

HYOLA 580CT



World's first Clearfield® + Triazine dual tolerant canola hybrid from Pacific Seeds



CANOLA

HYBRID ATTRIBUTES

Excellent crop protection for Group B IMI soil residue management

Dual herbicide tolerance perfect for IWM cropping rotations

Risk mitigation tool after low rainfall summers - dry profiles

Reliable 5 series hybrid with competitive yield potential

Specifically adapted to the 1.5t/ha to 3.5t/ha growing regions

High Blackleg rating of R with groups BC - great for rotating

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

No vernalisation hold, with a moderate thermal time requirement: i.e. early sowing leads to earlier flowering maturity

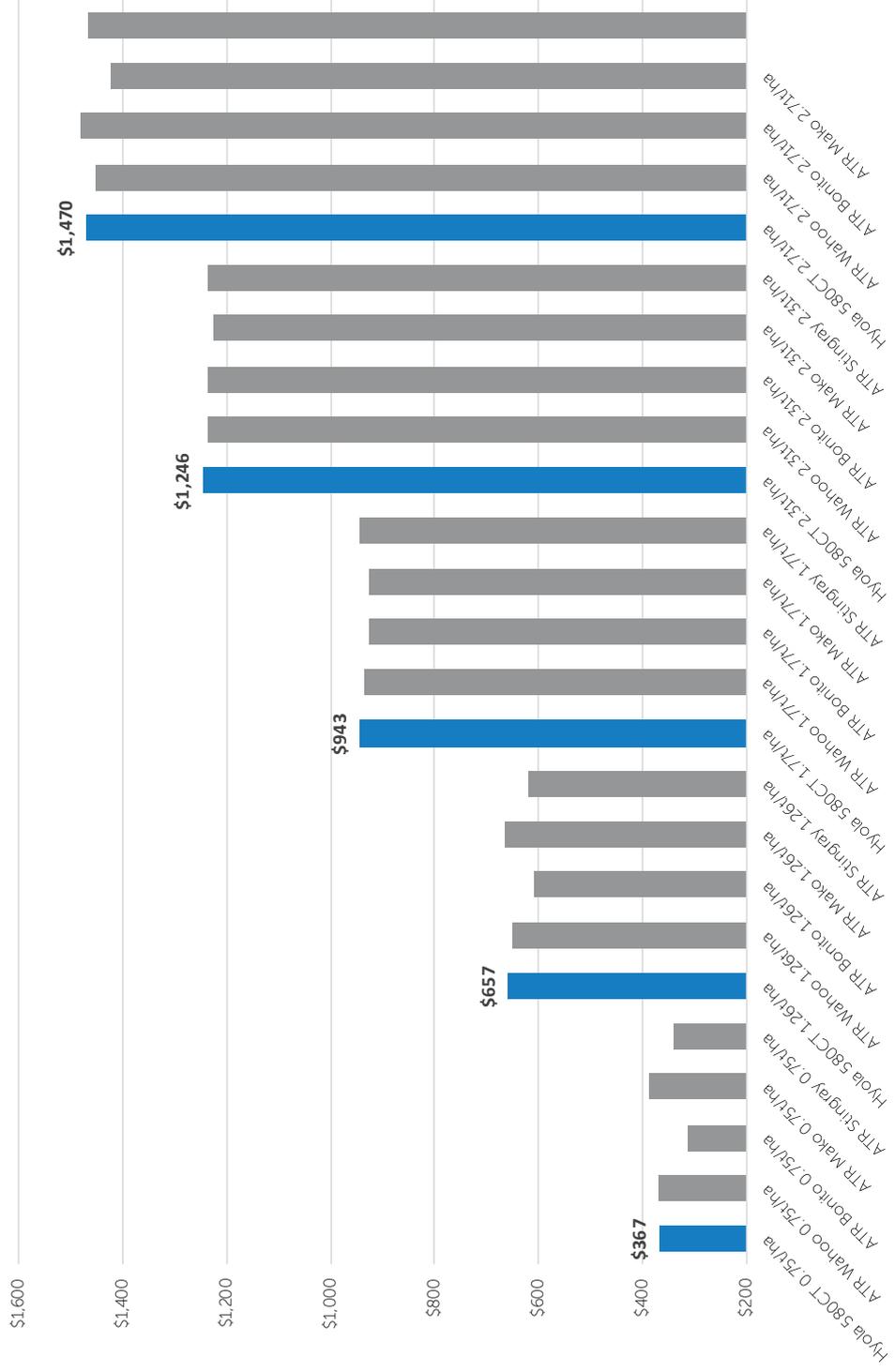
Yield adaptability	1.5 - 3.5t/ha
Blackleg rating	R
Blackleg groups	BC
Oil potential	Moderate - high
Herbicide tolerance	CL + TT
Maturity	Mid-Early
Plant vigour	7
Plant height	Medium
#Lodging resistance	8
*Shatter tolerance	8
^Hectolitre weight	8
Growing regions	NSW, SA, Vic, WA
Irrigation/dryland	Both

