GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION

2023 NVT SORGHUM HARVEST REPORT

GRDC NATIONAL VARIETY TRIALS™

SEPTEMBER 2023

Featuring the latest NVT results from the 2022-2023 harvest

grdc.com.au

Title:
2023 NVT Sorghum Harvest Report

GRDC Contract Code: ALB2204-002SAX – NVT content for 2022 and 2023 Sorghum Harvest Reports

ISSN: 2653-2077 (online)

Published: September 2023

Acknowledgements:
Sincere thanks to the following contributors, whose time and industry knowledge have made this publication possible:

Tracey Shatte, Queensland Department of Agriculture and Fisheries

Numerous breeding companies and their representatives

GRDC contact details:
Ms Maureen Cribb
Integrated Publications Manager
PO Box 5367
KINGSTON ACT 2604

Email: maureen.cribb@grdc.com.au

Design and production:
Coretext, www.coretext.com.au

COVER: 2023 Pallamallawa NVT.
PHOTO: Kalyx Australia

TABLE OF CONTENTS

This guide can be downloaded to your computer or tablet at:
grdc.com.au/nvt-sorghum-harvest-report

INTRODUCTION	4
LIVERPOOL PLAINS	10
NORTHERN NSW	14
SOUTHERN QUEENSLAND	20
CENTRAL QUEENSLAND	26
ORD	32
FURTHER INFORMATION	35
NOTES	38

LEGEND: MEAN VARIETY YIELD PERFORMANCE

BELOW MEAN ABOVE

Variation to mean yield illustrated by colour gradient from below (red) to above (green)

INTRODUCTION

KEY POINTS

- This publication covers five harvests – 2018-19, 2019-20, 2020-21, 2021-22 and 2022-23 – from the sorghum NVT testing program.
- There were 11 trials completed in the 2018-19 season, six in the 2019-20 season, 19 in the 2020-21 season, 14 in the 2021-22 season and 11 in 2022-23.
- Grain yield (adjusted to 13.5 per cent moisture) from an individual plot ranged from 0.33 to 11.34 tonnes per hectare across the five seasons that were sampled.
- The performance values for grain yield (variation from the mean) are from five seasons for trials conducted in the Liverpool Plains, Northern NSW, Southern Queensland, Central Queensland and the Ord regions.
- Four of the past five seasons have had extreme conditions, dominated by extensive drought and record flooding, while some areas have experienced one of the best growing seasons for many years. This should be taken into consideration as these values may not be representative of the long-term seasonal conditions experienced by growers in their individual situations.
- When choosing a hybrid grain sorghum variety, do not rely on the results from a single trial conducted at one location in only one year.
- Successful sorghum production is a combination of good agronomic practices combined with the best hybrids available for your conditions.

More information:
GRDC 'GrowNotes™',
grdc.com.au, and
NSW DPI *Summer Crop management guide*,
dpi.nsw.gov.au

This is the fifth *NVT Sorghum Harvest Report* published by the Grains Research and Development Corporation (GRDC), following requests from growers to include sorghum as part of the National Variety Trials (NVT) testing program. This guide draws on the information obtained from numerous sources following five seasons of trialling, beginning in 2018-19 and continuing in 2019-20, 2020-21, 2021-22 and 2022-23. The sorghum NVT testing program aims to provide growers with independent information that will allow them to make informed choices when deciding on which grain sorghum hybrid to sow in their paddocks.

GRDC acknowledges that an ongoing project of this type would not be possible without the cooperation of growers prepared to contribute sites and who often assist with the management of trials on their property.

For all the information on the released hybrid sorghum varieties tested in the NVT program conducted in New South Wales, Queensland and Western Australia, visit nvt.grdc.com.au.

Sorghum was first grown in Australia in 1938, with hybrid sorghum varieties becoming available in 1962. The hybrids quickly gained the acceptance of growers and sorghum is now the dominant summer crop in GRDC's northern region. It has been traditionally used by the domestic livestock industries (cattle, pork and poultry), while more recently there has been an increasing interest in the grain being used for ethanol production and for human consumption (gluten free and as a spirit). The area sown and associated production figures from the past seven growing seasons for Queensland, NSW and WA appear in Table 1. Figures have been extracted from the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) *Australian Crop Report*.

Table 1: Sorghum area and production figures, ABARES, *Australian Crop Report*, seven growing seasons 2016-17 to 2022-23.

	2016-17		2017-18		2018-19		2019-20		2020-21		2021-22 (ABARES estimate)		2022-23 (ABARES estimate)	
State	Area ('000 ha)	Production (kt)	Area ('000 ha)	Production (kt)	Area ('000 ha)	Production (kt)	Area ('000 ha)	Production (kt)	Area ('000 ha)	Production (kt)	Area ('000 ha)	Production (kt)	Area ('000 ha)	Production (kt)
Queensland	250	604	352	974	394	926	159	313	422	1072	428	1717	480	1690
New South Wales	117	387	108	279	152	222	44	79	146	554	192	926	190	760
Western Australia	0.6	2.3	0.6	1.3	2.4	9.2	0.3	1.8	1.8	2.6	1.6	2.9	1	3.4
Australia	368	994	462	1257	550	1161	204	398	573	1639	622	2648	672	2454

SUMMARY

Phase 1 of the sorghum NVT program began in July 2017 and encompassed four trialling regions and seven production zones. The program was continued, capturing two summer cropping seasons, 2017-18 and 2018-19, with the regions expanded in the second year to include Kununurra in WA. The resultant five regions are Central Queensland, Southern Queensland, Northern NSW, Liverpool Plains and the Ord. These regions are split into eight production zones: Central Queensland North, Central Queensland South, Southern Queensland East, Southern Queensland West, Northern NSW East, Northern NSW West, Liverpool Plains East, and the Ord (Table 2).

Following support from growers, the program has been conducted in 2019-20, 2020-21, 2021-22 and 2022-23. Unfortunately, several trials have had to be discarded in each season as they were not sown or did not meet the rigorous standards as set by the NVT protocol. There were 15 trials completed in the 2017-18 season, 11 in the 2018-19 season, six in the 2019-20 season, 19 in the 2020-21 season, 14 in the 2021-22 season and 11 in 2022-23. The 2022-23 trial sites encompass the five regions of the Liverpool Plains, Northern NSW, Southern Queensland, Central Queensland and the Ord. Twenty-one trial sites were sown across these five regions in 2022-23; however, only 11 of these trials have been deemed acceptable for inclusion in the overall analysis, having met the rigorous standards set by the NVT protocols. Individual trial site locations appear in Figure 1 for each production zone and Table 3.

Table 2: Sorghum NVT regions and production zones.

State	Region	Production zone	Boundary
Queensland	Central Queensland	Central Queensland North	North of the Capricorn Highway
Queensland	Central Queensland	Central Queensland South	South of the Capricorn Highway
Queensland	Southern Queensland	Southern Queensland East	East of Millmerran, Dalby, Chinchilla Road
Queensland	Southern Queensland	Southern Queensland West	West of Millmerran, Dalby, Chinchilla Road
New South Wales	Northern NSW	Northern NSW East	East of Newell Highway
New South Wales	Northern NSW	Northern NSW West	West of Newell Highway
New South Wales	Liverpool Plains	Liverpool Plains East	East of Boggabri to Coolah Road
Western Australia	Ord	Ord	Ord River District

SEASON OVERVIEW

This guide covers five summer cropping seasons: 2018-19, 2019-20, 2020-21, 2021-22 and 2022-2023. The climatic conditions experienced leading up to and during the growing periods varied greatly among and within the trialling regions.

The main climate influences active during 2022 and early 2023 were La Niña, which persisted through summer 2021-22, dissipated during autumn, redeveloped in early September and continued through the end of 2022; a negative Indian Ocean dipole in winter and spring; and a persistently positive phase of the Southern Annular Mode from mid-autumn onwards.

There was a wide spread of sowing dates for this season's crop. The first trial was sown in mid-June in Kununurra, then at Miles (Southern Queensland West region) and Pampas (Southern Queensland East region) in late September. Sowing continued with Condamine (Southern Queensland West) and Bellata (Northern NSW East) in early October. Remaining sites in Northern NSW, Southern Queensland East and the Liverpool Plains were delayed until mid-November. Trial sites in both production zones in Central Queensland (North and South) were sown in the first week of February. A number of trial sites were flooded and suffered waterlogging during September 2022. These trials then suffered severe moisture stress that resulted in uneven plant density across an individual plot and among plots. In NSW, a number of locations experienced their wettest September and October on record. Sites at Burren Junction and Garah were flooded, and the Mallawa site was waterlogged and could not be sown. Mullaley received a severe hailstorm that destroyed plants and individual heads, resulting in the trial being assessed as not of a sufficient standard to be included in the analysis. North Star (Northern NSW East) sown mid-November and Billa Billa (Southern Queensland West) sown in early December were subsequently abandoned post sowing. These trials were affected by rapid drying of the soil,

causing below-standard germination leading to poor establishment and inadequate plant density, resulting in unacceptable variability within and among plots.

Harvest began in the Ord in late October, followed by Miles in early February and Condamine and Pampas in the last week of February. The remaining sites in Northern NSW East were harvested in early March (Bellata) and late March (Pallamallawa). The Dalby trial site (Southern Queensland East) was harvested in early April with the sites on the Liverpool Plains harvested mid-April (Caroona) and late April (Premer). Harvesting of the Central Queensland sites and associated data was completed at the end of June 2023.

The analysis of trial sites and the Multi-environment Trial (MET) analysis was commenced immediately following the rigorous auditing process and sign-off by interested parties.

Information relevant to a specific trial site can be accessed from the NVT website (nvt.grdc.com.au).

TRIAL ATTRITION

Individual trials can be excluded from the final NVT database for either statistical or agronomic reasons. If there is no genetic variance – that is, the grain yield of individual hybrids in a trial do not differ significantly – the trial will not be included in any further analysis. An audit has been carried out on trials grown in the regions over the past five seasons. Auditors were required to score more than 25 parameters and determine if an individual site met the stringent requirements of NVT. Trials could be deemed unsuitable for inclusion on an agronomic basis for any of the following reasons:

- variable biomass across the site;
- uneven establishment across the site or along a row;
- presence of disease, animal or insect damage; or
- the presence of weeds at populations that would affect grain yield.

Trial sites also had to be representative of their region and trial sowing times needed to match those of surrounding crops.

Trials for the 2022-23 season were sown across the five regions of the Liverpool Plains, Northern NSW, Southern Queensland, Central Queensland and the Ord.

TRIAL SITES

Each production zone aims to have three to four trial sites with a single time of sowing. Each trial site should:

- ideally have a soil moisture profile greater than 80 per cent of field capacity with no less than one metre of wet soil;
- have come out of long fallow from winter cereal;
- have a soil type representative of the zone; and
- have row spacings that follow industry standards.

Successful trial sites within each production zone in each season appear in Table 3.

Table 3: Sorghum NVT Environments* (year x location).

Production zone	Environments	2018-19 season	2019-20 season	2020-21 season	2021-22 season	2022-23 season
Central Queensland North	6		Clermont, Dysart	Clermont, Kilcummin, Dysart		Clermont
Central Queensland South	5		Rolleston	Theodore, Rolleston		Springsure, Theodore
Southern Queensland West	8	Billa Billa		Condamine, Billa Billa	Miles, Condamine, Billa Billa	Miles, Condamine
Southern Queensland East	11	Bongeen, Pampas, Dalby	Pampas	Pampas, Dalby	Pampas, Dalby	Bongeen, Pampas, Dalby
Northern NSW West	7	Garah		Garah, Burren Junction, Mallowa	Garah, Burren Junction, Mallowa	
Northern NSW East	12	North Star A&B, Pallamallawa, Bellata		North Star, Pallamallawa, Narrabri	Bellata, North Star, Pallamallawa	Bellata, Pallamallawa
Liverpool Plains	9	Mullaley	Breeza	Mullaley, Caroona, Premer	Mullaley, Caroona, Premer	Caroona
Ord	3	Kununurra	Kununurra	Kununurra		
Total	**61**	**11**	**6**	**19**	**14**	**11**

* Environment refers to the unique combination of year and location.

INTRODUCTION

A total of 70 trials were submitted as part of the NVT MET analysis encompassing the five regions. Eight trials were discarded based on inadequate agronomic standards as outlined by NVT protocols and one trial was discarded as it did not achieve the required level of statistical rigour. A summary of the dataset of the five seasons being reported appears in Table 4.

Table 4: Summary of the 2018-19 to 2022-23 sorghum dataset per year including environments, varieties, minimum, mean, maximum grain yield in t/ha, adjusted to 13.5 per cent moisture.

Year	Environments	Hybrids	Minimum	Mean	Maximum
2018-19	11	32	0.33	3.92	10.31
2019-20	6	30	0.72	4.25	9.57
2020-21	19	27	0.87	4.22	9.84
2021-22	14	28	2.13	5.9	11.34
2022-23	11	28	1.79	4.85	8.88

Source: Statistics for the Australian Grains Industry (Southern Region) Technical Report. 19 July 2023

NUMBER OF HYBRIDS IN EACH TRIAL

Breeding companies submit hybrids for inclusion in the NVT trials that are suitable for the environments under evaluation that are representative of the breeding companies' target population of environments (TPEs). The following companies have submitted grain sorghum hybrids: Barenbrug, Pacific Seeds, Pioneer Seeds, Radicle Seeds and S&W Seed Company. The performance reporting criteria require that hybrids must appear in two years of testing.

TRAITS INVESTIGATED

Several traits are assessed within trials, including grain yield (tonnes per hectare), screenings (%<2.0mm), and test weight (kilograms per hectolitre). If an NVT trial is sown at a specific location the resulting combination of year and location is referred to as an environment.

SERVICE PROVIDERS

The 2022-23 trials were managed by four service providers: Agricultural Marketing and Production Systems (AMPS), Eurofins Agroscience Services, Kalyx Australia and Northern Australia Crop Research Alliance (NACRA).

STATISTICAL SUPPORT

The design, analysis and interpretation of results were managed by GRDC's Analytics for the Australian Grains Industry (AAGI). Over the five summer cropping seasons that were sampled, a combined analysis of environments (year by location combinations) was completed. All trials are designed utilising the latest statistical methodology available and allow for site and subsequent across-site analysis by qualified NVT biometricians.

GRAIN YIELD

Following harvest, grain yields obtained from each trial plot are converted to tonnes per hectare (t/ha) and adjusted for grain moisture at 13.5 per cent. Predicted grain yield values for selected sorghum hybrid varieties from trials conducted over the summer growing seasons 2018-19, 2019-20, 2020-21, 2021-22 and 2022-23 are reported in the respective regional tables.

GRAIN QUALITY

Results for screenings (%<2.0mm), test weight (kg/hL) and the weight in kilograms of 100 litres of grain are reported in the respective regional tables. Test weight is commonly referred to as hectolitre weight. The range in both these parameters obtained for individual hybrids across environments demonstrates the difficult seasons growers have experienced.

The cause of small grain and low test weight in sorghum is usually associated with poor grain fill immediately after flowering has finished. This represents a relatively short period of time of around 10 to 15 days. The primary reason for screenings is moisture stress in this critical growth stage; other factors include diseases such as charcoal rot, heat stress, chemical drift and insect damage. Moisture stress and heat stress can occur independently, but often together.

Test weight or hectolitre weight is an indicator of grain quality and, from a yield standpoint, is irrelevant. Grain with a high test weight number usually has a high amount of starch and a hard endosperm.

INTERPRETING RESULTS

Better outcomes are achieved when decisions are based on robust information. The information presented in this publication comes from the past five seasons and has undergone a rigorous auditing process and statistical analysis.

A factor analytic (FA) mixed model approach is used in the MET analysis conducted by GRDC, supported by the AAGI program. This approach generates long-term MET values for hybrids at an individual trial level. This format provides more-detailed data which enables a better understanding of the performance of a hybrid over several years at the individual trial/environment level, rather than just a single averaged value from environments that may not be correlated.

The results represent the environmental conditions experienced but may not be typical of a given region. Therefore, a grower must decide the relevance of the five testing seasons compared with the long-term seasonal conditions that might be experienced before selecting any variety to sow. The predictive value of this guide will improve as more trials and more years are added to the sorghum NVT database.

