CLEARFIELD® BARLEY GUIDE 2021/22

INTERGRAIN

SOUTHERN ZONE
(SOUTH AUSTRALIA/VICTORIA)

COMMODUS PBR CL

POTENTIAL MALT BARLEY

A COMPASS® BARLEY DESCENDANT WITH YIELD, CLEARFIELD® TOLERANCE AND GOOD EARLY VIGOUR!

MAXIMUS PBR CL

MALT BARLEY

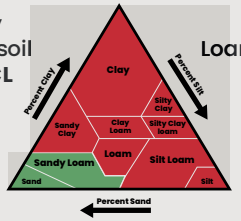
THE SPARTACUS CL® MALT SUCCESSOR!

Clearfield® Production System

WHAT IS MY RAINFALL ZONE?

Low-medium Rainfall Environment **Commodus® CL**	Low-medium Rainfall Environment **Maximus® CL**

WHAT ARE MY IMI BARLEY REQUIREMENTS?

	Commodus® CL	**Maximus® CL**
Do I want a malting variety?	 **Commodus® CL** Currently classified as a feed varity. Earliest potential malt accreditation in 2023.	 **Maximus® CL** Malt accredited
What plant type am I requiring?	**Commodus® CL** has a semi-prostrate early growth plant type 	**Maximus® CL** has an erect plant type 
What soil type do I have?	Predominantly sandy/lighter soil **Commodus® CL**  Sandy-Loam/ Loam/Heavier soil **Maximus® CL**	
Can I manage lodging and head loss risks in my system?	**Commodus® CL** has a head loss risk and lodging risk similar to **Compass®** 	**Maximus® CL** has strong lodging tolerance and a low-medium head loss risk 
Plant Height	**Commodus® CL** has a tall plant type 	**Maximus® CL** has a shorter plant type (lower biomass production) 

MEET INTERGRAIN'S NEW IMIDAZOLINONE (IMI) TOLERANT GLADIATOR TROUPES!

InterGrain has an exceptional reputation of delivering high performing Clearfield® barley varieties with the suite of options ever increasing.

2021 marks the entry of two new gladiators to the arena in **Maximus® CL** and **Commodus® CL**. Both are high yielding, quick-mid maturing, Clearfield® barley varieties. However, both possess very different characteristics providing options for different farming systems.

COMMODUS® CL

Commodus® CL is a high yielding, quick-mid maturing Clearfield® barley derived from Compass®. The variety is agronomically similar to Compass® and is ideally suited to lighter soils and medium-low rainfall environments. The variety has a comparable yield potential to Compass® based on InterGrain trials and 2020 NVT yield performances.

It offers an effective disease resistance profile, including CCN resistance and a useful level of spot form of net blotch resistance. **Commodus® CL** has excellent grain size and a similar lodging tolerance and head loss risk to Compass®. Harvest management strategies should be considered in higher yielding seasons and or when harvest delays may occur to maximise varietal productivity.

Commodus® CL has recently been accepted into the Barley Australia Malt Accreditation program with earliest potential final accreditation in March 2023.

MAXIMUS® CL

Maximus® CL is a high yielding, quick-mid maturing, malt accredited, Clearfield® barley. Maximus® CL represents a general disease improvement compared to Spartacus® CL, particularly to both spot form and net form of net blotch.

Similar to Spartacus® CL, **Maximus® CL** has an erect plant type, strong lodging tolerance and a low-medium head loss risk. The variety also has very good physical grain qualities, including excellent grain plumpness (plumper than Spartacus® CL) and hectolitre weight. The variety has a short coleoptile and it is recommended that sowing depth be considered carefully when planting this variety.

Maximus® CL received malt accreditation in February 2021.

