



Crop Trials at JHL

A 2023 Overview

SSCR Winter Soft Fruit Meeting
23rd February 2023 Dundee

Evangelia Chatzaki
James Hutton Limited



The James
Hutton
Institute

James Hutton Limited - Who we are

Founded in 2015 as a **wholly owned subsidiary** of the James Hutton Institute.

Purpose: to commercialise the **intellectual property, facilities, science and research** of the James Hutton Institute.

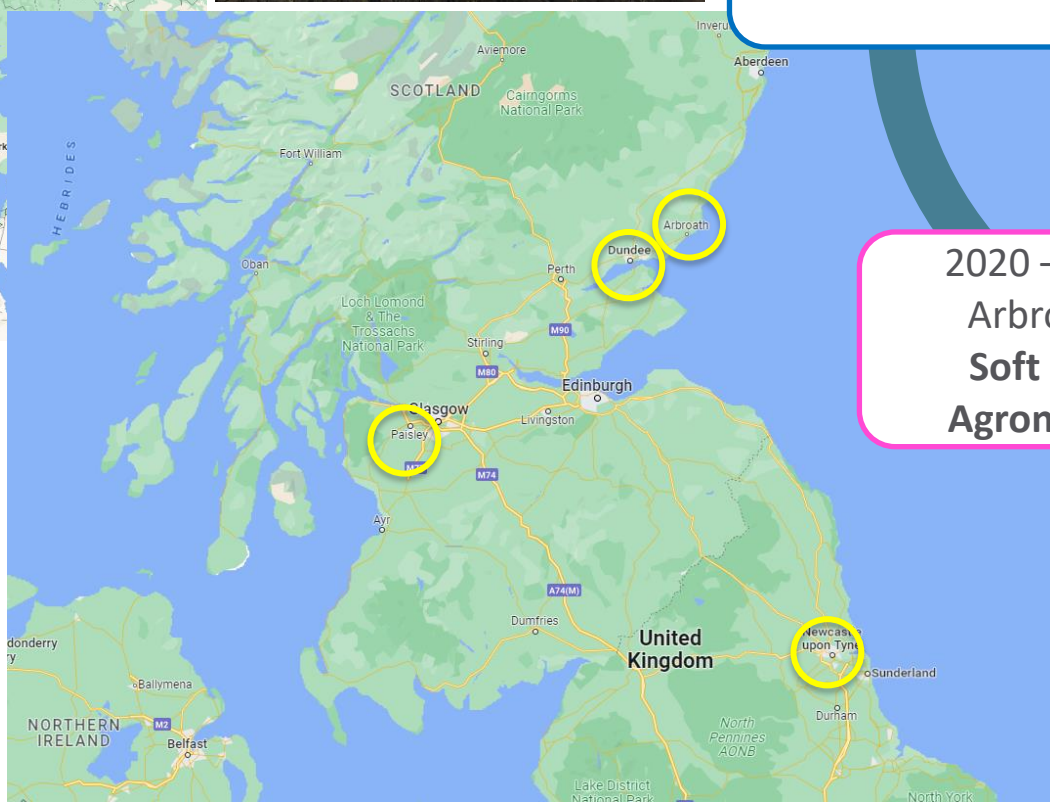
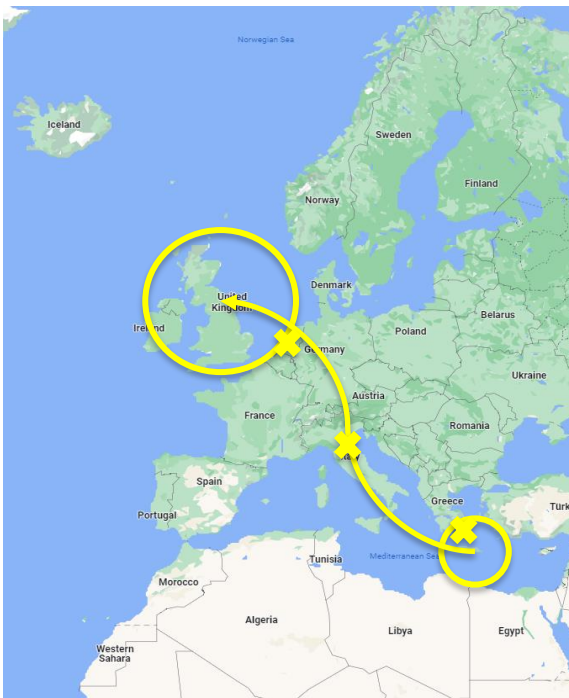
The **profits** generated by James Hutton Limited are **gift aided** back to the Institute and **reinvested in research**.

