



PodGuard Demonstration 2014

2014 Trial Site



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Bayer CropScience



PodGuard Demonstration with FarmLink

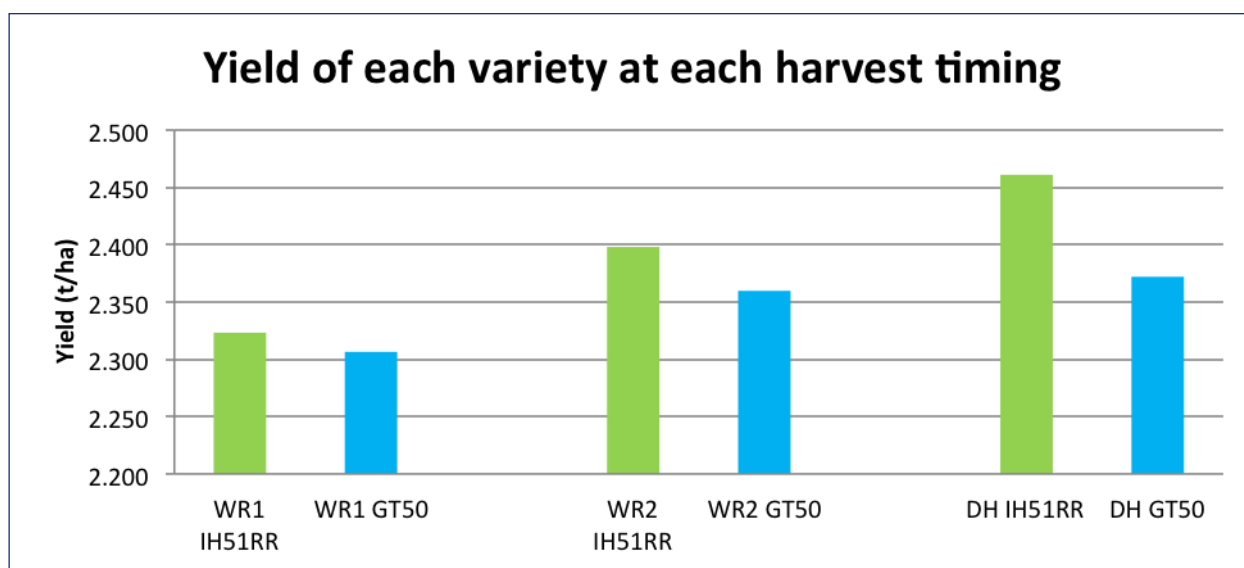
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The 2014 cropping season saw FarmLink trial a new canola trait being trialled on farm by Bayer. Set up in a side by side comparison against the highly competitive hybrid variety GT50, IH51RR is Australia's first commercially available variety with Bayer's PodGuard trait. It has been well established that yield gains can be achieved by windrowing later or by direct heading canola, but this is often at the risk of canola pods prematurely opening due to high winds and temperatures before harvest, or during the harvest operation itself. The aim of this demonstration trial was to compare the ability of PodGuard to reduce the occurrence of these shattering events, allowing a variety with this trait, IH51RR to increase yields without losses due to shattering.

The two varieties were sown side by side at the Temora Agricultural Innovation Centre (TAIC) at the same time, with both establishing well. Rain throughout the early

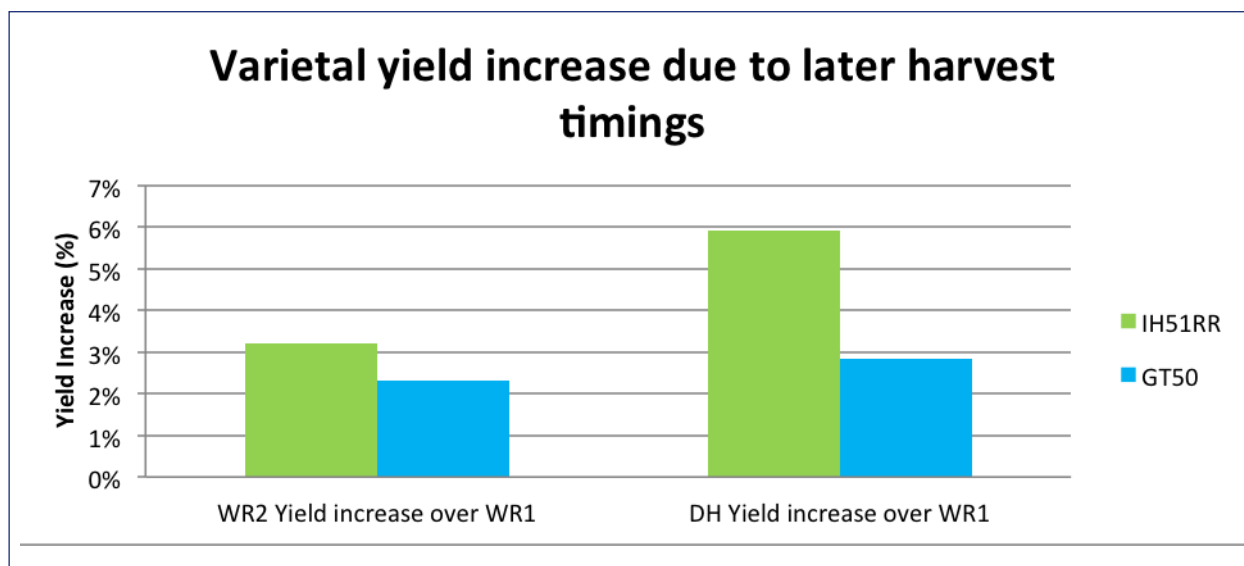
part of the season caused severe waterlogging across the demonstration site, greatly reducing the plant stand in parts. The dry finish to the season meant that good yields were achieved across the demonstration area, with the trial achieving the highest canola yields at the TAIC in 2014.