PLANT FEATURES

Variety	COMMODUS$^{(t)}$ CL	MAXIMUS$^{(t)}$ CL	SPARTACUS CL$^{(t)}$	COMPASS$^{(t)}$	RGT PLANET$^{(t)}$	SCOPE CL$^{(t)}$	LA TROBE$^{(t)}$	BEAST$^{(t)}$
Classification	Potential Malt	Malt	Malt	Malt	Malt	Feed	Malt	Potential Malt
Maturity	Quick-Mid	Quick-Mid	Quick	Quick-Mid	Mid	Mid	Quick	Quick
Coleoptile Length	Medium	Short	Short	Medium	Medium	Short	Short	Medium
Plant Height	Mod. Tall	Mod. Short	Mod. Short	Mod. Tall	Medium	Mod. Tall	Short-Mod. Short	Medium - Tall
Lodging Tolerance	Poor	Strong	Strong	Poor	Medium	Poor	Medium	Medium
Head Loss Risk	Medium	Low-Medium	Low	Medium	Low	High	Medium	-
Grain Plumpness	Good/ Excellent	Good	Mod. Good	Good/ Excellent	Fair	Fair	Mod. Good	Good
Rachilla Hair Length	Long	Long	Short	Long	Short	Long	Short	-

Source: 2021 Victorian Crop Sowing Guide, 2021 South Australian Crop Sowing Guide and InterGrain Barley Breeding. Maturity based on mid-May planting.

Commodus CL$^{(t)}$ v Maximus CL$^{(t)}$, Horsham, VIC - October 2020

DISEASE RATINGS SA

Variety	COMMODUS$^{(t)}$ CL	MAXIMUS$^{(t)}$ CL	SPARTACUS CL$^{(t)}$	COMPASS$^{(t)}$	RGT PLANET$^{(t)}$	SCOPE CL$^{(t)}$	LA TROBE$^{(t)}$	BEAST$^{(t)}$
Leaf Rust^	MRMS-SVS	MS-S	MR-S	SVS	MR-MS	MR-SVS	MRMS-SVS	MR-SVS
Powdery Mildew*	MSp	MS	MS	MS	RMR	RMR	MSS	MSS
Spot form net blotch^	MR-S	MRMS	S	MS	SVS	MS-S	MSS	MS
Net form net blotch^	MR-MS	R-MS	S-VS	MR-S	MR-S	R-MR	MR-S	MR-S
CCN	R	R	R	R	Rp	S	R	MR
Scald^	R-SVS	R-S	R-SVS	MR-SVS	R-MSS	MRMS-SVS	R-SVS	R-SVS

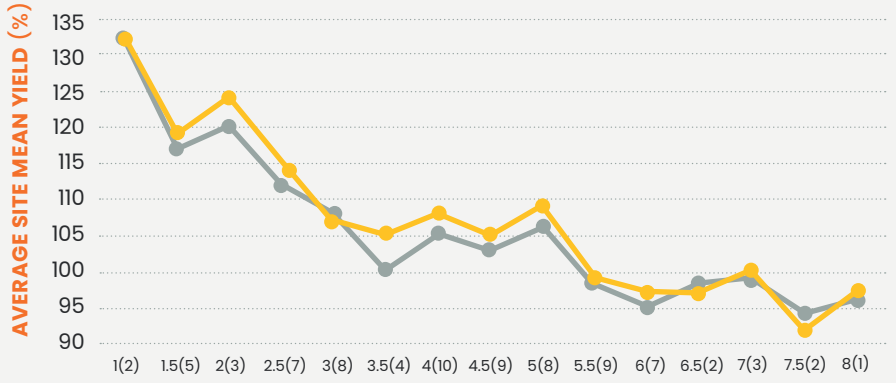
Source: 2020 NVT Pathology consensus disease ratings. *QLD ratings, ^South Australian ratings. #Pathotype dependent. ^^Line contains a few susceptible off types.

