

Cyclops[®]



- The highest yielding barley variety available in low to medium rainfall environments
- Quick-mid maturity, slightly slower than Spartacus CL[Ⓟ]
- Wide adaptation to a range of environments and seasonal conditions
- Erect growing Hindmarsh[Ⓟ] plant type
- Less susceptible to lodging than taller varieties such as Compass[Ⓟ]
- Competitive physical grain quality package
- Has entered the Barley Australia malt accreditation program but is currently deliverable as Barley/Feed

Breeder's comments

Cyclops^ϕ (tested as AGTB0200) has demonstrated exceptional performance across a broad range of regions and seasonal conditions, and has emerged as the clear market leader for barley varieties. Cyclops^ϕ has become the new yield benchmark across the majority of South Eastern Australian regions.

Cyclops^ϕ has a quick-mid maturity, reaching awn peep slightly later than Spartacus CL^ϕ. The short plant type of Cyclops^ϕ is similar to Latrobe^ϕ, Spartacus CL^ϕ and Rosalind^ϕ resulting in reduced susceptibility to lodging compared with taller barley varieties. Head loss is similar to Latrobe^ϕ or Spartacus CL^ϕ, meaning that Cyclops^ϕ is less vulnerable to yield loss during windy conditions around harvest compared with some other varieties.

The physical grain quality and disease resistance package of Cyclops^ϕ is comparable with most other barley varieties currently on the market.

Cyclops^ϕ has been accepted into the Barley Australia malt accreditation program, with stage 2 malt evaluation planned for 2023. Cyclops^ϕ is deliverable into the Barley/Feed grade.

Seed availability

Commercial quantities of Cyclops^ϕ may be available through AGT Affiliates, or your local retailer. Please consult the AGT website for AGT Affiliate contact details. Cyclops^ϕ can be traded between growers upon the completion of a License Agreement as part of AGT's Seed Sharing™ initiative.

PBR and EPR

Cyclops^ϕ is protected by Plant Breeders Rights (PBR) (denoted by the ^ϕ symbol) and all production (except seed saved for planting) is liable to an End Point Royalty (EPR), which funds future plant breeding. Cyclops^ϕ growers will be subject to a Growers License Agreement that acknowledges that an EPR of \$4/tonne + GST must be paid on all production other than seed saved for planting.

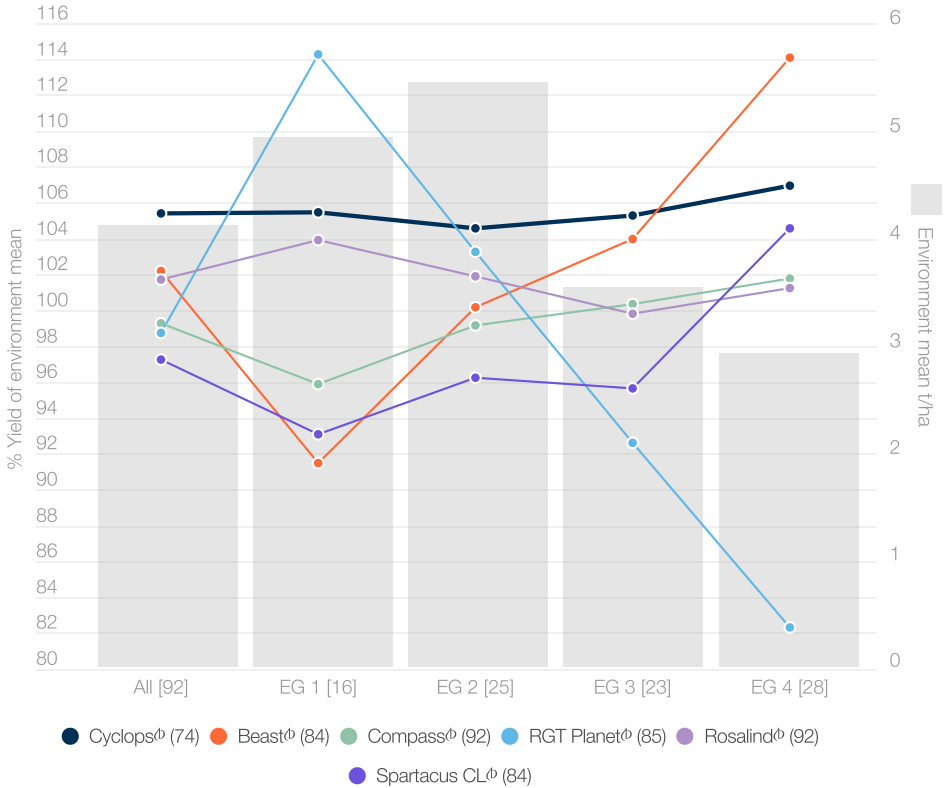
Grain yield

Cyclops^ϕ has demonstrated an elite level of grain yield combined with wide adaptation to a range of environments and seasonal conditions (Figures 1 and 2). Long-term AGT and NVT data shows that Cyclops^ϕ has a yield leap over Spartacus CL^ϕ and Rosalind^ϕ, and improved yield performance relative to RGT Planet^ϕ in most environments.

