

# LRPB ANVIL CL PLUS

Quick Clearfield® Tolerant AH Wheat for WA

WHEAT



# LRPB ANVIL CL PLUS

## GIA & LongReach “Innovative Wheat Program”

- GIA have combined forces with LongReach to produce LRPB Anvil CL Plus
- The aim is to continue to develop improved high yield wheats with robust features in NEW IMI backgrounds and lift the bar for growers
- LRPB Anvil CL Plus is bred by GIA in a unique breeding background and derived from Mace with 2 IMI genes selected without crossing to existing varieties
- LRPB Anvil CL Plus is the first of our releases from this collaboration



GIA breeder, Dr Michael Materne





# LRPB ANVIL CL PLUS

- AH Final Classification (WA/SA/Vic) with a quick maturity and large grain that suits tough environments
- LRPB Anvil is a Clearfield® Plus wheat with two-gene tolerance to label rates of Intervix® herbicide

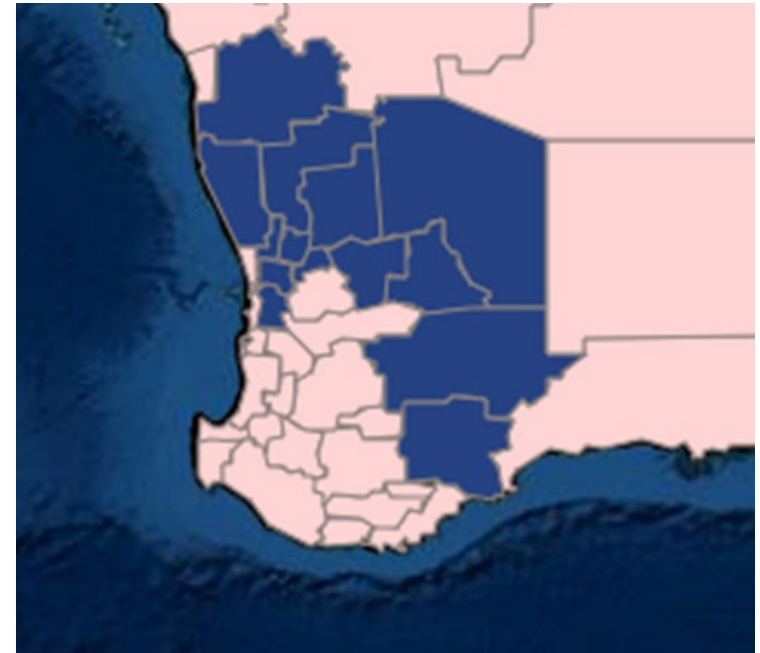


LRPB Trojan susceptible (Left) vs tolerant LRPB Anvil CL Plus (Right) with 2X recommended IMI rate applied