When assessing a hybrid's performance, it is imperative to consider the seasonal effects and make particular note of the number of comparisons for each hybrid. Growers are best equipped to interpret these results in relation to rainfall (timing, amount and intensity), temperature (extremes and the length of each event) and local environmental factors that affect a plant's development. As well as the predicted grain yield values that appear in the data tables, more detailed information can be accessed from the GRDC NVT website (nvt.grdc.com.au).

MORE INFORMATION

The full set of parameters that were recorded appear on the NVT website (nvt.grdc.com.au).

HYBRID SELECTION

Commercially available hybrid varieties are listed in Table 5 along with their grain colour, maturity, target environment, tillering, standability and midge rating.

NVT sorghum trials at Mullaley, Liverpool Plains, in 2018. Photo: Jan Edwards

Table 5: Sorghum hybrid details.

Company	Hybrid	Grain colour	Maturity	Target environment	Tillering	Standability	Midge rating*
Barenbrug	Cracka	Red	Medium	All regions	Moderate-high	Excellent	3
Barenbrug	Liberty	White	Long	Medium to good growing conditions	Moderate-high	Good	4
Barenbrug	BAR Cyclone	Red	Medium/slow	All regions	Moderate-high	Very good	6
Pacific Seeds	Acclaim	Red	Medium	All regions	High	Very good	7
Pacific Seeds	Halifax	Red	Long	Medium to good growing conditions	Moderate	Very good	7
Pacific Seeds	Maestro	Bright red	Medium	Medium to good growing conditions	Moderate	Very good	7
Pacific Seeds	MR-Bazley	Red	Medium/quick	All regions	Moderate-high	Very good	4
Pacific Seeds	MR-Buster	Red	Medium	All regions	Moderate-high	Very good	4
Pacific Seeds	MR-Taurus	Bright red	Medium/quick	All regions	Moderate	Very good	6
Pacific Seeds	Resolute	Bright red	Medium/long	Medium to good growing conditions	Moderate	Very good	8+
Pacific Seeds	Sentinel IG	Red	Medium	Medium to good growing conditions	High	Average	5
Pacific Seeds	Sterling	Bright red	Medium/quick	All regions	Low	Very good	6
Pacific Seeds	Viper IG	Red	Quick	Imidazolinone tolerant	Moderate	Excellent	4
Pioneer Hi-Bred Aust Pty Ltd	84A66	Bright red	Medium	All regions	Moderate	Very good	7
Pioneer Hi-Bred Aust Pty Ltd	84A75	Red	Medium	All regions	High	Very good	6
Pioneer Hi-Bred Aust Pty Ltd	84A88	Red	Medium/long	All regions	Medium	Excellent	4
Pioneer Hi-Bred Aust Pty Ltd	85A14**	Red	Medium/quick	All regions	Moderate-low	Very good	6
Pioneer Hi-Bred Aust Pty Ltd	85G33	Red	Medium	All regions	Moderate-high	Excellent	6
Radicle Seeds	Agitator	Red	Medium/quick	Stress tolerant	Low	Excellent	4
Radicle Seeds	Anvil	Red	Medium/quick	Good growing conditions	Moderate-high	Good	5
Radicle Seeds	Brazen	Red	Medium/slow	Moderate to good conditions	Moderate-high	Very good	5
Radicle Seeds	Candela	Bright red	Medium	Stress tolerant	Low-moderate	Excellent	5
S&W Seeds	Gibson	Red	Medium	All regions	Moderate	Very good	6
S&W Seeds	Tanami	Red	Medium/quick	All regions	Low	Very good	5

** This hybrid was marketed as HGS-114 in 2017, 2018, 2019 and 2020.

* Midge Resistance Rating. 1 Susceptible, 2 Low, 4 Moderate, 6 Very high, 7 High, 8+ Excellent.

Midge rating is the factor by which a hybrid's midge resistance exceeds that of a fully susceptible hybrid (rating 1). For example, if it is cost effective to control 2 midges/head in a rating 1 hybrid, then cost effective control in a rating 7 hybrid occurs when there are 14 midges/head.

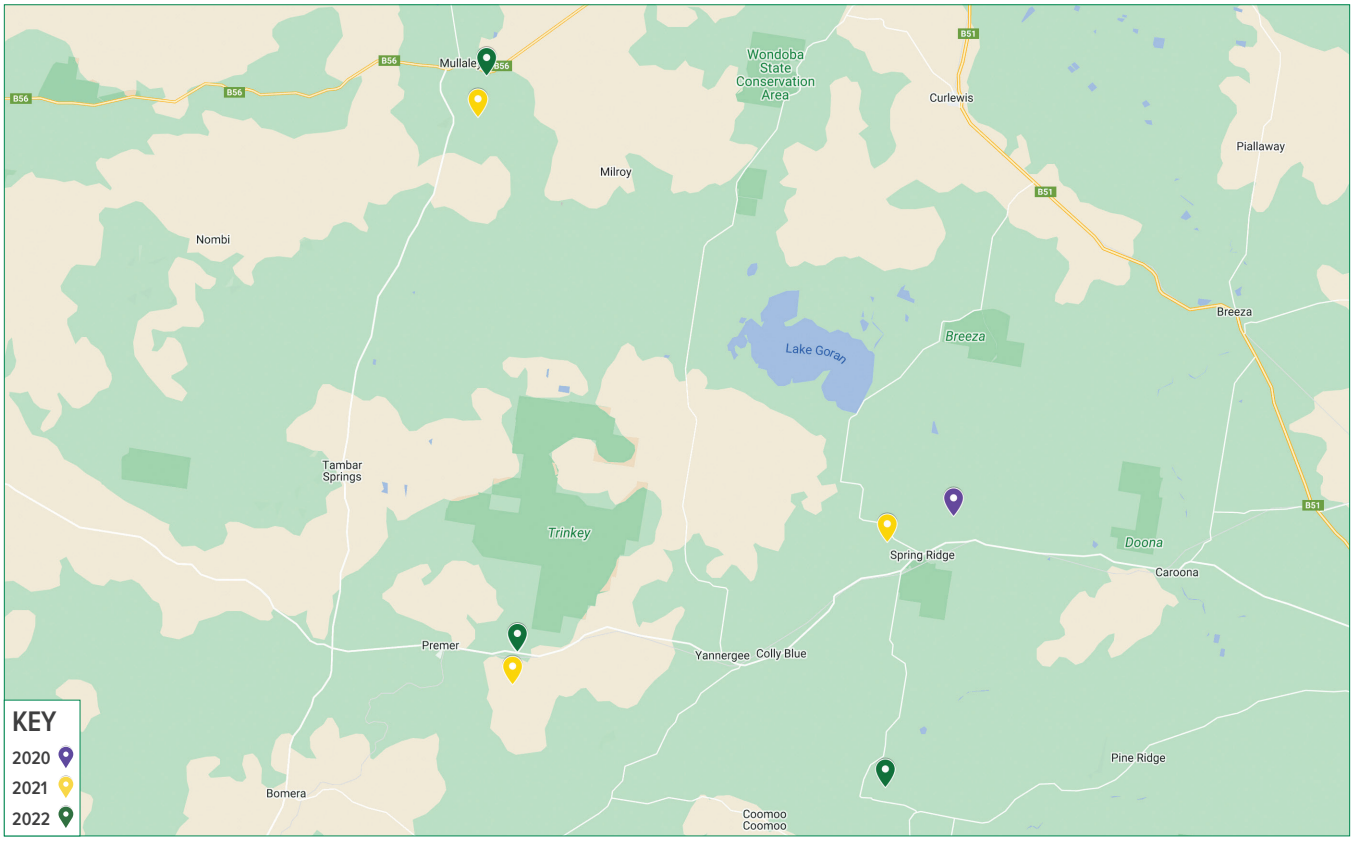
For more information regarding midge resistance ratings contact Tracey Shatte (tracey.shatte@daf.qld.gov.au).

LIVERPOOL PLAINS

NVT SITE LOCATIONS – LIVERPOOL PLAINS

Figure 1: Location of Liverpool Plains NVT sorghum trial sites from 2020 to 2022.

SOURCE: NVT Online



YIELD PERFORMANCE

The following tables contain yield results from the region for the past five seasons. Data is presented (deviation from the mean t/ha) for each hybrid relative to the mean trial yield for the location within each year. Positive values indicate that the hybrid performs above the mean yield in the environment (year–location combination) cited. Negative values indicate that the hybrid performs below the mean yield in the environment cited. Hybrid names are listed in ascending numerical order, followed by alphabetical order.

The performance of hybrids listed within these tables can be found by further interrogation of the NVT website. Error bars, normally used to compare data, can be viewed within the graph option also found via the NVT website. Rainfall is provided for August to November (A–N) and December to March (D–M). The number of days from sowing to harvest is also provided. Trials not sown due to unfavourable seasonal conditions are listed as 'No trial' and those not harvested as 'Trial failed'. Trials identified as having no significant difference between hybrids are listed as 'No genetic variance'. Trials listed as 'Compromised trial' are not suitable for making variety decisions and are excluded from the statistical analysis.

Sorghum variety yield performance (t/ha deviation from the mean yield)

Table 1: Premer yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	No trial	–0.017	–0.160	Compromised trial
84A75	Medium			0.547	–0.671	
84A88	Medium/long				0.430	
85A14	Medium			–0.191	0.407	
85G33	Medium/quick			–0.088	–0.399	
Acclaim	Medium			0.474	0.204	
Agitator	Medium/quick			–0.703	–0.478	
Anvil	Medium/quick				–0.748	
BAR Cyclone	Medium/slow				–0.136	
Brazen	Medium/slow			–0.118	–0.520	
Candela	Medium			–1.873	–1.119	
Cracka	Medium			0.079	–0.229	
Gibson	Medium			–0.115	–0.080	
Halifax	Long			0.612	1.062	
Liberty	Long			–0.976	–0.586	
Maestro	Medium				1.148	
MR-Bazley	Medium/quick			0.129	–0.032	
MR-Buster	Medium			0.089	–0.335	
MR-Taurus	Medium/long			0.402	0.165	
Resolute	Medium/long			0.826	1.103	
Sentinel IG	Medium			0.084	0.078	
Sterling	Medium/quick				0.593	
Tanami	Medium/quick			0.035	0.224	
Viper IG	Quick			–1.906	–0.969	
Mean yield (t/ha)				**8.40**	**9.83**	
Rainfall mm (A–N)		166.4		172.0	404.0	438.0
Rainfall mm (D–M)		152.0		275.0	369.0	206.0
Sowing date		31 Oct 18		21 Oct 20	25 Oct 21	10 Nov 22
Harvest date				21 Mar 21	23 Mar 22	21 Apr 23
Days to harvest				151	149	163

Special thanks to the 2022 trial cooperator, Plantation Trading.

Table 2: Mullaley yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	–0.029	No trial	0.636	–0.063	Trial failed
84A75	Medium	–0.410		1.373	–0.459	
84A88	Medium/long				0.475	
85A14	Medium	0.428		–0.465	0.838	
85G33	Medium/quick	–0.210		0.669	–0.427	
Acclaim	Medium			0.267	0.276	
Agitator	Medium/quick	–0.300		0.195	–0.773	
Anvil	Medium/quick				–1.164	
BAR Cyclone	Medium/slow				–0.388	
Brazen	Medium/slow	–0.452		0.433	–0.684	
Candela	Medium			–0.704	–1.522	
Cracka	Medium	0.044		–0.204	–0.419	
Gibson	Medium			0.500	0.189	
Halifax	Long	0.492		–1.215	1.111	
Liberty	Long	0.204		–0.637	–0.269	
Maestro	Medium				1.243	
MR-Bazley	Medium/quick	0.074		–0.224	–0.154	
MR-Buster	Medium	0.043		–0.367	–0.310	
MR-Taurus	Medium/long	–0.020		0.209	0.460	
Resolute	Medium/long	0.304		–0.504	1.052	
Sentinel IG	Medium	0.158		0.164	0.772	
Sterling	Medium/quick				0.570	
Tanami	Medium/quick	–0.141		0.136	–0.245	
Viper IG	Quick			–1.344	–1.050	
Mean yield (t/ha)		**5.18**		**7.11**	**9.14**	
Rainfall mm (A–N)		170.9		135.8	397.2	429.0
Rainfall mm (D–M)		155.2		407.4	471.0	237.0
Sowing date		26 Oct 18		13 Oct 20	22 Oct 21	7 Nov 22
Harvest date		12 Mar 19		5 Mar 21	17 Mar 22	
Days to harvest		137		143	146	

Special thanks to the 2022 trial cooperator.

Table 3: Caroona and Breeza yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	0.521	0.280	0.086	0.281
84A75	Medium		0.260	0.736	–0.544	–0.379
84A88	Medium/long				0.798	0.688
85A14	Medium		0.337	–0.289	0.780	0.514
85G33	Medium/quick		0.238	0.204	–0.381	–0.118
Acclaim	Medium		0.150	0.374	0.387	0.286
Agitator	Medium/quick		–0.190	–0.381	–0.821	–0.444
Anvil	Medium/quick				–1.022	
BAR Cyclone	Medium/slow				–0.311	–0.197
Brazen	Medium/slow		–0.485	–0.087	–0.899	–0.738
Candela	Medium			–0.854	–1.513	
Cracka	Medium		0.066	0.203	–0.336	–0.211
Gibson	Medium		0.411	0.060	0.195	0.252
Halifax	Long		–0.310	–0.055	1.189	0.586
Liberty	Long		0.061	–0.736	–0.672	–0.611
Maestro	Medium				1.147	0.375
MR-Bazley	Medium/quick		0.027	0.147	–0.080	–0.055
MR-Buster	Medium		–0.166	0.039	–0.490	–0.543
MR-Taurus	Medium/long		–0.104	0.125	0.311	0.040
Resolute	Medium/long		–0.109	0.283	1.334	0.882
Sentinel IG	Medium		0.172	–0.119	0.451	0.099
Sterling	Medium/quick				0.597	0.235
Tanami	Medium/quick			0.125	0.081	0.291
Viper IG	Quick		1.606	–0.550	–0.749	0.067
Mean yield (t/ha)			**4.16**	**8.36**	**8.45**	**7.17**
Rainfall mm (A–N)		135.2	66.6	126.2	412.2	485.0
Rainfall mm (D–M)		162.3	273.6	363.0	267.0	205.0
Sowing date		23 Nov 18	29 Oct 19	13 Oct 20	25 Oct 21	21 Nov 21
Harvest date			24 Mar 20	4 Mar 21	23 Mar 22	14 Apr 20
Days to harvest			147	142	149	145

Special thanks to the 2022 trial cooperator, Brownhill family.

GRAIN QUALITY

Grain quality for individual hybrids varies from site to site and from year to year. However, long-term and across-site trends highlight hybrids that can consistently achieve either higher test weights or low grain screenings under a broader range of environments. The grain quality tables of screenings (%<2.0mm) and test weight (kg/hL) contain MET-analysed results for each trial. Due to unfavourable seasonal conditions trials not sown are listed as 'No trial' and those not harvested as 'Trial failed'. Trials identified as having no significant difference between hybrids are listed as 'No genetic variance'. Trials listed as 'Compromised trial' are not suitable for making variety decisions and are excluded from the statistical analysis.