DISEASE RATINGS VICTORIA

Variety	COMMODUS$^{(t)}$ CL	MAXIMUS$^{(t)}$ CL	SPARTACUS CL$^{(t)}$	COMPASS$^{(t)}$	RGT PLANET$^{(t)}$	SCOPE CL$^{(t)}$	LA TROBE$^{(t)}$	BEAST$^{(t)}$
Leaf Rust^	SVS	S	S	SVS	MR	S	SVS	S
Powdery Mildew*	MSp	MS	MS	MS	RMR	RMR	MSS	MSS
Spot form net blotch^	MSp	MRMS	SVS	MS	SVS	MSS	S	MSS
Net form net blotch^	MSp	MS	S	MS#	SVS	MS	MS	MSS#
CCN	-	R	R	R	Rp	S	R	MR
Scald^	VS	S	SVS	SVS	MSS	SVS	SVS	SVS

Source: 2020 NVT Pathology consensus disease ratings. *QLD ratings, ^Victorian ratings. #Pathotype dependent.R = Resistant, RMR = Resistant to Moderately Resistant, MR = Moderately Resistant, MRMS = Moderately Resistant to Moderately Susceptible, MS = Moderately Susceptible, MSS = Moderately Susceptible to Susceptible, S = Susceptible, SVS = Susceptible to Very Susceptible, VS = Very Susceptible

YIELD PERFORMANCE – SA | MAXIMUS$^{\Phi}$ CL



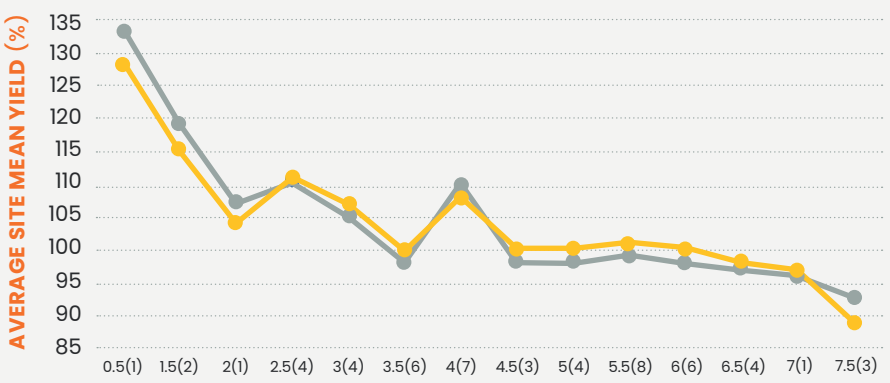
(Brackets indicate number of trials.)

2016-20 SA main season NVT predicted MET yield performance, represented by yield environment as a % of site mean yield

(Data accessed from the NVT Online website on 09/02/2021.)

MAXIMUS$^{\Phi}$ CL SPARTACUS CL$^{\Phi}$

YIELD PERFORMANCE – VIC | MAXIMUS$^{\Phi}$ CL



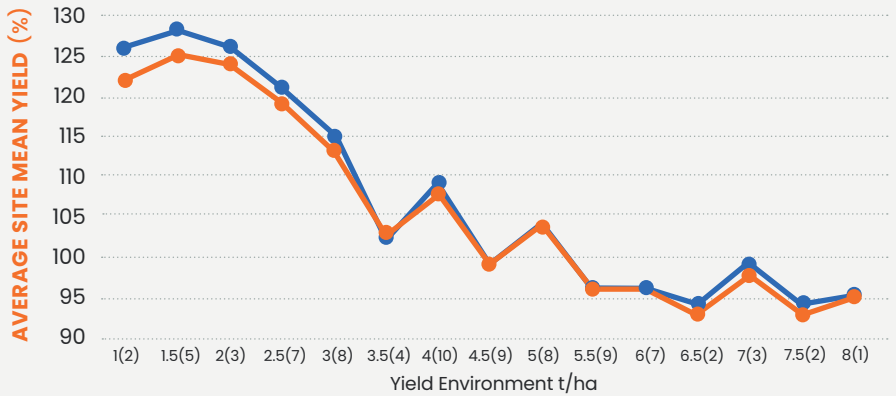
(Brackets indicate number of trials.)

