

Aventis CropScience evaluation of Jockey seed applied fungicide

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SUMMARY

Under 1999 growing season conditions little take-all developed in the trial despite the conducive cropping history (wheat on wheat). In the absence of significant root disease both seed applied fungicides (Jockey and Premis) resulted in a small increase in grain yield. The yield response was most likely due to suppression of a low level of foliar disease with these treatments.

Aventis SC (previously AgrEvo) has developed a new fungicide with activity against a range of foliar, grain and root diseases in wheat, including take-all. The fungicide has been evaluated over several seasons in Australia. In previous years appreciable yield benefits have been seen when the fungicide was evaluated in "second year" wheat, or in wheat following a grassy pasture, due to suppression of take-all. In 1999 the fungicide was again evaluated in a number of locations, including a trial in second year wheat at Birchip.

METHOD

Fungicides were applied to wheat seed (Janz) or to fertiliser (MM1) as per Table 3.1.

Table 3.1 List of treatments

Treatment Number	Fungicide on Seed:	Fungicide on Fertiliser:
1	Nil	Nil
2	Nil	Impact
3	Jockey	Nil
4	Premis	Nil

Wheat was sown at 80 kg/ha on June 8 with MM1 fertiliser at 80 kg/ha at sowing. The four treatments were replicated six times in a randomised block design. Seedling emergence was recorded 28 days after sowing. Plant fresh weight and tiller numbers (per plant) were recorded 72 and 134 days after sowing. Plant roots were also sampled 72 and 134 days after sowing and assessed for the presence of root diseases. Plots were harvested 184 days after sowing.

RESULTS

Figure 3.1 Relative plant fresh weight (%)

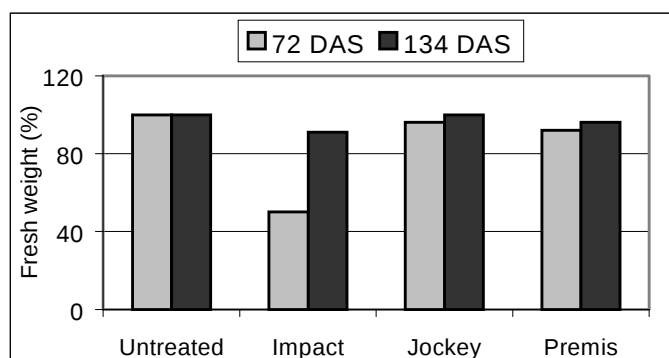


Figure 3.2 Relative tiller number (%)

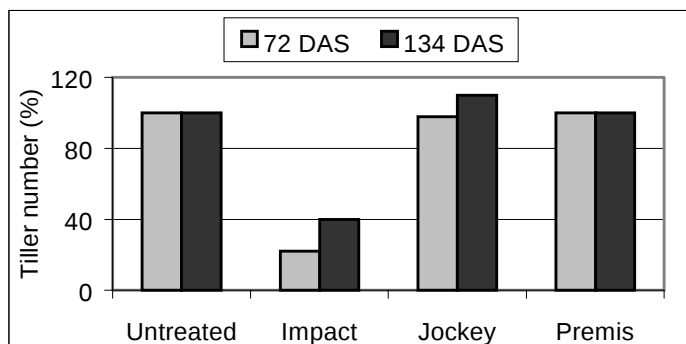
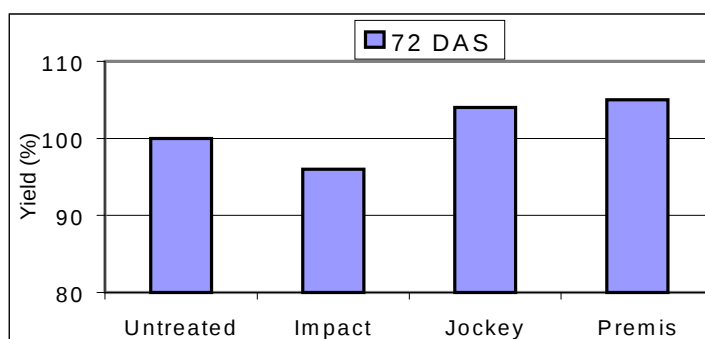


Figure 3.3 Relative yield (%)



INTERPRETATION

Seed applied fungicides (Jockey and Premis) had no adverse effects on seedling establishment 28 days after sowing, or on plant fresh weight or the number of tillers per plant at either 72 or 134 days after sowing. Despite a negligible level of root disease in the trial, and the absence of any whiteheads, seed applied fungicides resulted in a small increase in grain yield. The yield response was probably the result of suppression of a low level of foliar diseases (eg. Septoria blotch) with these treatments.

Fertiliser applied fungicide substantially reduced seedling emergence, tiller numbers and early plant fresh weight, due to inadequate placement control at seeding. Despite a thinning effect of the treatment, affected plants appeared less susceptible to foliar disease and exhibited delayed maturity compared with other treatments, resulting in only a small yield penalty.

COMMERCIAL PRACTICE

Jockey was first registered for suppression of take-all in wheat at the end of 1999. A test market launch is planned in 2000 with large area grower usage aimed at demonstrating suppression of take-all and management of a range of other diseases in wheat. A full launch is planned at the end of 2000 ready for the 2001 cereal season.