# LRPB ANVIL CL PLUS – Regions of fit WA

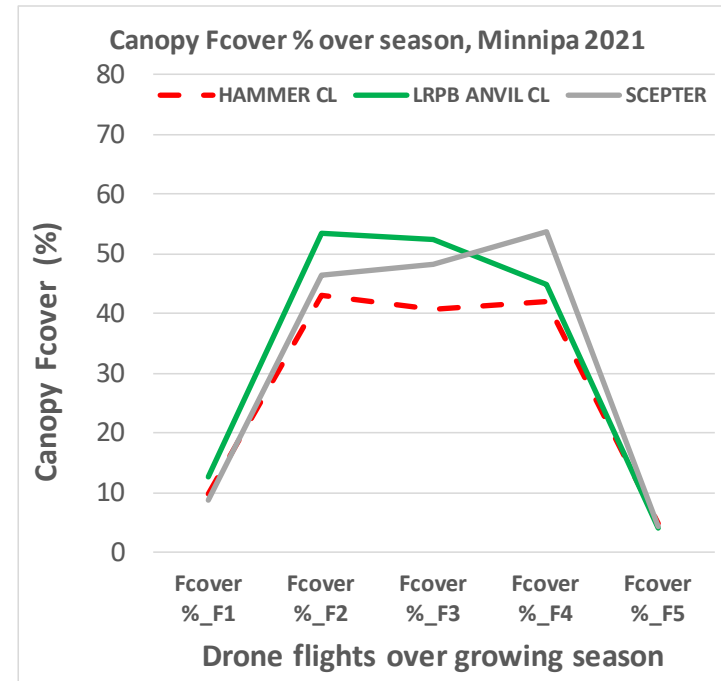
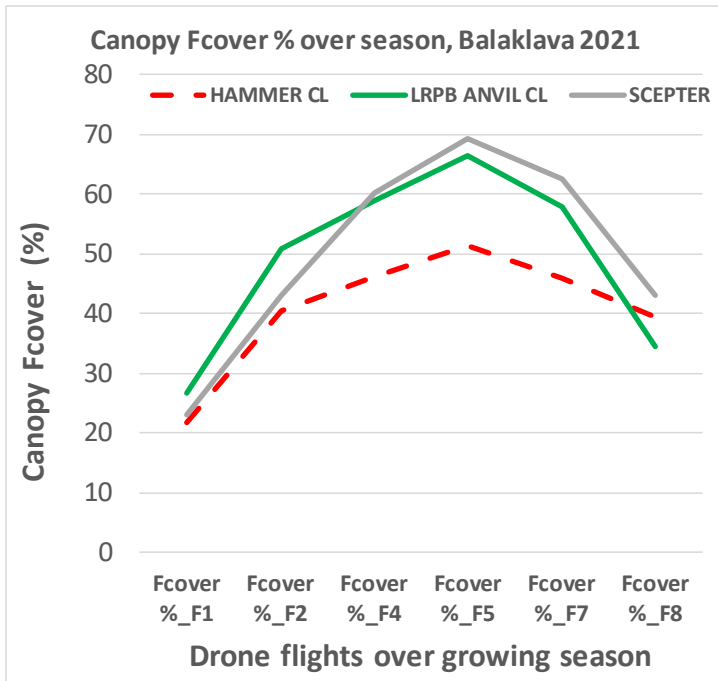
- Fast through grain-fill suits low to medium rainfall areas of WA
- A robust grain receivals package for dependable grain deliveries
- Anvil is best fit from the far North, through most of central wheat belt down the far eastern state boarder corridor
- Quality Classification – AH (Final)
- Alternative to Chief CL Plus and Hammer CL Plus in these regions
- Highest yielding AH IMI tolerant wheat in Agzones 1, 2, 4 & 5 of WA
- Comparative Disease package to established IMI tolerant varieties



# LRPB ANVIL CL PLUS - AGRONOMY

- Long first leaf helps for good establishment
- Early vigor that stands out at 4 leaf stage is a trait selected for within the Anvil population
- Bold early growth leads to good ground cover allowing Anvil to compete well in the paddock early in the season
- Medium coleoptile length similar to Mace parent
- Medium-tall height slightly taller than Scepter with semi-erect canopy that has an open habit and medium-large heads

Anvil CL Plus (LHS) compared to Scepter (RHS)



Anvil CL canopy during grain filling





# Quick Maturity AH IMI Tolerant Wheat

Chief CL Plus (LHS) vs LRPB Anvil CL Plus (RHS)



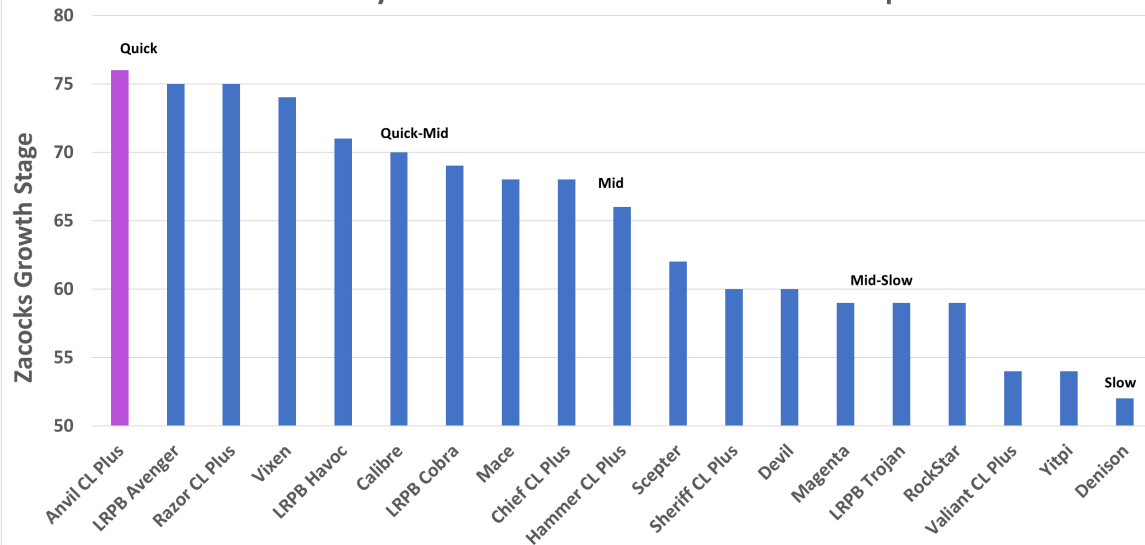
## LRPB Anvil CL Plus

- Quick Maturity Wheat
- Differentiates from recent Clearfield® Plus wheat releases by being a much quicker maturity
- Fast through grain-fill which suits low to medium rainfall areas
- Ideal for Late break sowing from Late May to Early June

