

CLEARFIELD® BARLEY GUIDE



WESTERN AUSTRALIA
JUNE 2023

MAXIMUS CL

MALT BARLEY

The Spartacus^{CL}
malt successor!



COMMODUS CL

POTENTIAL MALT BARLEY

A Clearfield®, Compass^{CL}
barley descendant with yield
and good early vigour



ZENA CL

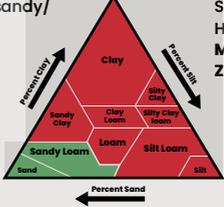
POTENTIAL MALT BARLEY

A mid-maturing,
vigorous, Clearfield®
warrior!



Clearfield®
Production System

Clearfield barley - at a glance

Variety	Commodus [®] CL	Maximus [®] CL	Zena [®] CL
Rainfall environment	Low-medium rainfall environment 	Low-medium rainfall environment 	Medium-high rainfall environment 
Soil type	 <p>Predominantly sandy/lighter soil Commodus[®] CL</p> <p>Sandy-Loam/Loam/Heavier soil Maximus[®] CL Zena[®] CL</p>		
Plant type	Early, intermediate growth habit 	Erect plant type 	Semi-prostrate plant type 
Malt status	Currently classified as a feed variety with earliest potential malt accreditation in 2024. 	Malt accredited 	Currently classified as a feed variety with earliest potential malt accreditation in 2024. 
Lodging and head loss	Medium-high lodging and head loss risk, similar to Compass[®] 	Strong lodging tolerance and low-medium head loss risk. 	Strong lodging tolerance and low-medium head loss risk. 
Plant height	Tall plant type 	Shorter plant type (lower biomass production) 	Medium plant type 

MEET INTERGRAIN'S CLEARFIELD[®] GLADIATOR TROOPS!



MAXIMUS[®] CL

Maximus[®] CL is a high yielding, quick-mid maturing, malt accredited Clearfield[®] barley. It is well suited to low-medium rainfall environments and offers a yield improvement compared to Spartacus[®] CL*. Maximus[®] CL has an erect plant type, strong lodging tolerance and a low-medium head loss risk. Maximus[®] CL offers a general disease improvement compared to Spartacus[®] CL, particularly to both spot form and net form of net blotch. The variety has very good physical grain qualities, including excellent grain plumpness (plumper than Spartacus[®] CL) and hectolitre weight. The variety has a short coleoptile, so consider sowing depth when planting Maximus[®] CL.



COMMODUS[®] CL

Commodus[®] CL is a high yielding, quick-mid maturing Clearfield[®] barley, agronomically similar to Compass[®]. It is ideally suited to lighter soils and low-medium rainfall environments. The variety has a comparable yield potential to Compass[®] based on InterGrain and NVT trial yield data. It offers an effective disease resistance profile, including a useful level of spot form of net blotch resistance. Commodus[®] CL has excellent grain size and adequate test weight. Commodus[®] CL has a medium-high lodging and head loss risk, similar to Compass[®] and harvest management strategies should be considered in higher yielding seasons and/or when harvest delays occur to maximise varietal productivity. Commodus[®] CL is an excellent option for those looking for a similar variety to Compass with the benefit of the Clearfield[®] trait.

Commodus[®] CL has been accepted into the Grains Australia Malt Accreditation program with earliest potential malt accreditation in March 2024.



ZENA[®] CL

Zena[®] CL is a mid-maturing, high yielding Clearfield[®] barley, well suited to medium-high rainfall environments. It is agronomically similar to RGT Planet[®]. Zena[®] CL provides a useful disease resistance profile with good levels of resistance to powdery mildew and leaf rust. However, Zena[®] CL has a similar level of susceptibility to spot form net blotch and net form net blotch to RGT Planet[®]. The variety has an adequate grain size and a moderate hectolitre weight.

Zena[®] CL has been accepted into the Grains Australia Malt Accreditation program with earliest potential malt accreditation in March 2024.

PLANT FEATURES

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

Source: 2023 WA Sowing Guide and InterGrain Barley Breeding. Maturity based on mid-May planting.

