

# **Defra R&D Strategy:** Priorities for the Horticultural Sector in the Area of Energy and Emissions Reduction

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The aims of this presentation are to:

- To give an overview of Defra's current horticulture research in the areas of energy and emissions reduction
- To explain how our research priorities are changing
- To introduce our new research areas

# Current Horticulture R&D: Reduction in Energy Use & Emissions

- Energy-saving technologies for protected horticulture - commercial demonstration and technology transfer
  - Demonstration and publication of energy-efficient technologies
- Producing High Quality Horticultural Growing Media through the Retention of Plant Structure in Composted Food-Processing Waste
  - Development of a sustainable, high quality, peat replacement from waste plant materials

# Current Horticulture R&D: Reduction in Energy Use & Emissions

- Energy saving through an improved understanding and control of humidity
  - Aims to provide a framework for temperature and humidity management which allows growers of protected crops to maximise energy-savings whilst maintaining plant quality and minimising incidence of disease
- Other applicable R&D includes:
  - R&D to increase the season of UK soft fruit
  - R&D to reduce waste in the food chain

# Rethinking Defra's R&D Priorities for Farming & Food

This process is informed by:

- Research Priorities Group recommendations
- Evidence and Innovation Strategy
- Food Industry Sustainability Strategy
- Shift in funding priorities in Defra

# New priority areas

- **Climate Change Impacts and Adaptation:** prediction and adaptation to climate change in farming and food
- **Environment and Landscape:** environmental performance of farming and food and enhancing the farmed landscape
- **Energy, waste and water (sustainable resource use):** making better use of resources (particularly energy and water) and to reduce waste throughout the food chain
- **Food Quality/Safety and Food Chain Resilience:** improving the safety of food; higher quality primary products and foods, including foods that facilitate the adoption of healthier diets; sustaining economic development of the food industry; disruption of the food supply; and understanding sustainability

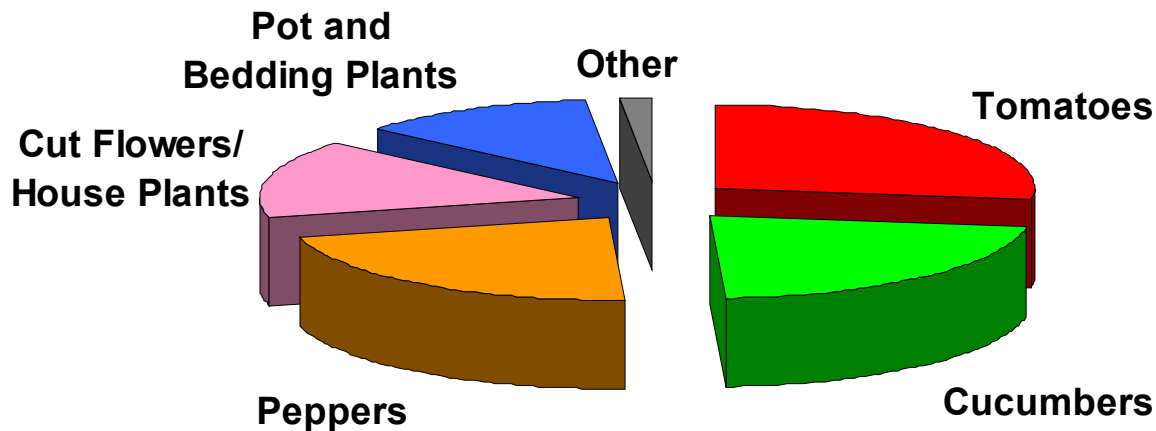
# New Priorities in the area of Sustainable Resource Use

- To enable those throughout the food chain to make better use of resources and to reduce waste
- To achieve this through greater use of existing technologies and through the development of new ones
- To ensure the research programme is complementary to all related work, is relevant to the needs of industry and can be translated into measurable impacts.

# Energy

- Horticulture accounts for 95% of all agricultural energy use (source: Farm Energy Centre)

## Relative Energy Consumption in the Protected Cropping Sector



Source: Farm Energy Centre

# New Energy Reduction R&D

- Scoping studies to identify opportunities to **reduce energy use in protected cropping**
  - What are the opportunities for reducing energy consumption?
  - Where can the greatest, and most rapid efficiency improvements be made?
  - Are energy-efficient technologies available which could be translated to horticulture?
  - What is the potential to use biomass energy?
- Scoping studies to identify opportunities to **reduce energy use and waste generation in food production**
- **Refrigeration** of fresh produce

# How will this information be used?

- To frame a research programme on sustainable energy use in food production
- To feed into a variety of Defra interests including:
  - Policy on the use of biomass heat and power and transport biofuels
  - Non-food crops R&D programme
  - Community Energy Programme (promotes CHP technology)
  - Enhanced Capital Allowances Scheme for energy efficient technologies
  - The development of energy efficiency indicators and various benchmarking scheme

**Thank you for your attention**

