

HYOLA 410XX





Australia's first TruFlex® technology canola hybrid released to farmers

HYBRID ATTRIBUTES

New technology that replaces the older outdated RR Technology with increased spraying flexibility and higher weed control efficacy

Includes extended Glyphosate technology for wider application windows right through to first flower

Higher rates of Glyphosate registered than RR technology for enhanced weed control timing options

Reliable 4 series hybrid with excellent competitive yield results in GRDC NVT Trials

Specifically adapted to the 1.0t/ha to 2.5t/ha growing regions

High blackleg rating of R-MR with Tri-Gene resistance groups ABD

Good lodging resistance, even flowering and manageable height for direct harvesting operations



Yield adaptability	1.0 - 2.5t/ha
Growing Zones	LRZ - MRZ
Blackleg rating	R-MR ABD
Oil potential	Very high
Herbicide tolerance	XX - TruFlex®
Maturity	Early - Mid
Plant vigour	8
Plant height	Medium - High
#Lodging resistance	8
*Shatter tolerance	8
^Hectolitre weight	8
Growing regions	NSW, Vic, WA, SA
Irrigation/dryland	Both
Alternative to	Raptor TF, InVigor R 4022P, 44Y27, GT53, InVigor R 4520P, 43Y29, DG408RR

(P) Indicates provisional rating and blackleg groups from Pacific Seeds blackleg nurseries and R gene screening # Indicates observed visual rating from Pacific Seeds R&D internal replicated research trial evaluations *Indicates observed visual rating from Pacific Seeds R&D replicated research trial evaluations comparing Hyola products ^ Indicates calculated weight rating from Pacific Seeds R&D internal replicated research trial evaluations Scale: 1 = poor - 9 = best

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2016-2020 GRDC NVT Australian Long Term Early Glyphosate Results

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GRDC NVT EARLY	Yield Group	1.0	1.5	2.0	2.5	3.0	3.5
2016-2020	Mean Yield	0.81 t/ha	1.31 t/ha	1.72 t/ha	2.23 t/ha	2.75 t/ha	3.15 t/ha
Variety	# Trials	5	7	13	9	8	2
Pioneer 44Y27 (RR)	42	115	113	110	110	108	112
InVigor R 4022P	16	107	104	105	105	108	112
DG 408RR	37	107	107	104	104	100	101
Hyola 410XX	16	105	104	103	103	102	104
Pioneer 43Y29 RR	25	101	96	103	102	112	116
InVigor R 4520P	16	102	99	102	102	108	110
InVigor R 3520	44	104	106	102	102	98	98
Pioneer 43Y23 (RR)	31	104	106	101	102	95	94
Hyola Battalion XC	12		102	100	101	99	99
Nuseed GT-53	15	100	100	101	100	102	102
Nuseed Raptor TF	12	97	95	99	99	105	107
Hyola 404RR	32	98	100	98	98	94	92
Hyola 540XC	1			99			

2016-2020 Long Term GRDC NVT Australian Early Glyphosate Trial Analysis across state growing regions: NSW - NW, SW, WA - AgZone 1, AgZone 2, AgZone 4, AgZone 5 & AgZone 6, VIC - Mallee expressed across defined Mean Yield Groups.







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2016-2020 GRDC NVT WA Long Term Analysed Early Glyphosate Results expressed across Years

NATIONAL VARIETY TRIALS

GRDC NVT EARLY	Year	2016	2017	2018	2019	2020
2016-2020	Mean Yield	2.36 t/ha	1.89 t/ha	1.85 t/ha	1.25 t/h a	1.71 t/ha
Variety	# Trials	6	6	5	3	8
Pioneer 44Y27 (RR)	27	112	111	111	111	111
DG 408RR	26	105	104	106	104	106
InVigor R 3520	28	103	102	105	102	105
Hyola 410XX	11				104	104
InVigor R 4022P	11				106	103
Hyola Battalion XC	8					101
InVigor R 4520P	11				103	66
Pioneer 43Y29 RR	17		104		104	96
Nuseed Raptor TF	8				100	96
Hyola Garrison XC	11				66	95
Pioneer 43Y23 (RR)	20	102	101	105	101	
Nuseed GT-53	14	101	101	100	101	
Hyola 540XC	1				100	
Hyola 404RR	20	97	97	100	97	

