

# 13. Canola Evaluation Trials

## PART A: South East Canola National Variety Trial

Andrew Ware, SARDI

In 2017, there were three canola variety trials sown across the South East region of South Australia: located at Keith, Bordertown and Frances. The site at Keith evaluates early season varieties, and those at Bordertown and Frances evaluate mid-season varieties. Both sets of trials have similar sowing and harvest times and have a similar complement of varieties, although there may be several early maturity varieties in the early series that are not tested in the mid-series, or vice-versa. The data from the 2017 Bordertown canola variety trials has not been released.

### Speciality Types

In recent years a number of specialty canola varieties have been released. These include the Victory® varieties (marketed by Cargill) and Monola® varieties (marketed by Nuseed). These varieties have a different oil profile than commodity canola that is more suitable for use in the food industry. Agronomically speciality

canola is the same as commodity canola. Speciality canola is being offered to growers in a closed loop marketing systems, attracting a significant premium price. Production contracts for these varieties are available in the South East and Mid North regions.

### Varietal Selection

The selection of the most suitable canola variety for a particular situation needs consideration of maturity, herbicide tolerance, blackleg resistance, relative yield, oil content and early vigour.

- The weed species expected may dictate the need for a herbicide tolerant production system (e.g., triazine tolerant or Clearfield). It should be noted that a triazine tolerant variety will incur a yield and oil penalty when grown in situations where they are not warranted.
- Blackleg has the potential to be a very destructive disease in canola and its management through varietal selection, fungicides and cultural practices are important in maximising yield potential. Varietal blackleg resistance and/or fungicide use should be considered, particularly when rotations are close.

- Recent research has found that early seeding canola has the potential to maximise water use efficiency. If canola is planted earlier than the traditional window of late April – early May, it is important to consider matching the varieties flowering time with the early seeding date, so that biomass is maximized and frost and heat risk are minimized. To do this planting fast flowering varieties in the medium and high rainfall areas in early to mid-April should be avoided.

The following results are taken from the NVT website. The site also contains long term and additional quality data [www.nvtonline.com.au](http://www.nvtonline.com.au). Both Keith and Frances sites experienced frost and extreme heat conditions during the flowering period. Interpret results with caution.

**Table 1:** NVT 2017 South East Conventional canola variety grain yield and oil results.

Variety Name	Keith			Frances		
	t/ha	Yield % site mean	Oil %	t/ha	Yield % site mean	Oil %
AV Garnet	1.57	92	46.40	2.92	96	46.35
Hyola 50	1.76	103	46.74	3.05	101	45.76
Nuseed Diamond	1.67	98	44.82	2.89	95	44.09
Nuseed Quartz	1.9	111	46.40	3.37	111	46.39
Site Mean (t/ha)	1.71			3.03		
CV (%)	6.24			6.82		
Probability	<0.001			<0.001		
I.s.d. (t/ha)	0.16	9		0.31	10	

## Notes on Newly Released Conventional Varieties

**Nuseed Quartz.** Mid maturing hybrid. Potential replacement for AV Garnet. Medium height. Blackleg resistance rating of R (resistance group ABD). Tested in NVT trials 2016-17. Bred and marketed by Nuseed Pty Ltd.

## Notes on Recently Released Conventional Varieties

**AV-Garnet.** Mid-early to mid to maturing. Medium height. Widely adapted. Blackleg resistance rating of MS (resistance group A). Tested in NVT trials 2006-2017. Bred by DPI Victoria. Marketed by Nuseed Pty Ltd.

**Nuseed Diamond.** Early maturing hybrid. Very fast to flower. Medium plant height. Suited to low-medium rainfall areas. Blackleg resistance rating of MR (resistance group ABF). Tested in NVT trials in 2012-17. Bred and marketed by Nuseed Pty Ltd.

**SF Brazzil.** Late maturing, winter dual-purpose open pollinated variety. Suited to early sowing and winter grazing in very high rainfall zones. Blackleg resistance rating of R-MR (resistance group BC). Not tested in NVT trials. Marketed by Seed Force.

**Victory V3002.** Early-mid maturing conventional specialty (high stability oil) hybrid. Blackleg resistance rating of MR (resistance group ABF). Tested in NVT trials in 2011-2017. Bred by Cargill and DPI Victoria. Marketed by AWB under contract.

**Withdrawn and no longer available:** SF Sensation, AV-Zircon, Hyola 50

**Table 2:** NVT 2017 South East Clearfield (imidazolinone tolerant) canola variety grain yield and oil results.

Variety Name	Keith			Frances		
	t/ha	Yield % site mean	Oil %	t/ha	Yield % site mean	Oil %
Banker CL	1.91	99	45.71	2.82	98	45.66
Hyola 575CL	1.83	95	45.61	2.50	86	44.14
Pioneer 43Y92 (CL)	1.99	103	44.03	-	-	-
Pioneer 44Y90 (CL)	2.05	107	44.22	2.90	100	45.17
Pioneer 45Y91 (CL)				2.65	92	46.30
Saintly CL	1.95	102	44.61	3.21	111	45.51
VICTORY V7002CL	1.76	92	45.56	3.38	117	44.63
Site Mean (t/ha)	1.92			2.89		
CV (%)	5.42			6.54		
Probability	0.0053			<0.001		
I.s.d. (t/ha)	0.16	8		0.31	11	

## Notes on Newly Released Clearfield (imidazolinone tolerant) Varieties

**Pioneer 43Y92 (CL).** Early maturing hybrid. High oil content. Medium plant height. Blackleg resistance rating of R-MR (resistance group B). Suited to low - medium rainfall areas and short season growing zones. Tested in NVT trials 2016-17. Marketed by Pioneer Brand Seeds.