LRPB Anvil CL Plus is quick to head with rapid grain filling for tougher situations




Zadocks Maturity Score Cadoux Wheat NVT trial - 21 September 2022





# Yield – Long Term MET Yield Performance WA

Main season NVT Long term MET Yield Performance (2017-21) for Agzones 1, 2, 3, 4 & 5 presented as SMY per yield grouping

	Group	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5
	Mean Yield	0.82 t/ha	1.32 t/ha	1.72 t/ha	2.19 t/ha	2.76 t/ha	3.24 t/ha	3.76 t/ha	4.23 t/ha	4.70 t/ha	5.25 t/ha
Variety	Trials	7	19	16	20	23	24	20	29	16	7
Scepter	188	116	113	112	111	110	109	110	109	109	109
LRPB Anvil	66	134	118	116	111	109	106	105	102	101	100
Razor CL Plus	188	121	111	111	106	106	104	104	102	103	102
Hammer CL Plus	75	117	110	108	104	104	103	102	101	101	100
Chief CL Plus	188	99	98	101	103	102	102	102	102	102	103
Valiant CL Plus	60	80	91	92	99	98	99	100	101	101	102

Yield “Sweet-Spot” < 4 t/ha which fits vast expanses of the Low-Medium rainfall areas of WA needing an AH quality IMI wheat in the rotation



		LRPB LONG TERM MET DATA (2019-2021) % Site Mean Yield						
		Trials	5	8	6	5	6	
		Yield Group t/ha	1.0-2.0	2.0-3.0	3.0-4.0	4.0-5.0	>5.0	
Classification	Avg t/ha		1.56	2.53	3.78	4.69	5.81	Maturity
<b>AH</b>	<b>LRPB Anvil CL Plus</b>	<b>113</b>	<b>102</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>93</b>	<b>Quick</b>
<b>AH (N)</b>	Vixen	116	105	102	104	104	104	<b>Quick</b>
<b>APW</b>	Corack	100	99	99	100	100	98	<b>Quick</b>
<b>AH (N)</b>	LRPB Havoc	102	99	99	99	98	98	<b>Quick-Mid</b>
<b>AH (N)</b>	Mace	100	99	99	100	100	98	<b>Quick-Mid</b>
<b>AH</b>	Scepter	106	103	102	103	103	101	<b>Mid</b>
<b>APW (N)</b>	Chief CL Plus	95	97	99	97	100	100	<b>Mid</b>
<b>AH (N)</b>	Rockstar	96	102	101	108	108	106	<b>Mid-Slow</b>

# Yield – NVT Yield Performance for individual Agzones

			Agzone2	Agzone4	Agzone5	Agzone1	Agzone2	Agzone3	Agzone4	Agzone5	Agzone6
Variety	Quality	Maturity	2020	2020	2020	2021	2021	2021	2021	2021	2021
Scepter	AH	Mid	110	110	114	108	110	108	110	112	110
CL Plus											
LRPB Anvil CL Plus	AH	Quick	105	112	117	106	105	95	109	101	97
Razor CL Plus	ASW	Quick-Mid	107	110	111	106	104	101	107	104	102
Hammer CL Plus	AH (N)	Mid	104	106	107	101	101	100	103	102	99
Sheriff CL Plus	APW (N)	Mid Slow	101	101	100	103	103	102	102	102	104
Chief CL Plus	APW (N)	Mid-Slow	100	102	102	105	104	100	104	101	104
Valiant CL Plus	AH	Slow	95		93	99	101	101	98	100	103
Mean Yield (t/ha)			2.72	2.30	2.08	3.94	4.44	5.00	3.97	4.00	4.24
Trials			14	11	6	5	15	4	6	5	2

- LRPB Anvil CL Plus was included in WA NVT in 2020 (Agzones 2, 4 & 5) and 2021 (all Agzones).
- LRPB Anvil CL Plus has shown to be the highest yielding IMI wheat that is well adapted to the quicker season environments of Agzones 1, 2, 4 and 5.