Screenings comparisons

Table 4: Premer screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	No trial	No genetic variance	2.2	Compromised trial
84A75	Medium				2.4	
84A88	Medium/long				2.8	
85A14	Medium				2.3	
85G33	Medium/quick				2.5	
Acclaim	Medium				1.9	
Agitator	Medium/quick				2.1	
Anvil	Medium/quick				2.4	
BAR Cyclone	Medium/slow				2.3	
Brazen	Medium/slow				2.2	
Candela	Medium				2.4	
Cracka	Medium				2.1	
Gibson	Medium				2.2	
Halifax	Long				2.1	
Liberty	Long				2.7	
Maestro	Medium				2.0	
MR-Bazley	Medium/quick				1.8	
MR-Buster	Medium				2.1	
MR-Taurus	Medium/long				1.9	
Resolute	Medium/long				2.0	
Sentinel IG	Medium				2.2	
Sterling	Medium/quick				1.9	
Tanami	Medium/quick				2.6	
Viper IG	Quick				1.9	
Site mean					**2.2**	

Table 5: Mullaley screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	3.8	No trial	No genetic variance	2.2	Trial failed
84A75	Medium	3.9			2.3	
84A88	Medium/long				2.7	
85A14	Medium	3.9			2.3	
85G33	Medium/quick	4.3			2.8	
Acclaim	Medium				2.1	
Agitator	Medium/quick	4.1			2.6	
Anvil	Medium/quick				3.0	
BAR Cyclone	Medium/slow				2.6	
Brazen	Medium/slow	4.2			3.0	
Candela	Medium				3.7	
Cracka	Medium	3.8			2.2	
Gibson	Medium				2.5	
Halifax	Long	3.7			2.0	
Liberty	Long	3.6			3.0	
Maestro	Medium				2.2	
MR-Bazley	Medium/quick	3.5			2.1	
MR-Buster	Medium	3.7			2.4	
MR-Taurus	Medium/long	3.6			1.9	
Resolute	Medium/long	3.7			2.0	
Sentinel IG	Medium	3.8			2.1	
Sterling	Medium/quick				1.9	
Tanami	Medium/quick	4.2			3.0	
Viper IG	Quick				2.4	
Site mean		**3.9**			**2.5**	

Table 6: Caroona and Breeza screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	2.3	3.1	2.3	4.1
84A75	Medium		2.4	3.2	2.4	4.3
84A88	Medium/long				2.5	4.4
85A14	Medium		2.5	3.2	2.3	4.2
85G33	Medium/quick		3.0	3.4	2.5	4.5
Acclaim	Medium		2.2	3.1	2.1	4.0
Agitator	Medium/quick		2.8	3.2	2.3	4.1
Anvil	Medium/quick				2.6	
BAR Cyclone	Medium/slow				2.5	4.2
Brazen	Medium/slow		3.0	3.3	2.4	4.2
Candela	Medium			3.7	2.9	
Cracka	Medium		2.2	3.1	2.2	4.1
Gibson	Medium		2.8	3.4	2.3	4.4
Halifax	Long		2.2	3.0	2.2	4.1
Liberty	Long		2.3	3.0	2.5	4.1
Maestro	Medium				2.2	4.2
MR-Bazley	Medium/quick		2.1	2.9	2.0	3.8
MR-Buster	Medium		2.4	3.1	2.2	4.1
MR-Taurus	Medium/long		2.2	3.1	2.1	4.1
Resolute	Medium/long		2.3	3.1	2.2	4.1
Sentinel IG	Medium		2.3	3.2	2.2	4.3
Sterling	Medium/quick				2.1	4.0
Tanami	Medium/quick			3.6	2.6	4.7
Viper IG	Quick		2.3	2.9	2.2	3.8
Site mean			**2.4**	**3.2**	**2.3**	**4.2**

Test weight comparisons

Table 7: Premer test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	No trial	73.8	77.9	Compromised trial
84A75	Medium			74.5	78.1	
84A88	Medium/long				77.0	
85A14	Medium			76.7	77.9	
85G33	Medium/quick			75.1	76.4	
Acclaim	Medium			77.1	79.2	
Agitator	Medium/quick			76.3	77.6	
Anvil	Medium/quick				78.5	
BAR Cyclone	Medium/slow				77.1	
Brazen	Medium/slow			77.1	78.2	
Candela	Medium			74.3	77.2	
Cracka	Medium			77.0	78.9	
Gibson	Medium			77.9	79.8	
Halifax	Long			76.4	78.7	
Liberty	Long			77.2	77.7	
Maestro	Medium				79.6	
MR-Bazley	Medium/quick			74.4	78.4	
MR-Buster	Medium			74.7	77.1	
MR-Taurus	Medium/long			76.9	78.5	
Resolute	Medium/long			77.8	79.0	
Sentinel IG	Medium			76.8	79.2	
Sterling	Medium/quick				77.6	
Tanami	Medium/quick			76.2	78.9	
Viper IG	Quick			73.7	78.2	
Site mean				**76.0**	**78.2**	

Table 8: Mullaley test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	68.6	No trial	70.3	74.0	Trial failed
84A75	Medium	69.6		71.2	74.4	
84A88	Medium/long				73.8	
85A14	Medium	70.3		72.3	74.7	
85G33	Medium/quick	67.3		68.3	73.7	
Acclaim	Medium			70.0	76.9	
Agitator	Medium/quick	67.8		68.5	75.0	
Anvil	Medium/quick				74.1	
BAR Cyclone	Medium/slow				74.3	
Brazen	Medium/slow	68.5		71.1	74.8	
Candela	Medium			71.9	73.9	
Cracka	Medium	71.8		73.1	75.7	
Gibson	Medium			71.2	76.5	
Halifax	Long	71.7		71.7	76.0	
Liberty	Long	73.6		73.9	75.4	
Maestro	Medium				76.5	
MR-Bazley	Medium/quick	70.9		69.6	76.0	
MR-Buster	Medium	69.7		69.7	74.5	
MR-Taurus	Medium/long	71.3		70.2	76.5	
Resolute	Medium/long	70.2		71.7	76.0	
Sentinel IG	Medium	71.6		71.8	76.3	
Sterling	Medium/quick				74.6	
Tanami	Medium/quick	69.4		71.1	75.4	
Viper IG	Quick			68.7	75.4	
Site mean		**70.2**		**70.9**	**75.2**	

Table 9: Caroona and Breeza test weight (kg/hL).

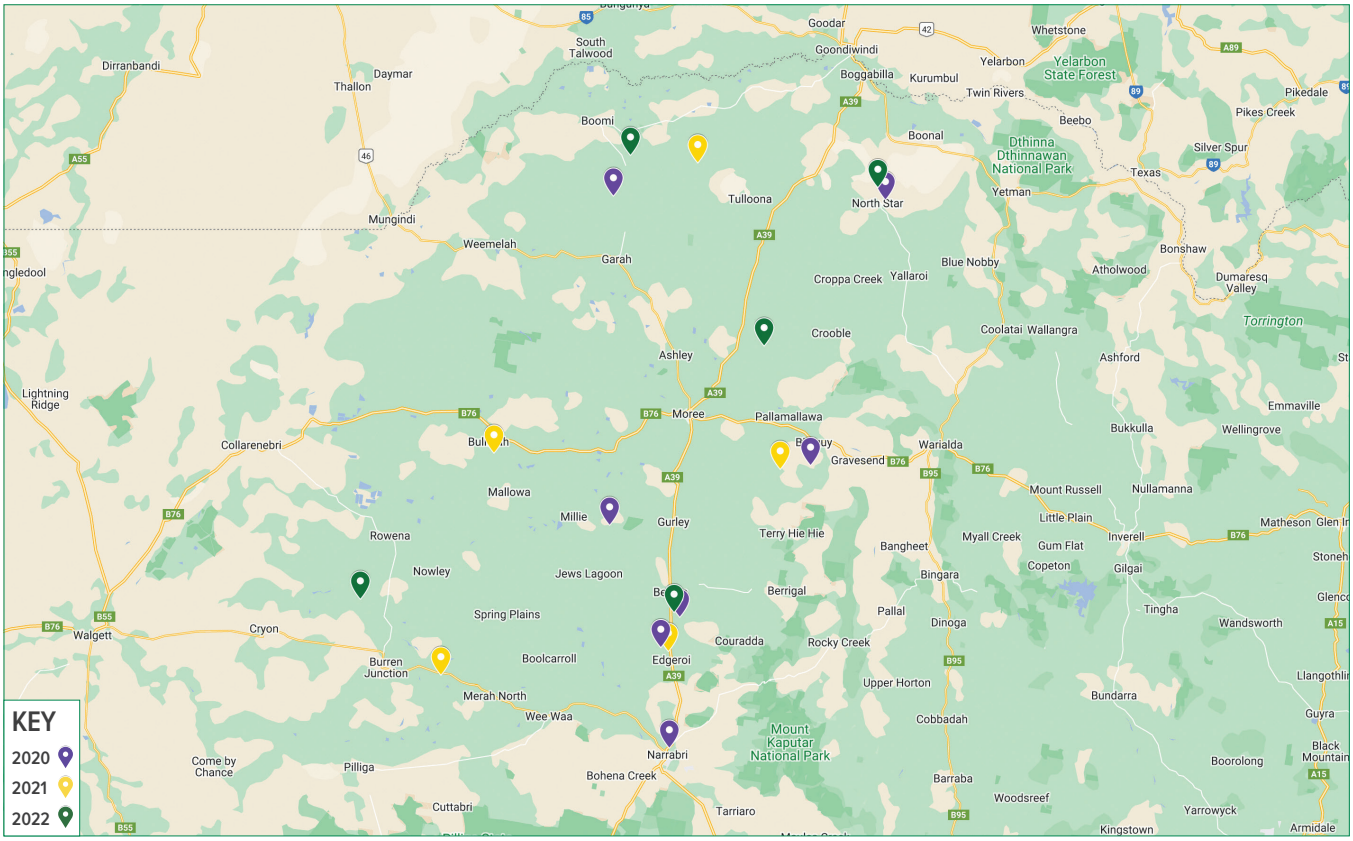
Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	73.6	75.2	74.2	75.7
84A75	Medium		73.5	75.3	74.6	76.9
84A88	Medium/long				74.9	76.0
85A14	Medium		74.1	77.2	75.7	76.6
85G33	Medium/quick		71.1	75.7	75.6	76.2
Acclaim	Medium		72.8	78.2	78.7	78.0
Agitator	Medium/quick		72.8	77.8	77.3	75.3
Anvil	Medium/quick				73.7	
BAR Cyclone	Medium/slow				76.3	76.1
Brazen	Medium/slow		75.3	77.9	76.2	74.9
Candela	Medium			77.1	74.5	
Cracka	Medium		74.3	77.4	76.5	78.0
Gibson	Medium		74.7	77.6	77.8	77.7
Halifax	Long		73.0	77.5	77.2	78.2
Liberty	Long		73.7	79.4	77.0	77.0
Maestro	Medium				77.6	77.2
MR-Bazley	Medium/quick		71.8	77.0	77.1	77.4
MR-Buster	Medium		72.2	77.2	76.0	75.7
MR-Taurus	Medium/long		72.0	78.5	78.7	78.0
Resolute	Medium/long		75.0	78.6	77.5	76.4
Sentinel IG	Medium		73.6	77.7	77.5	78.1
Sterling	Medium/quick				75.7	75.6
Tanami	Medium/quick			76.8	76.2	76.6
Viper IG	Quick		71.4	75.8	76.4	77.3
Site mean			**73.2**	**77.2**	**76.4**	**76.8**

NORTHERN NSW

NVT SITE LOCATIONS – NORTHERN NSW

Figure 1: Location of Northern NSW NVT sorghum trial sites from 2020 to 2022.

SOURCE: NVT Online



YIELD PERFORMANCE

The following tables contain yield results from the region for the past five seasons. Data is presented (deviation from the mean t/ha) for each hybrid relative to the mean trial yield for the location within each year. Positive values indicate that the hybrid performs above the mean yield in the environment (year–location combination) cited. Negative values indicate that the hybrid performs below the mean yield in the environment cited. Hybrid names are listed in ascending numerical order, followed by alphabetical order.

The performance of hybrids listed within these tables can be found by further interrogation of the NVT website. Error bars, normally used to compare data, can be viewed within the graph option also found via the website. Rainfall is provided for August to November (A–N) and December to March (D–M). The number of days from sowing to harvest is also provided. Due to unfavourable seasonal conditions, trials not sown are listed as 'No trial' and those not harvested as 'Trial failed'. Trials identified as having no significant difference between hybrids are listed as 'No genetic variance'. Trials listed as 'Compromised trial' are not suitable for making variety decisions and are excluded from the statistical analysis.

Sorghum variety yield performance (t/ha deviation from the mean yield)

Table 1: Mallowa yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	No trial	0.162	0.127	No trial
84A75	Medium			0.227	0.877	
84A88	Medium/long				0.640	
85A14	Medium			0.094	–0.343	
85G33	Medium/quick			–0.005	0.073	
Acclaim	Medium			0.257	0.491	
Agitator	Medium/quick				–0.727	
Anvil	Medium/quick				–0.932	
BAR Cyclone	Medium/slow				0.277	
Brazen	Medium/slow				–0.138	
Candela	Medium				–1.283	
Cracka	Medium			0.197	0.413	
Gibson	Medium			0.041	–0.122	
Halifax	Long			0.286	0.322	
Liberty	Long			–0.300	–0.798	
Maestro	Medium				0.910	
MR-Bazley	Medium/quick			0.166	0.316	
MR-Buster	Medium			0.102	0.382	
MR-Taurus	Medium/long			0.061	0.252	
Resolute	Medium/long			0.355	0.495	
Sentinel IG	Medium			0.029	–0.076	
Sterling	Medium/quick				0.384	
Tanami	Medium/quick			–0.045	–0.064	
Viper IG	Quick			0.371	–0.732	
Mean yield (t/ha)				**3.05**	**5.54**	
Rainfall mm (A–N)		143.2		184.2	256.5	
Rainfall mm (D–M)		76.8		596.0	64.7	
Sowing date		25 Oct 18		9 Sep 20	14 Sep 21	
Harvest date				19 Jan 21	31 Jan 22	
Days to harvest				132	139	

Special thanks to the 2022 trial cooperator.

Table 2: Garah yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	0.351	No trial	0.032	0.080	Trial failed
84A75	Medium	0.275		–0.284	0.246	
84A88	Medium/long				0.871	
85A14	Medium	0.035		0.364	–0.133	
85G33	Medium/quick	0.161		–0.160	–0.111	
Acclaim	Medium			0.099	0.494	
Agitator	Medium/quick	–0.240		–0.319	–0.750	
Anvil	Medium/quick				–0.886	
BAR Cyclone	Medium/slow				0.212	
Brazen	Medium/slow	–0.333		–0.423	–0.452	
Candela	Medium			–0.198	–1.328	
Cracka	Medium	0.113		–0.024	0.290	
Gibson	Medium			0.059	–0.164	
Halifax	Long	–0.059		0.454	0.770	
Liberty	Long	–0.409		–0.039	–1.058	
Maestro	Medium				0.986	
MR-Bazley	Medium/quick	0.086		0.033	0.287	
MR-Buster	Medium	–0.145		–0.074	0.060	
MR-Taurus	Medium/long	–0.054		0.037	0.132	
Resolute	Medium/long	0.217		0.404	1.007	
Sentinel IG	Medium	–0.098		0.153	–0.276	
Sterling	Medium/quick				0.554	
Tanami	Medium/quick	0.161		–0.048	0.263	
Viper IG	Quick			0.410	–0.670	
Mean yield (t/ha)		**2.27**		**1.88**	**5.69**	
Rainfall mm (A–N)		162.0		74.1	248.6	
Rainfall mm (D–M)		65.0		487.0	157.2	
Sowing date		27 Oct 18		28 Sep 20	10 Sep 21	5 Oct 22
Harvest date		15 Feb 19		19 Feb 21	31 Jan 22	
Days to harvest		111		144	143	

Special thanks to the 2022 trial cooperator.

Table 3: Burren Junction yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No trial	No trial	–0.044	0.035	Trial failed
84A75	Medium			–0.156	0.491	
84A88	Medium/long				0.028	
85A14	Medium			0.468	0.043	
85G33	Medium/quick			–0.328	0.023	
Acclaim	Medium			0.342	0.160	
Agitator	Medium/quick			–0.840	–0.326	
Anvil	Medium/quick				–0.554	
BAR Cyclone	Medium/slow				–0.035	
Brazen	Medium/slow			–0.635	0.026	
Candela	Medium			–1.194	–0.682	
Cracka	Medium			0.021	0.005	
Gibson	Medium			–0.011	0.081	
Halifax	Long			1.018	0.038	
Liberty	Long			–0.377	–0.018	
Maestro	Medium				0.565	
MR-Bazley	Medium/quick			0.122	0.007	
MR-Buster	Medium			0.054	0.194	
MR-Taurus	Medium/long			0.294	0.290	
Resolute	Medium/long			0.936	0.008	
Sentinel IG	Medium			0.359	0.400	
Sterling	Medium/quick				0.114	
Tanami	Medium/quick			–0.185	–0.338	
Viper IG	Quick			–0.333	–0.589	
Mean yield (t/ha)				**4.44**	**4.55**	
Rainfall mm (A–N)				115.6	289.8	
Rainfall mm (D–M)				408.0	220.9	
Sowing date				28 Sep 20	17 Sep 21	7 Sep 22
Harvest date				17 Feb 21	17 Feb 22	
Days to harvest				142	153	

Special thanks to the 2022 trial cooperator.