## Notes on Recently Released Clearfield (imidazolinone tolerant) Varieties

**Banker CL** Mid maturing hybrid. Medium plant height. Suited to medium rainfall areas. Blackleg resistance rating MR-MS (resistance group A). Tested in NVT trials 2014-17, marketed by Heritage Seeds.

**Hyola® 575CL**. Mid-Early maturing CL hybrid. Fast to flower from early sowing. Medium plant height. Suited to medium to high rainfall areas. Blackleg resistance rating of R (resistance group BF). Tested in SA NVT trials in 2010-17. Bred by Pacific Seeds and marketed by Advanta Seeds.

**Hyola® 970CL**. Long season, winter graze and grain dual purpose hybrid. Advanta Seeds indicate high-very high biomass, good grain yield and oil content. Suited to sowing in early-mid autumn and spring sowing in very high rainfall zones. Blackleg resistance rating of R (resistance group H). Not tested in NVT trials. Marketed by Advanta Seeds.

**Pioneer 44Y90 (CL)** An early-mid maturing hybrid. High oil content. Medium plant height. Suited to low-medium rainfall areas. Blackleg resistance rating of R-MR (resistance group B). Tested in NVT trials in 2015-17. Marketed by Pioneer Brand Seeds.

**Pioneer 45Y91 (CL)** A mid maturing hybrid variety. Medium-tall plant height. Suited to medium-high rainfall areas. A blackleg rating of MR (resistance group B). Tested in NVT trials in 2015-17. Marketed by Pioneer Brand Seeds.

**SF Edimax CL**. long season winter dual-purpose grain and graze hybrid. Seed Force indicates high biomass with excellent yield and oil content. Suited to early sowing and spring sowing in high rainfall areas. Blackleg resistance rating of R-MR (resistance group C). Not tested in NVT trials. Marketed by Seed Force.

**Withdrawn and no longer available:** Archer, Carbine, Hyola 474CL, Hyola 577CL, Pioneer 43Y85CL, Pioneer 44Y87CL, Pioneer 44Y89CL

**Table 3:** NVT 2017 South East Triazine Tolerant canola variety grain yield and oil results.

Variety Name	Keith			Frances		
	t/ha	Yield % site mean	Oil %	t/ha	Yield % site mean	Oil %
ATR Bonito	1.54	94	46.20	-	-	-
ATR Stingray	1.56	95	46.10	-	-	-
ATR Wahoo	-	-	-	3.03	103	46.74
DG 560TT	1.66	101	44.13	2.77	94	44.38
DG 670TT	-	-	-	3.15	107	44.38
Hyola 350TT	1.55	95	44.48	3.13	106	44.67
Hyola 559TT	-	-	-	2.72	93	46.60
HyTTec Trophy	2.01	123	45.02	3.35	114	46.30
InVigor T 4510	1.68	102	43.25	3.16	108	44.73
Monola 515TT	-	-	-	2.37	81	46.35
Pioneer 44T02 TT	1.68	102	45.26	-	-	-
SF Ignite TT	-	-	-	3.28	111	45.81
SF Turbine TT	1.61	98	42.01	-	-	-
Site Mean (t/ha)	1.64			2.94		
CV (%)	6.27			6.4		
Probability	<0.001			<0.001		
I.s.d. (t/ha)	0.16	10		0.32	11	

## Notes on Newly Released Triazine Tolerant (TT) Varieties

**Hyola® 350TT**. Early maturing TT hybrid. Medium plant height. Blackleg resistance rating of R (resistance groups ABDF). Tested in NVT trials in 2016-17. Bred and marketed by Advanta Seeds.

**HyTTec Trophy** (coded as NCH15T085). An early to mid-maturing hybrid canola. Medium-tall plant height. Nuseed indicates a blackleg rating from internal trials of R-MR, with the resistance group yet to be determined. In NVT for the first time in 2017, release for 2018 season. HyTTec Trophy will be marketed with an EPR expected to be \$10/tonne, but a reduced seed price compared to other hybrid varieties. Bred and marketed by Nuseed.

**SF Ignite TT – (coded SFR65-014TT)**. Mid to mid-late maturing hybrid. Suited to medium to high rainfall zones. Medium plant height. Suited to medium-high rainfall areas. Blackleg resistance rating of MR (resistance group BF). Tested in NVT 2016-17. Marketed by Seed Force.