# DISEASE RATINGS

NVT Online WA disease resistances and tolerances - 15th November 2022 (with Black Point from LongReach data for Anvil)

Variety	Leaf Rust Res	Stem Rust Res	Stripe Rust (WA) Res	Black Point Res	CCN Res	Crown Rot Res	Powdery Mildew Res	Pratylenchus Neglectus Res	Pratylenchus Neglectus tolerance	Pratylenchus Thornei Res	Pratylenchus Thornei Tol	Septoria Nodorum Blotch (Glume) Res	Septoria Nodorum Blotch (Leaf) Res	Septoria Tritici Blotch Res	Yellow Leaf Spot Res
Chief CL Plus	MR	MR	S	MS	MS	MSS	S	MRMS	MT	MSS	IVI	MRMS	MS	S	MRMS
Hammer CL Plus	S	MR	RMR	MRMS (P)	MRMS	MSS	S	MSS	MTMI	S	MII	MRMS	MS	MSS	MRMS
LRPB Anvil CL Plus	SVS	MR	RMR	MS (LPB)	MS (P)	MSS	S (P)	MSS	-	S	VI	MS (P)	MRMS (P)	SVS (P)	MSS
Razor CL Plus	S	MR	RMR	MS	MR	S	MS	S	MT	MS	MI	MS	MS	SVS	MSS
Scepter	MSS	MRMS	MR	MS	MRMS	MSS	S	S	MTMI	MSS	MT	MS	MRMS	S	MRMS
Sheriff CL Plus	SVS	MS	MS	MS	MS	S	SVS	MRMS	MTMI	MRMS	I	MRMS	MRMS	MSS	MRMS
Valiant CL Plus	S	MR	RMR	-	MSS (P)	S	S (P)	S	-	S (P)	VI	MRMS (P)	MRMS (P)	MRMS (P)	MRMS

## Comments

- Disease ratings are similar to existing Clearfield® Plus wheat varieties being grown in WA
- Strong Stem Rust and Stripe Rust resistance in WA
- Weak Leaf Rust resistance which is similar to most varieties currently in the market
- Adequate Yellow Leaf Spot resistance
- Useful resistance to CCN (MSp) and susceptible to Powdery Mildew (Sp) as most widely grown varieties are currently
- Acceptable Septoria Nodorum Blotch Leaf (MRMSp) and Glume (MSp) resistance



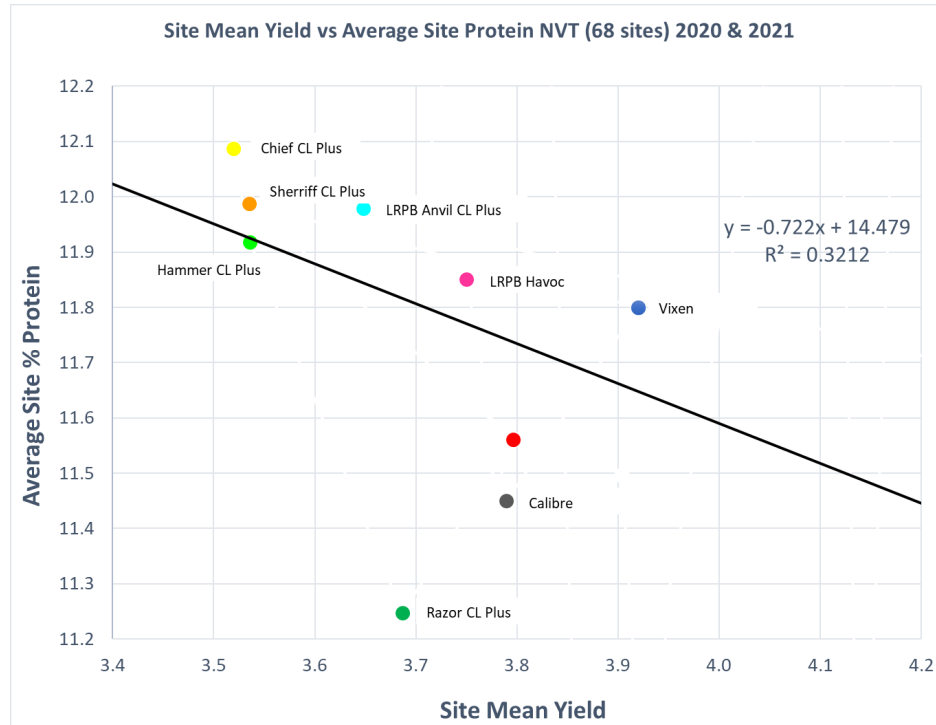
# LRPB ANVIL CL PLUS HARVEST

LRPB Anvil CL Plus harvests well and is paddock ready





# GRAIN QUALITY AH FOR WA



## Grain receivals - WA Main Season NVT summary 2021-2022 trials

Screenings (%)						
Variety	Classification	Sites	Sites >5%	Ave Screenings	Maxium	Minimum
LRPB Anvil CL Plus	AH	68	10	2.6	17.1	0.2
Chief CL Plus	APW (N)	68	15	3.6	27.7	0.2
Hammer CL Plus	AH (N)	68	25	5.1	30.2	0.2
Razor CL Plus	ASW	68	17	3.8	31.7	0.2
Scepter	AH	68	18	3.9	16.0	0.2
Sheriff CL Plus	APW (N)	68	17	4.3	43.2	0.1

