

# GM with hybrid vigour gives canola extra punch

Australian canola growers can proudly celebrate the anniversary of a world-first Australian invention this year – it's been 20 years since the release of hybrid canola.

In the two decades since the hybrid Hyola 30 was developed and released by Pacific Seeds, canola growers have had the opportunity to grow several high yielding hybrid varieties.

Andrew Easton, canola breeder for Pacific Seeds, says these crops have performed very well in environments of low weed pressure, but because of the high weed pressure in most Australian canola growing regions, many growers have not been able to take advantage of their benefits.

Andrew explained that although all triazine tolerant open pollinated varieties, such as Tornado TT and Thunder TT, have an inherent yield penalty, they have been the most popular varieties with canola growers because of their weed control benefits.

## Hybrid-GM mix

Hybrid varieties are much more popular in Canada than they are in Australia, where they make up around 60 per cent of all the canola grown.

"The reason for the difference in popularity is that Canadian growers are using genetically modified herbicide tolerant crops in combination with hybrid breeding," he said.

"They are able to retain the benefits of high yielding hybrids, with the added bonus of herbicide tolerance."

Andrew said hybrid canola varieties were

generally tougher, stronger, more robust plants that grew vigorously and were higher yielding than open pollinated varieties.

"Hybrid varieties are developed by crossing two fixed lines, for the best characteristics of both male and female parents, which leads to heterosis or hybrid vigour," he explained.

"They often have bigger seeds for larger energy reserves, which contributes towards added vigour."

Andrew said open pollinated varieties were developed from one fixed line, with desired traits strengthened through in-breeding.

"This process tends to decrease yields, but allows breeders to achieve consistency in performance," he explained.

He said the hybrid breeding process was more complex, with the development of new varieties taking up to seven years.

Canola pathologist, Steve Marcroft, said Hyola 42 was the best early maturing canola variety on the market when he started in the industry in 1994, but it became unusable because it was susceptible to blackleg.

He said the next wave of development in hybrid canola was also affected by blackleg, when the Sylvestris strain appeared.

"Now, there are a whole new range of hybrid canola varieties available, all with very good blackleg ratings, and we're also starting to see Roundup Ready hybrids," he said.

According to Steve, a lot of growers haven't considered growing the new hybrid varieties due to the impact of the drought.

"It hasn't been the time to break out and try new things," he said. "Growers are sticking with what they know."

## A good option for Australia

However, he also pointed to the popularity of Roundup Ready and In Vigour canola hybrid varieties in Canada and said these types of crops might also be a good option for Australian growers.

"It could be the start of a change of direction for canola growers, but it is still early days," he said. "Hybrids are definitely an option worthwhile for canola growers to consider."

Andrew Easton said Pacific Seeds would be celebrating the 20 year anniversary of its development of hybrid canola with the release of limited quantities of two Roundup Ready hybrid varieties to Victorian and New South Wales growers this year. Both hybrids were developed and tested in Australia.

He said growers could choose between an early-mid maturing hybrid that was suited to low-med rainfall areas (M8032) and a mid maturing hybrid for med-high rainfall areas (M8265).

"In trials, M8032 has shown yield benefits of up to 20 per cent above triazine tolerant varieties," he said.

Andrew added that growers could also choose Hyola 50, a non-GM hybrid with a 9.0 blackleg resistance rating and the highest average yields for mid-season, conventional canola in National Variety Trials from 2005 to 2007 in both Victoria and New South Wales.

**Contact: Andrew Easton, Canola Breeder  
– Pacific Seeds, Phone: 07 4690 2658.** ■



Pacific Seeds produced limited stocks of the new mid-season Roundup Ready hybrid canola (M8032) for growers to sow this year.