Three canola harvest treatments were used to test the PodGuard trait, with a normal windrow timing (WR1) at 40-60% colour change, later windrow timing at 70-90% colour change (WR2) and a direct head timing when both varieties had reached 8% grain moisture (DH). All canola cutting treatments were then harvested on the same day- that of the direct head timing (windrowing treatments with a pickup front). IH51RR reached maturity a number of days before GT50. To account for any paddock variability, four equal strips were used to calculate the yield of each treatment.



The chart above shows that both varieties increased in yield between the first windrow timing and the direct head timing. IH51RR increased in yield to a greater degree than GT50. Between windrow timing 1 and 2, IH51RR gains 75kg/ha yield, and GT50 57kg/ha. Between the second windrow and direct head timing however, GT50 has only gained around 12kg/ha, whilst IH51RR gained a further 63kg/ha. GT50

therefore gained 69kg/ha by direct harvest compared to windrow timing 1, compared to 138kg/ha for IH52RR.



The chart above comes from the same data set. It shows the percentage yield increase of both varieties when windrowing was delayed to 70-90% colour change, then the yield gained by waiting until a direct heading timing. Again, both varieties gained yield by waiting until a later than a normal windrow timing. GT50 gained around 2% yield by delaying windrowing until 70-90% colour change, but gained little more by direct heading. IH51RR however gained 3% by delayed windrowing and 6% when direct heading, when compared to the normal windrow timing. IH51RR therefore continued to gain yield the later the harvest timing went, whereas GT50 flat-lined, and gained little more yield.

PodGuard is a trait which strengthens what is known as the indehiscent zone of a canola pod, the area which naturally breaks open to allow shattering to occur. The trait has been shown across 10 years of trialling to greatly reduce the incidence, risk and severity of shattering in varieties bred to contain PodGuard. IH51RR is the first commercial variety with PodGuard, and grower-scale trialling in 2014 showed that the trait has a number of applications for growers. In this instance, PodGuard allowed IH51RR to continue to increase yield, by 6% over the normal windrowing timing at direct harvest. On top of this yield gain, eliminating windrowing from operations can save growers time and as \$30-\$40/ha. The benefit of direct heading IH51RR in this trial therefore was around \$100/ha extra gross margin. As many have seen elsewhere there is a yield gain by direct heading a non-traited variety like GT50, but probable shattering losses before and/or during harvest operations have restrained these gains. In trials where a day of high temperatures and winds has occurred before the direct head timing, IH51RR with PodGuard has been shown to greatly reduce shattering losses over genetically similar non-traited Bayer lines and

other competitors, with yield losses in non-traited lines more than double those of PodGuard.

In this trial at the Temora Agricultural Innovation Centre, IH51RR and GT50 yielded much the same at the normal 40-60% colour change timing. The PodGuard trait however has enabled IH51RR to continue to increase in yield right up to maturity, increasing its overall yield by 138kg/ha, whilst GT50 could only put on 69kg/ha. In the instance of IH51RR, these yield gains and windrow operation savings could be sought without increased risk of shattering. There were no severe shatter-causing weather events recorded during the harvest timings of this trial. In these instances, PodGuard has been shown to greatly reduce yield losses and give growers greater peace of mind at harvest.

Variety	WR1 IH51RR	WR2 IH51RR	DH IH51RR	WR1 GT50	WR2 GT50	DH GT50
Strip 1	2.251	2.468	2.529	2.308	2.119	2.264
Strip 2	2.356	2.376	2.568	2.303	2.422	2.401
Strip 3	2.317	2.39	2.522	2.331	2.381	2.456
Strip 4	2.369	2.358	2.565	2.284	2.517	2.434
Strip 5			2.121			2.305
Total	9.293	9.592	12.305	9.226	9.439	11.86
Av/ha	2.323	2.398	2.461	2.307	2.360	2.372

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Av/ha	2.323	2.398	2.461	2.307	2.360	2.372

Variety	WR1 IH51RR	WR1 GT50		WR2 IH51RR	WR2 GT50		DH IH51RR	DH GT50
Av/ha	2.323	2.307		2.398	2.360		2.461	2.372

Variety	IH51RR	GT50
WR1	2.3233	2.3065
WR2	2.3980	2.3598
Yield increase over WR1	0.0748	0.0533
DH	2.4610	2.3720
DH Yield increase over WR1	0.1378	0.0655

Variety	IH51RR	GT50
WR1	2.3233	2.3065
WR2	2.3980	2.3598
WR2 Yield increase over WR1	3%	2%
DH	2.4610	2.3720
DH Yield increase over WR1	6%	3%

FarmLink/Bayer CropScience Pod Guard demonstration IH51RR canola, Temora Agricultural Innovation Centre (TAIC) 2014 (t/ha)