'Cos’ it’s worth it! Investigating how to mitigate ozone damage to salad crops

PhD Studentship for October 2020
Academic supervisor: Dr Kirsti Ashworth, Lancaster University
Industry supervisor: Thane Goodrich, Intercrop Ltd

Ground-level ozone is a powerful oxidant that causes severe damage to plant cells. In fast-growing leafy salad crops, the first symptom is often visible injury (discolouration or spotting of leaves) which can be difficult to distinguish from signs of nutrient deficiency. Extended exposure causes sufficient damage to plant tissue to reduce growth, reducing productivity and yield.

In this project, you will combine laboratory experiments with field observations and trials to identify and understand the effect of ozone pollution on salad crops. You will work directly with salad producer Intercrop at farms in the UK and Spain to measure and monitor ozone levels and crop damage and conduct experiments. You will learn many valuable skills including plant hormone analysis and RNA sequencing to determine the mechanisms controlling ozone damage. You will also learn about modelling ozone to predict future crop damage.

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 Biology, Plant Science, Natural or Environmental Science, or a related discipline. Enthusiasm, independence, self-motivation, curiosity and the ability to communicate to a range of audiences would all be distinctly advantageous.

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 contact Kirsti Ashworth: k.s.ashworth1@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 How to apply webpage above

Kirsti_.rnkhnh9kcwst9ql4@u.box.com

Deadline 17th February 2020 Midday