Pathogen dynamics and mechanisms of infection

Centre for Crop and Disease Management

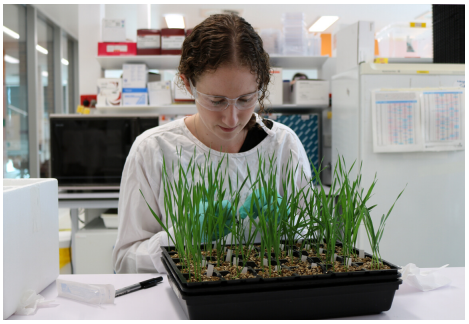
GRDC GRAINS RESEARCH & DEVELOPMENT CORPORATION

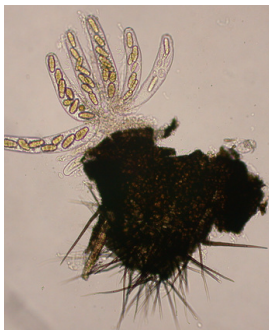
Curtin University

Project description

Yellow spot and septoria nodorum blotch of wheat, and net blotches of barley are common cereal diseases that adversely affect growers' economic returns.

This project aims to understand the pathogen population diversity of these diseases and identify key mechanisms involved in pathogenicity. A greater understanding of the pathogen dynamics and infection mechanisms will allow us to better advise the industry on minimising the impact of these costly cereal diseases.





Our team

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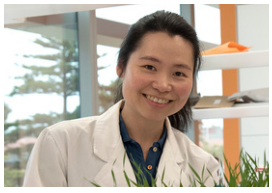

Researchers:
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Collaborators:
Wheat genetics project
Barley genetics project
Paula Moolhuijzen

Research directions

Ensure breeders are using the right pathogen pathotypes for disease evaluation of germplasm that is relevant to the changing nature of the pathogen populations.

Isolate resources of cereal pathogens for screening against yellow spot and septoria nodorum of wheat, and net blotches of barley are available upon request (see isolate resources).

Identify key virulence factors and develop control strategies for cereal crops.

Information of wheat effector sensitivity to yellow spot and septoria nodorum along with effector sensitivity screening kit for rapid screening and removal of sensitive varieties from breeding program are available here (see effector screening kit).

Provide insights into the conserved pathogenicity mechanisms across the different pathosystems.