

Blackleg, variety and home region

University of Western Australia (UWA) scholarship holder, Aanandini Ganesalingam, has made some valuable discoveries about existing varieties in the canola industry, which could help growers make better and more informed choices on what to grow in their home regions.

WA has an especially troubling history with blackleg, which virulently swept through the local crop in the 1970s, slashing the burgeoning industry to just seven per cent of its original size.

Against this backdrop, growers have been judiciously choosing varieties and anxiously watching for any forewarning of a breakdown in blackleg resistance. In recent years, the Australian Canola Association has independently tested varieties at multiple locations across the country and published their disease resistance ranking according to how they performed.

Important interplay overlooked

Although a useful guide, the national variety disease resistance ratings, according to Aanandini, may overlook important interplay between varieties and their growing environments, leading to variable disease ratings over years.

"Several variables can affect a variety's disease resistance rating in a given year, including whether it has several genes contributing to its resistance, or if it has a single major gene for resistance. But there are also environmental factors, such as the virulence of individual strains of the blackleg pathogen, climatic patterns, types of stubble the crop is grown on and the location."

Constant changes in the Canola Association of Australia disease ranking categories, which are based on the performance



UWA student, Ms Aanandini Ganesalingam, hopes her research will help canola growers make better, more regionally suited, variety decisions.

of each variety over the previous three seasons, prompted Aanandini to closely look at the patterns, examining seven years of data from across Australia. She found some varieties earmarked as losing resistance actually still held up well.

"The disease pressure experienced by a variety can change from year to year, based on factors such as weather and stubble source, but when encompassed in a longer term analysis, you see many varieties classified as having an erosion of resistance are quite stable in resistance."

"Major gene resistance is significant in preventing disease incidence, however over time the prolonged exposure of this form of cultivar resistance to diverse populations of blackleg enables selection of populations able to attack this form of resistance," Aanandini explained.

"My research indicated incidences where fungal spores residing on the stubble of major gene resistant varieties over summer were much more likely to break down the resistant varieties grown the following year."

Aanandini's findings will be sent to the Canola Association of Australia to help iron out their disease ranking system and provide growers with a more dependable long term assessment of disease resistant varieties.

Aanandini's project, supervised by UWA School of Plant Biology Professor Wallace Cowling and Dr Cameron Beec of Canola Breeders WA, was part of her double degree in agricultural science and economics at UWA.

Aanandini was awarded a fourth year research project scholarship by Cooperative Bulk Handling (CBH). During the past four years CBH has supported eight fourth year students at UWA on a variety of grain related topics. She also received a GRDC scholarship.

HEAD WEST TO HEAR THE BEST IN CROP RESEARCH

Partners in Grain (PinG) WA are offering sponsorships for two farmers to attend the Agribusiness Crop Updates Conference in Perth on February 24 and 25, 2010. Two sponsorships of \$500 each will be awarded to help cover the costs of registration and accommodation.

Last year, PinG WA sponsored Hines Hill farmer Camray Gethin to attend the conference, which provided the latest in cropping information and research.

"PinG is keen to encourage young farmers, like Camray, to be more active in the grains industry and expand their experience and opportunities," PinG coordinator Julianne Hill said. "We look forward to seeing new faces in new places and by offering sponsorship like this, we can help people get to events they may not otherwise attend."

People who attend the February Updates will be able to hear how the first WA trials of GM canola fared as well as learn more about a vast range of crop options and innovative agronomy for the 2010 season.

Those interested in attending from anywhere in Australia, and would like some help to get there, should contact the PinG WA coordinator Julianne Hill on 0408 908 989 or email julianne.hill@agric.wa.gov.au for a sponsorship application form. Applications need to be received by no later than December 24, 2009.

Partners in Grain is a national grains group, providing professional development for farming businesses. They are funded by the GRDC, the ANZ Banking Group and supported by the Department of Agriculture and Food, WA.

See: www.partnersingrain.org.au



Partners in Grain (PinG) WA Coordinator Julianne Hill encourages farmers to apply for PinG sponsorship.

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