

SEED TREATMENTS AND FOLIAR FUNGICIDES FOR STRIPE RUST MANAGEMENT



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PHOTO: Planet barley showing no disease symptoms in a trial of stripe rust management options at Finley, in 2025.

QUICK TAKE

- Combining seed treatments with foliar fungicides significantly reduced stripe rust severity in wheat under trial conditions at Finley.
- Two foliar fungicides, applied at GS32 and GS39, provided better disease control than a single later spray.
- Some seed treatments improved disease suppression but may reduce early crop vigour, highlighting the importance of product choice.
- In barley, seed treatments and foliar fungicides improved yield despite minimal disease pressure at the trial site.

Stripe rust remains a significant production risk in irrigated cereals across southern NSW and northern Victoria, from season to season.

A TRIAL conducted at the Southern Growers research site near Finley evaluated how different combinations of seed treatments and foliar fungicide applications influenced disease control, crop vigour and yield in wheat and barley under irrigated conditions.

Why was this work done?

Stripe rust continues to challenge cereal growers, particularly in seasons where warm temperatures and irrigation create favourable disease conditions. While fungicides are widely used, there are still questions around:

- the value of seed treatments compared with foliar sprays
- the best timing for foliar fungicide applications
- how different wheat varieties respond to disease pressure and management strategies.

Growers are increasingly looking to optimise fungicide use to balance disease control with input costs and crop safety.

To help address these questions, Southern Growers established a replicated small-plot trial in a commercial paddock near Finley during the 2025 winter crop season.

Trial overview

The trial evaluated combinations of seed treatments and foliar fungicide applications in:

- Sunmaster wheat (moderately resistant to moderately susceptible for stripe rust)
- Scepter wheat (more susceptible to stripe rust)
- Planet barley

Crops were sown on 28 May 2025 following canola in a standard irrigated cropping rotation. Treatments included several seed-applied fungicides and foliar applications, primarily using Aviator® Xpro®, applied at key crop growth stages.

Foliar fungicides were applied either:

- once, at flag leaf (GS39)
- twice, at GS32 and GS39.

The season began with below-average rainfall and above-average temperatures early in the growing season, before stripe rust infection was observed later in crop development.

Assessments included crop establishment, biomass reduction, NDVI readings, disease severity and final grain yield.

Table 1. Stripe rust treatments applied to wheat and barley, at a trial at Finley, 2025

Timing A = seed treatment at sowing, timing B = application at flag leaf (GS39), timing C = application at second node stage (GS32)

No.	Crop	Variety	Treatment	Application timing
1	Wheat	Sunmaster	Untreated control	None
2	Wheat	Scepter	Untreated control	None
3	Wheat	Scepter	Vibrance seed treatment + Aviator Xpro foliar	A + B
4	Wheat	Scepter	Systiva seed treatment + Aviator Xpro foliar	A + B
5	Wheat	Scepter	Evergol seed treatment only	A
6	Wheat	Scepter	Evergol seed treatment + Aviator Xpro foliar	A + B
7	Wheat	Scepter	Flutriafol seed treatment only	A
8	Wheat	Scepter	Flutriafol seed treatment + Aviator Xpro foliar	A + B
9	Wheat	Scepter	Aviator Xpro foliar at B only	B
10	Wheat	Scepter	Aviator Xpro foliar at B + C	B + C
11	Wheat	Scepter	Aviator Xpro foliar at B + C (replicated treatment)	B + C
12	Wheat	Sunmaster	Evergol seed treatment only	A
13	Wheat	Sunmaster	Evergol seed treatment + Aviator Xpro foliar	A + B
14	Wheat	Sunmaster	Flutriafol foliar at B + C	B + C
15	Wheat	Sunmaster	Flutriafol at A + Aviator Xpro at C	A + C
16	Barley	Planet	Untreated control	None
17	Barley	Planet	Vibrance seed treatment only	A
18	Barley	Planet	Systiva seed treatment only	A
19	Barley	Planet	Aviator Xpro foliar at B only	B
20	Barley	Planet	Aviator Xpro foliar at B + C	B + C

Key findings from the trial

Seed treatments improved disease management of wheat

Across both wheat varieties, seed treatments combined with foliar fungicides significantly reduced stripe rust severity compared with untreated plots (Figure 1).

In susceptible Scepter wheat, untreated plots showed severe infection later in the season, with stripe rust levels exceeding 50% in the upper canopy in some cases. In contrast, treatments that combined seed treatments with foliar fungicides dramatically reduced disease pressure.

These results demonstrate that seed treatments can play an important role in early protection and may help delay disease development until foliar fungicides can be applied.

