

Canola Early Glyphosate Tolerant National Variety Trial - Yealering

Living Farm

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KEY MESSAGES

The top yielding varieties in this trial were Pioneer 4427 (RR), DG 408RR, InVigor R 4022P, InVigor R 4520P & InVigor R 3520 (2.17 t/ha average for the top 5 varieties) with 0.22 t/ha difference between the first & the fifth variety.

Season 2020 in the region started with rainfall events in February and March which provided some subsoil moisture, below average winter rains were followed by a dryer than average spring & early finish.

Grower decision on variety choice for 2021 should not purely be based on this data but include data from across the region and over a number of years.

AIM

The aim of the National Variety Trials (NVT) is to generate independent information for growers and industry about newly released varieties of field crops to the current commercial varieties grown in the area.

BACKGROUND

The NVT program has been designed to identify the highest yielding varieties, free from the constraints of nutrition and disease. As a result, the nutrition and crop protection packages applied to NVT trials are typically higher than may be applied by the average grower. Management is the same for all plots with no differences in timing for crop protection or nutrition. All trials have 3 replicates of each variety and all plots are sown (and subsequently harvested) on the same day. Timing of sowing is dependent upon the season, but is typically done within an average district “best practice” window and located on a typical soil type for the area.

TRIAL DETAILS

Plot size & replication	10 m x 1.85 m x 3 replicates
Soil type	Sandy Loam
Paddock rotation:	2019 Wheat
Sowing date	28/4/20 dry sown
Sowing rate	50 seed/m ²
Fertiliser	28/4/20 Macro Pro Extra 130 kg/ha, Urea 100 kg/ha 26/6/20 Sulphate of Ammonia 300 kg/ha 9/8/20 Flexi N 100 L/ha
Herbicides, insecticides & fungicides	Knockdown & pre-emergents pre-seeding Broadleaf spray Grass spray 2 x Fungicide sprays 2 x Insecticide sprays Desiccation spray pre-harvest Details of chemicals used and rates available at nvtonline.com.au
Growing season rainfall	166.8 mm (May-Oct)

Table 1: Rainfall (mm) Source BOM Data

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
0.8	50.4	11.4	10.6	36.6	41.8	21.4	36.8	30.2	0.0	19.8	0.0

TREATMENTS

1	AA2465R		10	NCH18Q556
2	ADV-Robust		11	NCH18Q563
3	AN18Q4x1893RR2 O		12	NCH18Q567
4	DG 408RR		13	Nuseed Raptor TF
5	Hyola 410XX		14	Pioneer 43Y29 RR
6	Hyola Garrison XC		15	Pioneer 44Y27 (RR)
7	InVigor R 3520		16	WW1751R
8	InVigor R 4022P		17	WW1778R
9	InVigor R 4520P			

SOIL COMPOSITION**Table 2:** Soil composition of the Yealering NVT canola trial site at 0-10 cm and 10-30 cm.

Depth	Texture 1 sand, 2 sandy loam, 3 loam, 4 loamy clay, 5 clay	Total Nitrogen mg/kg	Phosphorus mg/kg	P Test Type	Organic Carbon %	pH (water)	pH (CaCl ₂)	Conductivity (EC) dS/m	ESP %
0-10	2	69	43	Colwell	1.9	6.1	5.4	0.2	2.6 6
10-30	2	53				6.5	5.7	0.1	1.9 5

FIELD PLAN



	Range 1	Range 2	Range 3	Range 4	Range 5	Range 6
Row 1	InVigor R 4022P	Filler 2	Nuseed Raptor TF	Hyola Garrison XC	WW1751 R	AN18Q4x1893R R2_O
Row 2	DG 408RR	Hyola 410XX	NCH18Q567	WW1778 R	Pioneer 43Y29 RR	NCH18Q556
Row 3	Pioneer 44Y27 (RR)	InVigor R 4520P	AA2465R	NCH18Q 563	ADV-Robust	InVigor R 3520
Row 4	NCH18Q563	InVigor R 3520	DG 408RR	InVigor R 4520P	Hyola 410XX	Nuseed Raptor TF
Row 5	WW1751R	NCH18Q567	Filler 2	NCH18Q 556	Pioneer 44Y27 (RR)	AA2465R
Row 6	WW1778R	AN18Q4x1893R R2_O	Pioneer 43Y29 RR	ADV-Robust	Hyola Garrison XC	InVigor R 4022P
Row 7	NCH18Q556	Hyola Garrison XC	InVigor R 3520	WW1751 R	DG 408RR	WW1778R
Row 8	Nuseed Raptor TF	Pioneer 43Y29 RR	Pioneer 44Y27 (RR)	InVigor R 4022P	NCH18Q 567	InVigor R 4520P
Row 9	ADV-Robust	AA2465R	AN18Q4x1893R R2_O	Hyola 410XX	NCH18Q 563	Filler 2