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2016-2020 Long Term GRDC NVT WA (Early Glyphosate) Long Term Analysis by Year for regions: AgZone 1, AgZone 2, AgZone 4, AgZone 5 & AgZone 6 (Selected varieties only)





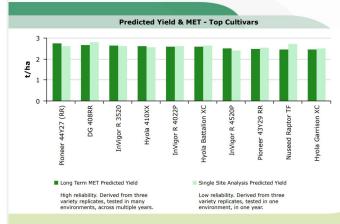




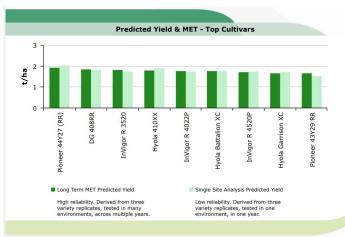
2020 GRDC NVT WA FEATURED INDIVIDUAL TRIAL RESULTS

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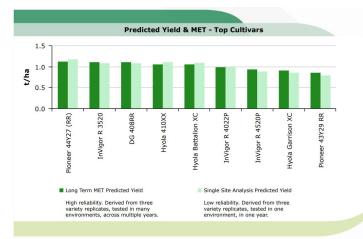
Mingenew, WA - Canola - Early Glyphosate Tolerant, 2020 Long Term MET Predicted Yield and Single Site Analysis



Bencubbin, WA - Canola - Early Glyphosate Tolerant, 2020 Long Term MET Predicted Yield and Single Site Analysis



Merredin, WA - Canola - Early Glyphosate Tolerant, 2020 Long Term MET Predicted Yield and Single Site Analysis



MEAN YIELD	LSD
2.63 tonnes/ha	0.19 tonnes/ha
cv	PROBABILITY
4.42 %	<0.001 %
F-VALUE	
8.75 Units	
TRIAL CODE	TRIAL OWNER
CEGA20MING6	NVT
SEED IN GROUND DATE	GERMINATION RAIN DATE
20 Apr 2020	05 May 2020
HARVEST DATE	REPORT DATE
21 Oct 2020	21 Apr 2021

MEAN YIELD	LSD
1.81 tonnes/ha	0.27 tonnes/ha
cv	PROBABILITY
9.20 %	<0.001 %
F-VALUE	
4.65 Units	
TRIAL CODE	TRIAL OWNER
CEGA20BENC6	NVT
SEED IN GROUND DATE	GERMINATION RAIN DATE
30 Apr 2020	08 May 2020
HARVEST DATE	REPORT DATE
20 Oct 2020	21 Apr 2021

MEAN YIELD	LSD
1.06 tonnes/ha	0.15 tonnes/ha
cv	PROBABILITY
8.56 %	<0.001 %
F-VALUE	
9.14 Units	
TRIAL CODE	TRIAL OWNER
CEGA20MERR6	NVT
CEGA20MERR6	NVI
SEED IN GROUND DATE	GERMINATION RAIN DATE
24 Apr 2020	06 May 2020
HARVEST DATE	REPORT DATE
22 Oct 2020	21 Apr 2021



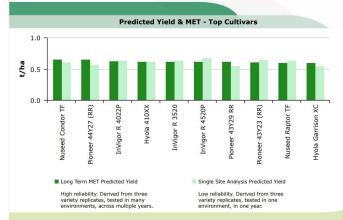




2019 GRDC NVT WA FEATURED INDIVIDUAL TRIAL RESULTS

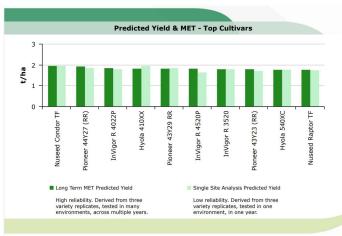
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Merredin, WA - Canola - Early Glyphosate Tolerant, 2019 Long Term MET Predicted Yield and Single Site Analysis



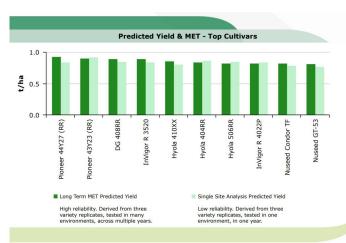
MEAN YIELD	LSD
0.61 tonnes/ha	0.05 tonnes/ha
cv	PROBABILITY
5.44 %	<0.001 %
TRIAL CODE	TRIAL OWNER
CEGA19MERR6	NVT
SEED IN GROUND DATE	GERMINATION RAIN DATE
01 May 2019	07 Jun 2019
HARVEST DATE	REPORT DATE
30 Oct 2019	21 Apr 2021