Table 4: Pallamallawa yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	0.146	No trial	0.024	0.352	–0.062
84A75	Medium	0.266		0.182	0.605	–0.223
84A88	Medium/long				0.700	0.200
85A14	Medium	–0.091		0.088	0.105	0.385
85G33	Medium/quick	–0.020		–0.129	0.090	–0.204
Acclaim	Medium			0.295	0.480	0.088
Agitator	Medium/quick	–0.549			–0.699	–0.328
Anvil	Medium/quick				–0.728	
BAR Cyclone	Medium/slow				0.013	–0.176
Brazen	Medium/slow	–0.363			–0.446	–0.283
Candela	Medium				–1.173	
Cracka	Medium	0.228		0.331	0.104	–0.163
Gibson	Medium			–0.107	0.202	0.065
Halifax	Long	0.463		0.586	0.279	0.486
Liberty	Long	–0.783		–0.294	–0.715	–0.003
Maestro	Medium				0.724	0.378
MR-Bazley	Medium/quick	0.213		0.278	0.119	–0.058
MR-Buster	Medium	0.020		0.312	–0.046	–0.074
MR-Taurus	Medium/long	0.077		0.102	0.249	0.198
Resolute	Medium/long	0.685		0.513	0.582	0.397
Sentinel IG	Medium	–0.198		0.014	0.204	0.367
Sterling	Medium/quick				0.244	0.224
Tanami	Medium/quick	0.197		–0.139	–0.028	–0.170
Viper IG	Quick			0.379	–0.362	–0.329
Mean yield (t/ha)		**3.39**		**3.25**	**5.21**	**4.15**
Rainfall mm (A–N)		152.6		106.2	335.0	385.4
Rainfall mm (D–M)		119.8		567.2	379.6	273.2
Sowing date		25 Oct 18		10 Sep 20	13 Sep 21	10 Nov 22
Harvest date		14 Feb 19		9 Feb 21	01 Feb 22	22 Mar 23
Days to harvest		112		152	141	133

Special thanks to the 2022 trial cooperator, Warrakirri 2 Pty Ltd.

Table 5: Bellata and Narrabri yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	0.215	Trial failed	–0.653	0.131	0.001
84A75	Medium	0.308		–0.019	0.058	–0.038
84A88	Medium/long				0.524	0.968
85A14	Medium	0.038		–0.513	0.327	0.684
85G33	Medium/quick	0.115		–0.324	–0.126	–0.363
Acclaim	Medium			–0.025	0.330	0.416
Agitator	Medium/quick	–0.192		–0.171	–0.598	–1.075
Anvil	Medium/quick				–0.746	
BAR Cyclone	Medium/slow				–0.114	–0.219
Brazen	Medium/slow	–0.161		0.429	–0.472	–0.778
Candela	Medium			–0.603	–1.109	
Cracka	Medium	0.082		0.342	–0.094	–0.008
Gibson	Medium			–0.663	0.134	0.093
Halifax	Long	–0.092		0.626	0.578	1.132
Liberty	Long	–0.133		–0.096	–0.506	–0.259
Maestro	Medium				0.831	0.506
MR-Bazley	Medium/quick	0.052		0.263	0.011	0.113
MR-Buster	Medium	0.007		0.673	–0.163	0.124
MR-Taurus	Medium/long	0.032		0.135	0.255	0.440
Resolute	Medium/long	0.026		0.228	0.720	0.983
Sentinel IG	Medium	0.074		–0.296	0.297	0.678
Sterling	Medium/quick				0.350	0.528
Tanami	Medium/quick	–0.047		–0.122	–0.030	–0.429
Viper IG	Quick			–1.268	–0.577	–0.265
Mean yield (t/ha)		**0.82**		**3.54**	**4.90**	**6.67**
Rainfall mm (A–N)		192.4	60.6	150.8	271.8	473.4
Rainfall mm (D–M)		98.2	344.0	477.8	267.0	261.0
Sowing date		25 Oct 18	23 Oct 19	4 Nov 20	28 Sep 21	18 Oct 22
Harvest date		1 Feb 19		12 Feb 21	16 Feb 22	9 Mar 23
Days to harvest		99		100	141	143

Special thanks to the 2022 trial cooperator.

Table 6: North Star yield values.

Hybrid	Maturity	2018*	2018*	2019	2020	2021	2022
84A66	Medium	0.392	–0.002	No trial	0.035	–0.029	Trial failed
84A75	Medium	0.707	–0.138		0.541	0.196	
84A88	Medium/long					1.023	
85A14	Medium	–0.219	0.115		–0.090	–0.262	
85G33	Medium/quick	0.248	–0.077		–0.085	–0.144	
Acclaim	Medium				0.430	0.421	
Agitator	Medium/quick	–0.417	–0.169		–0.833	–0.721	
Anvil	Medium/quick					–0.759	
BAR Cyclone	Medium/slow					0.332	
Brazen	Medium/slow	–0.271	–0.231		–0.351	–0.411	
Candela	Medium				–1.012	–0.862	
Cracka	Medium	0.370	0.154		0.453	0.540	
Gibson	Medium				–0.162	–0.340	
Halifax	Long	–0.109	0.226		0.610	0.797	
Liberty	Long	–0.591	0.069		–0.519	–0.857	
Maestro	Medium					0.222	
MR-Bazley	Medium/quick	0.250	0.121		0.363	0.444	
MR-Buster	Medium	0.120	0.118		0.471	0.343	
MR-Taurus	Medium/long	–0.021	–0.072		0.209	–0.001	
Resolute	Medium/long	0.193	0.128		0.582	0.863	
Sentinel IG	Medium	–0.215	–0.055		0.008	–0.483	
Sterling	Medium/quick					0.486	
Tanami	Medium/quick	0.109	–0.041		–0.191	0.215	
Viper IG	Quick				–0.053	0.016	
Mean yield (t/ha)		**1.99**	**1.21**		**3.93**	**4.99**	
Rainfall mm (A–N)		171.4	171.4		129.0	293.0	372.0
Rainfall mm (D–M)		111.2	111.2		510.3	287.5	147.0
Sowing date		19 Sep 18	13 Nov 18		15 Oct 20	9 Sep 21	18 Nov 22
Harvest date		30 Jan 19	4 Mar 19		19 Mar 21	30 Jan 22	
Days to harvest		133	111		155	143	

Special thanks to the 2022 trial cooperator.
* In 2018 two NVT trials were located at North Star.

GRAIN QUALITY

Grain quality for individual hybrids varies from site to site and from year to year. However, long-term and across-site trends highlight hybrids that can consistently achieve either higher test weights or low grain screenings under a broader range of environments. The grain quality tables of screenings (%<2.0mm) and test weight (kg/hL) contain MET-analysed results for each trial. Due to unfavourable seasonal conditions trials not sown are listed as 'No trial' and those not harvested as 'Trial failed'. Trials identified as having no significant difference between hybrids are listed as 'No genetic variance'. Trials listed as 'Compromised trial' are not suitable for making variety decisions and are excluded from the statistical analysis.

Screenings comparisons

Table 7: Mallowa screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	No trial	3.6	1.8	No trial
84A75	Medium			3.7	1.8	
84A88	Medium/long				1.5	
85A14	Medium			3.7	2.0	
85G33	Medium/quick			3.9	2.1	
Acclaim	Medium			3.3	2.3	
Agitator	Medium/quick				2.0	
Anvil	Medium/quick				3.1	
BAR Cyclone	Medium/slow				1.8	
Brazen	Medium/slow				2.2	
Candela	Medium				3.3	
Cracka	Medium			3.3	1.9	
Gibson	Medium			3.5	3.0	
Halifax	Long			3.5	2.0	
Liberty	Long			3.3	1.3	
Maestro	Medium				2.7	
MR-Bazley	Medium/quick			3.1	2.4	
MR-Buster	Medium			3.3	2.2	
MR-Taurus	Medium/long			3.3	2.7	
Resolute	Medium/long			3.5	2.3	
Sentinel IG	Medium			3.4	2.5	
Sterling	Medium/quick				1.9	
Tanami	Medium/quick			3.9	3.2	
Viper IG	Quick			3.3	1.9	
Site mean				**3.5**	**2.2**	

Table 8: Garah screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	7.2	No trial	0.7	0.7	Trial failed
84A75	Medium	7.3		0.7	0.8	
84A88	Medium/long				0.9	
85A14	Medium	7.1		0.8	0.8	
85G33	Medium/quick	7.5		0.7	1.1	
Acclaim	Medium			0.7	0.8	
Agitator	Medium/quick	7.1		0.8	0.7	
Anvil	Medium/quick				1.5	
BAR Cyclone	Medium/slow				0.7	
Brazen	Medium/slow	7.4		0.7	1.0	
Candela	Medium			1.1	1.5	
Cracka	Medium	7.3		0.7	0.7	
Gibson	Medium			0.7	1.3	
Halifax	Long	7.1		0.7	0.7	
Liberty	Long	6.9		0.6	0.8	
Maestro	Medium				1.1	
MR-Bazley	Medium/quick	6.9		0.7	0.8	
MR-Buster	Medium	7.1		0.7	0.8	
MR-Taurus	Medium/long	7.2		0.7	0.9	
Resolute	Medium/long	7.2		0.8	0.8	
Sentinel IG	Medium	7.4		0.7	1.1	
Sterling	Medium/quick				0.5	
Tanami	Medium/quick	7.4		0.7	1.7	
Viper IG	Quick			0.7	0.6	
Site mean		**7.2**		**0.7**	**0.9**	

Table 9: Burren Junction screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No trial	No trial	No genetic variance	1.6	Trial failed
84A75	Medium				1.7	
84A88	Medium/long				1.9	
85A14	Medium				1.5	
85G33	Medium/quick				2.1	
Acclaim	Medium				1.4	
Agitator	Medium/quick				1.7	
Anvil	Medium/quick				2.0	
BAR Cyclone	Medium/slow				1.6	
Brazen	Medium/slow				2.1	
Candela	Medium				1.9	
Cracka	Medium				1.6	
Gibson	Medium				1.8	
Halifax	Long				1.4	
Liberty	Long				1.6	
Maestro	Medium				1.5	
MR-Bazley	Medium/quick				1.2	
MR-Buster	Medium				1.5	
MR-Taurus	Medium/long				1.3	
Resolute	Medium/long				1.4	
Sentinel IG	Medium				1.6	
Sterling	Medium/quick				1.3	
Tanami	Medium/quick				2.0	
Viper IG	Quick				1.2	
Site mean					**1.6**	

Table 10: Pallamallawa screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	8.8	No trial	2.4	5.0	1.5
84A75	Medium	8.8		2.5	5.2	1.5
84A88	Medium/long				5.4	1.4
85A14	Medium	8.8		2.5	5.0	1.4
85G33	Medium/quick	9.2		2.7	5.6	2.2
Acclaim	Medium			2.2	4.9	1.6
Agitator	Medium/quick	9.1			5.1	2.1
Anvil	Medium/quick				5.7	
BAR Cyclone	Medium/slow				5.0	1.6
Brazen	Medium/slow	9.3			5.6	2.7
Candela	Medium				5.7	
Cracka	Medium	8.9		2.3	5.0	1.8
Gibson	Medium			2.5	5.5	1.9
Halifax	Long	8.7		2.4	4.8	1.2
Liberty	Long	8.4		2.4	5.3	1.3
Maestro	Medium				5.1	1.6
MR-Bazley	Medium/quick	8.9		2.0	4.8	1.6
MR-Buster	Medium	8.9		2.3	5.1	1.8
MR-Taurus	Medium/long	9.0		2.2	4.9	1.5
Resolute	Medium/long	8.9		2.3	4.9	1.4
Sentinel IG	Medium	9.0		2.3	5.2	1.6
Sterling	Medium/quick				4.6	1.3
Tanami	Medium/quick	9.4		2.9	5.9	1.9
Viper IG	Quick			2.2	4.8	1.5
Site mean		**8.9**		**2.4**	**5.2**	**1.7**

Table 11: Bellata and Narrabri screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	10.0	Trial failed	1.6	2.0	1.0
84A75	Medium	10.1		1.6	2.2	1.1
84A88	Medium/long				2.3	0.8
85A14	Medium	9.8		1.7	2.0	1.1
85G33	Medium/quick	10.3		1.6	2.4	2.0
Acclaim	Medium			1.7	1.7	1.3
Agitator	Medium/quick	9.8		1.6	2.0	1.8
Anvil	Medium/quick				2.2	
BAR Cyclone	Medium/slow				2.1	1.4
Brazen	Medium/slow	10.5		1.5	2.1	2.5
Candela	Medium			1.9	2.2	
Cracka	Medium	10.3		1.6	1.9	1.2
Gibson	Medium			1.9	2.0	2.1
Halifax	Long	9.9		1.7	1.8	0.8
Liberty	Long	10.0		1.5	1.9	0.7
Maestro	Medium				1.8	1.7
MR-Bazley	Medium/quick	10.1		1.8	1.4	1.3
MR-Buster	Medium	10.2		1.7	1.8	1.5
MR-Taurus	Medium/long	10.3		1.9	1.6	1.4
Resolute	Medium/long	10.0		1.8	1.8	1.2
Sentinel IG	Medium	10.5		1.9	2.0	1.4
Sterling	Medium/quick				1.8	0.9
Tanami	Medium/quick	10.5		2.0	2.2	2.5
Viper IG	Quick			1.6	1.5	1.2
Site mean		**10.2**		**1.7**	**1.9**	**1.4**

Table 12: North Star screenings (%<2.0mm).

Hybrid	Maturity	2018*	2018*	2019	2020	2021	2022
84A66	Medium	11.5	8.9	No trial	No genetic variance	0.8	Trial failed
84A75	Medium	11.5	9.0			1.0	
84A88	Medium/long					1.1	
85A14	Medium	11.5	8.9			1.0	
85G33	Medium/quick	12.0	9.2			1.0	
Acclaim	Medium					1.1	
Agitator	Medium/quick	11.8	9.2			0.6	
Anvil	Medium/quick					1.7	
BAR Cyclone	Medium/slow					0.7	
Brazen	Medium/slow	12.2	9.2			0.8	
Candela	Medium					1.5	
Cracka	Medium	11.6	8.9			0.8	
Gibson	Medium					1.8	
Halifax	Long	11.4	8.8			1.1	
Liberty	Long	11.3	8.8			1.1	
Maestro	Medium					1.6	
MR-Bazley	Medium/quick	11.8	8.7			1.3	
MR-Buster	Medium	11.8	8.9			1.1	
MR-Taurus	Medium/long	11.8	8.7			1.5	
Resolute	Medium/long	11.6	8.8			1.2	
Sentinel IG	Medium	11.8	8.8			1.5	
Sterling	Medium/quick					0.9	
Tanami	Medium/quick	12.3	9.0			2.2	
Viper IG	Quick					0.9	
Site mean		**11.7**	**8.9**			**1.2**	

* In 2018 two NVT trials were located at North Star.

