

Beast[®]



- Very high yielding in low-medium rainfall or Mallee type environments
- Quick maturity, almost a week quicker than Compass[Ⓛ]
- Excellent performance in stressed, tight finishing environments and seasons
- Compass[Ⓛ] plant type, with similar early vigour
- Competitive physical grain quality package, with test weight and grain size comparable to most commonly grown varieties
- Feed quality, but has entered the malt accreditation process

Breeder's comments

In 2014, on the back of success in wheat breeding, we made a commitment to begin a breeding programme for Australia's second largest broadacre crop, barley. The decision to enter into barley breeding helps us to build on our mission of improving the strength of Australian rural communities through the development and adoption of improved field crop varieties.

Beast[®] is our first ever barley variety, and comes only six years since the commencement of our nationally-focussed barley breeding programme.

Beast[®] (tested as AGTB0113) has been selected from the advanced germplasm pool that we sourced from the University of Adelaide, and is derived from a cross including Compass[®] and Hindmarsh[®]. Like Compass[®], Beast[®] boasts a vigorous plant type, which is highly desirable in lower rainfall or Mallee type environments, with improved early vigour over the more erect Hindmarsh[®] types (LaTrobe[®], Spartacus CL[®], Rosalind[®]). However this also suggests that Beast[®] may be best suited to low-medium rainfall situations where lodging is less of a concern.

Beast[®] is a quick maturing variety that has recorded its best yields in low-medium yield potential environments. Beast[®] has consistently out-yielded Compass[®] across many environments, and has performed very competitively with Rosalind[®].

Beast[®] will be released as a feed variety and has been accepted into the Barley Australia Malt Accreditation Programme, however a result on its malt status will not be known until at least the 2023 season.

The naming convention we have selected for our barley varieties is 'mythical creatures'.

Seed availability

Commercial quantities of Beast[®] may be available through AGT Affiliates, or your local retailer. Please consult the AGT website for AGT Affiliate contact details. Beast[®] is able to be traded between growers upon the completion of a License Agreement as part of AGT's Seed Sharing™ initiative.

