

Small changes produce big gains

Financial and climatic variations have caused Kangaroo Island croppers to investigate and adopt new management techniques. With support from GRDC the KI Grain Growers Group has shown that simple changes in crop management can bring substantial yield and financial returns.

Agronomist Rick Morris says that most KI croppers are aiming for cereal yields of between 4-5t/ha to cover increasing production costs. Previously target cereal yields were 2.5-3t/ha which are no longer viable.

“Some growers have achieved these increased production targets for the past two years, and those in well drained country are setting their targets even higher, this season could be most favourable to land that usually suffers from water logging assuming we receive spring rainfall,” explained Rick.

Waterlogging and slugs are a problem for KI croppers but this year’s rainfall pattern has curtailed both of these problems, so far, and growers are having to carefully reassess nutrition management to meet the changed crop potential.

In the past two years changes in nutrition and fungicide management have been key to achieving yield improvements. Knowledge gained on study trips to WA and New Zealand has included information on growth stages and their relationship to application timing for fungicides or nitrogen inputs.

Trials conducted by the Group in 2005 reported a 1.3t/ha yield response, valued at \$170/ha, for Wyalkatchem wheat that received a well timed (Growth stage 39) application of Propaconazole (Bumper®) fungicide at a chemical cost of \$15/ha, to control stripe rust.

“Control plots of the stripe rust susceptible variety Wyalkatchem yielded 3.37t/ha compared to 4.68t/ha for the plots treated with fungicide; that is a 38% increase in yield.”

Multiple and later in crop applications of nitrogen have been used effectively to reduce leaching and provide cereals with nitrogen during the crucial grain filling stages but it is the change in application method for phosphorus that has produced the most striking results.

K.I.’s lateritic soils are very responsive to phosphorus this was again highlighted in last year’s trial results. Even at a site where soil P levels were good (40ppm) the addition of 18kg/ha of phosphorus (ie 200kg/ha single super) doubled the return on investment. That is \$40/ha of phosphorus fertiliser placed down the tube with the seed increased cereal yield by 0.25t/ha valued at \$80/ha. For canola the results were similar with a yield increase of 0.77t/ha valued at \$100 from a phosphorus input of 22kg/ha at a cost of \$49/ha.

“The plots had received 150kg/ha of single super top-dressed prior to sowing, so these results reinforce the phosphorus responsiveness of KI’s lateritic soils especially with the late time of sowing last year.”

This year the group are continuing these trials and will also look at slow release nitrogen products with the aim of reducing the need for multiple nitrogen applications.

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Photo Caption

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