(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 internal replicated research trial evaluations
^ Indicates calculated weight rating from Pacific Seeds R&D internal replicated research trial evaluations
Scale: 1 = poor - 9 = best

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2014-2018 HIGHER \$ RETURNS THAN OP TT ALTERNATIVES



2014-2018 GRDC NVT Long Term Analysis of Grain Yield t/ha - variation from mean by Yield Zone: 0.75 to 2.71 Yield Zone Mean Yield t/ha with Gross Returns calculated using assumptions: Hybrid sowing 2kg/ha @ \$25/kg with OP varieties seed @ \$10/ha (2.5kg/ha sowing rate). EPR \$5/MT applies to ATR Bonito, ATR Mako and ATR Wahoo. Base canola grain price is \$550/MT.

AGRONOMIC BENEFITS OF HYOLA CT TECHNOLOGY

"Hyola 580CT is dual herbicide tolerant technology that is effective on many of the broad-acre emerging weed spp. (i.e. brome and barley grass) and provides growers the flexibility of controlling a broader weed spectrum." **Dr Chris Preston - University of Adelaide**

Photo: Hyola 580CT vs an OP TT variety with 93ml/ha simulated IMI chemistry soil carryover in 2019 extension trials. "Hyola CT technology can be used to overcome plantback constraints often associated with the use of Imidazolinone herbicides, particularly in low rainfall environments and/or on soils of lower pH.

Sulfonylurea (SU), imidazolinone (IMI) or triazine herbicides are likely to cause the most concern, and residues, from the previous season may affect crop emergence or even kill sensitive crops or crop cultivars in the next season.