Over five years of testing in AGT trials Cyclops^ϕ has shown exceptional yield stability, consistently producing high yields across a range of conditions from high yield potential to drier, more stressed conditions.

NVT data also underlines the yield versatility that Cyclops^ϕ offers, consistently ranking as one of the highest yielding varieties across most regions of SA, Victoria and southern NSW.

Figure 1. Grain yield of Cyclops^ϕ versus comparators across a range of growing conditions - AGT long term data



Source: AGT long term MET analysis, all Australian trial sites 2017-2021

[] Total number of trials per environmental grouping

() Number of trials that each variety was present in across the dataset [92]

EG Environmental Group, a statistical correlation of performance across 92 trial sites and seasons (2017-2021) where single experiments are grouped based on relative performance of varieties within those trials

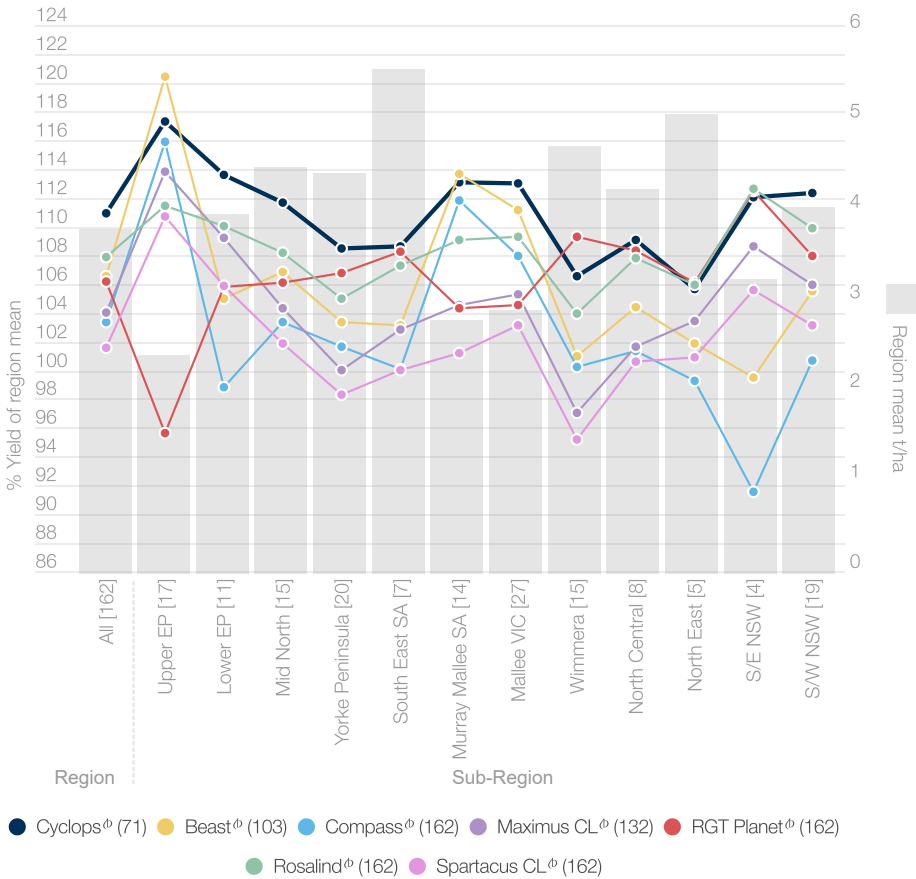
EG1 High yielding sites with minimal stress throughout growing season