Test weight comparisons

Table 13: Mallowa test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	No trial	78.2	80.2	No trial
84A75	Medium			78.0	79.7	
84A88	Medium/long				79.0	
85A14	Medium			78.4	79.5	
85G33	Medium/quick			78.2	78.5	
Acclaim	Medium			80.1	81.8	
Agitator	Medium/quick				81.0	
Anvil	Medium/quick				80.2	
BAR Cyclone	Medium/slow				79.9	
Brazen	Medium/slow				80.9	
Candela	Medium				79.9	
Cracka	Medium			78.6	80.1	
Gibson	Medium			80.1	81.6	
Halifax	Long			78.8	80.5	
Liberty	Long			78.1	79.7	
Maestro	Medium				82.0	
MR-Bazley	Medium/quick			79.0	81.5	
MR-Buster	Medium			78.4	80.2	
MR-Taurus	Medium/long			79.6	81.1	
Resolute	Medium/long			79.8	81.6	
Sentinel IG	Medium			79.2	81.1	
Sterling	Medium/quick				80.7	
Tanami	Medium/quick			79.2	81.1	
Viper IG	Quick			78.8	81.1	
Site mean				**78.9**	**80.5**	

Table 14: Garah test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	72.7	No trial	72.8	79.4	Trial failed
84A75	Medium	72.5		74.3	79.0	
84A88	Medium/long				78.3	
85A14	Medium	72.3		76.7	78.9	
85G33	Medium/quick	69.8		74.4	78.0	
Acclaim	Medium			75.3	81.5	
Agitator	Medium/quick	71.2		73.8	80.6	
Anvil	Medium/quick				79.3	
BAR Cyclone	Medium/slow				79.6	
Brazen	Medium/slow	72.7		75.5	80.5	
Candela	Medium			73.4	78.7	
Cracka	Medium	72.8		77.3	79.5	
Gibson	Medium			76.8	81.5	
Halifax	Long	72.4		76.0	79.8	
Liberty	Long	73.2		77.1	78.7	
Maestro	Medium				81.7	
MR-Bazley	Medium/quick	72.4		72.5	80.6	
MR-Buster	Medium	72.0		72.9	79.3	
MR-Taurus	Medium/long	71.6		75.4	80.5	
Resolute	Medium/long	72.9		76.3	81.2	
Sentinel IG	Medium	72.6		76.0	80.5	
Sterling	Medium/quick				80.0	
Tanami	Medium/quick	72.8		75.1	80.6	
Viper IG	Quick			71.8	80.3	
Site mean		**72.3**		**74.9**	**79.9**	

Table 15: Burren Junction test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No trial	No trial	74.9	79.5	Trial failed
84A75	Medium			74.8	79.0	
84A88	Medium/long				78.3	
85A14	Medium			75.3	78.8	
85G33	Medium/quick			73.8	77.8	
Acclaim	Medium			76.9	81.0	
Agitator	Medium/quick			76.0	80.1	
Anvil	Medium/quick				79.5	
BAR Cyclone	Medium/slow				79.1	
Brazen	Medium/slow			76.2	80.1	
Candela	Medium			75.8	79.2	
Cracka	Medium			75.8	79.4	
Gibson	Medium			76.4	80.8	
Halifax	Long			76.1	79.7	
Liberty	Long			76.6	79.0	
Maestro	Medium				81.2	
MR-Bazley	Medium/quick			76.5	80.7	
MR-Buster	Medium			75.7	79.5	
MR-Taurus	Medium/long			76.6	80.2	
Resolute	Medium/long			76.9	80.7	
Sentinel IG	Medium			76.4	80.3	
Sterling	Medium/quick				80.0	
Tanami	Medium/quick			76.0	80.3	
Viper IG	Quick			75.7	80.3	
Site mean				**75.9**	**79.8**	

Table 16: Pallamallawa test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	72.9	No trial	77.3	78.7	75.3
84A75	Medium	73.0		77.5	78.2	74.8
84A88	Medium/long				77.3	73.8
85A14	Medium	73.6		78.8	77.7	74.6
85G33	Medium/quick	70.6		77.4	76.7	72.8
Acclaim	Medium			78.9	80.9	77.7
Agitator	Medium/quick	72.2			79.6	76.2
Anvil	Medium/quick				78.5	
BAR Cyclone	Medium/slow				78.5	74.2
Brazen	Medium/slow	74.1			79.3	76.1
Candela	Medium				78.1	
Cracka	Medium	74.1		79.0	78.6	75.6
Gibson	Medium			80.0	80.5	76.9
Halifax	Long	73.3		78.3	79.2	76.3
Liberty	Long	74.1		78.5	77.9	76.1
Maestro	Medium				80.9	77.7
MR-Bazley	Medium/quick	72.4		77.0	80.4	77.6
MR-Buster	Medium	72.1		77.2	78.7	75.9
MR-Taurus	Medium/long	72.6		78.4	79.9	77.1
Resolute	Medium/long	74.5		79.9	80.2	77.2
Sentinel IG	Medium	73.8		78.7	79.9	76.9
Sterling	Medium/quick				79.4	76.1
Tanami	Medium/quick	73.9		78.9	79.8	76.4
Viper IG	Quick			76.6	80.1	76.8
Site mean		**73.1**		**78.3**	**79.1**	**76.0**

Table 17: Bellata and Narrabri test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	70.9	Trial failed	64.6	82.0	78.0
84A75	Medium	71.9		63.2	81.5	77.2
84A88	Medium/long				80.4	76.3
85A14	Medium	70.7		61.7	80.7	76.8
85G33	Medium/quick	67.5		64.0	79.7	75.0
Acclaim	Medium			60.7	83.4	79.1
Agitator	Medium/quick	66.3		63.7	82.2	78.3
Anvil	Medium/quick				81.9	
BAR Cyclone	Medium/slow				81.3	76.2
Brazen	Medium/slow	69.2		63.7	82.2	78.5
Candela	Medium			62.3	81.2	
Cracka	Medium	72.2		60.2	81.6	77.5
Gibson	Medium			62.0	83.3	78.3
Halifax	Long	70.5		60.0	82.0	78.1
Liberty	Long	68.6		58.0	80.6	78.4
Maestro	Medium				83.7	79.4
MR-Bazley	Medium/quick	68.5		61.3	83.1	79.7
MR-Buster	Medium	67.0		62.5	81.5	78.5
MR-Taurus	Medium/long	67.8		59.8	82.4	78.6
Resolute	Medium/long	69.8		61.7	82.9	79.1
Sentinel IG	Medium	70.9		60.3	82.7	78.6
Sterling	Medium/quick				82.3	78.5
Tanami	Medium/quick	71.2		63.0	82.8	78.5
Viper IG	Quick			62.8	82.9	78.9
Site mean		**69.5**		**61.9**	**82.0**	**78.1**

Table 18: North Star test weight (kg/hL).

Hybrid	Maturity	2018*	2018*	2019	2020	2021	2022
84A66	Medium	72.0	72.1	No trial	74.9	81.9	Trial failed
84A75	Medium	72.4	71.9		74.8	81.0	
84A88	Medium/long					80.6	
85A14	Medium	71.6	72.6		75.6	80.8	
85G33	Medium/quick	67.8	69.8		73.8	80.0	
Acclaim	Medium				77.4	82.6	
Agitator	Medium/quick	68.8	71.5		76.4	82.6	
Anvil	Medium/quick					81.9	
BAR Cyclone	Medium/slow					81.4	
Brazen	Medium/slow	71.5	73.1		76.8	82.6	
Candela	Medium				75.6	81.8	
Cracka	Medium	73.2	72.9		76.3	80.9	
Gibson	Medium				77.2	82.4	
Halifax	Long	72.0	72.3		76.4	81.3	
Liberty	Long	71.2	74.3		76.9	81.0	
Maestro	Medium					83.0	
MR-Bazley	Medium/quick	71.0	72.0		76.4	82.6	
MR-Buster	Medium	69.3	72.2		75.7	81.9	
MR-Taurus	Medium/long	70.2	71.8		77.0	81.9	
Resolute	Medium/long	72.3	73.3		77.6	82.8	
Sentinel IG	Medium	72.7	72.6		76.9	81.9	
Sterling	Medium/quick					82.4	
Tanami	Medium/quick	72.7	72.5		76.4	82.3	
Viper IG	Quick				75.5	82.3	
Site mean		**71.3**	**72.3**		**76.2**	**81.8**	

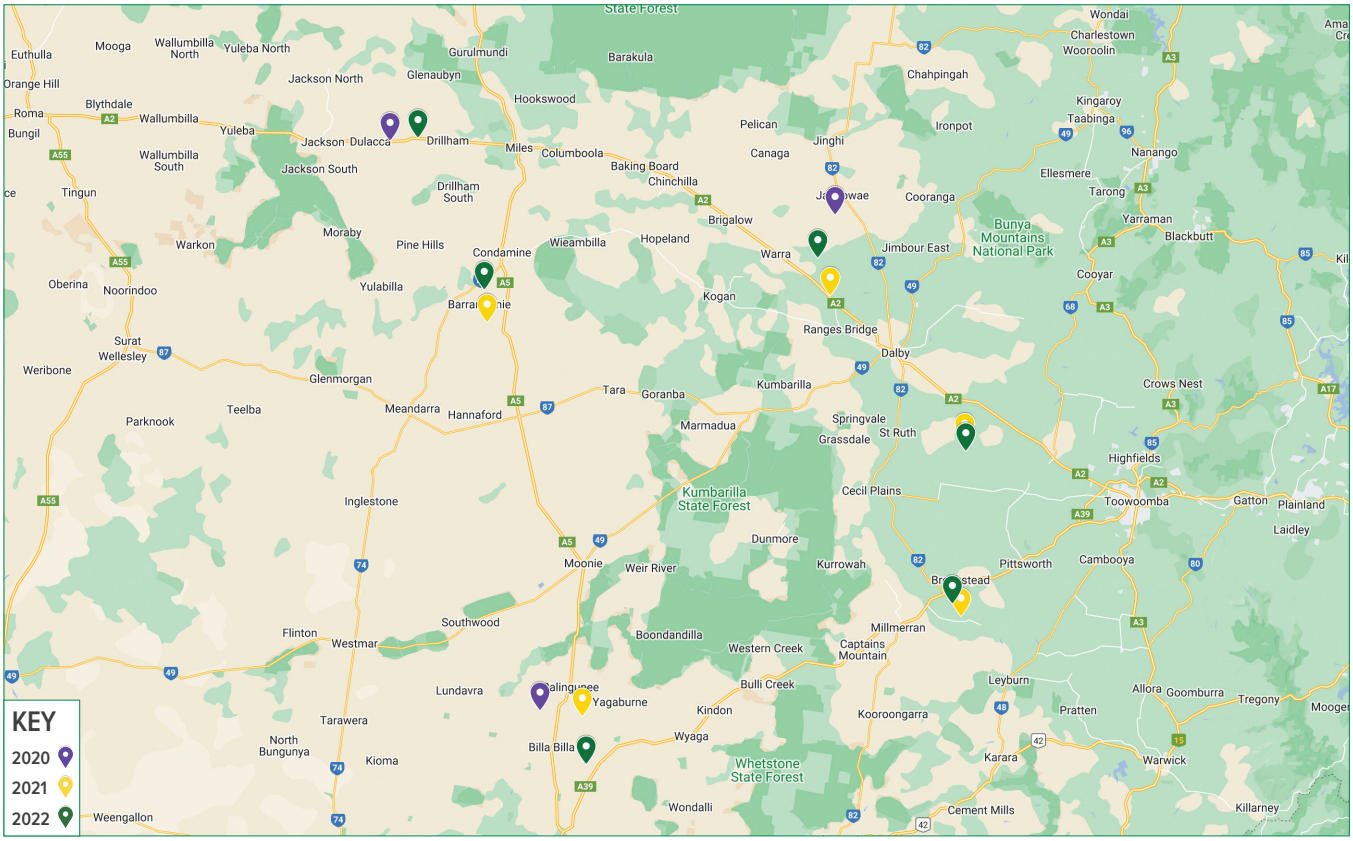
* In 2018 two NVT trials were located at North Star.

SOUTHERN QUEENSLAND

NVT SITE LOCATIONS – SOUTHERN QUEENSLAND

Figure 1: Location of Southern Queensland NVT sorghum trial sites from 2020 to 2022.

SOURCE: NVT Online



YIELD PERFORMANCE

The following tables contain yield results from the region for the past five seasons. Data is presented (deviation from the mean t/ha) for each hybrid relative to the mean trial yield for the location within each year. Hybrid names are listed in ascending numerical order, followed by alphabetical order.

The performance of hybrids listed within these tables can be found by further interrogation of the NVT website. Error bars, normally used to compare data, can be viewed within the graph option, also found via the NVT website. Rainfall is provided for August to November (A–N) and December to March (D–M). The number of days from sowing to harvest is also provided. Due to unfavourable seasonal conditions, trials not sown are listed as 'No trial' and those not harvested as 'Trial failed'. Trials identified as having no significant difference between hybrids are listed as 'No genetic variance'. Trials listed as 'Compromised trial' are not suitable for making variety decisions and are excluded from the statistical analysis.

Sorghum variety yield performance (t/ha deviation from the mean yield)

Table 1: Bongeen yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	0.109	No trial	Trial failed	Trial failed	–0.303
84A75	Medium	0.651				–1.062
84A88	Medium/long					0.173
85A14	Medium	–0.219				0.449
85G33	Medium/quick	–0.023				–0.430
Acclaim	Medium					–0.112
Agitator	Medium/quick	–0.786				–0.067
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					–0.176
Brazen	Medium/slow	–0.241				–0.362
Candela	Medium					
Cracka	Medium	0.183				–0.229
Gibson	Medium					–0.145
Halifax	Long	0.582				0.833
Liberty	Long	–1.117				0.034
Maestro	Medium					0.054
MR-Bazley	Medium/quick	0.200				–0.071
MR-Buster	Medium	0.083				–0.261
MR-Taurus	Medium/long	0.342				–0.053
Resolute	Medium/long	0.884				0.640
Sentinel IG	Medium	–0.021				–0.014
Sterling	Medium/quick					0.307
Tanami	Medium/quick	0.108				0.167
Viper IG	Quick					–0.053
Mean yield (t/ha)		**6.19**				**3.23**
Rainfall mm (A–N)		206.8		104.3	272.9	220.6
Rainfall mm (D–M)		167.0		308.6	560.4	205.3
Sowing date		28 Oct 18		14 Jan 21	21 Oct 21	11 Nov 22
Harvest date		28 Feb 19				28 Mar 23
Days to harvest		123				138

Special thanks to the 2022 trial cooperator.

Table 2: Dalby yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	0.353	No trial	0.141	–0.163	–0.344
84A75	Medium	0.702		0.245	–0.499	–1.222
84A88	Medium/long				0.522	0.501
85A14	Medium	0.431		0.300	–0.512	0.685
85G33	Medium/quick	0.066		–0.045	–0.176	–0.595
Acclaim	Medium			0.241	0.204	0.005
Agitator	Medium/quick	–0.760		–0.498	–0.104	–0.395
Anvil	Medium/quick				–0.086	
BAR Cyclone	Medium/slow				0.405	–0.247
Brazen	Medium/slow	–0.422		–0.328	–0.199	–0.644
Candela	Medium			–0.738	–0.467	
Cracka	Medium	–0.116		–0.035	0.308	–0.247
Gibson	Medium			0.170	–0.494	–0.153
Halifax	Long	0.194		0.298	0.726	1.294
Liberty	Long	–0.263		–0.152	–1.201	–0.085
Maestro	Medium				0.770	0.234
MR-Bazley	Medium/quick	–0.041		0.014	0.292	–0.035
MR-Buster	Medium	–0.020		0.014	–0.172	–0.265
MR-Taurus	Medium/long	0.474		0.251	–0.313	0.057
Resolute	Medium/long	0.351		0.330	1.006	1.046
Sentinel IG	Medium	0.795		0.415	–1.118	0.140
Sterling	Medium/quick				0.529	0.519
Tanami	Medium/quick	–0.447		–0.241	0.918	0.098
Viper IG	Quick			–0.176	–0.562	–0.152
Mean yield (t/ha)		**8.02**		**3.43**	**4.80**	**4.93**
Rainfall mm (A–N)		207.6		78.8	345.0	201.6
Rainfall mm (D–M)		235.2		361.0	449.2	182.0
Sowing date		5 Nov 18		29 Dec 20	20 Oct 21	18 Nov 22
Harvest date		21 Mar 19		22 May 21	21 Mar 22	5 Apr 23
Days to harvest		136		144	152	139

Special thanks to the 2022 trial cooperator, One Tree Agriculture.