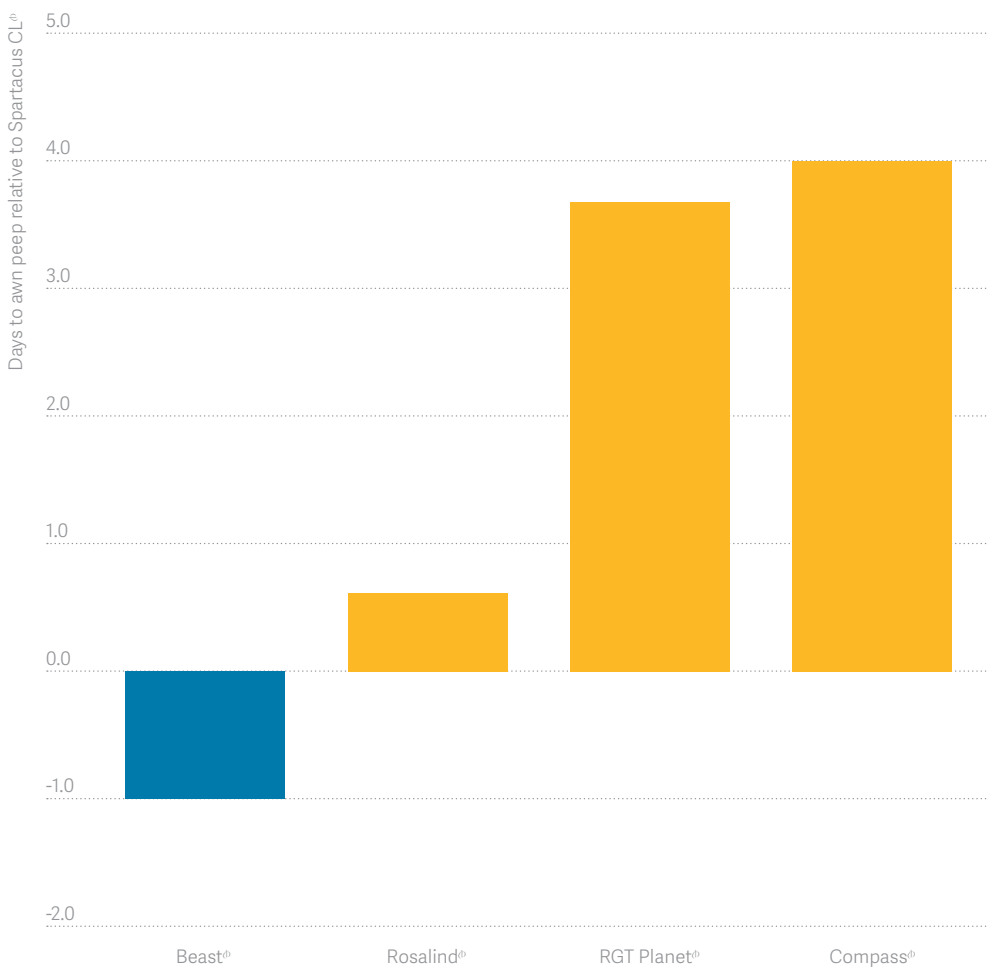
EPR

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

Maturity

AGT data shows that Beast[®] is quicker to reach awn peep than Spartacus CL[®] and almost a week quicker than Compass[®]. The quick maturity of Beast[®] makes it particularly suited to shorter season environments.

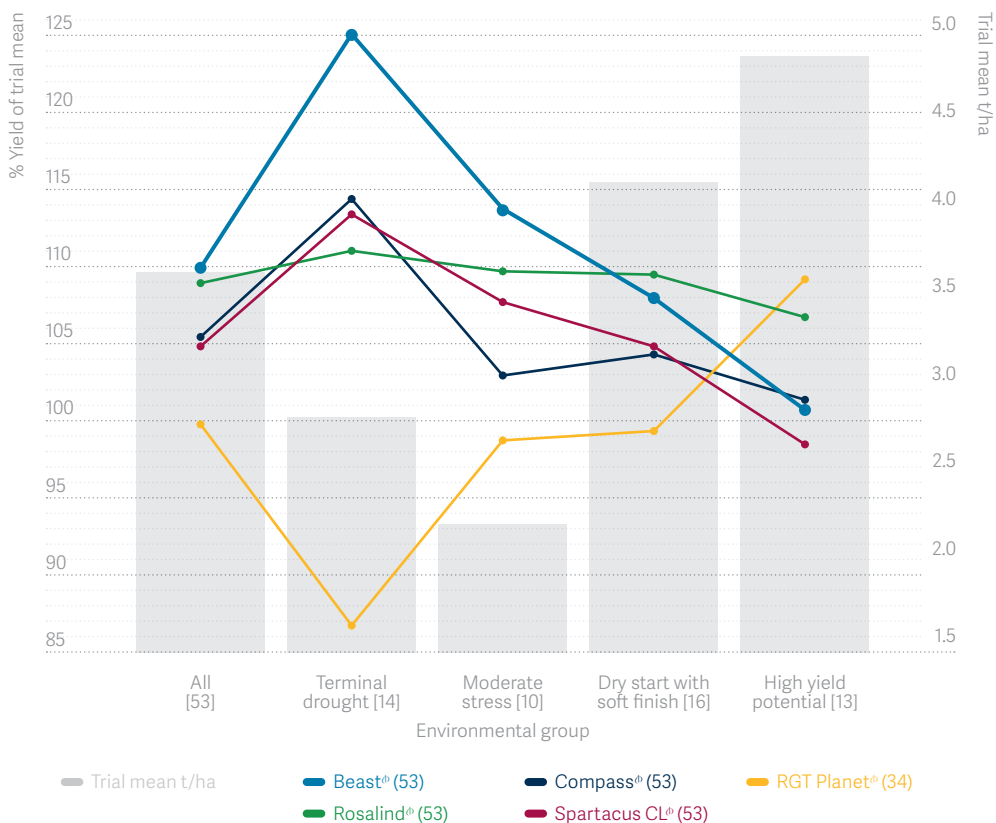
Figure 1 Awn peep of Beast[®] & comparator varieties relative to Spartacus CL[®]