EG2 High yielding sites with a slow, soft finish to the season

EG3 Moderate yielding sites, experiencing moderate stress

EG4 Drought stressed, low/moderate yielding environments

Figure 2. Grain yield of *Cyclops*^ϕ versus comparators - NVT long term data



Source: NVT main season series long term MET analysis 2017-2021

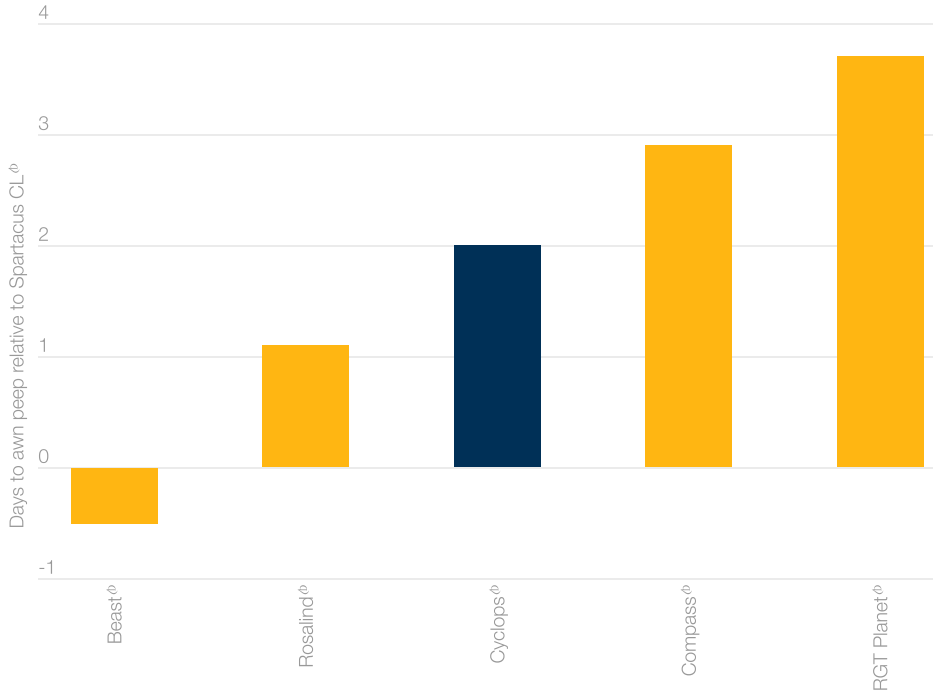
[] Total number of trials per region

() Number of trials that each variety was present in across the SA, Vic & southern NSW dataset [106]

Maturity

AGT data shows that Cyclops[®] reaches awn peep slightly quicker than RGT Planet[®] and a little slower than Spartacus CL[®] and Beast[®] (Figure 3)

Figure 3. Awn peep of Cyclops[®] and comparator varieties relative to Spartacus CL[®]



Source: AGT main season barley trials, 2018-2021 (WA/SA, average of 10 trials)

Grain quality

NVT grain quality data suggests that Cyclops[®] offers a great physical grain quality package, producing grain with higher test weight than Compass[®] and RGT Planet[®] and screenings/retention better than RGT Planet[®], Rosalind[®] and Spartacus CL[®] (Figures 4, 5 & 6).

