

Controlling disease in malt barley with seed dressing

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The aim of this trial was to investigate the impact of seed dressings on foliar disease in malt barley in the central Mallee.

Summary: Seed-applied fungicide had no significant effect on plant establishment, yield or grain quality (Refer Table 2). Visual differences in disease levels were not present between the fungicide treatments. Spot Form of Net Blotch was present at low levels in the trial and Leaf Scald was present at very low levels.

Note none of the current seed-applied fungicides are effective against Spot Form of Net Blotch.

Background

Aventis CropScience has developed Real[®] seed dressings for cereals (based on Triticonazole). Real[®] is now registered for the suppression of Powdery Mildew and Leaf Scald in barley. Real[®] does not reduce coleoptile length whilst offering similar disease control to other conventional seed dressings.

Methods

Sloop barley seed was treated with a range of fungicides (Table 1) and sown at 60 kg/ha with 80 kg/ha Mallee Mix 1. Urea had been predrilled at 40 kg/ha. Dry sowing occurred on May 25 into a mechanically fallowed seedbed using narrow points and Auspoint roller harrows. Weed control was conducted during the season with normal applications of registered products.

Plant counts were conducted for all treatments and all plots were assessed for foliar disease presence and severity. Plots were harvested for grain yield, protein and screening results.

This trial was conducted using a fully replicated randomised block design.

Table 1: Fungicide treatments applied to Sloop barley seed

| Treatment | Description | Rate |
|-----------|-------------------------------------------|------------------|
| 1 | Control (Untreated) | - |
| 2 | Real [®] | 750 mL/T |
| 3 | Real [®] | 1.5 L/T |
| 4 | Baytan [®] | 1 L/T |
| 5 | Armour [®] | 1 L/T |
| 6 | Real [®] + Thiraflo [®] | 750 mL/T + 2 L/T |

Results

Seed-applied fungicide had no significant effect on plant establishment, yield or grain quality (Refer Table 2). Spot Form of Net Blotch was present at low levels in the trial and Leaf Scald was present at very low levels. Visual differences in disease levels were not present between the fungicide treatments.

Table 2: Plant density, yield and grain quality

| Description | Rate | Plant Density | Yield (t/ha) | Protein % | Scrn. % |
|-------------------------------------------|----------------|----------------------|---------------------|------------------|----------------|
| Control (Untreated) | | 135 | 4.2 | 9.70 | 6.00 |
| Real [®] | 750mL/T | 122 | 4.2 | 9.28 | 4.75 |
| Real [®] | 1.5L/T | 129 | 4.3 | 9.05 | 4.25 |
| Baytan [®] | 1L/T | 120 | 4.3 | 9.33 | 5.75 |
| Armour [®] | 1L/T | 115 | 4.3 | 8.98 | 3.75 |
| Real [®] + Thiraflo [®] | 750mL/T + 2L/T | 119 | 4.1 | 9.2 | 5.75 |
| Significant Difference | | NS | NS | NS | NS |

Interpretation

The average yield in this trial was 4.3 t/ha, which is an extraordinary result for the central Mallee. The late break to the season, mild winter and cool, dry spring was not favourable to disease development therefore foliar disease was only present at low levels at any stage during the season.

Spot Form of Net Blotch and Leaf scald were the two foliar diseases identified in this trial.

Commercial Practice:

Real, Baytan and Armour all offer good crop protection from Leaf Scald and Powdery Mildew as seed-applied fungicides. Real[®] offers higher levels of crop safety than other products as it does not reduce coleoptile length – this is particularly important when using higher rates of trifluralin in conjunction with systemic seed-applied fungicides.

None of the current seed-applied fungicides are effective against Spot Form of Net Blotch.

Acknowledgments

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