Grain yield

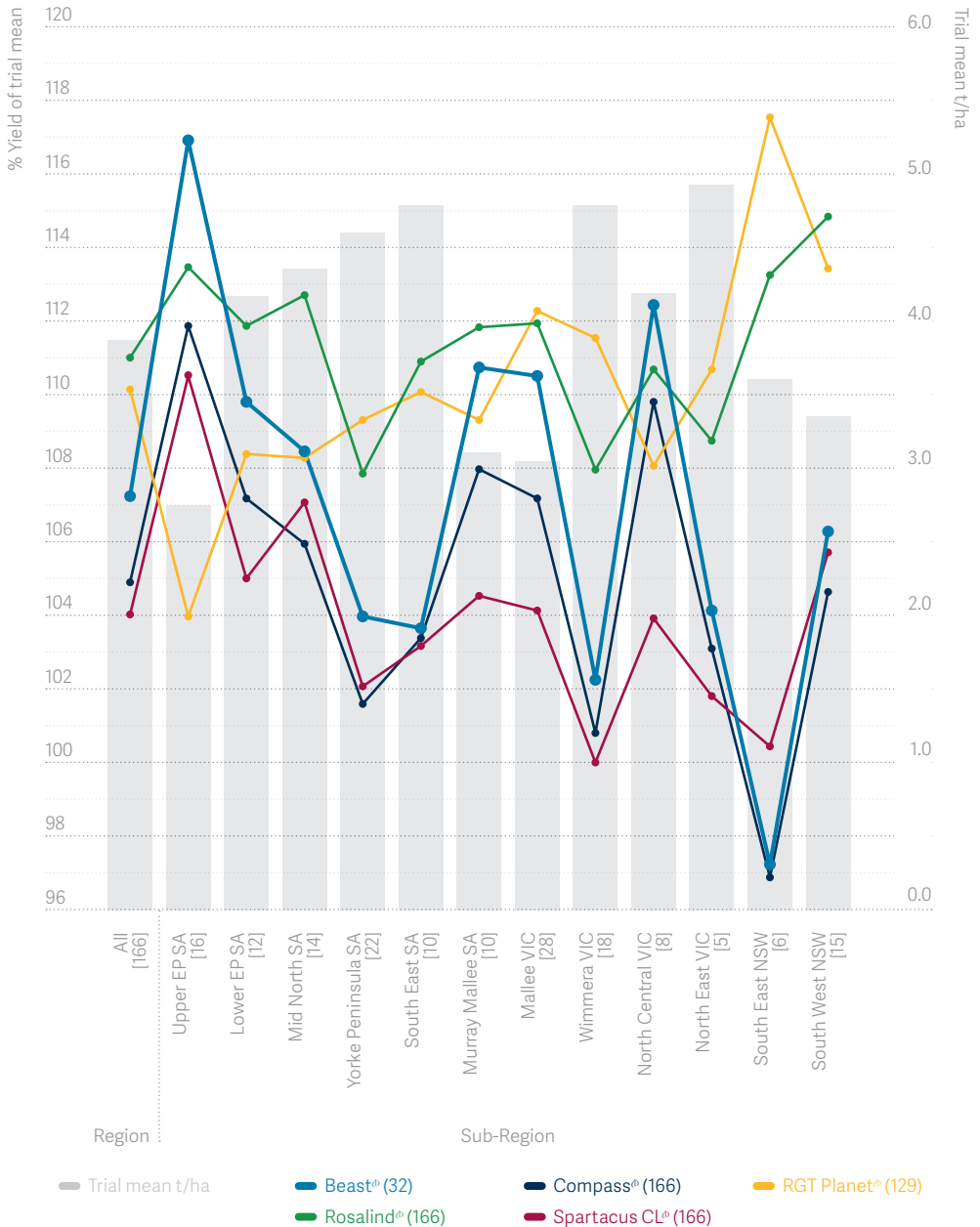
Beast^ϕ performs best in low rainfall environments, where its quicker maturity provides improved adaptation to hotter, drier and more water stressed conditions. This adaptation has been highlighted by AGT yield data collected from a range of environments over several seasons throughout Australia, where Beast^ϕ has excelled in environments characterised by shorter growing seasons (Figure 2). Beast^ϕ entered NVT trials for the first time in 2019, also delivering its best yields in low-medium rainfall environments (Figure 3).

Figure 2 Grain yield of Beast^ϕ versus comparators across a range of growing conditions – AGT long term data



Source AGT long term MET analysis, all Australian trial sites 2016-2019.
 [] Total number of trials per environmental grouping
 () Number of trials that each variety was present in across the Australian dataset [53]

Figure 3 Grain yield of Beast[®] versus comparators – NVT long term data



Source NVT main season series long term MET analysis 2015-2019.
 [] Total number of trials per region
 () Number of trials that each variety was present in across the SA, Vic and southern NSW dataset [166]

Grain quality

Beast[®] offers a competitive physical grain quality package, producing grain with comparable test weight and grain size to most commonly grown varieties.