Research and consultancy services for several different sectors including **agrifood, oil and gas, environmental and water**.

Bioinformatics * Chemical analysis * Contract Research * Fourier Transform Infrared Spectroscopy (FTIR) * Isotope Analysis * Lipid Analysis * Marine Sediment Analysis * Molecular Diagnostics * Plant Varieties, Breeding & Licensing * Products & Licensing Opportunities * Renewable Energy * Scanning Electron Microscopy (SEM) * Soil Analysis * Soil Forensics * X-ray Powder Diffraction (XRPD)



Who I am



2016 Dundee:
Internship at JHI

2022 – now
Dundee: **Crop
Trials at JHL**

2017 Paisley:
**What am I going to
do next?**

2020 – 2022
Arbroath:
**Soft Fruit
Agronomist**

2017 – 2020
Newcastle:
Field Trials (PPP)



Crop Trial Services

Bespoke Crop Research

Industry Partnered Projects

PPP Efficacy Testing (ORETO)

Facilities



137 individual **glasshouse** compartments, controlled - climate walk-in plant **growth rooms** and reach-in **growth cabinets**, 29 **Polytunnels**, and around 270 ha of **arable land**.

Crops

Years of experience working with **soft fruit**, **potatoes**, **cereals**, **brassicas**, and other horticultural and arable crops.



Complementary services

Statisticians' support for experimental design and analysis
Analytical services for soil nutrients and uptake by plants, nutritional quality, soil microbiome etc.