Figure 4. Test weight of Cyclops[®] versus comparators

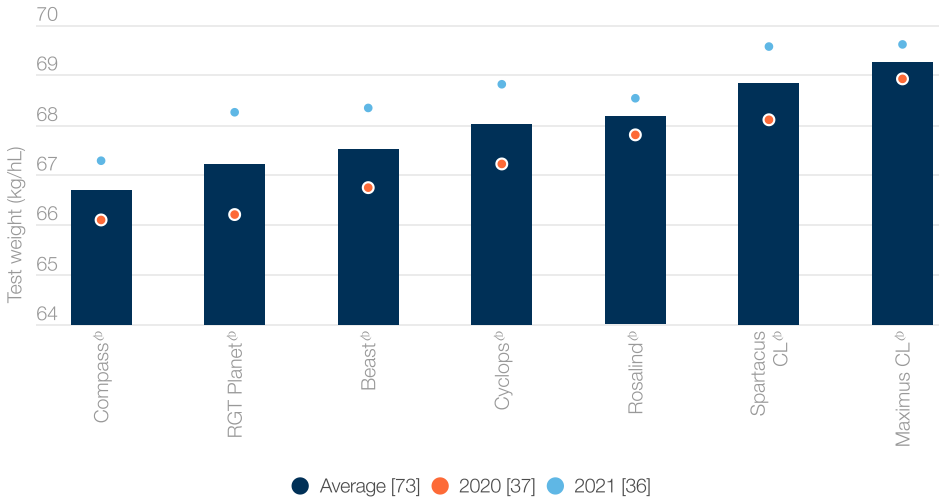


Figure 5. Screenings of Cyclops[®] versus comparators

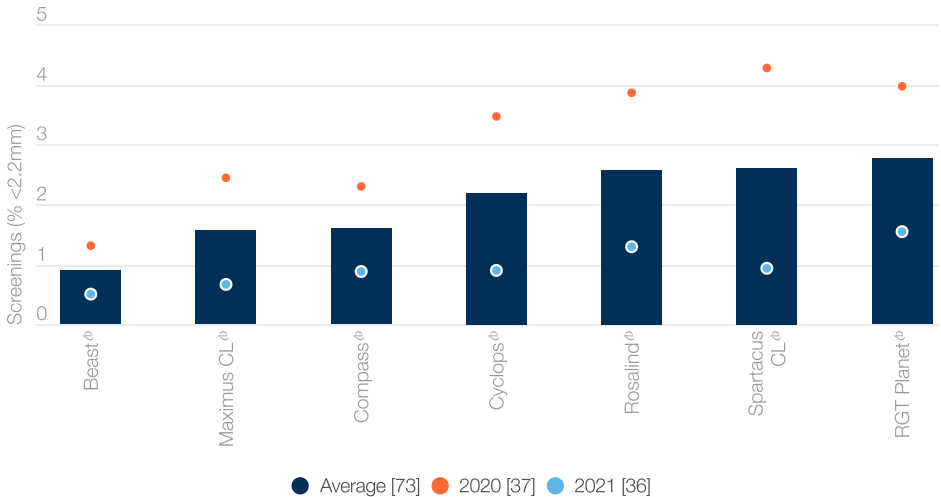
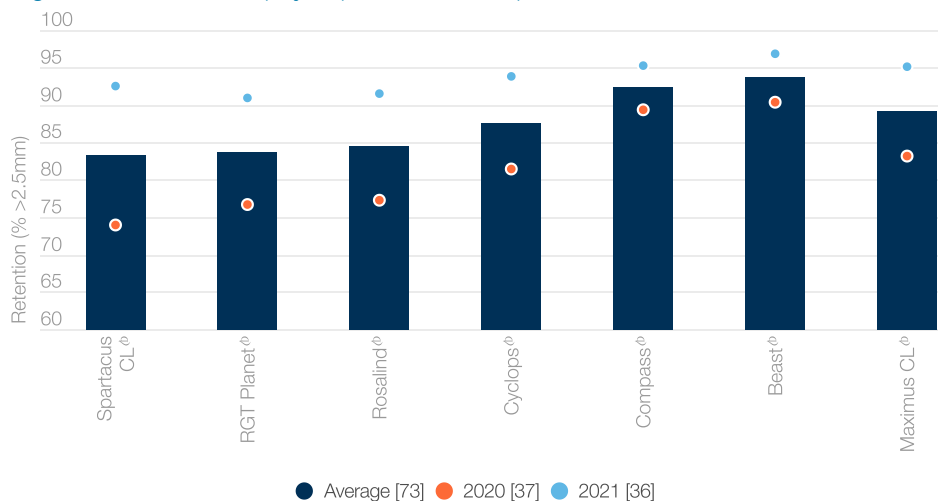


Figure 6. Retention of Cyclops[®] versus comparators



Source: NVT main season trial series 2020 & 2021 (South Australia, Victoria and southern New South Wales).

[] Total number of trials

Disease resistance

Table 1. Variety comparisons

	Variety	Scald	Leaf Rust	SFNB	NFNB	CCN
South Australia	Cyclops [®]	R-S	SVS-VS	MS-S	MR-MS	S
	Beast [®]	SVS	MS-S	MS	MR-S	MR
	Compass [®]	MSS-SVS	SVS	MS	MRMS-S	R
	RGT Planet [®]	R-S	MRMS-MS	SVS	MR-SVS	R*
	Rosalind [®]	MR-S	MR-MS	MSS	R-MRMS	R
	Spartacus CL [®]	R-SVS	MR-S	S	S-VS	R
Victoria	Cyclops [®]	SVS	SVS	MSS	MR*	S*
	Beast [®]	SVS	S	MS	MR#	MR
	Compass [®]	SVS	SVS	MS	MRMS#	R
	RGT Planet [®]	S	MRMS	SVS	SVS	R*
	Rosalind [®]	S	MR	S	MR	R
	Spartacus CL [®]	SVS	S	SVS	S	R
New South Wales	Cyclops [®]	SVS	S	MSS	MR-S	S
	Beast [®]	SVS	MSS	MSS	MR-S	MR
	Compass [®]	SVS	S	MS	MRMS-S	R
	RGT Planet [®]	MSS	MR	SVS	MSS-S	R*
	Rosalind [®]	S	MR	MSS	MR	R
	Spartacus CL [®]	SVS	MRMS	SVS	MR-S	R

R Resistant

MR Moderately Resistant

MS Moderately Susceptible

S Susceptible

VS Very Susceptible

* Provisional rating

A range of reactions is provided (separated with -) where different strains of the pathogen exist and where the variety may respond differently to them

Varieties marked may be more susceptible if alternative strains are present.

Source: NVT consensus ratings 2021



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Disclaimer: The information contained in this brochure is based on knowledge and understanding at the time of writing. Growers should be aware of the need to regularly consult with their advisors on local conditions and currency of information.