GRDC investment in R, D & E addressing priority issues identified by the Regional Cropping Solutions Network - South

CROP PROTECTION - DISEASES

- Australian Cereal Rust Control Program
  - CIMMYT delivery of resistance germplasm and surveillance for resistance in Australian cultivars
  - Triple Rust Resistance
  - Molecular Marker Program
  - Development of genetic tools for Australian barley crops against leaf rust
  - National Breeding Support
  - Durable Genes
  - Advancement of new genes for stem leaf rust resistance from uncultivated relatives of wheat
  - Development of genetic tools for Australian barley crops against leaf rust
  - Accelerating the utilisation and deployment of durable adult plant resistance to leaf rust in barley
  - Hyperparasites for the control of cereal rusts in Australia

- Australian Cereal Rust Control Program - Towards 2019 and a century of monitoring cereal rust pathogens in Australia

- Benchmarking resistance and managing Septoria Tritici Blotch and Leaf Rust

- Blackleg NVT ratings

- Centre for Crop Disease Management
  - Early detection and management strategies for fungal diseases
  - Best management practices for fungal disease control
  - Economics of disease management and capacity development
  - Extension and engagement
  - Septoria nodorum blotch biology
  - Tan (Yellow) Spot
  - Net form of Net Blotch Functional Genomics
  - Sclerotinia Stem Rot of canola and lupins
  - Ascochyta blight of pulses
  - Durable resistance to Powdery Mildew
  - Fungicide resistance

- Continuation of fungicide control of rhizoctonia

- Crown Rot Resistance
  - Genetic solution to Crown Rot in Barley
  - Identification and utilisation of novel sources of resistance to Crown Rot and Root Lesion nematodes in adapted Spring and Durum Wheat
  - Integrated genetic solutions to Crown Rot in Wheat
  - Managing crop diseases - Improving Crown Rot resistance in Durum

- Effective genetic control of Septoria Tritici Blotch

- Effective genetic control of Stagonospora Nodorum Blotch

- Emerging Foliar Diseases in Canola

- Focused improvement of Durum wheat germplasm from CIMMYT for yield potential, drought and biotic constraints

- Fungicide control of rhizoctonia

- Germplasm enhancement for Yellow Leaf Spot resistance in wheat

- Improved fungicide use for cereal rusts in Australia

- Improved resistance to oat pathogens and abiotic priority traits

- Improving grower surveillance management, epidemiology knowledge and tools to manage crop disease in NSW

- Improving grower surveillance, management, epidemiology knowledge and tools to manage crop diseases in SA
GRDC investment in R, D & E addressing priority issues identified by the Regional Cropping Solutions Network - South

CROP PROTECTION - DISEASES (continued)

- Improving grower surveillance, management, epidemiology knowledge and tools to manage crop disease in Victoria
- Managing Crop Disease - Improving chickpea pathogen resistance
- Managing on-farm biosecurity risk in wheat through pre-emptive breeding
- Managing on-farm biosecurity risk through pre-emptive breeding - rust in field peas and lentils
- Mining the ICARDA germplasm collection for biotic and abiotic priority traits
- National Barley Foliar Pathogen Variety Improvement Program
- National Canola Pathology Program
  - Sclerotinia
  - Other Diseases
  - Blackleg
- National improved molecular diagnostics for disease management
- National pathogen management modelling and delivery of decision-support
- Nematode Resistance
  - Genetic control of nematode species affecting major crops - Germplasm enhancement for nematode control in cereals and pulses
  - Assessing collections of wild chickpea for resistance to root-lesion nematodes
  - Collection, phenotyping and exploration of Wild Cicer genetic resources for chickpea improvement
  - Genetics of wild germplasm, gene-pool expansion and integrated ASSD approach to enhance adaptive potential in chickpea
- Pre-emptive chickpea pre-breeding for biotic stresses and germplasm enhancement for abiotic stresses
- Regional Agronomy SA - Improving disease management through improved agronomic practices
- Reverse genetics for the development of wheat cultivars with improved resistance to necrotrophic pathogens
- Strategies to provide resistance to the economically important fungal pathogen Rhizoctonia solani
- Upper Canopy Blackleg Infection
- Virus Resistance
  - Effective control Barley Yellow Dwarf virus in wheat
  - New tools and germplasm for Australian pulse and oilseed breeding programs to respond to changing virus threats
- Yield loss response curves for host resistance to leaf, crown and root diseases in wheat and barley