Table 3: Pampas yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	–0.013	–0.976	0.230	0.103	0.131
84A75	Medium	0.816	–0.792	0.035	–0.388	0.145
84A88	Medium/long				0.257	0.363
85A14	Medium	–0.396	0.376	0.245	0.250	0.390
85G33	Medium/quick	0.075	–1.028	–0.088	–0.115	–0.077
Acclaim	Medium		0.314	0.428	0.160	0.220
Agitator	Medium/quick	–0.436	–1.244	–0.631	–0.180	–0.486
Anvil	Medium/quick				–0.190	
BAR Cyclone	Medium/slow				–0.108	–0.176
Brazen	Medium/slow	0.168	–0.429	–0.584	–0.386	–0.361
Candela	Medium			–1.258	–0.608	
Cracka	Medium	0.281	0.059	–0.068	–0.232	–0.110
Gibson	Medium		–0.736	0.133	0.101	0.202
Halifax	Long	0.094	2.398	0.636	0.438	0.338
Liberty	Long	–0.471	–0.494	–0.884	–0.564	–0.106
Maestro	Medium				0.762	0.369
MR-Bazley	Medium/quick	0.197	0.258	0.045	–0.090	–0.031
MR-Buster	Medium	0.405	0.555	–0.324	–0.480	–0.050
MR-Taurus	Medium/long	0.271	0.637	0.181	0.021	0.266
Resolute	Medium/long	0.156	1.752	0.961	0.688	0.358
Sentinel IG	Medium	0.023	0.382	0.065	–0.049	0.485
Sterling	Medium/quick				0.259	0.162
Tanami	Medium/quick	–0.166		0.234	0.352	–0.253
Viper IG	Quick		–2.493	–0.653	–0.509	–0.211
Mean yield (t/ha)		**6.28**	**7.79**	**6.15**	**5.88**	**7.50**
Rainfall mm (A–N)		167.6	31.2	104.8	302.6	350.0
Rainfall mm (D–M)		268.8	302.0	366.2	569.4	180.6
Sowing date		28 Oct 18	18 Nov 19	6 Nov 20	1 Nov 21	26 Sep 22
Harvest date		21 Feb 19	6 Apr 20	4 Mar 21	13 Apr 22	28 Feb 23
Days to harvest		116	140	118	163	156

Special thanks to the 2022 trial cooperator.

Table 4: Billa Billa yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	0.180	No trial	–0.024	0.101	Trial failed
84A75	Medium	0.199		0.195	0.181	
84A88	Medium/long				0.596	
85A14	Medium	0.231		0.089	0.270	
85G33	Medium/quick	0.020		–0.070	–0.119	
Acclaim	Medium			0.126	0.331	
Agitator	Medium/quick	–0.355		–0.348	–0.653	
Anvil	Medium/quick				–0.796	
BAR Cyclone	Medium/slow				–0.065	
Brazen	Medium/slow	–0.329		–0.133	–0.437	
Candela	Medium			–0.360	–1.020	
Cracka	Medium	0.129		0.127	0.030	
Gibson	Medium			–0.026	0.081	
Halifax	Long	0.111		0.249	0.562	
Liberty	Long	0.055		0.021	–0.399	
Maestro	Medium				0.565	
MR-Bazley	Medium/quick	0.099		0.105	0.086	
MR-Buster	Medium	0.118		0.241	0.023	
MR-Taurus	Medium/long	0.058		0.146	0.258	
Resolute	Medium/long	0.088		0.135	0.619	
Sentinel IG	Medium	0.215		0.201	0.299	
Sterling	Medium/quick				0.323	
Tanami	Medium/quick	–0.211		–0.247	–0.143	
Viper IG	Quick			0.042	–0.353	
Mean yield (t/ha)		**2.80**		**2.84**	**4.40**	
Rainfall mm (A–N)		156.8		107.0	327.8	277.6
Rainfall mm (D–M)		113.8		327.0	456.2	168.2
Sowing date		27 Oct 18		30 Dec 20	7 Oct 21	7 Dec 22
Harvest date		18 Feb 19		21 May 21	09 Feb 22	
Days to harvest		114		142	125	

Special thanks to the 2022 trial cooperator.

Table 5: Condamine yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No genetic variance	No trial	–0.124	0.126	–0.152
84A75	Medium			–0.226	–0.176	–0.128
84A88	Medium/long				0.540	0.393
85A14	Medium			0.130	0.423	0.042
85G33	Medium/quick			–0.160	–0.154	–0.200
Acclaim	Medium			0.000	0.248	0.125
Agitator	Medium/quick			–0.171	–0.494	–0.356
Anvil	Medium/quick				–0.533	
BAR Cyclone	Medium/slow				–0.159	0.064
Brazen	Medium/slow			–0.163	–0.535	–0.203
Candela	Medium			0.022	–0.774	
Cracka	Medium			0.094	–0.127	0.154
Gibson	Medium			–0.109	0.149	–0.186
Halifax	Long			0.349	0.576	0.558
Liberty	Long			0.106	–0.370	–0.195
Maestro	Medium				0.432	0.149
MR-Bazley	Medium/quick			0.090	–0.012	0.155
MR-Buster	Medium			0.143	–0.236	0.182
MR-Taurus	Medium/long			–0.005	0.159	0.067
Resolute	Medium/long			0.179	0.683	0.441
Sentinel IG	Medium			0.013	0.252	–0.051
Sterling	Medium/quick				0.268	0.293
Tanami	Medium/quick			–0.089	0.018	–0.030
Viper IG	Quick			0.337	–0.168	–0.125
Mean yield (t/ha)		**3.78**		**1.48**	**3.91**	**5.00**
Rainfall mm (A–N)		118.5		74.0	233.2	348.2
Rainfall mm (D–M)		241.4		447.0	325.8	197.2
Sowing date		28 Oct 18		17 Sep 20	7 Oct 21	4 Oct 22
Harvest date		20 Feb 19		13 Jan 21	11 Feb 22	24 Feb 23
Days to harvest		115		118	127	144

Special thanks to the 2022 trial cooperator, Culara Farming.

Table 6: Miles yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	No trial	Trial failed	0.020	–0.089
84A75	Medium				0.511	–0.434
84A88	Medium/long				0.585	0.083
85A14	Medium				–0.170	–0.160
85G33	Medium/quick				–0.046	–0.095
Acclaim	Medium				0.374	0.003
Agitator	Medium/quick				–0.641	0.113
Anvil	Medium/quick				–0.839	
BAR Cyclone	Medium/slow				0.187	0.120
Brazen	Medium/slow				–0.191	–0.070
Candela	Medium				–1.050	
Cracka	Medium				0.316	0.016
Gibson	Medium				–0.142	–0.187
Halifax	Long				0.461	0.276
Liberty	Long				–0.581	–0.456
Maestro	Medium				0.666	0.318
MR-Bazley	Medium/quick				0.260	0.045
MR-Buster	Medium				0.320	–0.224
MR-Taurus	Medium/long				0.211	–0.190
Resolute	Medium/long				0.516	0.410
Sentinel IG	Medium				–0.026	–0.507
Sterling	Medium/quick				0.377	0.186
Tanami	Medium/quick				–0.081	0.484
Viper IG	Quick				–0.539	–0.241
Mean yield (t/ha)					**5.23**	**3.74**
Rainfall mm (A–N)		134.6		77.8	382.4	329.0
Rainfall mm (D–M)		238.8		353.1	383.4	263.2
Sowing date		21 Dec 18		14 Jan 21	8 Oct 21	28 Sep 22
Harvest date					10 Feb 22	6 Feb 23
Days to harvest					125	132

Special thanks to the 2022 trial cooperator.

GRAIN QUALITY

Grain quality for individual hybrids varies from site to site and from year to year. However, long-term and across-site trends highlight hybrids that can consistently achieve either higher test weights or low grain screenings under a broader range of environments. The grain quality tables of screenings (%<2.0mm) and test weight (kg/hL) contain MET-analysed results for each trial. Due to unfavourable seasonal conditions trials not sown are listed as 'No trial' and those not harvested as 'Trial failed'. Trials identified as having no significant difference between hybrids are listed as 'No genetic variance'. Trials listed as 'Compromised trial' are not suitable for making variety decisions and are excluded from the statistical analysis.

Screenings comparisons

Table 7: Bongeen screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	18.2	No trial	Trial failed	Trial failed	2.8
84A75	Medium	18.2				2.9
84A88	Medium/long					3.1
85A14	Medium	18.2				2.7
85G33	Medium/quick	18.3				3.0
Acclaim	Medium					2.5
Agitator	Medium/quick	18.2				2.7
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					2.7
Brazen	Medium/slow	18.3				2.8
Candela	Medium					
Cracka	Medium	18.2				2.8
Gibson	Medium					2.6
Halifax	Long	18.2				2.6
Liberty	Long	18.1				3.0
Maestro	Medium					2.5
MR-Bazley	Medium/quick	18.1				2.4
MR-Buster	Medium	18.2				2.6
MR-Taurus	Medium/long	18.2				2.4
Resolute	Medium/long	18.2				2.6
Sentinel IG	Medium	18.3				2.7
Sterling	Medium/quick					2.6
Tanami	Medium/quick	18.5				2.6
Viper IG	Quick					2.5
Site mean		**18.2**				**2.7**

Table 8: Dalby screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	16.6	No trial	7.7	5.5	4.0
84A75	Medium	16.7		7.7	5.6	4.1
84A88	Medium/long				5.9	4.4
85A14	Medium	16.7		7.7	5.5	4.0
85G33	Medium/quick	16.7		8.1	5.6	4.5
Acclaim	Medium			7.9	5.1	3.7
Agitator	Medium/quick	16.6		7.9	5.3	4.3
Anvil	Medium/quick				5.5	
BAR Cyclone	Medium/slow				5.5	4.3
Brazen	Medium/slow	16.6		8.4	5.2	4.6
Candela	Medium			8.9	5.4	
Cracka	Medium	16.6		7.7	5.3	3.9
Gibson	Medium			8.5	5.4	4.0
Halifax	Long	16.6		7.6	5.4	3.8
Liberty	Long	16.6		8.1	5.7	4.4
Maestro	Medium				5.2	3.8
MR-Bazley	Medium/quick	16.5		8.1	5.0	3.6
MR-Buster	Medium	16.6		8.1	5.2	4.0
MR-Taurus	Medium/long	16.6		8.0	5.1	3.6
Resolute	Medium/long	16.7		7.8	5.3	3.7
Sentinel IG	Medium	16.7		8.1	5.4	3.8
Sterling	Medium/quick				5.3	3.7
Tanami	Medium/quick	16.8		8.9	5.6	4.4
Viper IG	Quick			7.9	5.1	3.9
Site mean		**16.6**		**8.1**	**5.4**	**4.0**

Table 9: Pampas screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	20.6	4.8	4.3	5.9	3.1
84A75	Medium	20.7	5.0	4.4	6.0	3.3
84A88	Medium/long				6.2	3.5
85A14	Medium	20.7	4.9	4.3	5.9	3.2
85G33	Medium/quick	20.8	5.1	4.4	6.0	3.6
Acclaim	Medium		4.4	4.2	5.6	3.0
Agitator	Medium/quick	20.6	4.9	4.2	5.9	3.1
Anvil	Medium/quick				5.9	
BAR Cyclone	Medium/slow				6.1	3.2
Brazen	Medium/slow	20.7	4.6	4.2	5.8	3.4
Candela	Medium			4.4	6.1	
Cracka	Medium	20.6	4.5	4.2	5.7	3.1
Gibson	Medium		4.7	4.4	5.6	3.6
Halifax	Long	20.6	4.7	4.3	5.8	3.0
Liberty	Long	20.6	4.6	4.3	6.3	3.1
Maestro	Medium				5.6	3.3
MR-Bazley	Medium/quick	20.6	4.1	4.1	5.5	2.8
MR-Buster	Medium	20.7	4.5	4.2	5.7	3.1
MR-Taurus	Medium/long	20.8	4.3	4.2	5.5	3.1
Resolute	Medium/long	20.7	4.6	4.3	5.7	3.1
Sentinel IG	Medium	20.8	4.6	4.4	5.7	3.4
Sterling	Medium/quick				5.7	2.9
Tanami	Medium/quick	21.1		4.6	5.9	4.0
Viper IG	Quick		4.3	4.1	5.8	2.7
Site mean		**20.7**	**4.6**	**4.3**	**5.8**	**3.2**

Table 10: Billa Billa screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	11.9	No trial	4.3	4.2	Compromised trial
84A75	Medium	11.9		4.4	4.3	
84A88	Medium/long				4.4	
85A14	Medium	11.9		4.4	4.2	
85G33	Medium/quick	12.3		4.7	4.4	
Acclaim	Medium			4.4	4.1	
Agitator	Medium/quick	12.1		4.3	4.2	
Anvil	Medium/quick				4.5	
BAR Cyclone	Medium/slow				4.2	
Brazen	Medium/slow	12.5		4.7	4.4	
Candela	Medium			5.1	4.5	
Cracka	Medium	12.0		4.3	4.2	
Gibson	Medium			5.0	4.4	
Halifax	Long	11.8		4.3	4.1	
Liberty	Long	11.7		4.7	4.4	
Maestro	Medium				4.2	
MR-Bazley	Medium/quick	12.1		4.5	4.1	
MR-Buster	Medium	12.1		4.6	4.2	
MR-Taurus	Medium/long	12.1		4.5	4.1	
Resolute	Medium/long	12.0		4.4	4.1	
Sentinel IG	Medium	12.2		4.7	4.3	
Sterling	Medium/quick				4.0	
Tanami	Medium/quick	12.5		5.4	4.6	
Viper IG	Quick			4.4	4.1	
Site mean		**12.1**		**4.6**	**4.3**	

Table 11: Condamine screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	27.0		3.8	3.9	3.1
84A75	Medium	27.0		3.7	4.0	3.3
84A88	Medium/long				4.2	3.6
85A14	Medium	26.9		3.7	3.9	3.2
85G33	Medium/quick	27.2		4.1	4.1	3.5
Acclaim	Medium			4.1	3.7	3.0
Agitator	Medium/quick	26.9		4.2	3.9	3.0
Anvil	Medium/quick				4.1	
BAR Cyclone	Medium/slow				3.9	3.2
Brazen	Medium/slow	27.2		4.6	4.0	3.3
Candela	Medium			4.2	4.1	
Cracka	Medium	27.1	No trial	4.1	3.8	3.0
Gibson	Medium			4.1	4.0	3.5
Halifax	Long	26.9		3.7	3.8	3.1
Liberty	Long	27.0		3.6	4.1	3.4
Maestro	Medium				3.8	3.3
MR-Bazley	Medium/quick	27.0		4.1	3.7	2.9
MR-Buster	Medium	27.1		4.1	3.9	3.1
MR-Taurus	Medium/long	27.1		4.0	3.7	3.1
Resolute	Medium/long	27.0		3.8	3.8	3.1
Sentinel IG	Medium	27.2		3.9	3.9	3.4
Sterling	Medium/quick				3.7	2.9
Tanami	Medium/quick	27.3		3.9	4.2	4.0
Viper IG	Quick			4.0	3.7	2.9
Site mean		**27.1**		**4.0**	**3.9**	**3.2**

Table 12: Miles screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium				4.0	2.9
84A75	Medium				4.1	3.0
84A88	Medium/long				4.2	3.1
85A14	Medium				4.0	3.0
85G33	Medium/quick				4.2	3.2
Acclaim	Medium				3.8	2.8
Agitator	Medium/quick				4.0	2.9
Anvil	Medium/quick				4.3	
BAR Cyclone	Medium/slow				4.1	3.0
Brazen	Medium/slow				4.1	3.0
Candela	Medium				4.5	
Cracka	Medium	Trial failed	No trial	Trial failed	3.9	2.8
Gibson	Medium				4.1	3.2
Halifax	Long				3.9	2.9
Liberty	Long				4.1	2.8
Maestro	Medium				4.0	3.0
MR-Bazley	Medium/quick				3.8	2.7
MR-Buster	Medium				3.9	2.9
MR-Taurus	Medium/long				3.9	2.9
Resolute	Medium/long				3.9	2.9
Sentinel IG	Medium				4.0	3.1
Sterling	Medium/quick				3.8	2.8
Tanami	Medium/quick				4.4	3.5
Viper IG	Quick				3.8	2.6
Site mean					**4.0**	**3.0**