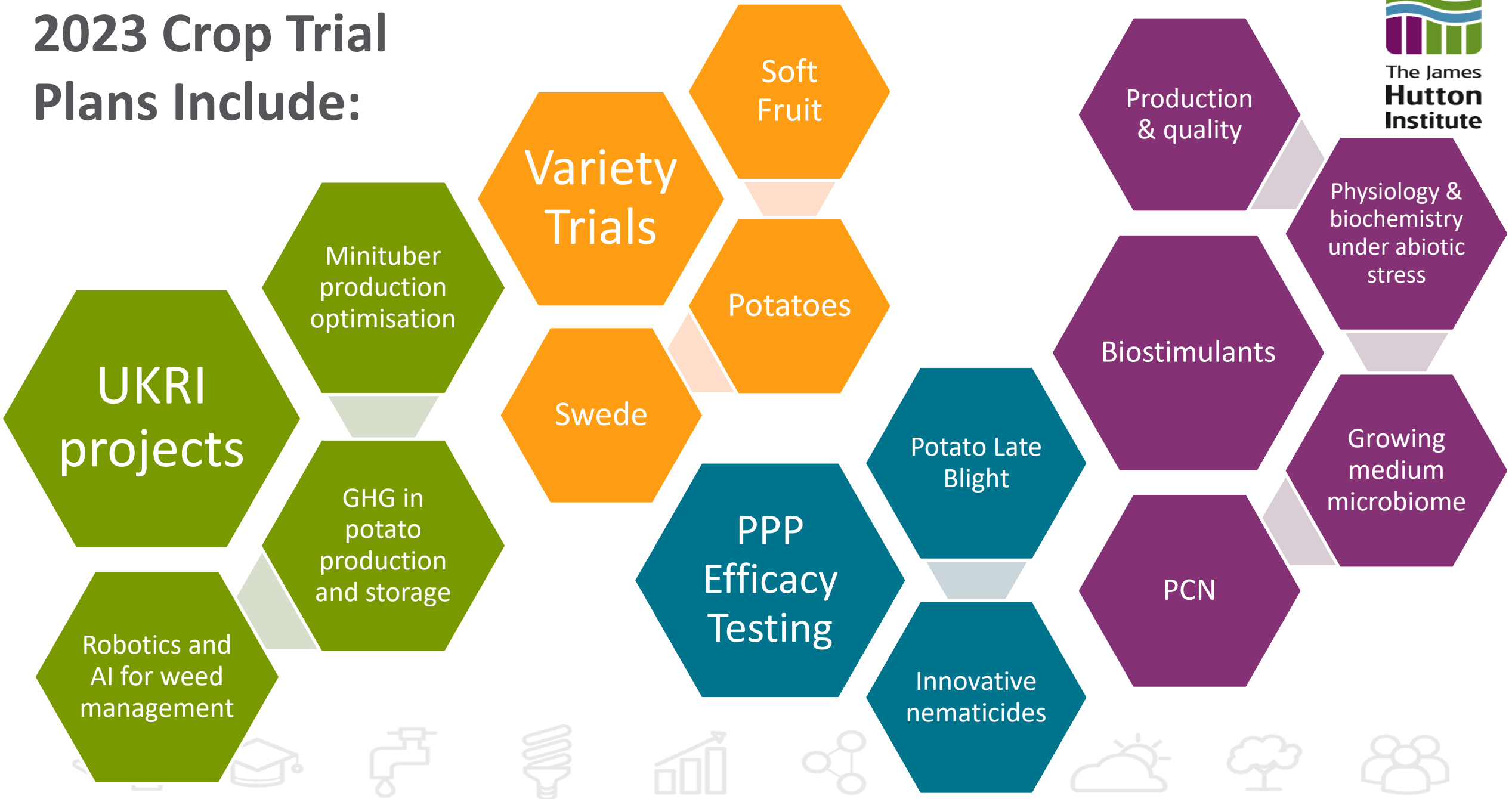


Pest & Disease

Pest and Disease research includes: Phytophthora infestans, Potato cyst nematode, Plant Viruses, Barley pathogens, Bacterial plant pathogens, and Aphid-plant interactions.



2023 Crop Trial Plans Include:



UKRI projects

Minituber production optimisation

GHG in potato production and storage

Robotics and AI for weed management

Variety Trials

Swede

Potatoes

Soft Fruit

PPP Efficacy Testing

Potato Late Blight

Innovative nematicides

Production & quality

Biostimulants

PCN

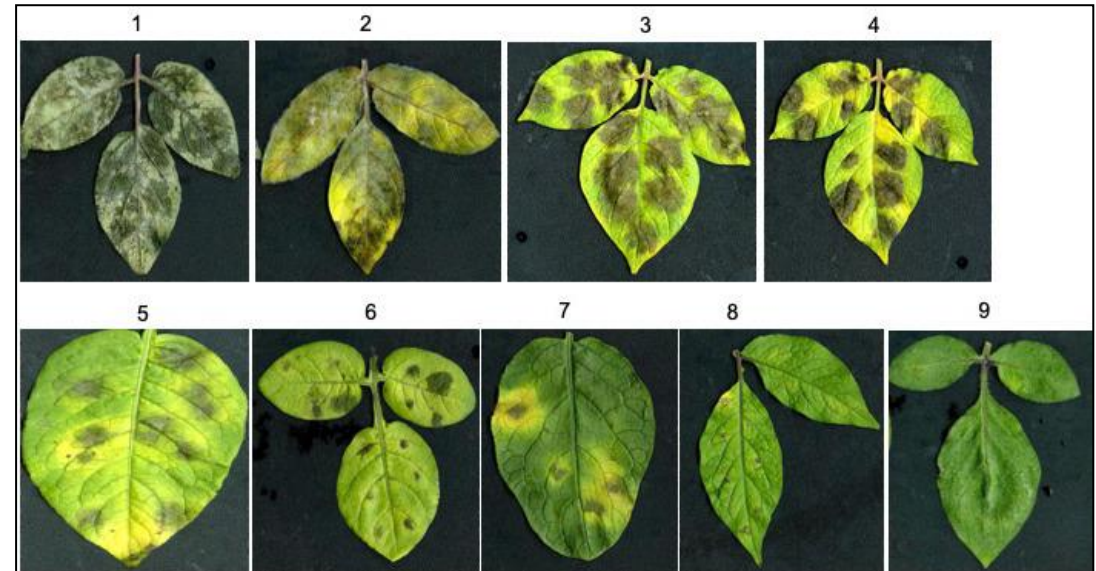
Physiology & biochemistry under abiotic stress

Growing medium microbiome



Example Trial: **Efficacy testing** of a PPP on potato late blight

1. Detached Leaf Assay (Lab)
2. Efficacy testing on single plants (GH)
3. Efficacy testing under commercial growing conditions (Field)