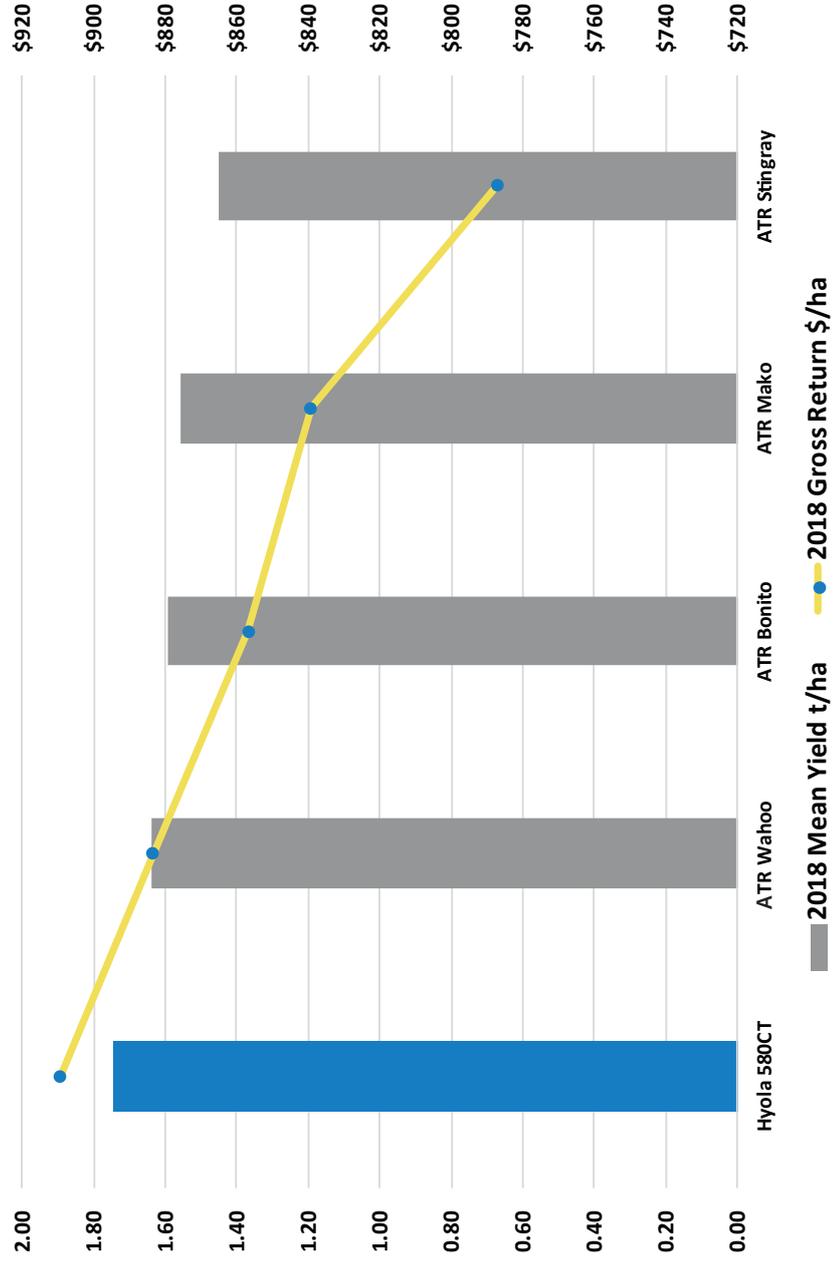
Diflufenican damage symptoms have also been reported following recent dry years on canola crops where products such as diflufenican (for example, Brodal® Options) were applied to lupin crops, or diflufenican/MCPA (for example, Tigrex®) or diflufenican/bromoxynil (for example, Jaguar®) were applied in wheat crops.

The soil pH will have an impact on which herbicides are more likely to persist. All other things being equal, imidazolinones will be more persistent on acid soils and sulphonyl ureas on alkaline soils. Source: <https://www.agric.wa.gov.au/grains-research-development/>



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2018 HIGHER YIELDS & RETURNS VS OP TT ALTERNATIVES



2014-2018 GRDC NVT Long Term Analysis of Grain Yield t/ha - variation from the mean by Year. 2018 Mean Yield t/ha with Gross Returns calculated using assumptions:
Hybrid sowing 2kg/ha @ \$25/kg with OP varieties seed @ \$10/ha (2.5kg/ha sowing rate).
EPR \$5/MT applies to ATR Bonito, ATR Mako and ATR Wahoo. Base canola grain price is \$550/MT.

HYOLA CT TECHNOLOGY STEWARDSHIP GUIDELINES

Pacific Seeds advocates the preservation of Australia's canola herbicide production systems through the correct selection and application of canola production systems. Part of any sustainable farming practice involves good stewardship, and adapting to new farming practices and technologies, especially with regards to integrated weed management (IWM).

Pacific Seeds also recommends that no more than two (2) Group B herbicides are applied in any four (4) year period on the same paddock as this is an important component of the Clearfield® stewardship program, and where possible, care should be taken to avoid applications of Group B herbicides in consecutive years unless at least two years' previous good weed control has been achieved with methods other than Group B herbicides. Pacific Seeds also encourages any person applying pesticides to keep accurate records of all herbicide usage.