Greenough, WA - Canola - Early Glyphosate Tolerant, 2019 Long Term MET Predicted Yield and Single Site Analysis



MEAN YIELD	LSD
1.81 tonnes/ha	0.16 tonnes/ha
cv	PROBABILITY
5.62 %	<0.001 %
TRIAL CODE	TRIAL OWNER
CEGA19GREE6	NVT
SEED IN GROUND DATE	GERMINATION RAIN DATE
25 Apr 2019	07 Jun 2019
HARVEST DATE	REPORT DATE
31 Oct 2019	21 Apr 2021

Buntine, WA - Canola - Early Glyphosate Tolerant, 2019 Long Term MET Predicted Yield and Single Site Analysis



MEAN YIELD	LSD
0.84 tonnes/ha	0.07 tonnes/ha
cv	PROBABILITY
5.34 %	<0.001 %
TRIAL CODE	TRIAL OWNER
CEGA19BUNT6	NVT
SEED IN GROUND DATE	GERMINATION RAIN DATE
28 Apr 2019	07 Jun 2019
HARVEST DATE	REPORT DATE
29 Oct 2019	21 Apr 2021





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2016-2020 GRDC NVT NSW Long Term Analysed Early Glyphosate Results expressed across Years

2020	2.94 t/ha	2	107	110	116	110	102		107	96		108	
2019	1.30 t/ha	1	112	108	107	105	104	104	101	101	96		
2018	0.58 t/ha	1						103		66	93		96
2017	0.80 t/ha	1	118		84			112		112	104		114
2016	1.92 t/ha	2	107					98		94	91		91
Year	Mean Yield	# Trials	6	3	4	3	3	4	3	7	5	2	4
GRDC NVT EARLY	2016-2020	Variety	Pioneer 44Y27 (RR)	InVigor R 4022P	Pioneer 43Y29 RR	InVigor R 4520P	Hyola 410XX	DG 408RR	Hyola Garrison XC	InVigor R 3520	Hyola 404RR	Nuseed Raptor TF	Pioneer 43Y23 (RR)

2016-2020 Long Term GRDC NVT NSW Early Glyphosate) Long Term Analysis by Year for regions: NW and SW (Selected Varieties only)











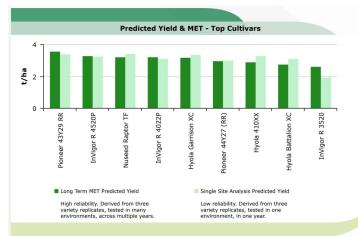
2020 GRDC NVT NSW FEATURED INDIVIDUAL TRIAL RESULTS

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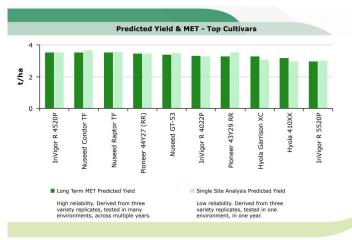
Predicted Yield & MET - Top Cultivars 4 **t/ha** 0 X (RR) 43Y29 RR Hyola 410XX Ľ XC InVigor R 3520 InVigor R 4022P InVigor R 4520P Nuseed Raptor Garrison Hyola Battalion 44Y27 (Pioneer Pioneer Hyola Long Term MET Predicted Yield Single Site Analysis Predicted Yield High reliability. Derived from three variety replicates, tested in many environments, across multiple years. Low reliability. Derived from three variety replicates, tested in one environment, in one year.