RESULTS

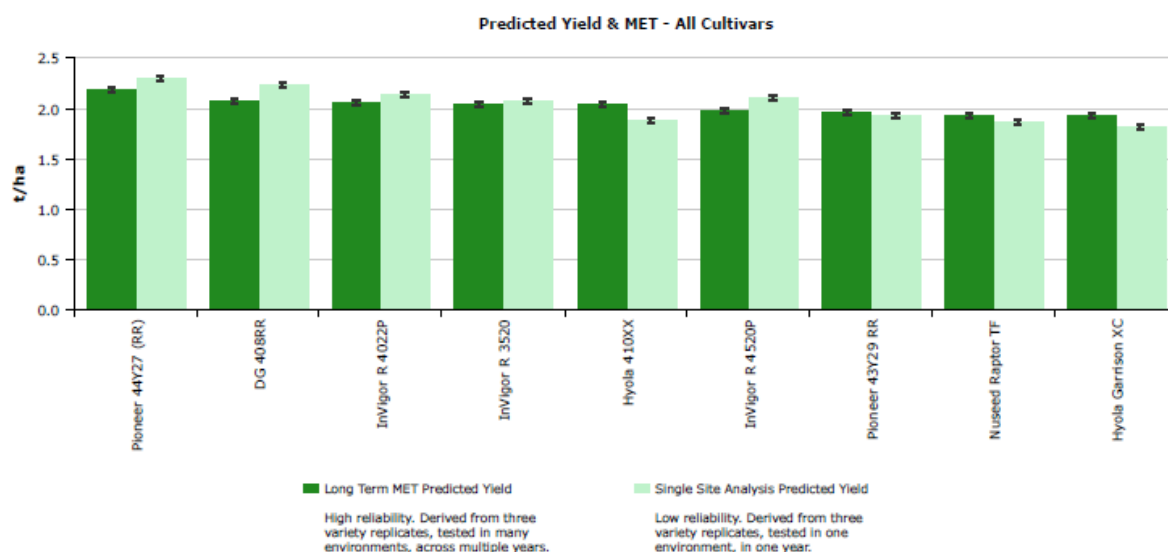


Figure 1: Yield comparison of Canola Glyphosate Tolerant cultivars sown in Yealering, 2020

Table 3: 2020 yield analysis and grain quality of canola GT cultivars at Yealering in descending order of yield (t/ha)

Variety	Long term MET predicted yield (t/ha)	Single site analysis Yield (t/ha)	Oil – Seed (6% moisture)	Protein Seed (10% moisture)
Pioneer 44Y27 (RR)	2.19	2.29	43.4	23.5
DG 408RR	2.07	2.24	44.4	23.3
InVigor R 4022P	2.06	2.14	43.2	26.5
InVigor R 3520	2.04	2.07	42.8	25.8
Hyola 410XX	2.04	1.87	43.9	24.1
InVigor R 4520P	1.99	2.10	41.9	24.6
Pioneer 43Y29 RR	1.96	1.93	42.7	23.9
Nuseed Raptor TF	1.92	1.86	42.4	25.0
Hyola Garrison XC	1.92	1.81	41.4	24.9

VARIETY DESCRIPTIONS

For variety descriptions and information on the best choice of variety to grow this season see the 2021 WA Crop Sowing Guide at <https://grdc.com.au/2021-western-australian-crop-sowing-guide>

COMMENTS

The NVT Yealering Glyphosate Tolerant Canola trial was sown dry on the 28th April. Germination was a little patchy on 6th May rainfall but filled out well during the season finishing with an overall site yield of 2.08 t/ha on below average seasonal rainfall and an early finish.

For results of all NVT trials for 2020 please visit the National Variety Trials online www.nvtonline.com.au

ACKNOWLEDGMENTS

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