Test weight comparisons

Table 13: Bongeen test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	77.3				77.2
84A75	Medium	76.2				77.0
84A88	Medium/long					76.4
85A14	Medium	75.6				77.4
85G33	Medium/quick	73.8				76.1
Acclaim	Medium					80.0
Agitator	Medium/quick	76.7				78.8
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					77.5
Brazen	Medium/slow	77.5				78.8
Candela	Medium					
Cracka	Medium	75.9	No trial	Trial failed	Trial failed	78.2
Gibson	Medium					79.9
Halifax	Long	76.0				78.4
Liberty	Long	76.1				77.8
Maestro	Medium					80.0
MR-Bazley	Medium/quick	77.5				78.9
MR-Buster	Medium	76.8				77.6
MR-Taurus	Medium/long	76.0				79.2
Resolute	Medium/long	77.5				79.7
Sentinel IG	Medium	76.6				79.1
Sterling	Medium/quick					78.0
Tanami	Medium/quick	77.3				78.8
Viper IG	Quick					78.3
Site mean		**76.5**				**78.3**

Table 14: Dalby test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	73.2		74.0	79.4	75.4
84A75	Medium	73.1		74.0	78.7	75.4
84A88	Medium/long				78.3	74.8
85A14	Medium	74.8		75.8	79.0	76.6
85G33	Medium/quick	73.6		75.0	78.1	74.3
Acclaim	Medium			75.0	80.8	79.4
Agitator	Medium/quick	75.0		75.9	80.8	77.8
Anvil	Medium/quick				79.6	
BAR Cyclone	Medium/slow				79.7	75.6
Brazen	Medium/slow	75.8		77.0	81.2	78.2
Candela	Medium			74.1	78.5	
Cracka	Medium	74.3	No trial	75.1	79.1	77.6
Gibson	Medium			76.3	81.5	79.5
Halifax	Long	73.8		74.3	79.1	77.6
Liberty	Long	75.4		74.9	78.1	77.6
Maestro	Medium				81.5	79.5
MR-Bazley	Medium/quick	72.9		72.8	79.4	77.4
MR-Buster	Medium	74.0		74.1	78.9	76.2
MR-Taurus	Medium/long	74.2		74.6	79.6	78.6
Resolute	Medium/long	75.6		76.5	81.3	79.5
Sentinel IG	Medium	74.0		74.6	79.8	78.4
Sterling	Medium/quick				79.8	76.3
Tanami	Medium/quick	74.3		75.5	80.7	77.9
Viper IG	Quick			72.6	79.3	76.4
Site mean		**74.3**		**74.8**	**79.7**	**77.3**

Table 15: Pampas test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	75.3	76.0	78.0	78.4	80.4
84A75	Medium	75.6	76.7	77.6	78.4	79.8
84A88	Medium/long				77.1	79.3
85A14	Medium	74.8	77.6	77.9	78.1	79.9
85G33	Medium/quick	73.6	75.5	78.3	76.7	78.5
Acclaim	Medium		79.4	79.5	78.8	81.9
Agitator	Medium/quick	73.6	77.1	79.8	77.8	81.4
Anvil	Medium/quick				79.3	
BAR Cyclone	Medium/slow				78.0	79.6
Brazen	Medium/slow	74.5	77.1	79.1	79.3	81.5
Candela	Medium			77.9	76.2	
Cracka	Medium	75.7	78.9	77.7	78.7	80.4
Gibson	Medium		78.5	79.1	80.8	81.5
Halifax	Long	75.1	79.2	78.2	77.8	80.8
Liberty	Long	73.5	80.2	77.9	75.6	81.0
Maestro	Medium				80.1	82.1
MR-Bazley	Medium/quick	74.6	78.8	78.9	77.0	81.8
MR-Buster	Medium	73.4	77.5	78.8	76.1	80.9
MR-Taurus	Medium/long	74.2	79.7	79.2	77.2	81.4
Resolute	Medium/long	75.0	78.7	79.2	79.4	82.1
Sentinel IG	Medium	75.5	79.3	78.5	78.6	81.3
Sterling	Medium/quick				77.6	81.0
Tanami	Medium/quick	75.6		78.6	79.6	81.2
Viper IG	Quick		77.6	78.7	77.4	81.0
Site mean		**74.7**	**78.1**	**78.6**	**78.1**	**80.9**

Table 16: Billa Billa test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	73.4		73.6	76.5	
84A75	Medium	73.0		73.7	76.1	
84A88	Medium/long				75.0	
85A14	Medium	73.3		74.5	75.6	
85G33	Medium/quick	70.5		74.4	74.3	
Acclaim	Medium			74.8	78.2	
Agitator	Medium/quick	72.9		74.8	76.9	
Anvil	Medium/quick				76.6	
BAR Cyclone	Medium/slow				76.0	
Brazen	Medium/slow	74.4		74.8	77.1	
Candela	Medium			73.8	75.6	
Cracka	Medium	73.8	No trial	74.4	76.5	Compromised trial
Gibson	Medium			74.9	78.3	
Halifax	Long	73.4		74.4	76.7	
Liberty	Long	74.5		74.6	75.4	
Maestro	Medium				78.6	
MR-Bazley	Medium/quick	73.5		73.9	77.5	
MR-Buster	Medium	73.1		74.1	76.0	
MR-Taurus	Medium/long	73.0		74.8	77.1	
Resolute	Medium/long	74.7		74.9	77.9	
Sentinel IG	Medium	73.9		74.5	77.4	
Sterling	Medium/quick				76.8	
Tanami	Medium/quick	74.0		74.3	77.5	
Viper IG	Quick			73.7	77.2	
Site mean		**73.4**		**74.4**	**76.7**	

Table 17: Condamine test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	74.3		74.5	76.1	78.7
84A75	Medium	73.8		74.6	75.5	78.1
84A88	Medium/long				74.5	77.0
85A14	Medium	73.5		75.9	74.8	77.7
85G33	Medium/quick	72.0		74.4	74.0	75.9
Acclaim	Medium			76.8	78.2	79.7
Agitator	Medium/quick	73.2		76.2	77.1	78.6
Anvil	Medium/quick				75.7	
BAR Cyclone	Medium/slow				76.1	77.0
Brazen	Medium/slow	74.4		76.8	76.7	79.0
Candela	Medium			75.0	75.4	
Cracka	Medium	73.6	No trial	76.2	75.7	78.5
Gibson	Medium			77.1	77.9	79.4
Halifax	Long	73.1		76.0	76.3	78.8
Liberty	Long	73.3		76.6	74.9	78.7
Maestro	Medium				78.3	80.1
MR-Bazley	Medium/quick	73.4		75.2	77.8	79.9
MR-Buster	Medium	73.3		75.1	76.1	78.6
MR-Taurus	Medium/long	72.5		76.5	77.2	79.0
Resolute	Medium/long	74.2		77.3	77.6	79.7
Sentinel IG	Medium	73.5		76.4	77.1	79.4
Sterling	Medium/quick				76.9	78.8
Tanami	Medium/quick	74.2		76.1	77.1	79.3
Viper IG	Quick			74.6	77.5	79.3
Site mean		**73.5**		**75.9**	**76.4**	**78.7**

Table 18: Miles test weight (kg/hL).

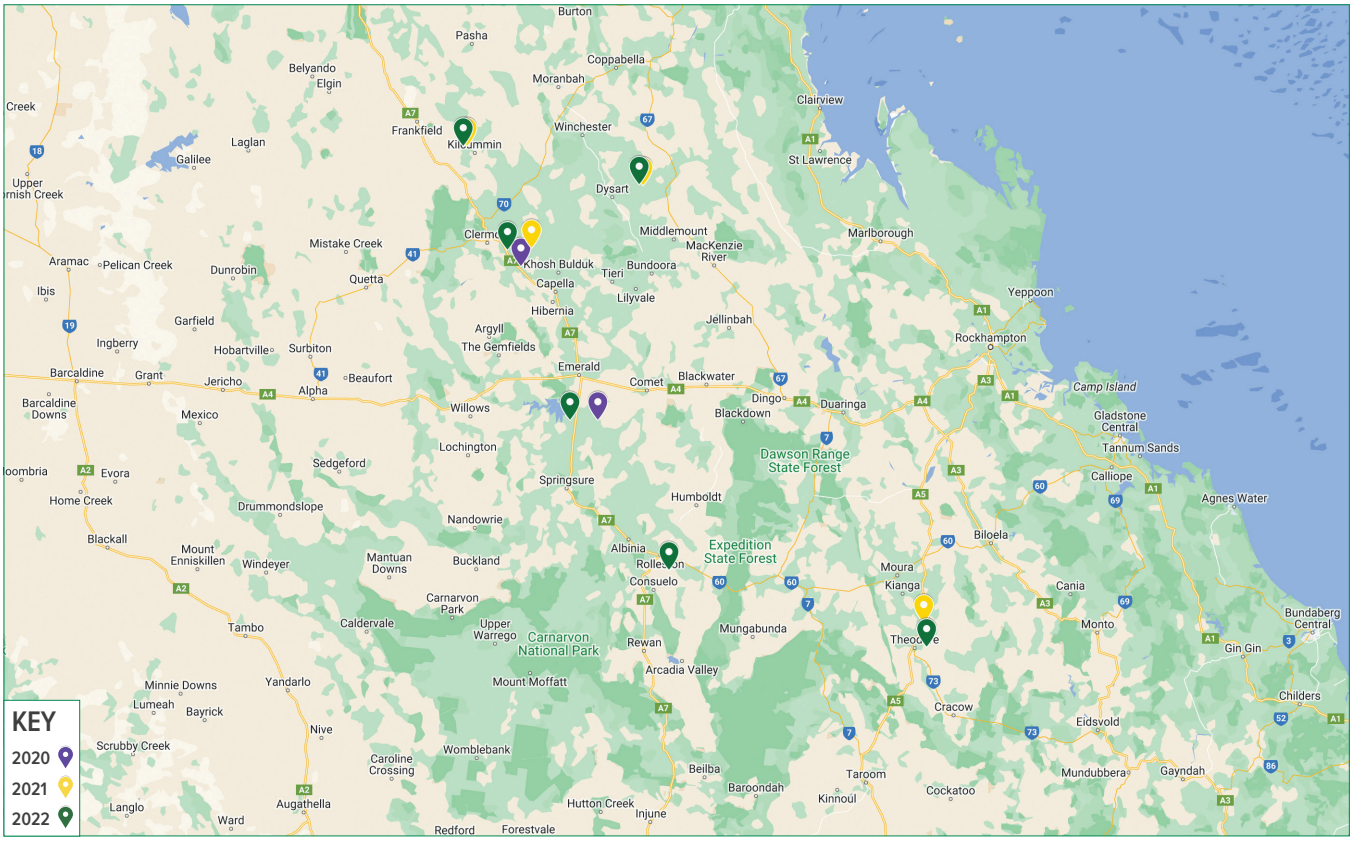
Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium				76.1	84.4
84A75	Medium				75.8	82.9
84A88	Medium/long				75.2	82.1
85A14	Medium				76.1	81.9
85G33	Medium/quick				75.0	80.7
Acclaim	Medium				78.4	83.3
Agitator	Medium/quick				77.6	83.8
Anvil	Medium/quick				76.3	
BAR Cyclone	Medium/slow				76.6	82.3
Brazen	Medium/slow				77.9	84.3
Candela	Medium				75.3	
Cracka	Medium	Trial failed	No trial	Trial failed	76.6	81.9
Gibson	Medium				78.9	83.2
Halifax	Long				76.6	82.2
Liberty	Long				75.5	82.0
Maestro	Medium				78.8	84.3
MR-Bazley	Medium/quick				76.9	84.3
MR-Buster	Medium				75.9	83.7
MR-Taurus	Medium/long				77.3	82.4
Resolute	Medium/long				78.5	84.0
Sentinel IG	Medium				77.4	82.9
Sterling	Medium/quick				76.7	84.4
Tanami	Medium/quick				77.7	83.9
Viper IG	Quick				76.6	84.1
Site mean					**76.8**	**83.1**

CENTRAL QUEENSLAND

NVT SITE LOCATIONS – CENTRAL QUEENSLAND

Figure 1: Location of Central Queensland NVT sorghum trial sites from 2020 to 2022.

SOURCE: NVT Online



YIELD PERFORMANCE

The following tables contain yield results from the region for the past five seasons. Data is presented (deviation from the mean t/ha) for each hybrid relative to the mean trial yield for the location within each year. Positive values indicate that the hybrid performs above the mean yield in the environment (year–location combination) cited. Negative values indicate that the hybrid performs below the mean yield in the environment cited. Hybrid names are listed in ascending numerical order, followed by alphabetical order.

The performance of hybrids listed within these tables can be found by further interrogation of the NVT website. Error bars, normally used to compare data, can be viewed within the graph option also found via the website. Rainfall is provided for January to March (J–M) and April to June (A-J). The number of days from sowing to harvest is also provided. Due to unfavourable seasonal conditions, trials not sown are listed as 'No trial' and those not harvested as 'Trial failed'. Trials identified as having no significant difference between hybrids are listed as 'No genetic variance'. Trials listed as 'Compromised trial' are not suitable for making variety decisions and are excluded from the statistical analysis.

Sorghum variety yield performance (t/ha deviation from the mean yield)

Table 1: Clermont yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	–0.027	–0.052	Trial failed	–0.160
84A75	Medium		0.323	–0.089		–0.415
84A88	Medium/long					–0.023
85A14	Medium		–0.255	0.231		0.262
85G33	Medium/quick		0.042	–0.164		–0.223
Acclaim	Medium		0.080	0.130		–0.016
Agitator	Medium/quick		–0.160	–0.360		–0.105
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					–0.134
Brazen	Medium/slow		0.049	–0.252		–0.138
Candela	Medium			–0.548		
Cracka	Medium		0.344	–0.024		–0.205
Gibson	Medium		–0.164	–0.005		–0.027
Halifax	Long		0.006	0.459		0.437
Liberty	Long		–0.041	–0.109		–0.015
Maestro	Medium					0.491
MR-Bazley	Medium/quick		0.221	0.031		–0.092
MR-Buster	Medium		0.375	0.031		–0.145
MR-Taurus	Medium/long		–0.033	0.157		0.106
Resolute	Medium/long		–0.072	0.391		0.352
Sentinel IG	Medium		–0.185	0.215		0.174
Sterling	Medium/quick					0.227
Tanami	Medium/quick		–0.085	–0.124		–0.010
Viper IG	Quick		0.365	–0.237		–0.516
Mean yield (t/ha)			**1.58**	**3.15**		**3.35**
Rainfall mm (J–M)		292.2	614.0	357.0		392.4
Rainfall mm (A–J)		39.6	188.8	61.0		27.6
Sowing date		23 Jan 19	18 Feb 20	20 Jan 21	18 Jan 22	6 Feb 23
Harvest date			18 Jun 20	3 Jun 21		21 Jun 23
Days to harvest			121	134		136

Special thanks to the 2022 trial cooperator, Manley Farming.

Table 2: Kilcummin yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	No trial	0.153	Trial failed	Compromised trial
84A75	Medium			0.485		
84A88	Medium/long					
85A14	Medium			–0.187		
85G33	Medium/quick			0.167		
Acclaim	Medium			0.128		
Agitator	Medium/quick			–0.091		
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					
Brazen	Medium/slow			0.073		
Candela	Medium			–0.208		
Cracka	Medium			0.116		
Gibson	Medium			0.057		
Halifax	Long			–0.235		
Liberty	Long			–0.185		
Maestro	Medium					
MR-Bazley	Medium/quick			0.058		
MR-Buster	Medium			0.092		
MR-Taurus	Medium/long			0.054		
Resolute	Medium/long			–0.105		
Sentinel IG	Medium			–0.010		
Sterling	Medium/quick					
Tanami	Medium/quick			–0.030		
Viper IG	Quick			–0.118		
Mean yield (t/ha)				**2.33**		
Rainfall mm (J–M)		266.5		302.7		392.4
Rainfall mm (A–J)		41.5		36.6		27.6
Sowing date		24 Jan 19		21 Jan 21	18 Jan 22	5 Feb 23
Harvest date				3 Jun 21		20 Jun 23
Days to harvest				133		136

Special thanks to the 2022 trial cooperator, Daniels Ag.