Grain Size (g/1000 seeds)						
Variety Name	Classification	Sites	Sites <30	Ave 1000 GW	Maxium	Minimum
LRPB Anvil CL Plus	AH	68	3	40.5	55.2	25.2
Chief CL Plus	APW (N)	68	4	40.5	56.0	23.2
Hammer CL Plus	AH (N)	68	13	35.3	47.0	20.8
Razor CL Plus	ASW	68	6	37.6	49.5	18.9
Scepter	AH	68	3	39.3	55.5	23.3
Sheriff CL Plus	APW (N)	68	7	36.2	49.2	18.3

Protein %						
Variety	Classification	Sites	Sites <9.5%	Ave %	Maxium	Minimum
LRPB Anvil CL Plus	AH	68	3	12.0	15.6	8.6
Chief CL Plus	APW (N)	68	3	12.1	16.8	8.6
Hammer CL Plus	AH (N)	68	4	11.9	16.6	8.3
Razor CL Plus	ASW	68	10	11.2	15.2	8.0
Scepter	AH	68	8	11.6	16.4	8.1
Sheriff CL Plus	APW (N)	68	6	12.0	16.7	8.3

Test Weight - (kg/hectolitre)						
Variety	Classification	Sites	Sites <75kg/hectol	Ave Test Weight	Maxium	Minimum
LRPB Anvil CL Plus	AH	68	2	81.5	87.4	72.8
Chief CL Plus	APW (N)	68	5	80.3	86.6	67.0
Hammer CL Plus	AH (N)	68	4	80.7	87.1	68.4
Razor CL Plus	ASW	68	2	80.7	87.0	66.5
Scepter	AH	68	7	80.6	87.8	66.2
Sheriff CL Plus	APW (N)	68	5	80.5	87.4	68.0

- Large grain size with low screenings and good test weight has been measured throughout Anvil's development
- Excellent quality AH wheat which will have good domestic end use interest
- WA NVT data has shown Anvil CL to be a high yielding IMI tolerant variety while still maintaining better protein levels than many leading AH Varieties grown in WA

# LRPB ANVIL CL PLUS

LRPB Anvil CL Plus is available through our Associate Network, for contact information please go to [www.pacificseeds.com.au](http://www.pacificseeds.com.au)

As with other IMI Tolerant Wheat No Grower to Grower trading of LRPB Anvil CL Plus seed is allowed



Pacific Seeds Wheat varieties are protected by Plant Breeders Rights (PBR). In regard to propagating material (planting seed) of this variety, any unauthorised commercial production or reproduction, conditioning for propagation, offering for sale, sale, import, export or stocking of propagating material is an infringement under the *Plant Breeders Rights Act 1994*.

## End Point Royalty (EPR) Wheat

Each time a grower purchases Pacific Seeds wheat seed, the grower agrees to comply with the Variety Licence and Royalty Agreement, including agreement to pay the EPR. EPR is payable on all grain production, except on seed retained by the grower for replanting by the grower. The majority of the EPR will be paid by Advanta Seeds to the Breeder (LongReach Plant Breeders) for investment in future wheat breeding programs.

The information provided in this publication is intended as a guide only. Advanta Seeds Pty Ltd ('Advanta Seeds') (including its officers, employees, contractors and agents) can not guarantee that every statement is without flaw of any kind. While Advanta Seeds has taken all due care to ensure that the information provided is accurate at the time of publication, various factors, including planting times and environmental conditions may alter the characteristics and performance from plants. Advanta Seeds shall not be liable for any errors or omissions in the information or for any loss, injury, damage or other consequence whatsoever that you or any person might incur as a result of your use of or reliance upon the products (whether Advanta Seeds products or otherwise) and information which appear in this publication. To the maximum extent permitted by law, the liability of Advanta Seeds for any claim whatsoever arising out of the supply or use of or reliance upon the products and information in this publication (including liability for breach of any condition or warranty implied by the Trade Practices Act 1974 or any other law) is limited at its discretion, to the replacement of the products, the supply of equivalent products or the resupply of the publication. For application to specific conditions, seek further advice from a local professional. © Advanta Seeds 2021.

