JOB DESCRIPTION

Vacancy Ref: A2568

<table>
<thead>
<tr>
<th>Job Title:</th>
<th>Research Associate</th>
<th>Present Grade:</th>
<th>6</th>
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<tr>
<td>Department/College:</td>
<td>Lancaster Environment Centre (LEC)</td>
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<td>Directly responsible to:</td>
<td>Prof. Ian Dodd &amp; Prof Bill Davies</td>
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<tr>
<td>Supervisory responsibility for:</td>
<td>Undergraduate &amp; postgraduate students working on the same /related projects either in the partner country (Peru) or at Lancaster</td>
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Other contacts

Internal:
Research staff and PhD students within the Plant Water Stress Research Group

External:
Collaborating scientists within the British Council-funded Institutional Links project between Lancaster and Universidad Nacional Agraria La Molina (Peru)
Farmers/Staff Members at Peruvian field sites for crop-scale research

Major Duties:

You will sample glasshouse and field experiments within the context of the Institutional Links project, aimed at determining whether phytohormone phenotyping can assist plant breeders to select for drought tolerance. Field work will sample cereal spikes at precise growing stages in different cereal varieties grown under well-watered and droughted (rain-out shelter) conditions at multiple sites in Peru. Glasshouse experiments at Lancaster will investigate the physiological responses of selected genotypes to soil drying, to determine the mechanisms by which these varieties regulate their phytohormone status. Short research visits (2-4 weeks) at the partner institution (Universidad Nacional Agraria La Molina) and its field sites will be required.

Sample field experiments in rural Peru and at Universidad Nacional Agraria La Molina, and arrange the logistics of sample transport to Lancaster for analysis

Execute controlled environment- and/or glasshouse-based experiments at Lancaster.

Precise phenological staging of sampling in different cereal varieties to ensure comparability of phytohormone sampling

Routine measurements of soil water status and plant performance such as leaf gas exchange and growth analysis and leaf water relations

Plant hormone analysis, including high-throughput immunoassays of tissue ABA concentration, and photoacoustic laser spectroscopy of detached leaf ethylene emission

Training of visiting Peruvian scientists in the analyses described above

Calculation, comparison and interpretation of drought tolerance indices for crop varieties grown at the field sites
Writing and publication of scientific papers

Presentation of experimental data at project meetings and national/ international conferences

Liaison with departmental technical staff

Assisting undergraduate project, Masters and PhD students