



RESEARCH IN PROTECTED PLANT PRODUCTION

Plant responses to climate conditions and resource optimisation



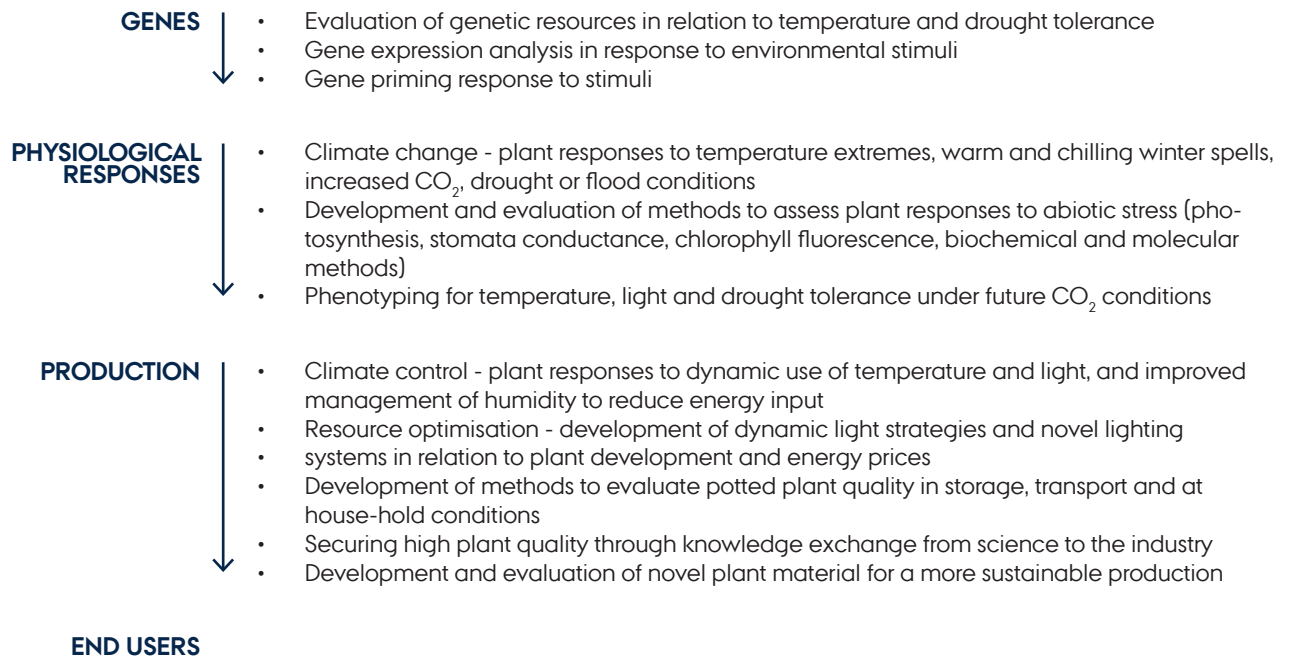
AARHUS
UNIVERSITY
DEPARTMENT OF FOOD SCIENCE

Research in protected plant production at the Department of Food Science is focused on developing methods to reduce energy, nutrient and water use during production, and to optimise production and quality by assessing plant responses to environmental stimuli (including abiotic stresses).

Identifying plant physiological responses to climate change effects, such as temperature extremes, drought and flood conditions, and ensuring the sustainable use of resources in protected plant production systems are key areas of research. In addition, plant breeding methods and exploiting and evaluating genetic resources are also essential parts of the research.

Research is both basic and strategic is carried out in close collaboration with Danish and international industrial partners.

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RESEARCH AND GROWTH FACILITIES

STATE OF ART PHOTOSYNTHESIS LAB AND PHENOTYPING FACILITIES, E.G.

- Image and fluorescence analysis equipment
- Ciras and Walz for leaf gas exchange measurement
- Differential scanning calorimetry (DSC) and temperature test methods
- In vitro facilities for transformation of plants
- Non-invasive analytical equipment for measuring plant responses (drought spotters and chlorophyll fluorescence) to climate conditions
- Biochemical and molecular analyses of plant constituents

PLANT GROWTH FACILITIES

- 2,200 m² of greenhouses
- 54 m² controlled climate chambers (six uniform chambers)
- 2 multilayer rooms for simulation of vertical farming
- Semifield area for outdoor production test

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