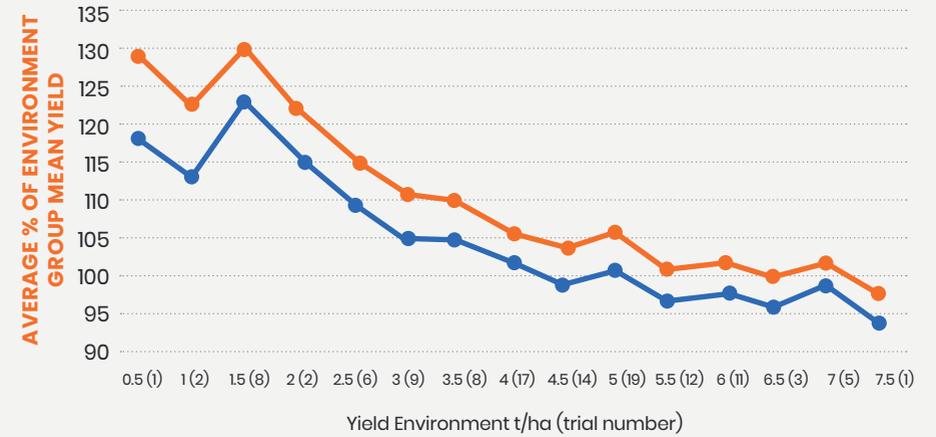
DISEASE RATINGS

	MAXIMUS ^{CL}	SPARTACUS ^{CL}	COMMODUS ^{CL}	COMPASS ^{CL}	SCOPE ^{CL}	ZENA ^{CL}	RGT PLANET ^{CL}
Leaf rust	MSS	MSS	S	S	MSS	MRMS-MR	MRMS-MS
Powdery Mildew	MR	MSS	R-MRMS	R-MRMS	MR	R	R
Spot Form Net Blotch	MSS	SVS	MSS	MSS	MSS	SVS	SVS
Net Form Net Blotch	MR-S	MRMS-S	MRMS-S	MR-S	MR-MSS	MRMS-SVS	MRMS-SVS
CCN resistance	R	R	R	R	S	R	R
Barley yellow Dwarf Virus	MRMS	MSS	MRMS	MS	MRMS	MRMS-MS	MRMS-MS
Scald	R	RMR	MS	MS	MS	MR	RMR

Source: 2022 WA NVT Pathology consensus disease ratings. p = Provisional ratings. - = show a range of reaction responses

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 MAXIMUS^{CL}

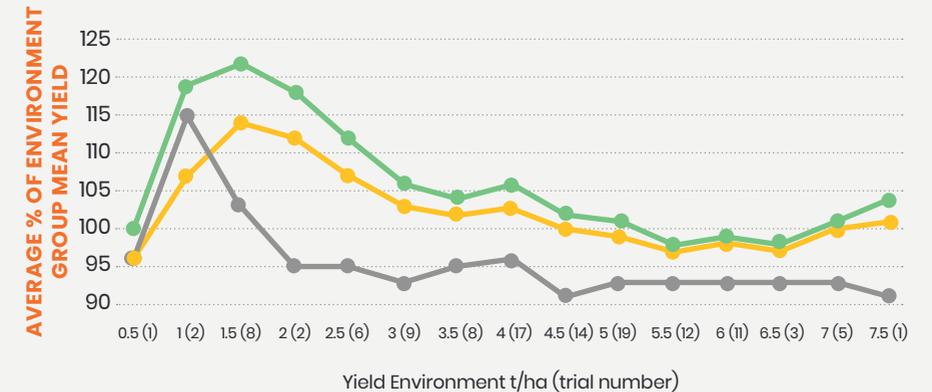


2018-22 WA main season predicted NVT MET yield performance, represented by yield environment as a % of site mean yield

(Data accessed from NVT Online on 15/03/2023.)

● MAXIMUS^{CL} ● SPARTACUS^{CL}

YIELD PERFORMANCE COMMODUS^{CL}



2018-22 WA main season predicted NVT MET yield performance, represented by yield environment as a % of site mean yield

(Data accessed from NVT Online on 15/03/2023.)

● COMMODUS^{CL} ● COMPASS^{CL} ● SCOPE^{CL}

YIELD PERFORMANCE ZENA^{CL}



2018-22 WA main season predicted NVT MET yield performance, represented by yield environment as a % of site mean yield

(Data accessed from NVT Online on 15/03/2023.)