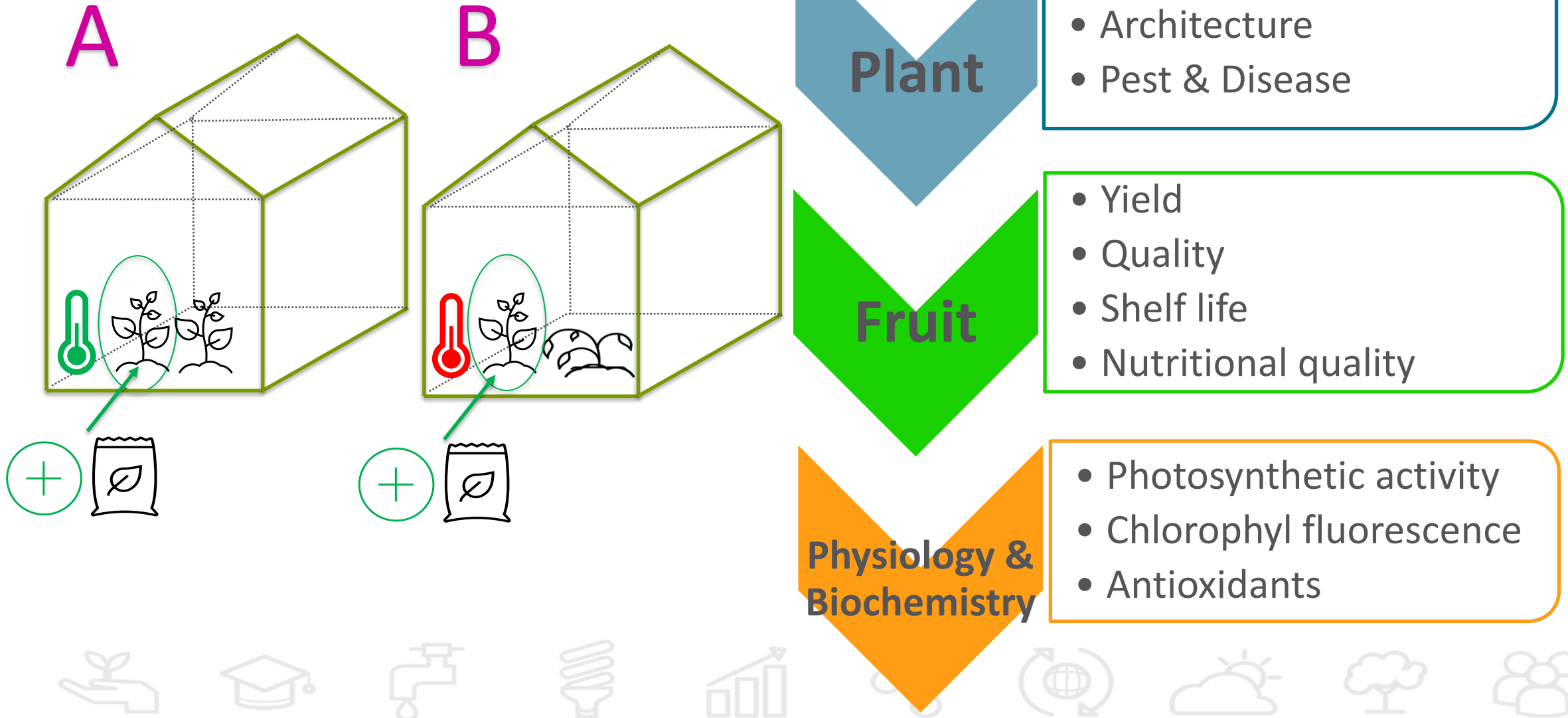
Detached leaf assay. Source: Karki and Halterman, 2021.



Example Trial: Testing a **biostimulant** for mitigating **heat stress** in strawberry



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Example Trial: Optimisation of ever-bearer strawberry propagation under controlled conditions in a vertical farming setting & evaluation of new selections for this system.



Controlled conditions (Vertical Farming Facility)

- Light quality
- Substrate
- Photoperiod

1st Stage

2nd Stage

Commercial Polytunnel

- Plant architecture
- Yield & Profile
- Fruit quality
- Shelf life



Contact Us

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