NIAB Plant Science into Practice

DEVELOPING STRATEGIES FOR THE CONTROL OF ERGOT ON FARM

MORLEY PhD STUDENTSHIP 2025

THE MORLEY AGRICULTURAL FOUNDATION

- Start date: 1st October 2025
- Application deadline: 2nd May 2025
- Applications should be sent to lesley.boyd@niab.com before the 2nd May deadline
- Shortlisted applicants will be requested to submit an online application to the University of Cambridge Graduate Programme before 13th May 2025
- Interviews will then take place after 13th May 2025

Niab and the University of Cambridge are pleased to announce a fully-funded, 4 year doctoral studentship, start date October 2025, funded by The Morley Agricultural Foundation (TMAF).

Project: Ergot is caused by the fungal pathogen *Claviceps purpurea* (Cp), a disease of cereal and grass flowers (florets). Cp replaces the seed with an ergot sclerotia, the overwintering structure of the fungus, that contains high levels of ergot alkaloids (EAs). Despite post-harvest removal of sclerotia, EAs have been detected in grain accepted at UK Mills, creating a serious risk scenario for the cereal food value chain. The levels of ergot on UK farms have increased in recent years, in part due to the adoption of Regenerative Farming practices promoted by Defra, poor weed control and the absence of effective fungicide control programs. The project aims to understand the epidemiology of Cp to identify intervention points in the pathogen's lifecycle for management of ergot in cereal crops.

- **Obj. (1)** An assessment of agronomic practices, targeting the early stages of the Cp lifecycle, on ergot infections levels.
- **Obj. (2)** Identification and exclusion of ergot sclerotia during harvest.

This project will be jointly supervised by:
Dr. Lesley A. Boyd, Niab, Park Farm, Cambridge
Dr Aoife O'Driscoll, Niab, Park Farm, Cambridge
Dr David Clarke, Niab, Morley, Norfolk
Prof. Nik Cunniffe, Plant Sciences, University of Cambridge.

Expected benefits for UK agriculture: This project will deliver a suite of agronomic practices that farmers and agronomists can easily adopt into their farming systems to address ergot, including (i) identification of seed treatments that reduce the viability of ergot sclerotia, (ii) fungicide strategies that target germinating sclerotia, (iii) crop intervention practices to remove viable sclerotia within the crop, and (iv) NIR-scanning to identify ergot sclerotia during harvest, allowing segregation of grain from ergot contaminated regions of the farm.

UNIVERSITY OF CAMBRIDGE

DEPARTMENT OF Plant Sciences

The Morley PhD student will be a University of Cambridge cohort of Plant Sciences PhD student. Located at Niab and funded by TMAF they will benefit from direct interaction with end users of their research, including agronomists and farmers.
We are therefore looking for a PhD candidate who has an interest in UK agriculture and a desire to undertake research that directly addresses a real-world problem. Funding will be available for four years and it is expected that the thesis will be submitted within the funding period. The studentship is open to Home applicants only. Applicants must have a minimum BSc 2.i grade in their first degree.

Informal enquiries about the project should be directed to: lesley.boyd@niab.com

Application process: Send (i) a letter outlining why you are interest in this project and why you want to do a PhD, (ii) your CV, (iii) the names and contact details of two referees and (iv) a copy of your first degree transcripts to lesley.boyd@niab.com before the 2nd May 2025.