Program 1:
Epidemiology and management

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THE UNIVERSITY OF MELBOURNE

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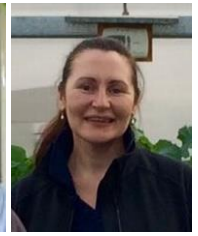

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Focus area 1: Field monitoring of resistance gene efficacy

- Blackleg monitoring sites established each year
  - Representative cultivars for each resistance group
  - Leaf lesions, crown cankers and UCI data collected
- Avirulence allele frequencies determined
  - Isolates collected from various sites across Australia
  - Avirulence profiles determined and frequency of virulence determined and related to resistance groups
  - Currently testing ability to use ascospore populations rather than individual isolates
- Recommendations provided to growers annually
- Release of regional warnings of potential resistance breakdown

Focus area 2: Understanding upper canopy infection

- Developing artificial screening protocols for UCI detection
  - Single spore isolates versus ascospore shower techniques
  - Determining whether PCR assays could detect pathogen earlier and more reliably than visual symptoms
- Determining triggers for UCI yield loss
  - Timing of infection and thermal hours until maturity appear to be important
  - Stress influences yield loss potential
- Determining best strategies for field evaluations
  - Often internal symptoms present without external symptoms; therefore, currently hard to give advice to growers
- Can we develop screening techniques for resistance to UCI?

Focus area 3: Impact of changes in management strategies

- Understanding impact of standing versus lying stubbles
  - Spore release affected by orientation of stubble
  - Unknown impact on disease severity
- Understanding impact of earlier sowing time on disease development
  - Is earlier sowing time reducing seedling infection and therefore crown canker severity?
  - Does this impact on fungicide application decisions?

All information from across the program will be fed into the blackleg management guide and BlacklegCM app