

B3. Faba Bean Chocolate Spot Disease Management, Mid North (Tarlee), South Australia

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Aim

To determine optimum disease management practices for new faba bean varieties, and confirm disease ratings on recently released varieties.

Treatments

Varieties: Nura (S), Farah (S) and PBA Rana (MS)
Sowing date: 30 April
Treatments: Nil – no fungicide applied
Double Carb – 500ml/ha Carbendazim pre flowering/canopy closure (6 Aug) and mid-September (10 Sept).
Triple Carb – 500ml/ha Carbendazim pre flowering/canopy closure (6 Aug) and mid-September (10 Sept), 500ml/ha Procymidone early October (8 Oct).
Complete – 500ml/ha Carbendazim fortnightly from 6 Aug as necessary.
Fertiliser: Map + Zn @ 100kg/ha at sowing

Background

Chocolate Spot is a major disease affecting yield of beans in all growing areas. It can infect all above-ground parts of the plant, and is generally worse after flowering when temperatures and canopy humidity's are high. Previous research found that a triple spray strategy provided a 25% increase in yield compared to untreated plots in a high disease pressure season, but still 7% lower than plots where disease was completely controlled using a fortnightly spray strategy. This trial aims to validate this result, and determine optimum chocolate spot control strategies in a recently released faba bean cultivar with improved chocolate spot resistance (MS) compared to the current commercial cultivars Nura and Farah (S).

The trial was set up at Tarlee, in the High Rainfall Zone of the state's Mid North where faba bean are commonly grown. Soils at this site vary significantly from deep black red-brown-earths to heavy red clays. The trial was positioned on a heavy red clay soil, where disease levels tend to be higher due to the higher canopy humidity associated with poorer drainage and higher water holding capacity of clay soils.

Results and Interpretation

- Disease severity –below average winter and spring rainfall meant that disease pressure was low in 2012, and there was only a very minor chocolate spot infection in this trial. Due to the low infection there was no significant treatment or variety response for disease severity.
- Grain Yield – there was no significant treatment or variety response for grain yield in this trial. Grain yields averaged 2.9t/ha across all varieties and treatments in this trial.

Key Findings and Comments

Chocolate spot is a major disease in bean crops, causing significant losses to yield and profitability. Low disease levels in 2012 and favourable seasonal conditions meant that there was no treatment or variety response for either disease severity or grain yield. Work is ongoing in this area.