Aventis CropScience Seed Dressing Trial on Barley

SUMMARY

Seed treatments had a significant effect on the yield of Barley. Significant differences were found in growth measurements such as emergence and first leaf length, between seed treatments. An early infection of leaf Scald was observed, some of the seed dressings showed a useful suppression of scald.

The aim was to compare Barley fungicide seed dressing products. To measure seedling growth, establishment, disease control and yield.

BACKGROUND

Aventis CropScience has developed two new fungicide seed dressings for Cereals (based on Triticonazole). Premis(seed dressing is for the control of smuts and bunts. Real(is now registered for the suppression of Powdery Mildew and Leaf Scald in Barley. These products have been developed because in trials they have displayed less effect on growth when compared to some conventional seed dressings and give similar disease control.

METHOD

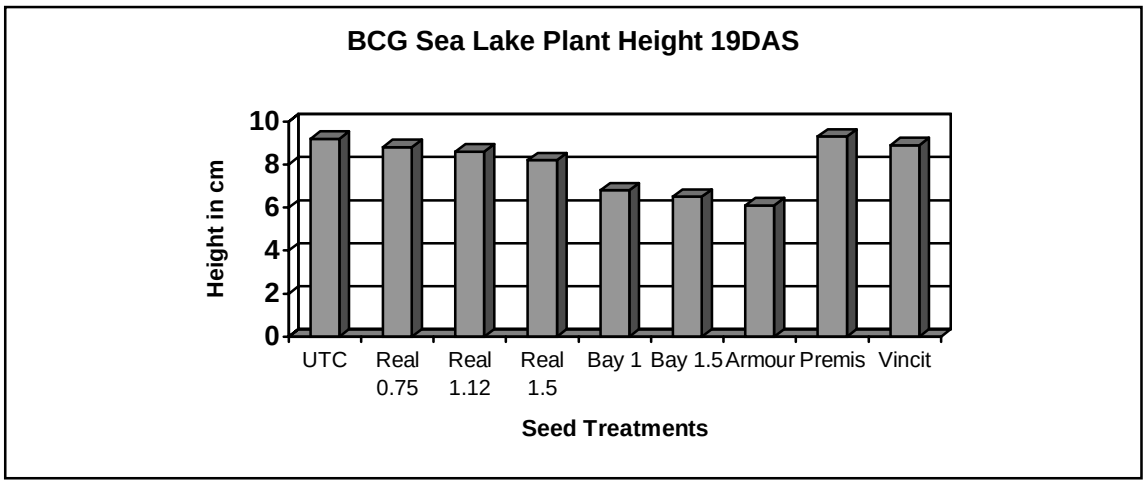
Nine seed treatments (including a control - no seed treatment) were sown in replicated blocks.
Sowing Management:

	Sea Lake
Trifluralin	800ml/Ha – 15 May 2000
Pre-drill Urea	50kg – 27 May 2000
Sowing	22 May 2000
Sowing rate	50kg/Ha Sloop
Fertiliser	Mallee Mix 1 80kg/Ha sowing

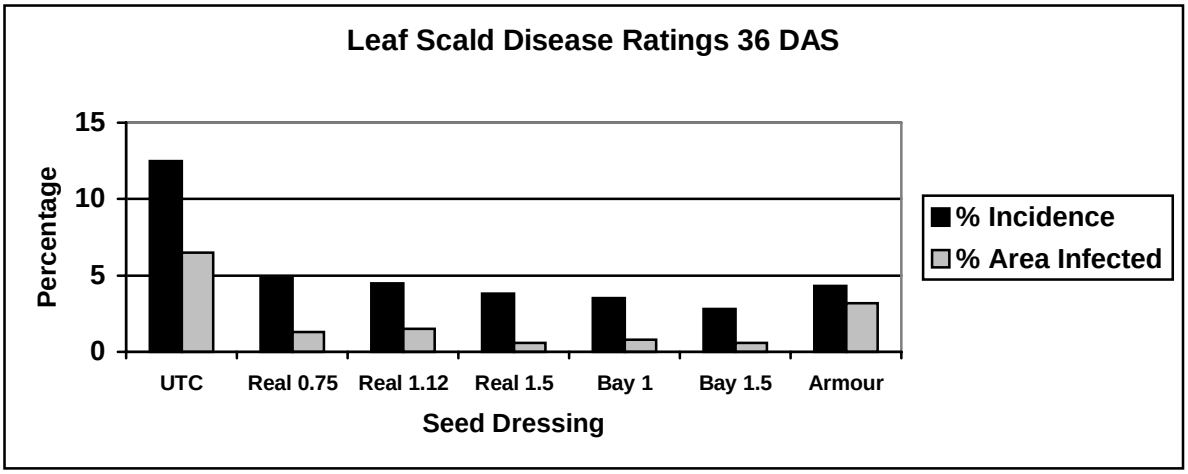
1L Hoegrass® and 500ml of Tigrex® was used. Emergence (plants per m row), growth (First leaf length), yield and disease control in each treatment were measured.

RESULTS

Plant Growth (DAS = days after sowing) (Chart 1)



Disease Control (Chart 2)



Yield

Seed Treatments (Rate per 100kg)	Yield T/Ha
Untreated Control (UTC)	3.07a
Real® 75ml	2.78bc
Real® 112ml	2.79bc
Real® 150ml	2.85ab
Baytan® 100ml	2.67bc
Baytan® 150ml	2.98ab
Armour® 100ml	2.59c
Premis® 100ml	2.88ab
Vincit® 100ml	2.70bc
Significant® Difference	0.26 P<0.05 Yields with the same letters are statistically the same

INTERPRETATION

Growth measurements

Plant growth measurement were much as we have seen in trials over the last couple of years (see table 1). Real had significantly higher growth (P<0.05) than Baytan and Armour. Speed of emergence is in line with plant growth. That is the quicker they grow the faster the Barley emerges.

Disease Control

There was a scald infection early, as it was quite wet for the first 3 weeks of sowing then it stayed relatively dry for nearly two months. The scald infection cleared up due to the dry weather. The scald % Incidence and % Affected Area are shown in Table 2. The seed dressings are suppressing the scald and there seems to be a rate response with the higher amounts of chemical on the seed suppressing the scald to a greater extent as would be expected. There was no Powdery Mildew observed in this trial.

Yield

There were significant differences in yield. Statistically the Control, Premis and high rate of Real and Baytan yielded the same. Armour(yielded significantly less than these four seed treatments. The other treatments yielded less than the Control only. There appears to be a rate response to the seed dressing in that the higher the rate of seed dressing for both Real and Baytan the higher the yield. But contrary to this, the highest yielding treatment was the control which does not follow the logic of a rate response. The short period of scald infection would not seem to not have affected yield much due to the yields of the Control and Premis being good. If it had of stayed wet for longer there may have been a different story.

COMMERCIAL PRACTICE

Foliar disease control can increase yields in some areas in some years. Some seed treatments can delay crop emergence and reduce growth and in these trials it may have significantly (P<0.05) affected yield. It is recommended to treat Barley with a foliar fungicide to suppress early infections of Powdery Mildew and Scald as these diseases can have dramatic effects on yield.

Thanks to BGC, Norm Stone, Brad McQueen and Robert Bugge for their assistance.