

FUNGICIDE FINGERPRINTING

an independent fungicide evaluation network



March 2025–Protocol

An Industry Innovations (II) initiative



SOWING THE SEED FOR A BRIGHTER FUTURE

FUNGICIDE FINGERPRINTING - FIRST IN ITS FIELD







Fungicide Fingerprinting, developed by FAR Australia, was launched in 2021 and is the first coordinated and independent fungicide evaluation network in Australia. This initiative aims to generate an independent evaluation of existing and newly developed fungicide strategies to help growers and advisers make better decisions when managing disease. It is:

- independent
- accurate
- consistent in the approach to disease assessment
- within the label stipulations and AFREN compliant control framework

Collaborating Industry Stakeholders

This industry initiative is of benefit to agrichemical manufacturers involved in both new active and generic, fungicide resellers with agronomists in the field, private advisers and regional farming groups.

BACKGROUND

FAR Australia has partnered with agrichemical manufacturers since 2012, helping introduce new products to the Australian grains industry. As a trusted development partner, we have independently showcased fungicide performance through Industry Innovations (II) trials over the past four years.

The Fungicide Fingerprinting (FF) trial series will again be established to independently evaluate fungicide strategies in wheat and barley. Each strategy will be accurately assessed by individual leaf layers allowing a precise profiling of each fungicide strategy tested (both its protective and curative properties). Results will be shared with partners, FAR Australia's mailing list, and published on our website as an independent reference.

To enable comparisons, four control treatments will be included by FAR Australia, alongside submissions from manufacturers, consultants, and resellers. Findings on efficacy, yield response, and margins will be made publicly available.

This independent initiative allows the industry to compare product applications and timings under identical conditions, assessing efficacy, yield response, and profitability. It helps generic manufacturers showcase their products and provides a platform for new actives to demonstrate improvements over existing standards. Resellers and consultants can also test fungicide strategies before recommending them to clients.

OVERALL OBJECTIVE

To develop independent results on profitable, productive and sustainable approaches to disease management in wheat and barley using specific strategies devised by fungicide manufacturers, resellers, consultants and FAR Australia for commonly occurring fungal pathogens in the High Rainfall Zone (HRZ) of Australia.

Individual objectives specific to the trial are:

- To assess the efficacy of different fungicide strategies against foliar pathogens prevalent in the HRZ of Australia.
- To assess the most <u>cost-effective</u> fungicide strategies in different HRZ regions of Australia (long season and short season) using less expensive generic chemistry alongside the latest development material.
- To evaluate whether newer generation fungicide chemistry is more effective than DMI based standard controls.
- To determine the impact of introducing Group
 7 and Qol Group 11 chemistry SDHI into two spray programmes.
- To allow development material to be entered under a FAR Australia code (where it is pre commercial) which is revealed when the new active is commercialised.

This Fungicide Fingerprinting initiative will be conducted at FAR Australia's Crop Technology Centres in the HRZ regions of Australia where disease is more prevalent, thus an important component of cereal crop agronomy.

HRZ LOCATIONS & CULTIVARS (target diseases)

Gnarwarre, VIC

SQP Revenue (feed wheat): Septoria tritici blotch Leaf rust

> *Minotaur (barley):* Barley foliar diseases

Millicent, SA

DS Bennett (ASW wheat): Septoria tritici blotch Leaf rust Stripe rust

RGT Asteroid (barley): Barley foliar diseases

Wallendbeen, NSW (wheat only)

Scepter (AH wheat): Powdery Mildew Septoria tritici blotch Stripe rust

Frankland River, WA

Kinsei (Noodle wheat): Stagonospora Yellow Leaf Spot

Minotaur (barley): Barley foliar diseases

TREATMENTS

All fungicides applied at 100L/ha when main stem is at the two development stages specified. No other broad -spectrum fungicides are applied in the control treatments

Wheat controls

| Treatment | GS31 -32 (1 st – 2 nd node) | GS39 (flag leaf fully emerged) |
|-----------|---|--------------------------------|
| 1 | Untreated | Untreated |
| 2 | Prosaro 300ml/ha | Opus 500ml/ha |
| 3 | Prosaro 300ml/ha | Radial 840ml/ha |
| 4 | Opus 500ml/ha | Aviator 420ml/ha |

Barley controls

| Treatment | GS31 (1 st node) | GS39 45 (flag leaf fully emerged – mid boot) |
|-----------|-----------------------------|--|
| 1 | Untreated | Untreated |
| 2 | Prosaro 300ml/ha | Opus 500ml/ha |
| 3 | Aviator Xpro 420ml/ha | Radial 840ml/ha |
| 4 | Opera 1000ml/ha | Aviator 420ml/ha |

Trial Design: Randomised complete block based on four replications.

Time of Sowing: mid – late April - early May (depending on location).

Plot Number: 15 treatments x 4 replicates = 60 plots.

ASSESSMENT PROFILE – ALL SITES

| No. | Timing | Assessment |
|-----|--|--|
| 1 | All year | Air temperature, daily rainfall. |
| | Autumn | Starting soil analysis (whole site). |
| 2 | GS31 | Tag the emerging leaf on three main stems of the untreated in all four replicates at the timing of the first fungicide applications. Tags applied will subsequently allow leaf infection position to be accurately determined. |
| | 1 st Baseline disease assessment (at time of first fungicide application) | Assess 10 stems per untreated plot for % disease severity and incidence, assessing the top three leaves showing disease. |
| 3 | GS39-45 2 nd Disease assessment (at time of second fungicide application | Assess 10 stems in all plots for % disease severity and incidence, assessing the top three leaves showing disease. |
| 4 | GS71 3 rd Disease assessment & Green Leaf Retention | Assess 10 stems in all plots for % disease severity and incidence, assessing the top three leaves showing disease. Assess Green leaf retention based on the same top three leaves. |
| | Photos of canopy looking down 0.5m above & from front of plot | Photos of canopy looking down 0.5m above & from front of plot. |
| 6 | Harvest | Combine harvester grain yield. |
| | | Grain quality (moisture %, protein %, test weight, retention (%) and screenings %). |

COSTS

Manufacturers are invited to submit fungicide strategies based on one or two fungicide sprays applied at either GS31 or GS39-45 or both timings. Entries are based on supplying a minimum of two (or alternatively four) treatments for one or more of the three trial locations.

The cost would be

- \$3300 for two entries or \$5300 for four entries + GST for each trial location per crop.
- \$6300 or \$10,000 + GST if the two or four fungicide entries were placed at two trial sites per crop type.
- \$11,600 or 19,000 + GST if the two or four fungicide entries were placed at all four trial sites per crop type.

A report would be provided that included all treatments funded by the client and the FAR Australia controls.

Should you wish to invest in entries into FAR Australia's Fungicide Fingerprinting evaluation network, please contact Darcy Warren darcy.warren@faraustralia.com.au (0455 022 044) or Nick Poole nick.poole@faraustralia.com (0499 888 066)

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