Two fungicide sprays gave stronger control

One of the clearest outcomes from the trial was the value of two foliar fungicide applications.

Applying fungicide at both GS32 and GS39 provided better disease suppression than a single application at GS39. This earlier application helped slow disease development and protected the canopy before infection became severe.

For growers, this reinforces the importance of monitoring crop growth stages and disease risk rather than relying on a single late spray.

Crop safety matters

While some treatments improved disease control, crop safety must also be considered.

Treatments involving flutriafol seed coatings showed reduced establishment and crop vigour compared with other treatments. In some cases, this led to lower yields despite lower disease levels.

This highlights the need for growers to carefully consider product selection, especially where crop safety or establishment could be affected.

Even with low disease pressure barley yield improved

Planet barley showed very little disease pressure during the trial, which limited the ability to evaluate disease control. However, treated plots still produced higher yields than untreated plots (Figure 1).

Barley yields ranged from around 3.4 t/ha in untreated plots to over 4.2 t/ha in treated plots, suggesting a potential benefit from fungicide protection even in low disease seasons (Figure 2).

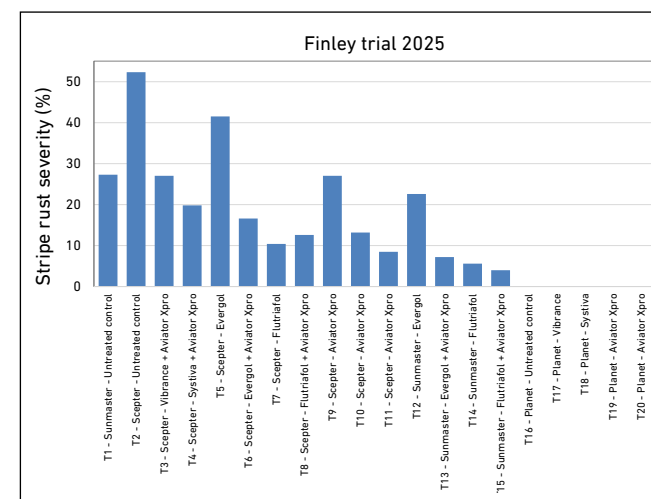


Figure 1. Stripe rust severity was assessed at Z71 for treated and untreated plots, for wheat and barley. Planet barley showed very little disease pressure during the 2025 growing season.

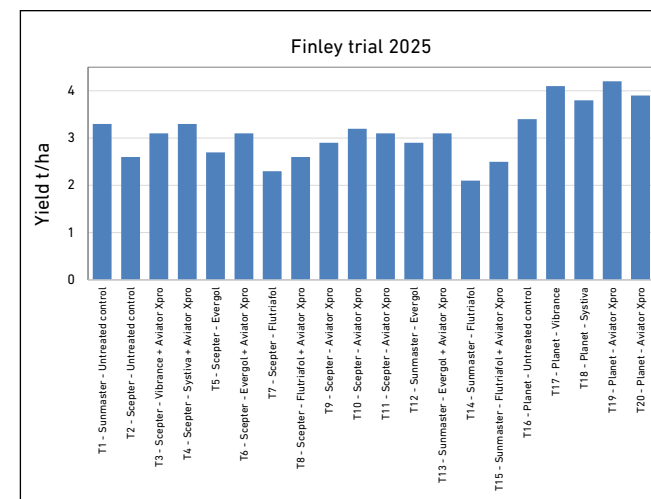


Figure 2. Yield for treated and untreated plots, for wheat and barley

What the results mean for growers

Several practical messages emerged from the trial.

Firstly, combining seed treatments with well-timed foliar fungicides can significantly improve stripe rust control, particularly in susceptible varieties.

Secondly, relying on a single late fungicide spray may not provide adequate protection in higher disease pressure seasons.

Finally, growers need to weigh up disease control benefits against potential impacts on crop vigour or establishment when selecting seed treatments.

The results reinforce the value of an integrated disease management strategy that considers:

- variety selection
- seed treatment choice
- crop monitoring
- timely fungicide applications.

Stripe rust continues to pose a serious risk in irrigated cereal systems. This trial showed that combining seed treatments with well-timed foliar fungicides can significantly reduce disease pressure and protect yield. However, product choice and application timing remain critical to achieving the best outcome.

Further work at the Southern Growers site will continue during 2026 to explore disease management strategies and help growers refine fungicide programs that balance crop protection, input costs and yield potential. 🌤️

Acknowledgement

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Seed-treated wheat showed biomass reduction but good disease control.



Untreated susceptible Scepter wheat showed the effects of disease.