Roots to resilience: climate-proofing crop yields within future salad production

PhD Studentship for October 2020
Academic supervisor: Prof Ian Dodd, Lancaster University
Industry supervisor: David Kennedy, Jepco

Climate change threatens UK lettuce production by decreasing rainfall and increasing plant water loss. Lettuce plants are initially raised in small peat blocks in a nursery, then transplanted into the fields. Although the soil is intensively prepared to facilitate root growth, lettuce crops are shallow-rooted, requiring frequent irrigation to grow optimally. Thus water and peat usage are sustainability issues for the industry.

Environmental conditions in the nursery affect root development both in and out of the nursery. By growing lettuce transplants under different controlled environment conditions in different substrates, and evaluating the success of these transplants in the field, you will:
- learn image analysis skills to quantify root development
- develop production systems for peat-reduced growing substrates
- determine water uptake patterns in the field using soil moisture sensors
- assay product quality using industry methods
- understand physiological constraints to lettuce growth by measuring plant hormones

What is the CTP?
This funded project forms part of the Waitrose Collaborative Training Partnership (CTP) between the Waitrose Partnership, their international food production and supply companies, Lancaster University, University of Reading, University of Warwick and Rothamsted Research. The CTP will deliver studentships on the themes of sustainable crop production, sustainable soil and water and biodiversity and ecosystem services in agriculture. This project is based at Lancaster University

Who should Apply?
Applicants should hold a minimum of a UK Honours Degree at 2:1 level or equivalent in subjects such as Agriculture, Biological (Plant) Sciences or Soil Sciences.

Funding
Full studentships (UK/EU tuition fees and stipend (£15,009 2019/2020 tax-free) for 4 years for UK/EU students subject to eligibility criteria. Unfortunately, studentships are not available to non-UK/EU applicants.
A student must have:
- Settled status in the UK, meaning they have no restrictions on how long they can stay
And
• Been ‘ordinarily resident’ in the UK for 3 years prior to the start of the grant. This means they must have been normally residing in the UK (apart from temporary or occasional absences)

And
• Not been residing in the UK wholly or mainly for the purpose of full-time education. (This does not apply to UK or EU nationals).

For further information please Professor Ian Dodd (i.dodd@lancaster.ac.uk) or for application queries contact Roz Wareing, r.wareing@lancaster.ac.uk. Visit the Waitrose CTP Website http://wp.lancs.ac.uk/sustainable-agriculture/training/

How to apply

Follow the instructions on How to apply of the Waitrose CTP website http://wp.lancs.ac.uk/sustainable-agriculture/training/how-to-apply/

Send all applications to this unique email address as per the instructions on the website

Ian_Dod.0907s1g8svsxwl5q@u.box.com

Deadline 17th February 2020 Midday