Open Access Gateway to Future Food Production Technologies

Contact us to find out how you can use CHAP's Controlled Environment Agriculture capabilities, and make the most of our available world-class scientific and technical expertise.

HELPING YOU TO FIND SOLUTIONS IN:

- System design & environmental control
- Speed breeding
- Circular economy, organic fertilisers & biostimulants
- Sensing & monitoring, spectral recipes
- Optimising crop nutrition
- Biocontrol & biopesticides
- CIPC-free storage options

CHAP CROP HEALTH & PROTECTION

We work with Innovate UK

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CHAP CROP HEALTH & PROTECTION

Controlled Environment Agriculture

Controlled Environment Agriculture (CEA) will play a major role in enabling the world to feed future generations sustainably, optimising the use of natural resources, increasing yields and improving food quality. Our experienced and expert partners will enable food producers to make effective use of the CHAP CEA capabilities to help them achieve their goals.

Innovation Hub for Controlled Environment Agriculture (IHCEA)

- Size: 3x10m^2 modular designed units
- The collaboration with industry and academia provides unique opportunities for research and development and CEA training. It includes a flexible range of hydroponic growing systems (Deep Water, Nutrient Film Technique, and Ebb and Flood), providing flexibility for commercial growers to test and evaluate research into new varieties, substrates, nutrient mixes and light recipes
- Access to the James Hutton Institute's world class plant and horticultural expertise
- The facility is a commercial demonstrator to test cutting-edge LED lighting systems and patented nutrient delivery systems

In partnership with

Liberty Produce

James Hutton Limited

Vertical Farming Development Centre (VFDC)

- Size: Total growing area = 228m^2 (114m^2 in each unit)
- Two identical growth rooms with full climate control (temperature, relative humidity, CO_2) and fully recirculating hydroponics systems allow growers to compare the impact of different climate-control strategies
- Stockbridge Technology Centre offers a wealth of experience in LED lighting and the opportunity to work with a dedicated horticultural team with expertise in all aspects of CEA
- Commercial growers can focus on improving the energy efficiency, sustainability, yields and economies of vertical farming and test and develop new vertical farming technologies before taking the decision to invest

In partnership with

STC

Crop Storage Research Facility

- 10 units, each measuring 3m x 5.5m
- AHDB has more than 50 years' experience and expertise in specialist potato storage research and development
- Offers food producers 10 units of experimental controlled environment storage rooms, each with the capacity to store up to six tonnes of potatoes with variable temperature/humidity to define optimum storage conditions
- Provides commercial growers with chemical-free crop storage solutions and the ability to investigate the optimum conditions to preserve crop quality and reduce waste through disease control and sprout suppression
- A powerhouse of research, expertise and training for the crop storage industry

In partnership with

AHDB

Natural Light Growing Centre (NLG Centre)

- Size: 1200m^2 greenhouse (32m x 38.4m), 7.2m high, giving 8,850m^3 capacity with growing space totalling 5,900m^3
- A showcase of CEA expertise in ETFE (Ethylene Tetrafluoroethylene) greenhouse technology: a cost-effective, durable alternative for glass
- A commercial-grade hydroponic growing facility with built-in rainwater harvesting facilities, sophisticated heating, irrigation, environment and computerised control systems
- Investigate the beneficial effects of full spectrum natural light growing, including UV, in a protected environment, on plant health, nutrition, flavour, disease-resistance, pollination, biological control and photosynthetic efficiency
- Test the effect of new and emerging technologies, including micro-stimulants, on your chosen crops, grown in advanced, hydroponic, industry-standard environments
- Access to the University of Warwick's world-class expertise in plant sciences

In partnership with

RIPE Building Services Limited

WARWICK THE UNIVERSITY OF WARWICK

Advanced Glasshouse Facility

- Size: The AGH capability can be sub-divided into three separate compartments, each measuring 13m x 8m
- STC offers a wealth of experience in CEA and hydroponics
- A flexible, customisable, fully controlled glasshouse permitting bespoke commercially representative testing of plant protection products and Integrated Pest Management systems
- 60 custom-designed deep-water hydroponic units provide a diversified product portfolio for deep-water hydroponics studies
- Reliable commercial-scale trial conditions for food producers

In partnership with

STC