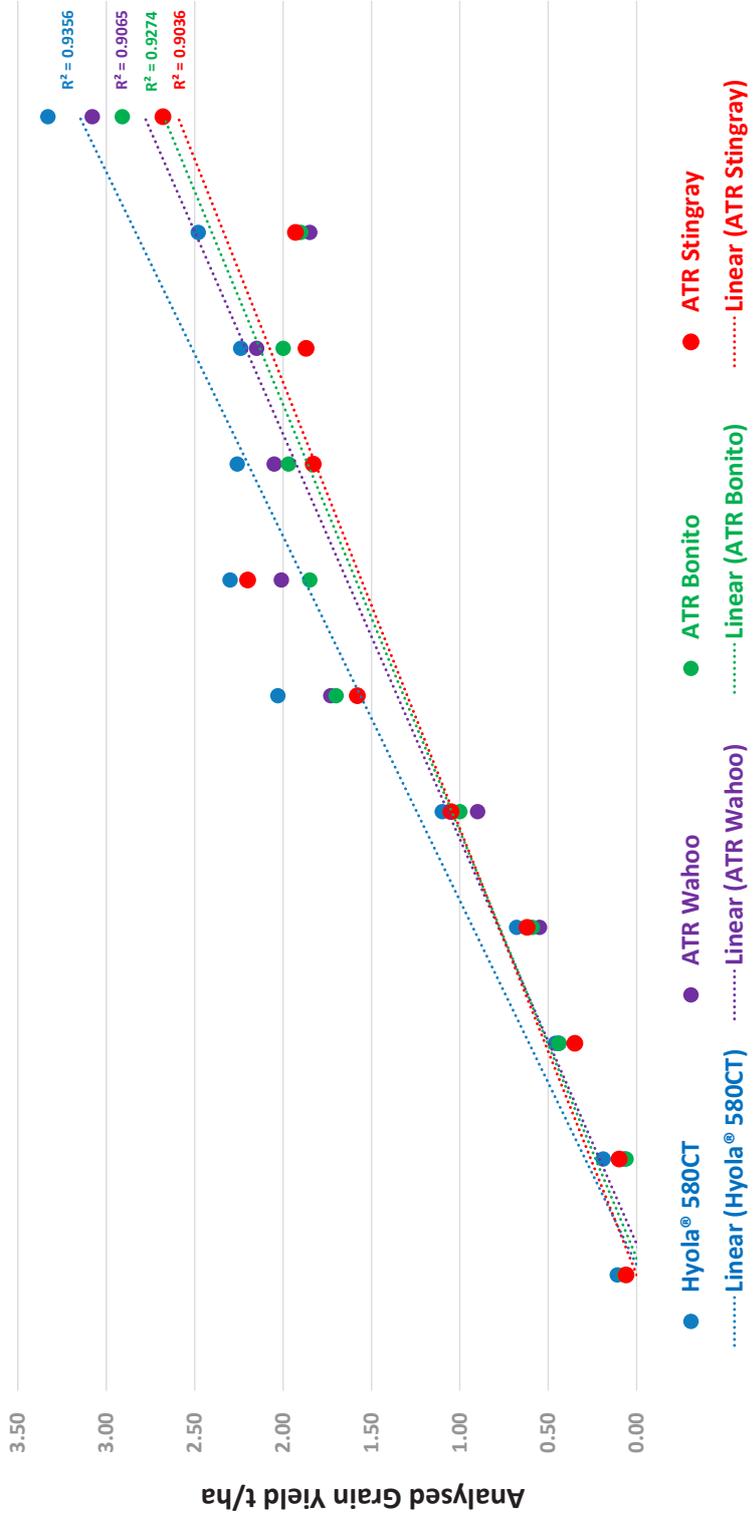
To preserve the effectiveness of any herbicide a good resistance management approach is recommended. Intervix® herbicide is a Group B herbicide. Other group B (ALS inhibitors) include sulfonylureas, and triazolopyrimidines (sulphonamides).