## Notes on Recently Released Triazine Tolerant (TT) Varieties

**ATR Bonito** Early-mid season maturing open pollinated variety. Short-medium height. Suited to low-medium rainfall areas. Blackleg resistance rating of MS (resistance group A). Tested in NVT trials 2012-17. Marketed by Nuseed. An EPR of \$5 per tonne (GST ex) applies.

**ATR Gem** Early-mid maturity variety open pollinated. Medium plant height. Blackleg resistance rating of MS (resistance group A). Tested in NVT trials 2011-16. Marketed by Nuseed Pty Ltd.

**ATR Mako** Early-mid maturity triazine tolerant open pollinated variety. Medium (slightly taller than Gem) plant height. Suited to medium – high rainfall areas. Blackleg resistance rating of MR (resistance group A). Tested in NVT trials 2013-17. Marketed by Nuseed Pty Ltd. An EPR of \$5 per tonne (GST ex) applies.

**ATR Stingray**. Early maturing open pollinated variety. Fast to flowering. Short height. Blackleg resistance rating of MR (resistance group C). Tested in NVT trials 2011-17. Bred by Nuseed Pty Ltd and DPI Victoria. Marketed by Nuseed Pty Ltd.

**ATR Wahoo** Mid maturity open pollinated variety. Medium plant height. Blackleg rating of MS (resistance group A). Suited to medium – high rainfall areas. Tested in NVT trials 2012-17. Marketed by Nuseed. An EPR of \$5 per tonne (GST ex) applies.

**DG 560TT** A mid maturity Triazine Tolerant hybrid. Medium to tall plant height. Suited to medium rainfall areas. Blackleg resistance of MR (resistance group BF). Tested in NVT in 2015-17. Marketed by Seednet.

**DG 670TT** A mid-late maturity Triazine Tolerant hybrid. Medium to tall plant height. Suited to medium–high rainfall areas. Blackleg resistance of MR (resistance group BF). Tested in NVT in 2016-17. Marketed by Seednet.

**Hyola® 559TT**. Mid-early maturing TT hybrid. Medium plant height. Suited to low-medium through to high rainfall areas. Blackleg resistance rating of R-MR, (resistance groups ABD). Tested in NVT trials in 2012-17. Bred and marketed by Advanta Seeds.

**Hyola® 650TT**. Mid to mid-late maturing TT hybrid. Medium-tall plant height. Suited to medium –high rainfall areas. Blackleg resistance rating of R (resistance groups ABD). Tested in NVT trials in 2013-17. Marketed by Advanta Seeds.

**In Vigor T 4510**. Mid-season Triazine Tolerant hybrid variety. Medium plant height. Suited to medium rainfall areas. Blackleg resistance rating of MR-MS (resistance group BF). Tested in NVT trials 2016-17. Marketed by Bayer.

**Monola® 314TT**. Early maturing specialty oil open pollinated variety. Medium planted height. No current blackleg rating (resistance group unknown). Tested in NVT trials in 2013-15. Bred and marketed by Nuseed Pty Ltd. A premium payment will apply to Monola 314TT. Must be delivered to Glencore Grain at Tarlee and Coomandook.

**Monola® 515TT** A mid to late maturing specialty oil open pollinated variety. Blackleg rating of MR (resistance group unknown). Tested in NVT trials in 2014-17. Bred and marketed by Nuseed Pty Ltd. A premium payment will apply to Monola 515TT. Must be delivered to Glencore Grain at Tarlee and Coomandook.

**Pioneer 44T02 (TT)** An early-mid maturing hybrid variety. Medium plant height. Suited to low-medium rainfall areas. Blackleg resistance rating of R-MR (resistance group ABD). Tested in NVT trials in 2015-17. Marketed by Pioneer Brand Seeds.

**Pioneer 45T01 (TT)**. A mid maturing triazine tolerant hybrid. Medium plant height. Suited to medium-high rainfall areas. Blackleg rating of MS (resistance group AB). Tested in NVT trials in 2013-16. Marketed by Pioneer Brand Seeds.

**SF Turbine TT** – Early-Mid maturing hybrid. Medium plant height. Suited to medium rainfall areas. Blackleg resistance rating of MR-MS (resistance group BF). Tested in NVT 2015-17. Marketed by Seed Force.

**Withdrawn and no longer available:** Hyola 450TT, Monola 314TT, Pioneer Atomic HT

## Winter Type / Grain 'n Graze Canola

A number of winter type canola varieties are currently available. These varieties have a high vernalisation (or cold) requirement which mean they are capable of producing high quantities of biomass before they commence flowering and make use of extended growing seasons. This enables them to be grazed over a relatively large window with often little damage to grain yield. These varieties are not evaluated in NVT trials, however are suited to some environments that have a long growing season, such as the lower South East and Kangaroo Island, or in situations where growers are looking to utilise either spring, summer or early autumn rainfall events. They include varieties such as Brazzil conventional type) and Hyola® 970CL and Edimax CL (Clearfield® tolerant types).

