

Enhancing the stress tolerance and shelf life of horticultural crops through light quality manipulation

Supervisory team:

Main supervisor: Prof Kerry Franklin (University of Bristol)

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Host institution: University of Bristol

CASE partner: LettUs Grow

Project description:

Despite comprising a small component of sunlight, UV-B wavelengths (280-315 nm) regulate a diverse array of regulatory processes in plants, including growth, metabolite content and resistance to pests and diseases. UV-B wavelengths are absent from horticultural lighting and are attenuated by common greenhouse materials. As such, UV-B is depleted in many commercial growing environments. Plant robustness and shelf life are of significant importance to the horticultural industry. This project aims to combine environmental signalling in *Arabidopsis* with translational crop science. The role of UV-B in delaying plant senescence will be investigated in *Arabidopsis* using a range of physiological and molecular techniques. Together with our industrial partner, LettUs Grow, we will evaluate the effectiveness of UV-B in enhancing the robustness of aeroponically-grown crops to abiotic stress. This project will require the student to spend time at the LettUs Grow site, in Bristol.