2016-20 Vic main season NVT predicted MET yield performance, represented by yield environment as a % of site mean yield

(Data accessed from the NVT Online website on 09/02/2021.)

MAXIMUS$^{\Phi}$ CL SPARTACUS CL$^{\Phi}$

YIELD PERFORMANCE – SA | COMMODUS$^{\Phi}$ CL



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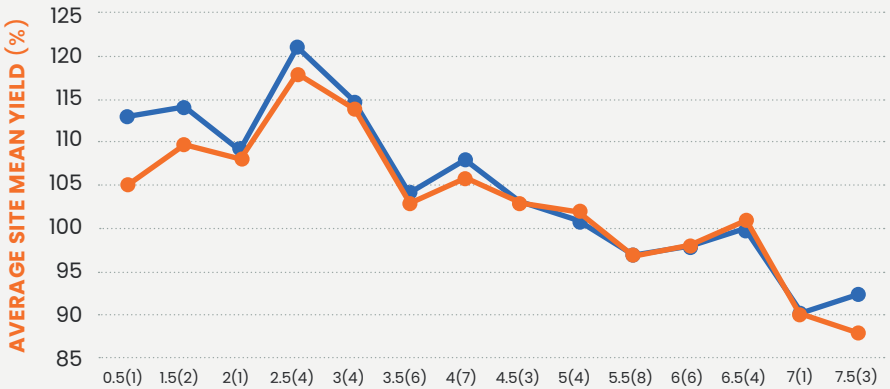
2016-20 SA main season NVT predicted MET yield performance, represented by yield environment as a % of site mean yield

(Data accessed from the NVT Online website on 09/02/2021.)

COMMODUS$^{\Phi}$ CL COMPASS$^{\Phi}$

YIELD PERFORMANCE – VIC | COMMODUS$^{\Phi}$ CL



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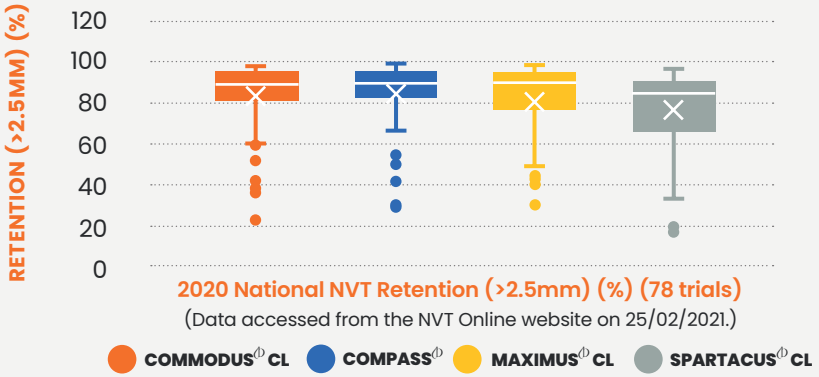
2016-20 Vic main season NVT predicted MET yield performance, represented by yield environment as a % of site mean yield

(Data accessed from the NVT Online website on 09/02/2021.)

