

Identifying TSV tolerance

Central Highlands researchers will screen multiple crop types with emphasis on sunflowers and mungbeans to identify commercial varieties and experimental lines with tolerance to Tobacco Streak Virus (TSV).

Department of Primary Industries and Fisheries plant pathologist Murray Sharman said that from previous research into the devastating impact of TSV, it was evident some sunflower hybrids were far more tolerant to TSV than others.

Murray said that identifying TSV tolerant hybrids would give growers the confidence to again include sunflowers in a summer crop rotation and pave the way for a resurgence of Central Queensland's sunflower cropping industry.

CQ's 34,000 hectare sunflower planting in 2004 was decimated by a mystery disorder later identified as TSV in mid-2006 and most growers have since shied away from the crop.

In a double whammy for Central Highlands' growers, 2006–07 summer mungbean crops were then hit with TSV infection causing up to 70 per cent yield losses.

"Trials funded by the Grains Research and Development Corporation during the past two seasons have already provided valuable information to sunflower and mungbean plant breeders enabling them to target their breeding programs toward more tolerant lines," Murray said.

Clermont district trial co-operators hosting the 2009 small plot trials are John Harvey, 'Kenlogan' and Jason Coleman, 'Langton Cottage'. John and Jason are es-

tablished sunflower growers whose crops have suffered varying degrees of TSV infection.

Murray was assisted by DPI&F principal experimentalist Maurie Conway, Emerald and experimentalist Chris Lawes, Biloela, to plant the dryland trials into excellent sub-soil moisture on March 3.

"We will be screening 21 commercial and experimental sunflower selections and four experimental mungbean cultivars this year," Murray said.

"To provide the industry with a broader picture of TSV susceptibility, we have also planted one or two selected lines of chickpea, cotton, soybean, faba bean, peanuts, cowpea, lupins and canola.

"Both trial sites are planted downwind of parthenium weed infestations known to be producing TSV infected pollen.

"The wounds made by the feeding thrips (sap-sucking insects) on healthy trial plants allow the TSV-infected pollen to enter the wound and transfer the virus to the healthy plants," Murray said.

All crop types, and the various sunflower hybrids being screened, would be assessed for TSV disease severity and incidence from the trial sites during the growing season.

Murray said this year's trial had also included establishing a forage sorghum barrier extending up to 14 m wide between the infected parthenium and the trial site.

"Pre-planting forage sorghum to act as a wind-break may be a useful management option to disrupt the wind-borne movement of TSV-infected parthenium pollen and/or thrips into the crop."



GRDC HONOURS CEREAL PATHOLOGIST

Well known NSW Department of Primary Industries' (NSW DPI) plant pathologist, Dr Steven Simpfendorfer, has won the prestigious 2009 Grains Research and Development Corporation (GRDC) northern region Seed of Light award.

Steven, based at Tamworth, NSW, has played a major role in researching cereal diseases – including the northern grain region's number one enemy, crown rot – and communicating with growers and advisors.

James Clark, GRDC northern panel chair presented the award at the GRDC Advisor Update at Goondiwindi.

"GRDC is delighted to recognise Steven's commitment to not only combating cereal disease but ensuring his team's research is quickly accessible to growers and advisors," James said.

"In recent years he has played a pivotal role in enhancing our understanding of cereal disease management and has made a sustained effort to ensure his research is 'ground truthed' via his collaboration with the GRDC-funded Northern Grower Alliance (NGA)."

Steven is a regular speaker at the GRDC Updates and focuses on the bottom line issues that drive adoption, James said.

His research interests include integrated disease management in winter cereals, incorporation of crown rot resistance into durum wheat, and extension of disease management options in the northern region.

His current work includes conducting a research program relating to the management of fusarium diseases of barley and wheat in northern farming systems, and extending findings to support growers and agronomists in understanding and managing crown rot and other winter cereal diseases.



DPI&F plant pathologist Murray Sharman (left) and experimentalist Chris Lawes planted two Clermont district on-property trial plots in early March to identify crop lines with tolerance to the devastating impact of Tobacco Streak Virus.