To assist with resistance management, rotate Clearfield® winter crops with spring crops to break the cycle of winter annual weeds and allow the use of alternate site of action herbicides. If winter cropping is rotated with a fallow season, control weeds before they set seed and use alternate mode of action herbicides. ALS-inhibiting herbicides should not be used more than 2 out of 4 years.



CANOLA

2017 & 2018 PACIFIC SEEDS RESEARCH TRIAL RESULTS REGRESSION DATA - HYOLA® 580CT VS OP TT

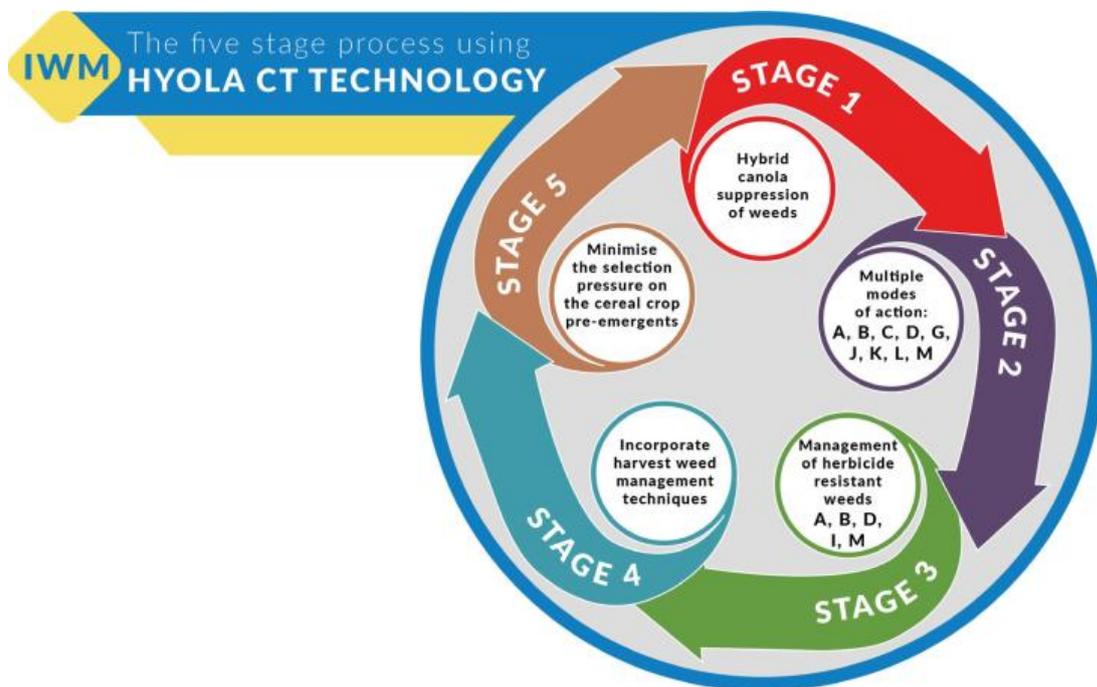


PACIFIC SEEDS YIELD RESULTS VS OP TT ALTERNATIVES

HYOLA CT INTEGRATED WEED MANAGEMENT

When utilising the CT technology, a sound IWM strategy utilising alternative modes of action across pre-emergent, post emergent and fallow application in different crops should be adopted.

Also, the ongoing strategy should consider non-herbicide control measures such as harvest weed seed control (chaff carts, seed destructors, narrow windrow burn, chaff lining, chaff baling etc.).



Through Pacific Seeds leadership in developing new and novel canola dual herbicide tolerant technologies, we can provide growers with increased options and flexibility...“more tools in the tool box” during the canola phase of their cropping rotation.

This aligns well with the industry WEEDSMART’s “The Big 6” basis for an IWM program (<https://weedsmart.org.au/the-big-6/>), which can be summarised as followed:

1. ROTATE CROPS AND PASTURES
2. DOUBLE KNOCK – TO PRESERVE GLYPHOSATE
3. MIX AND ROTATE HERBICIDES
4. STOP WEED SEED SET
5. CROP COMPETITION
6. HARVEST WEED SEED CONTROL

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