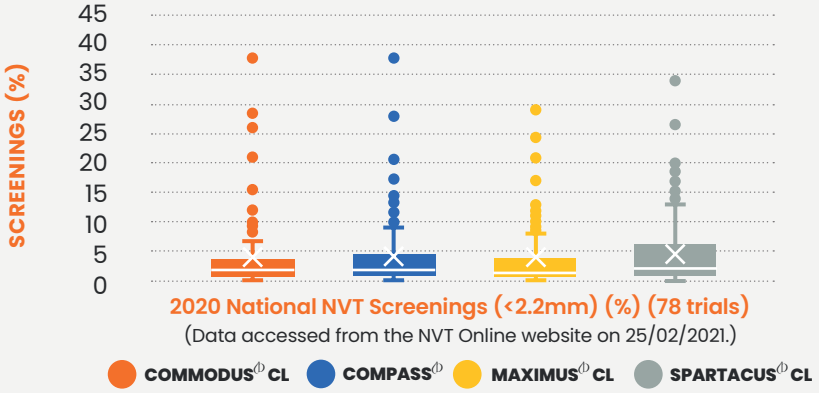
COMMODUS$^{\Phi}$ CL COMPASS$^{\Phi}$

GRAIN QUALITY

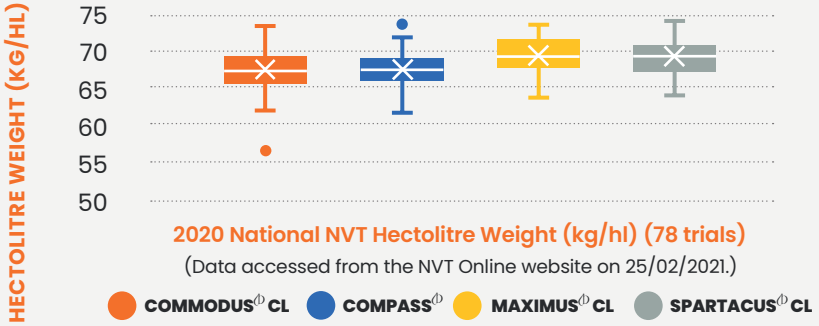
RETENTION



SCREENINGS



HECTOLITRE WEIGHT



GROUP B IMIDAZOLINONE HERBICIDE INFORMATION

InterGrain only supports use of Australian Pesticides and Veterinary Medicines Authority (APVMA) approved imidazolinone products for COMMODUS® CL and MAXIMUS® CL.

Where the grower uses an APVMA approved herbicide they must comply with all label recommendations and requirements for the specific herbicide used.

COMMODUS® CL and MAXIMUS® CL possesses the gene conferring tolerance to label application rates of registered imidazolinone products. Imidazolinone herbicides are Group B herbicides, ALS inhibitors. Registered imidazolinone herbicides provide control of many major grass and broadleaf weeds present in broadacre cropping systems. These weeds include brome grass, barley grass, wild oats, indian hedge mustard, muskweed, oats, wheat and barley (non-Clearfield®), wild radish, wild turnip and suppression of annual ryegrass.

For registered product labels, plant back and application details please refer to the following:

Pre-Emergent Herbicide:

Sentry® - https://bit.ly/302wiic

Post-Emergent Herbicide Options:

Intervix® - https://bit.ly/2HCCQ1p

Intercept® - https://bit.ly/2VLyVpj

InterGrain strongly supports sustainable Clearfield® and IMI Barley Production Systems and we recommend reviewing the stewardship guidelines suggested within the below guides to ensure longevity of APVMA approved imidazolinone herbicides:

Nufarm IMIcrops: https://bit.ly/3xXmhT8

BASF Clearfield Stewardship: https://bit.ly/3yZohvw

Clearfield® Production System

For more information please contact:

VIC: Katherine Munn 0436 801 161 kmunn@intergrain.com

VIC: Ash Brooks 0476 020 451 abrooks@intergrain.com

SA: Josh Reichstein 0422 235 537 jreichstein@intergrain.com

PBR/EPR

COMMODUS® CL and MAXIMUS® CL are protected by Plant Breeder's Rights and are subject to an end point royalty of $4.25/tonne GST Exclusive.

COMMODUS® CL and MAXIMUS® CL are InterGrain varieties containing an IMI barley technology licence from Agriculture Victoria Services (AVS), bred by David Moody and the InterGrain Barley Breeding team. COMMODUS® CL was collaboratively developed with Grains Innovation Australia (GIA).

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