Oaklands NSW - Canola - Early Glyphosate Tolerant, 2020 Long Term MET Predicted Yield and Single Site Analysis

Condoblin, NSW - Canola - Early Glyphosate Tolerant, 2020 Long Term MET Predicted Yield and Single Site Analysis



Grenfell, NSW - Canola - Early Glyphosate Tolerant, 2020 Long Term MET Predicted Yield and Single Site Analysis



MEAN YIELD	LSD
3.18 tonnes/ha	0.18 tonnes/ha
cv	PROBABILITY
3.48 %	<0.001 %
F-VALUE	
23.07 Units	
TRIAL CODE	TRIAL OWNER
CEGA20OAKL2	NVT
SOWING DATE	HARVEST DATE
22 Apr 2020	16 Nov 2020
REPORT DATE	
21 Apr 2021	

MEAN YIELD	LSD
2.93 tonnes/ha	0.38 tonnes/ha
CV	PROBABILITY
7.72 %	<0.001 %
F-VALUE	
15.96 Units	
TRIAL CODE	TRIAL OWNER
CEGA20CONA2	NVT
SOWING DATE	HARVEST DATE
SOWING DATE 17 Apr 2020	HARVEST DATE 02 Nov 2020

MEAN YIELD	LSD
3.21 tonnes/ha	0.32 tonnes/ha
CV	PROBABILITY
6.15 %	<0.001 %
F-VALUE	
10.96 Units	
TRIAL CODE	TRIAL OWNER
CMGA20GREN2	NVT
SOWING DATE	HARVEST DATE
21 Apr 2020	15 Nov 2020
REPORT DATE	
21 Apr 2021	





CANOLA

2016-2020 GRDC NVT VIC Long Term Analysed Early Glyphosate Results expressed across Years

NATIONAL VARIETY TRIALS

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GRDC NVT EARLY	Year	2016	2017	2018	2020
2016-2020	Mean Yield	2.82 t/ha	1.46 t/ha	1.79 t/ha	2.33 t/ha
Variety	# Trials	3	3	1	2
Pioneer 43Y29 RR	4		109		107
InVigor R 4022P	2				106
Pioneer 44Y27 (RR)	6	109	107	108	106
InVigor R 4520P	2				105
Nuseed Raptor TF	2				103
Hyola Garrison XC	2				102
Hyola 410XX	2				102
Hyola Battalion XC	2				99
InVigor R 3520	6	96	66	100	66
DG 408RR	7	66	101	102	
Pioneer 43Y23 (RR)	7	92	97	98	
Hyola 404RR	7	92	96	96	

GRADC GRAINS RESEARCH & DEVELOPMENT CORPORATION

2016-2020 Long Term GRDC NVT VIC (Early Glyphosate) Long Term Analysis by Year for regions: Mallee - (Selected Varieties only)





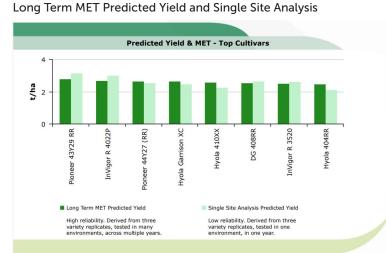


Birchip, Vic - Canola - Early Glyphosate Tolerant, 2019



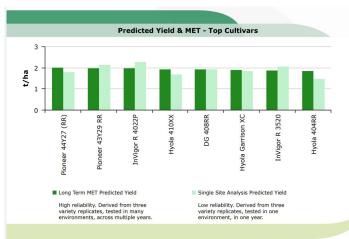
2019 - 2020 GRDC NVT VIC FEATURED INDIVIDUAL TRIAL RESULTS

CANOLA



MEAN YIELD	LSD
2.58 tonnes/ha	0.17 tonnes/ha
cv	PROBABILITY
3.90 %	<0.001 %
TRIAL CODE	TRIAL OWNER
CEGA19BIRC3	NVT
SOWING DATE	HARVEST DATE
30 Apr 2019	16 Nov 2019
REPORT DATE	
21 Apr 2021	

Hopetoun, Vic - Canola - Early Glyphosate Tolerant, 2019 Long Term MET Predicted Yield and Single Site Analysis



1.91 tonnes/ha 0.14 tonnes/ha CV PROBABILITY 4.74 % <0.001 % TRIAL CODE TRIAL OWNER CEGA19HOPE3 NVT

LSD

SOWING DATE 26 Apr 2019

HARVEST DATE 17 Nov 2019

REPORT DATE 21 Apr 2021

MEAN YIELD

Charlton, Vic - Canola - Early Glyphosate Tolerant, 2020 Long Term MET Predicted Yield and Single Site Analysis







Diggora, Vic - Canola - Early Glyphosate Tolerant, 2020 Long Term MET Predicted Yield and Single Site Analysis