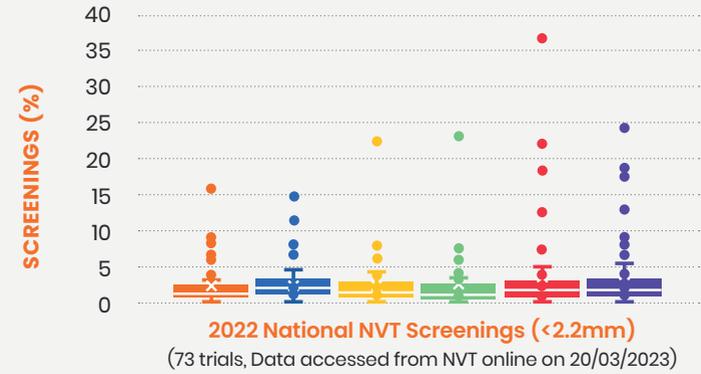
● ZENA^{CL} ● RGT PLANET^{CL}



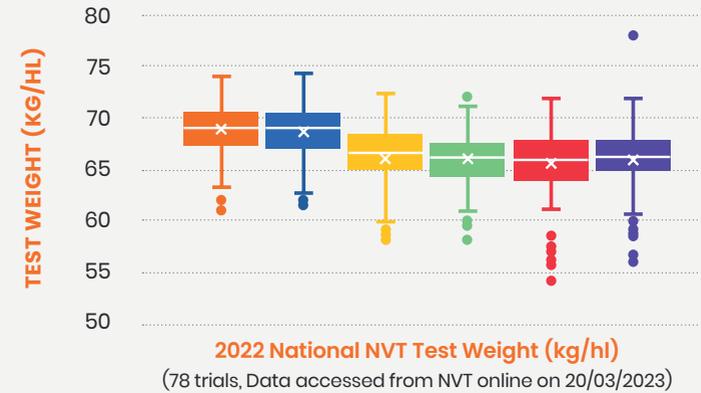
Commodus^{CL} (L) Maximus^{CL} (R), Bolgart, WA, 8 July 2021

GRAIN QUALITY

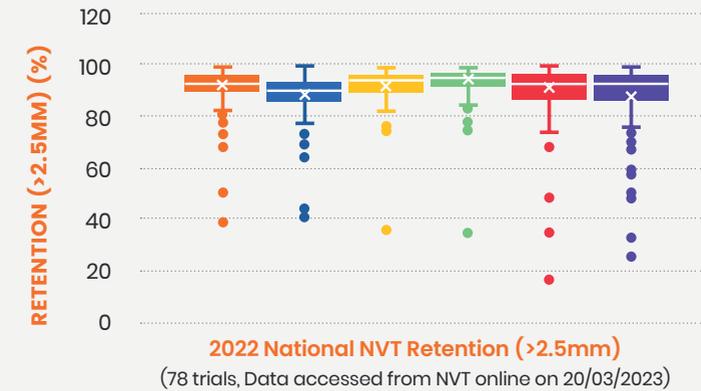
SCREENINGS



TEST WEIGHT



RETENTION



● MAXIMUS^{CL} ● SPARTACUS^{CL} ● COMMODUS^{CL} ● COMPASS^{CL} ● ZENA^{CL} ● RGT PLANET^{CL}

INTERGRAIN CONTACTS

WA – SOUTH Georgia Trainor ☎ 0439 093 166 @gtrainor@intergrain.com

WA – NORTH Rachel Asquith ☎ 0483 311 901 @rasquith@intergrain.com

PBR/EPR

COMMODUS[®] CL, MAXIMUS[®] CL and ZENA[®] CL are protected by Plant Breeder's Rights and subject to a \$4.25/tonne (ex GST) end point royalty.

COMMODUS[®] CL, MAXIMUS[®] CL and ZENA[®] CL are InterGrain varieties containing an IMI barley technology licence from Agriculture Victoria Services (AVS).

COMMODUS[®] CL and ZENA[®] CL were collaboratively developed with Grains Innovation Australia (GIA).

GROUP 2 IMIDAZOLINONE HERBICIDE INFORMATION

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

Growers using APVMA approved herbicides, must comply with all label recommendations and requirements for the specific herbicide used.

COMMODUS[®] CL, MAXIMUS[®] CL and ZENA[®] CL possess the gene conferring tolerance to label application rates of registered IMI products. IMI herbicides are Group 2 (formally known as Group B) herbicides, ALS inhibitors. Registered IMI 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. IMI herbicides are not effective in controlling Group 2 resistant weed species (particularly wild radish and 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 IMI herbicides:

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

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





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