Figure 4 Test weight of Beast[®] versus comparators

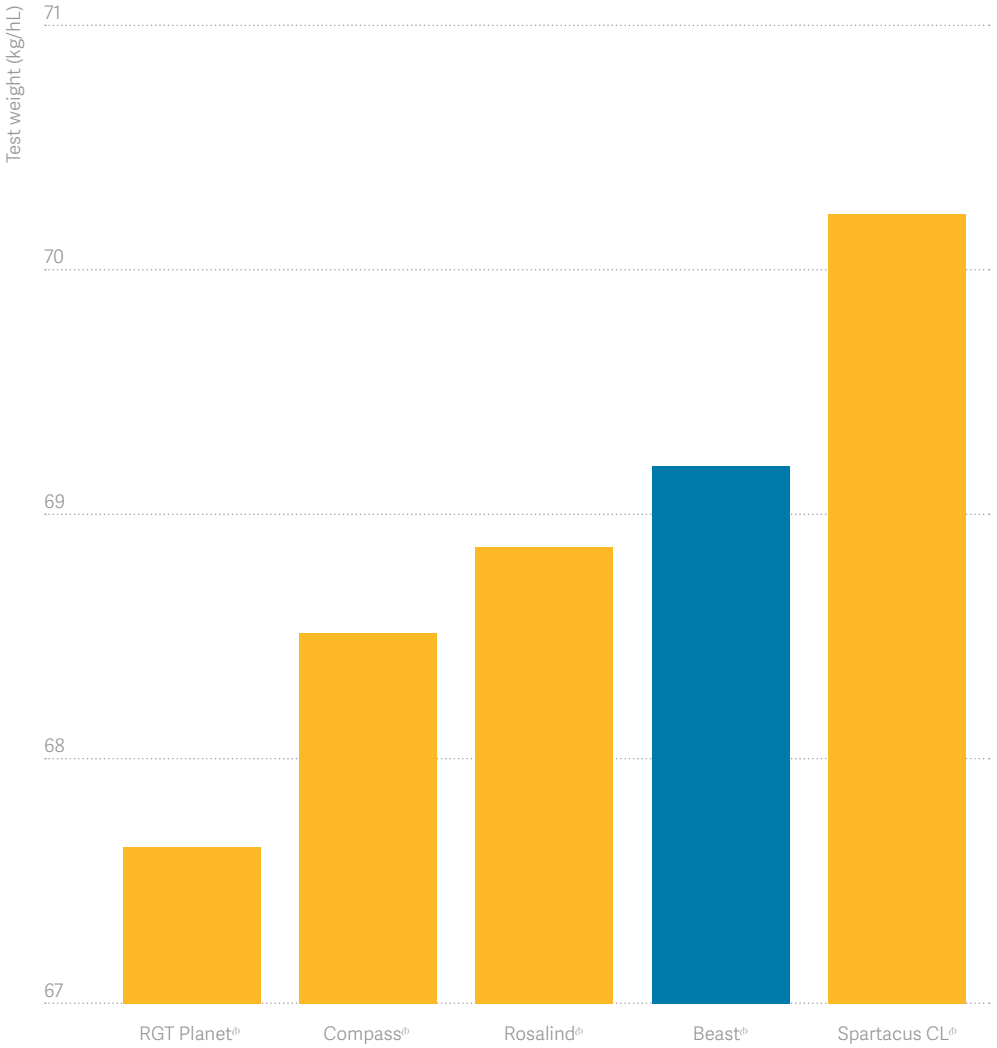


Figure 5 Screenings of Beast[®] versus comparators

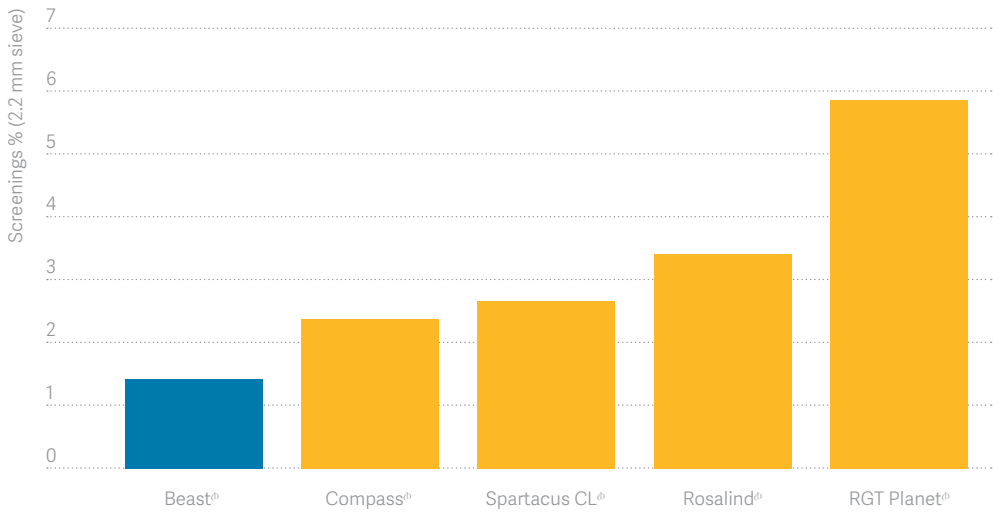
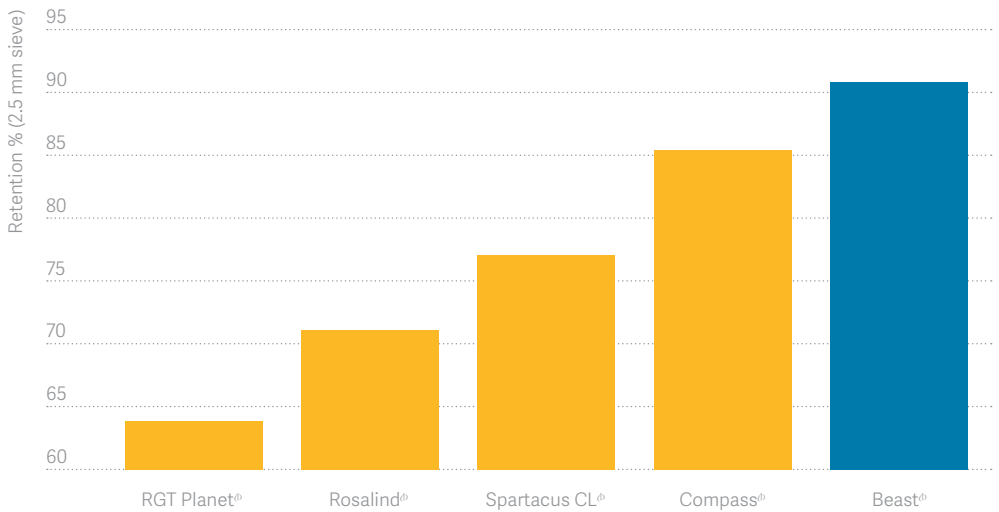


Figure 6 Retention of Beast[®] versus comparators



Source Figures 4, 5 & 6 - NVT main season trial series 2019 (27 trials in SA, Vic and southern NSW).

Disease resistance

Table 1 Variety comparisons

	Variety	Scald	Leaf rust	SFNB	NFNB	CCN	Powdery mildew
South Australia	Beast [Ⓓ]	MS-SVS*	MR-S*	MRMS*	MRMS*	MR*	MR*
	Compass [Ⓓ]	MR-SVS	SVS	MRMS-MSS	MR-MSS	R	MRMS-S
	RGT Planet [Ⓓ]	R-SVS	MR-MS	S-SVS	MR-SVS	R	R
	Rosalind [Ⓓ]	MR-S	MR-MS	MS-S	MR	R	MRMS-S
	Spartacus CL [Ⓓ]	R-SVS	MR-S	S	MSS-SVS	R	MR-SVS
Victoria	Beast [Ⓓ]	SVS*	S*	MSS*	MS*	MR*	MSS*
	Compass [Ⓓ]	SVS	SVS	MS	MSS	R	MRMS-S
	RGT Planet [Ⓓ]	SVS	MS	S	SVS	R	R
	Rosalind [Ⓓ]	S	MR	S	MR	R	SVS
	Spartacus CL [Ⓓ]	SVS	S	SVS	MSS	R	SVS
New South Wales	Beast [Ⓓ]	SVS*	MS*	MSS*	MRMS-SVS*	MR*	MSS*
	Compass [Ⓓ]	SVS	VS	MSS	MRMS	R	MRMS-S
	RGT Planet [Ⓓ]	S	MRMS	SVS	S	R	R
	Rosalind [Ⓓ]	S	MRMS	SVS	MR	R	MRMS-SVS
	Spartacus CL [Ⓓ]	VS	S	SVS	MR-S	R	MRMS-SVS

R Resistant

MR Moderately Resistant

MS Moderately Susceptible

S Susceptible

VS Very Susceptible

T Tolerant

MT Moderately Tolerant

MI Moderately Intolerant

I Intolerant

VI Very Intolerant

* Provisional ratings

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



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