

# **USQ00013: Managing crop diseases - Improving crown rot resistance in durum**

October 2014

Overview

## Objective of project as specified by GRDC

- ❑ “The increase and stabilization of grower profitability by reduction of economic losses associated with the control of crown rot”
- ❑ “This project will build and consolidate on progress made in previous and existing GRDC investments in wheat crown rot through effective and appropriate exploitation of genetic resources identified as being highly effective in the control of crown rot”

# Groups and people involved in Project

- USQ (Anke Martin, Mark Sutherland, Ray Hare, Sriram Padmanban)
- NSW DPI (Steven Simpfendorfer, Tim O'Brien, Gururaj Kadkol)
- DAFFQ (Cassy Percy, Stephen Neate (USQ))
- SARDI (Hugh Wallwork)
- SAGI (Susan Fletcher)
- Durum breeders (Jason Able, Gururaj Kadkol, Tom Kapcejevs)
- GRDC (Omid Ansari/John Sheppard)
- Fee for Service:
  - UOS (Phil Davies) field trials
  - NSW DPI (Mike Sissons) quality work

# Contributions made by different groups

- USQ
  - leading project (compiling progress reports, annual meetings, data management)
  - Field evaluation and advancement of existing tetraploid lines (made from hexaploid/durum crosses)
  - Making new crosses with novel CR resistant sources
  - Markers for use in MAS
  - Quality testing of 15 lines plus 5 standards
- NSW DPI
  - Run main field trial of project and phenotyping of material
  - Durum appearance and agronomic character of lines

## Contributions made by different groups

- SAGI - Statistical support
  - Trial design and analysis of Tamworth field trials
- DAFFQ
  - Field evaluation of *T. carthlicum* lines for CR resistance and making new crosses to 3 of these lines
  - Field evaluation and advancement of existing *T. carthlicum* /durum lines
- SARDI
  - Field evaluation of tetraploid lines for CR resistance

## Contributions made by different groups

- USQ, NSW DPI, DAFFQ, SARDI, UOS
  - Evaluation of 15 tetraploid lines plus 5 standards at four different locations  
Tamworth, Wellcamp, Terraces/Roseworthy, Narrabri annually from 2014