CROP DOCTOR NORTH
With Peter Reading

Peter Reading is the Managing Director of the GRDC, Ph: 02 6166 4500, www.grdc.com.au

NEW TRIALS GAUGE RUTHERGLEN BUG YIELD IMPACT

New Grains Research and Development Corporation (GRDC)-supported research trials aim to determine the effect of Rutherglen bug on sorghum yield.

Dr Melina Miles, Queensland Department of Primary Industries and Fisheries (QDPI&F) entomologist says trials to date have shown Rutherglen bug will cause reduced seed set when present at flowering.

Melina said more work was needed to clarify the impact of Rutherglen bug on sorghum as the crop filled and matured.

"While some seed in the infested heads does not set, seed that does set will compensate to some extent by being larger and heavier," she said.

"This sorghum trait has been noted previously with midge damage, where a reduction in seed set of up to 20 per cent can be completely compensated for by the remaining grain in the head."

Melina said the best available information suggested sorghum was unlikely to suffer yield loss as a result of Rutherglen bug feeding from physiological maturity (hard dough) through to harvest.

"Importantly, once grain reaches physiological maturity it has reached its full potential weight, and from then on starts to lose moisture as it matures.

"This means that even if large numbers of Rutherglen bug continue to feed on the sorghum plant's stems and leaves their feeding will not impact on the development of filling of the grain at this stage."

As many of the early sorghum crops reach physiological maturity, and approach harvest, questions are being asked as to whether it is necessary to control large populations of nymphs in these crops.

"DPI&F trials two years ago examined the impact of Rutherglen bug on maturing grain, but did not provide conclusive answers, so this year we are undertaking field trials to address this question."

Another question with no definitive answer is whether Rutherglen bug continues to feed directly on the maturing seed, or if it feeds only on the sorghum plant once the grain reaches hard dough, and whether this feeding will affect grain yield and quality.

"In trials where plants at hard dough were exposed to Rutherglen bug we did not see the evidence of feeding damage to grain that we saw when heads were infested at earlier stages of grain development."

Melina said crops that had early infestations of Rutherglen bug, even some of those that had been treated, now had moderate to large populations of nymphs and adults in them.

She said the adults were likely to be newly emerged, having developed from nymphs in the crop and the nymphs would have emerged from eggs that were laid by an earlier infestation.

Early sorghum crops have suffered from high Rutherglen bug numbers, with some crops on the Darling Downs clearly showing evidence of small, light grain, particularly in the earliest heads.

This damaged grain is also showing signs of secondary fungal and bacterial infection that has caused the damaged grain to go black.

"Controlling Rutherglen bug to prevent the problems associated with infestations at harvest remains an issue.

"The inclusion of an insecticide along with the herbicide when the crop is being sprayed out prior to harvest is a practical approach but growers should be alert to the withholding period of any insecticide used.

"Treatment with insecticide prior to harvest is not a guarantee that the crop will be free of Rutherglen at harvest as there remains the possibility of reinvasion by adults at any time, and the emergence of nymphs from eggs laid prior to treatment," Melina said.

Rutherglen bug damage on sorghum.

Adult Rutherglen bug.