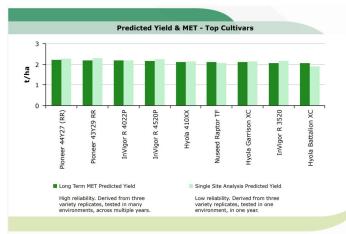


2020 GRDC NVT VIC FEATURED INDIVIDUAL TRIAL RESULTS

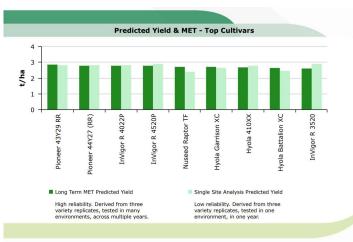
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Predicted Yield & MET - Top Cultivars t/ha 2 0 RR Ë XC X R 4520P 4022P 44Y27 (RR) InVigor R 5520P Hyola 410XX VICTORY V5003RR 43Y29 Raptor Garrison Battalion InVigor R InVigor Nuseed I Pioneer ioneer Hyola Hyola Long Term MET Predicted Yield Single Site Analysis Predicted Yield High reliability. Derived from three variety replicates, tested in many environments, across multiple years. Low reliability. Derived from three variety replicates, tested in one environment, in one year.

Hopetoun, Vic - Canola - Early Glyphosate Tolerant, 2020 Long Term MET Predicted Yield and Single Site Analysis



Birchip, Vic - Canola - Early Glyphosate Tolerant, 2020 Long Term MET Predicted Yield and Single Site Analysis



MEAN YIELD	LSD
3.13 tonnes/ha	0.23 tonnes/ha
cv	PROBABILITY
3.93 %	<0.001 %
F-VALUE	
10.19 Units	
TRIAL CODE	TRIAL OWNER
CMGA20DIGG3	NVT
SOWING DATE	HARVEST DATE
05 May 2020	27 Nov 2020
REPORT DATE	
21 Apr 2021	
21 Apr 2021	

MEAN YIELD LSD 2.13 tonnes/ha 0.11 tonnes/ha cv PROBABILITY 2.92 % <0.001 % F-VALUE 9.16 Units TRIAL CODE TRIAL OWNER CEGA20HOPE3 NVT SOWING DATE HARVEST DATE 24 Apr 2020 09 Nov 2020 REPORT DATE 21 Apr 2021



Pacific Seeds



HYOLA XX - BENEFITS OF TRUFLEX TECHNOLOGY

EXTENDED SPRAY WINDOW EMERGENCE TO FIRST FLOWER

THE RATE FARMERS NEED FOR THEIR WEED CHALLENGES*

2 APPS 1.3 1.3 kg/ha kg/ha

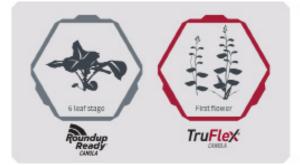
TruFleX

2 APPS

0.9 0.9 kg/ha kg/h

PICINA I





The window of application for Roundup Ready herbicide with PLANTSHIELD® by Monsanto will extend past the six-leaf stage all the way to first flower.

* Of Roundup Ready[®] herbicide with PLANTSHIELD[®] by Monsanto.
* Either apply three applications at 0.9 kg/ha or apply two applications of 1.3 kg/ha of Roundup Ready Herbicide with PLANTSHIELD[®] by Monsanto.

One of the smartest routes to high yield potential is through effective weed control. Here's how TruFlex® canola with Roundup Ready® Technology can help make it happen:

WEED CONTROL GROWERS CAN RELY ON

TruFlex[®] canola with Roundup Ready[®] Technology and Roundup Ready[®] Herbicide with PLANTSHIELD[®] by Monsanto were designed to work with each other. This combination provides you with the tools you need to effectively control weeds in your canola fields.

FLEXIBILITY IN SPRAY RATES AND TIMING

TruFlex canola gives you increased weed control flexibility. The window of application for Roundup Ready Herbicide with PLANTSHIELD® by Monsanto will extend past the six-leaf stage to first flower. From emergence to first flower either apply three applications at the current rate of 0.9 kg/ha or apply two higher rates of 1.3 kg/ha.

SUPERIOR YIELD POTENTIAL

3 APPS

TruFlex

New advances in trait technology will help enable better weed control and crop safety compared to Roundup Ready[®] canola. It's a combination that could give you the opportunity to see a lot more yield potential at harvest time.



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