
Pests, diseases
Input shocks
Regulatory shocks
Geopols and trade

Intensification pressure
(demand growth, resource competition)

System shocks increasing

Markets, market rules and policies:
Concentration, power, WTO, transparency

Impact: prices spikes and volatility

Internal feedbacks:
Speculation, stock levels
Trade policy changes
(export bans, panic buying)

Shocks from other sectors:
oil, biofuel, politics, economy

(Homer-Dixon et al. 2015; Puma et al. 2015; Marianela et al. 2016; Philippe et al. 2016; Tadasse et al. 2016;
Challinor, Adger & Benton 2017, Challinor et al. 2018)
Resilience is not a normative concept

The system as a whole is very resilient to transformation to a “better” state
Summary

• Brexit is focusing minds on food supply chains; F&V especially
• The UK recognises the importance of F&V (some discussions about moving to “preventative health care in future” and need for better diets)
  – But is not doing enough...
• There is strong recognition of resilience as a key concept
  – But mainly as “normative resilience”
Thank you!

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