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| **JOB DESCRIPTION** |

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| **SPECIFIC JOB TITLE** | POST DOCTORAL SCIENTIST – AGROECOLOGIST |
| **LEVEL/BAND** | D |
| **JOB FAMILY** | SCIENCE |
| **GENERIC ROLE TITLE** | POST DOCTORAL SCIENTIST |
| **CONTRACT TYPE** | 5 YEAR FIXED TERM |
| **HOURS** | 37 |
| **REPORTS TO** | PRINCIPAL RESEARCH SCIENTIST - AGROECOLOGY |
| **DEPARTMENT** | PROTECTING CROPS AND THE ENVIRONMENT |
| **LOCATION** | HARPENDEN |
| **DATE** | 28/08/2024 |

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| **OVERVIEW OF ROLE/JOB PURPOSE** |
| We are looking for a motivated and creative post-doctoral scientist from the discipline of agronomy and / or ecology to take a scientific lead on a new six-year project at Rothamsted called One Crop Health (OCH). OCH is an international project funded by the novo Nordisk Foundation with partners in the UK and Denmark that aims to find more sustainable ways of controlling pests, weeds and diseases in crop fields. By studying the components of the whole ecosystem of cropped fields (plants, invertebrates, microbes and soils), the project will identify opportunities to substitute chemical pesticides with agroecological processes and so reduce the reliance on pesticides in agriculture.  The successful candidate will be part of a team of senior scientists, technicians and students working on the project and have a specific responsibility for leading field campaigns on commercial farms and experimental platforms to characterise biological communities (including pests, weeds, diseases and beneficial invertebrates). Experience and knowledge in sampling methodologies for plants and / or invertebrates and some taxonomical identification skills would, therefore be advantageous. There must also be a willingness to travel to study sites (with occasional overnight stays) and help with field work. All sample locations will be carefully geolocated to allow repeat sampling where necessary, and modelling of spatial variation. As such, an understanding of GIS (geographic information systems) and digital GPS surveying tools will also be advantageous.  The Danish partners will be running a parallel field campaign in Denmark and there will be an opportunity to travel and exchange experience and learnings. We expect the successful candidate to work with the wider international scientific team on the analysis and publication of results from the project with the opportunity to lead on journal papers. The joint dataset from the two countries will be a unique and powerful resource for analysing the drivers of biological community assembly in agricultural environments and the project represents an exciting opportunity to establish or further a career in scientific research.  As well as being a member of the OCH team, the successful candidate will also benefit from being part of a large research section, next generation Integrated Pest management and Agroecology, with exciting opportunities for professional growth and career progression. |
| **MAIN DUTIES OF ROLE** |

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| **Generic Outputs** | **Weighting** | **Description of Outputs** | **Description of Job Specific Outputs** |
| **UNDERTAKING THE RESEARCH** | 40% | Conducting research experiments within predetermined scope including the collation, preparation and testing of data using existing or new approaches | * Working with senior scientists on the project, design, coordinate and run field sampling campaigns across UK commercial crop fields and experimental platforms on site, helping with field work where necessary. * In discussion with colleagues, design and adapt sampling protocols for plants, invertebrates, microbes and soils to balance available resource with the objectives of the project. * Manage the collection and collation of data using standardised measurement and data science protocols. |
| **ANALYSIS, PRESENTATION AND PUBLICATION** | 30% | Interpreting research findings and contributing to the writing and publication of findings in scientific journals and/or via presentations | * In partnership with senior scientists at Rothamsted and in Denmark, analyse and interpret the data from the field campaigns. * Lead on high impact journal papers and contribute to others based on the results from the project. * Attend national and international conferences to present the findings from One Crop Health. |
| **FUNDING AND FINANCIAL MANAGEMENT** | 5% | Contributing to research proposals and writing of bids, winning fellowship funding etc. | * Attend group and section meetings to integrate OCH project work with the wider research in the Next Generation Integrated Pest Management and Agoecology sections. * Explore opportunities to use output from OCH to write new funding proposals and advance career. |
| **WORKING WITH OTHERS** | 10% | Participating in internal networks and developing entrepreneurial links with external organisations | * Interact with industry partners on site and at agricultural events (such as CropTech and Cereals) to explore alternatives to chemical pesticides. |
| **LEADERSHIP AND MANAGEMENT** | 5% | Supporting peers and overseeing work of more junior staff | * Hep supervise students, technicians and casual staff working on OCH. |
| **KNOWLEDGE EXCHANGE, COMMERCIALISATION AND OUTREACH** | 5% | Contributing to discussions with stakeholders within own research area, the delivery of professional training, presentation of research to end-users, public engagement and commercialisation activities etc. | * Join project team members in attending farmer shows and stakeholder events (such as Groundswell and Cereals) to present results of OCH and promote the research at Rothamsted in the area of sustainable crop protection. * Participate in Rothamsted outreach events including open days and demonstrations for schools. |
| **CONTINUING PROFESSIONAL DEVELOPMENT** | 5% | Proactive planning of own development opportunities which serve to broaden existing knowledge base and skillset | * Identify knowledge gaps and relevant training opportunities to build experience and skills to further a career in scientific research. |

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| **PERSON SPECIFICATION AND SHORTLISTING CRITERIA\*** |

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| **EDUCATION/QUALIFICATIONS** | Essential | Desirable | How Tested?\*\* |

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| 1. | A PhD/doctoral degree in the appropriate field or discipline or foreign equivalent | P |  | AF |
| 2. |  |  |  |  |
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| **EXPERIENCE/KNOWLEDGE/SKILLS** | Essential | Desirable | How Tested?\*\* |

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| 1. | Experience and knowledge of field sampling protocols for biological communities. | P |  | AF/IV |
| 2. | Competency in a range of statistical approaches to analysing ecological or environmental science data. | P |  | AF/IV |
| 3. | Experience of geographic information systems (GIS) and digital survey tools for geolocated data collection. |  | P | AF/IV |
| 4. | Track record in publishing work in peer reviewed journals. |  | P | AF |
| 5. | Ability to clearly communicate, verbally and in writing, material of a specialist or highly technical nature | P |  | AF/IV |
| 6. | Evidence of working collaboratively |  | P | IV |
| 7. | Awareness of current crop protection problems in UK agriculture and alternative approaches to managing pests, weeds and diseases. |  | P | IV |
| 8. | Experience of managing students or technical teams. |  | P | AF/IV |
| 9. | Experience of managing budgets. |  | P | AF/IV |

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| **BEHAVIOURS/COMPETENCIES** | How Tested?\*\* |

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| 1. | **Drive for Quality**: Makes incremental improvements to processes | IV |
| 2. | **Strategic Thinking**: Draws on experience when undertaking duties of role | IV |
| 3. | **Creativity and Innovation**: Responds positively to change; identifies and tries out different approaches | IV |
| 4. | **Developing Self and Others**: Formalises development needs for self and participates in learning activities to enhance performance | IV |
| 5. | **Professional Conduct**: Demonstrates an understanding of others’ perspectives | IV |
| 6. | **Productive Relationships**: Is a good team player | IV |
| 7. | **Effective Communication**: Communicates to a wide audience, in an accurate and timely manner | IV |

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| **GENUINE OCCUPATIONAL REQUIREMENTS** | Essential | Desirable | How Tested?\* |

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| 1. | Full UK Driving license | P |  | AF |
| 2. | Willingness and ability to work in the field, possible in inclement weather, with occasional overnight stays. | P |  | IV |