Table 3: Capella and Dysart yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No trial	–0.156	0.383	Trial failed	Trial failed
84A75	Medium		0.334	0.735		
84A88	Medium/long					
85A14	Medium		–0.467	0.169		
85G33	Medium/quick		0.033	0.189		
Acclaim	Medium		0.025	0.354		
Agitator	Medium/quick		–0.032	–0.455		
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					
Brazen	Medium/slow		0.264	–0.200		
Candela	Medium			–1.072		
Cracka	Medium		0.382	–0.140		
Gibson	Medium		–0.303	0.374		
Halifax	Long		–0.033	–0.113		
Liberty	Long		–0.077	–0.408		
Maestro	Medium					
MR-Bazley	Medium/quick		0.238	–0.083		
MR-Buster	Medium		0.454	–0.152		
MR-Taurus	Medium/long		–0.052	0.349		
Resolute	Medium/long		–0.140	0.191		
Sentinel IG	Medium		–0.339	0.514		
Sterling	Medium/quick					
Tanami	Medium/quick		–0.022	–0.195		
Viper IG	Quick		–0.018	–0.732		
Mean yield (t/ha)			**3.40**	**3.44**		
Rainfall mm (J–M)			354.4	303.1	50.0	272.0
Rainfall mm (A–J)			42.6	38.4	160.0	
Sowing date			20 Feb 20	21 Jan 21	19 Jan 22	11 Jan 23
Harvest date			25 Jun 20	24 Jun 21		
Days to harvest			126	154		

Special thanks to the 2022 trial cooperator.

Table 4: Rolleston yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No trial	–0.076	–0.212	No trial	Trial failed
84A75	Medium		0.259	0.244		
84A88	Medium/long					
85A14	Medium		–0.128	0.045		
85G33	Medium/quick		–0.054	–0.188		
Acclaim	Medium		0.157	0.148		
Agitator	Medium/quick		–0.295	–0.483		
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					
Brazen	Medium/slow		0.004	–0.025		
Candela	Medium			–0.795		
Cracka	Medium		0.143	0.133		
Gibson	Medium		–0.124	–0.154		
Halifax	Long		0.250	0.479		
Liberty	Long		–0.242	0.017		
Maestro	Medium					
MR-Bazley	Medium/quick		0.119	0.125		
MR-Buster	Medium		0.218	0.413		
MR-Taurus	Medium/long		0.146	0.302		
Resolute	Medium/long		0.223	0.240		
Sentinel IG	Medium		0.016	0.320		
Sterling	Medium/quick					
Tanami	Medium/quick		–0.087	–0.393		
Viper IG	Quick		–0.530	–0.626		
Mean yield (t/ha)			**4.31**	**3.31**		
Rainfall mm (J–M)			442.0	209.8		193.0
Rainfall mm (A–J)			61.8	39.2		
Sowing date			21 Feb 20	18 Jan 21		23 Jan 23
Harvest date			14 Jul 20	26 May 21		
Days to harvest			144	128		

Special thanks to the 2022 trial cooperator, LR and DM Fairweather.

Table 5: Springsure yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No trial	No trial	Trial failed	Trial failed	0.040
84A75	Medium					–0.213
84A88	Medium/long					0.033
85A14	Medium					0.214
85G33	Medium/quick					–0.062
Acclaim	Medium					0.024
Agitator	Medium/quick					–0.047
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					–0.119
Brazen	Medium/slow					–0.165
Candela	Medium					
Cracka	Medium					–0.177
Gibson	Medium					0.100
Halifax	Long					0.154
Liberty	Long					–0.085
Maestro	Medium					0.253
MR-Bazley	Medium/quick					–0.095
MR-Buster	Medium					–0.230
MR-Taurus	Medium/long					0.039
Resolute	Medium/long					0.217
Sentinel IG	Medium					0.118
Sterling	Medium/quick					0.065
Tanami	Medium/quick					0.063
Viper IG	Quick					–0.172
Mean yield (t/ha)						**3.16**
Rainfall mm (J–M)				134.6	81.0	66.0
Rainfall mm (A–J)				33.4	190.0	
Sowing date				19 Jan 21	17 Jan 22	7 Feb 23
Harvest date						19 Jun 23
Days to harvest						133

Special thanks to the 2022 trial cooperator, Staal Trading Pty Ltd.

Table 6: Duaringa and Theodore yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	No trial	–0.144	Trial failed	–0.206
84A75	Medium			0.070		–0.191
84A88	Medium/long					–0.277
85A14	Medium			0.223		0.026
85G33	Medium/quick			–0.247		–0.159
Acclaim	Medium			0.228		–0.012
Agitator	Medium/quick			–0.619		–0.018
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					–0.047
Brazen	Medium/slow			–0.267		0.106
Candela	Medium			–0.999		
Cracka	Medium			0.059		–0.195
Gibson	Medium			–0.087		–0.090
Halifax	Long			0.700		0.285
Liberty	Long			–0.164		–0.129
Maestro	Medium					1.008
MR-Bazley	Medium/quick			0.106		–0.101
MR-Buster	Medium			0.236		–0.090
MR-Taurus	Medium/long			0.308		0.155
Resolute	Medium/long			0.539		0.249
Sentinel IG	Medium			0.346		0.109
Sterling	Medium/quick					0.271
Tanami	Medium/quick			–0.295		0.018
Viper IG	Quick			–0.598		–1.117
Mean yield (t/ha)				**3.93**		**4.55**
Rainfall mm (J–M)		216.0		206.0	50.0	222.0
Rainfall mm (A–J)		33.0		94.5	180.0	160.0
Sowing date		31 Jan 19		22 Jan 21	16 Jan 22	4 Feb 23
Harvest date				8 Jun 21		24 Jun 23
Days to harvest				137		141

Special thanks to the 2022 trial cooperator, Avonmore Farming.

GRAIN QUALITY

Grain quality for individual hybrids varies from site to site and from year to year. However, long-term and across-site trends highlight hybrids that can consistently achieve either higher test weights or low grain screenings under a broader range of environments. The grain quality tables of screenings (%<2.0mm) and test weight (kg/hL) contain MET-analysed results for each trial. Due to unfavourable seasonal conditions, trials not sown are listed as 'No trial' and those not harvested as 'Trial failed'. Trials identified as having no significant difference between hybrids are listed as 'No genetic variance'. Trials listed as 'Compromised trial' are not suitable for making variety decisions and are excluded from the statistical analysis.

Screenings comparisons

Table 7: Clermont screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	6.2	4.3	Trial failed	5.1
84A75	Medium		6.3	4.4		5.3
84A88	Medium/long					5.6
85A14	Medium		6.3	4.4		5.2
85G33	Medium/quick		6.7	4.7		5.3
Acclaim	Medium		6.3	4.3		4.9
Agitator	Medium/quick		6.3	4.2		4.9
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					5.2
Brazen	Medium/slow		6.6	4.7		4.9
Candela	Medium			5.4		
Cracka	Medium		6.2	4.2		5.0
Gibson	Medium		7.0	5.1		5.2
Halifax	Long		6.2	4.3		5.1
Liberty	Long		5.9	4.9		5.4
Maestro	Medium					5.1
MR-Bazley	Medium/quick		6.3	4.4		4.8
MR-Buster	Medium		6.3	4.5		5.0
MR-Taurus	Medium/long		6.5	4.5		4.9
Resolute	Medium/long		6.4	4.4		5.1
Sentinel IG	Medium		6.6	4.7		5.2
Sterling	Medium/quick					4.9
Tanami	Medium/quick		7.3	5.7		5.6
Viper IG	Quick		6.0	4.3		4.8
Site mean			**6.4**	**4.6**		**5.1**

Table 8: Kilcummin screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	No trial	13.6	Trial failed	Compromised trial
84A75	Medium			13.8		
84A88	Medium/long					
85A14	Medium			13.7		
85G33	Medium/quick			14.0		
Acclaim	Medium			13.9		
Agitator	Medium/quick			13.5		
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					
Brazen	Medium/slow			14.0		
Candela	Medium			14.2		
Cracka	Medium			13.7		
Gibson	Medium			14.6		
Halifax	Long			13.7		
Liberty	Long			14.2		
Maestro	Medium					
MR-Bazley	Medium/quick			14.0		
MR-Buster	Medium			14.0		
MR-Taurus	Medium/long			14.1		
Resolute	Medium/long			13.9		
Sentinel IG	Medium			14.3		
Sterling	Medium/quick					
Tanami	Medium/quick			15.1		
Viper IG	Quick			13.7		
Site mean				**14.0**		

Table 9: Capella and Dysart screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No trial	6.3	2.7	Trial failed	Trial failed
84A75	Medium		6.5	2.8		
84A88	Medium/long					
85A14	Medium		6.5	2.8		
85G33	Medium/quick		6.7	3.1		
Acclaim	Medium		6.3	3.0		
Agitator	Medium/quick		6.3	2.5		
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					
Brazen	Medium/slow		6.3	3.4		
Candela	Medium			3.5		
Cracka	Medium		6.2	2.7		
Gibson	Medium		7.0	4.0		
Halifax	Long		6.4	2.8		
Liberty	Long		6.3	4.2		
Maestro	Medium					
MR-Bazley	Medium/quick		6.2	3.5		
MR-Buster	Medium		6.3	3.4		
MR-Taurus	Medium/long		6.5	3.3		
Resolute	Medium/long		6.5	2.9		
Sentinel IG	Medium		6.7	3.5		
Sterling	Medium/quick					
Tanami	Medium/quick		7.5	4.7		
Viper IG	Quick		6.1	3.2		
Site mean			**6.5**	**3.3**		

Table 10: Rolleston screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No trial	4.0	6.2	Trial failed	Trial failed
84A75	Medium		4.2	6.3		
84A88	Medium/long					
85A14	Medium		4.0	6.3		
85G33	Medium/quick		4.1	6.5		
Acclaim	Medium		4.0	6.3		
Agitator	Medium/quick		3.7	6.0		
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					
Brazen	Medium/slow		3.8	6.4		
Candela	Medium			6.9		
Cracka	Medium		4.0	6.1		
Gibson	Medium		4.3	7.0		
Halifax	Long		4.1	6.2		
Liberty	Long		4.1	6.6		
Maestro	Medium					
MR-Bazley	Medium/quick		3.8	6.4		
MR-Buster	Medium		3.9	6.4		
MR-Taurus	Medium/long		4.1	6.6		
Resolute	Medium/long		4.1	6.4		
Sentinel IG	Medium		4.3	6.7		
Sterling	Medium/quick					
Tanami	Medium/quick		4.5	7.6		
Viper IG	Quick		3.6	6.1		
Site mean			**4.0**	**6.5**		

Table 11: Springsure screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No trial	No trial	Trial failed	Trial failed	4.4
84A75	Medium					4.6
84A88	Medium/long					4.9
85A14	Medium					4.5
85G33	Medium/quick					4.6
Acclaim	Medium					4.2
Agitator	Medium/quick					4.2
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					4.5
Brazen	Medium/slow					4.2
Candela	Medium					
Cracka	Medium					4.3
Gibson	Medium					4.5
Halifax	Long					4.5
Liberty	Long					4.7
Maestro	Medium					4.4
MR-Bazley	Medium/quick					4.1
MR-Buster	Medium					4.3
MR-Taurus	Medium/long					4.3
Resolute	Medium/long					4.4
Sentinel IG	Medium					4.5
Sterling	Medium/quick					4.3
Tanami	Medium/quick					4.9
Viper IG	Quick					4.1
Site mean						**4.4**

Table 12: Duaringa and Theodore screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	No trial	3.4	Trial failed	5.7
84A75	Medium			3.6		5.9
84A88	Medium/long					6.0
85A14	Medium			3.5		5.8
85G33	Medium/quick			3.7		5.8
Acclaim	Medium			3.4		5.6
Agitator	Medium/quick			3.2		5.5
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					5.7
Brazen	Medium/slow			3.4		5.4
Candela	Medium			3.4		
Cracka	Medium			3.4		5.6
Gibson	Medium			3.9		6.0
Halifax	Long			3.4		5.8
Liberty	Long			3.7		5.8
Maestro	Medium					5.9
MR-Bazley	Medium/quick			3.3		5.5
MR-Buster	Medium			3.4		5.6
MR-Taurus	Medium/long			3.5		5.8
Resolute	Medium/long			3.5		5.8
Sentinel IG	Medium			3.8		5.9
Sterling	Medium/quick					5.6
Tanami	Medium/quick			4.2		6.3
Viper IG	Quick			3.1		5.4
Site mean				**3.5**		**5.7**

Test weight comparisons

Table 13: Clermont test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	74.9	79.8	Trial failed	76.9
84A75	Medium		75.2	79.6		76.2
84A88	Medium/long					75.5
85A14	Medium		74.4	79.8		75.4
85G33	Medium/quick		73.4	79.0		74.8
Acclaim	Medium		76.2	79.9		78.8
Agitator	Medium/quick		74.2	80.0		77.7
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					76.3
Brazen	Medium/slow		74.5	80.4		76.7
Candela	Medium			80.3		
Cracka	Medium		75.7	79.8		76.2
Gibson	Medium		76.8	80.0		77.2
Halifax	Long		75.6	79.7		77.4
Liberty	Long		73.5	80.2		77.1
Maestro	Medium					78.3
MR-Bazley	Medium/quick		75.5	79.9		79.6
MR-Buster	Medium		73.7	79.9		77.9
MR-Taurus	Medium/long		75.3	79.8		78.4
Resolute	Medium/long		75.5	80.4		77.7
Sentinel IG	Medium		76.1	79.9		77.8
Sterling	Medium/quick					78.0
Tanami	Medium/quick		75.8	80.1		77.2
Viper IG	Quick		75.6	79.6		79.0
Site mean			**75.1**	**79.9**		**77.3**

Table 14: Kilcummin test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No trial	No trial	77.1	Trial failed	Compromised trial
84A75	Medium			76.9		
84A88	Medium/long					
85A14	Medium			77.2		
85G33	Medium/quick			76.1		
Acclaim	Medium			78.2		
Agitator	Medium/quick			77.8		
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					
Brazen	Medium/slow			78.2		
Candela	Medium			77.3		
Cracka	Medium			77.5		
Gibson	Medium			78.3		
Halifax	Long			77.5		
Liberty	Long			77.5		
Maestro	Medium					
MR-Bazley	Medium/quick			77.7		
MR-Buster	Medium			77.2		
MR-Taurus	Medium/long			77.8		
Resolute	Medium/long			78.5		
Sentinel IG	Medium			77.9		
Sterling	Medium/quick					
Tanami	Medium/quick			77.9		
Viper IG	Quick			77.3		
Site mean				**77.6**		

Table 15: Capella and Dysart test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No trial	77.9	76.8	Trial failed	Trial failed
84A75	Medium		77.5	75.9		
84A88	Medium/long					
85A14	Medium		77.2	74.4		
85G33	Medium/quick		76.6	70.0		
Acclaim	Medium		79.5	75.7		
Agitator	Medium/quick		78.7	73.8		
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					
Brazen	Medium/slow		78.5	76.9		
Candela	Medium			74.5		
Cracka	Medium		77.8	75.8		
Gibson	Medium		79.3	78.3		
Halifax	Long		78.2	74.7		
Liberty	Long		77.3	72.3		
Maestro	Medium					
MR-Bazley	Medium/quick		79.1	75.1		
MR-Buster	Medium		78.0	72.9		
MR-Taurus	Medium/long		78.8	73.1		
Resolute	Medium/long		79.1	77.3		
Sentinel IG	Medium		78.7	76.1		
Sterling	Medium/quick					
Tanami	Medium/quick		78.7	77.8		
Viper IG	Quick		78.9	75.0		
Site mean			**78.3**	**75.1**		

Table 16: Rolleston test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No trial	78.0	79.4	Trial failed	Trial failed
84A75	Medium		77.3	79.1		
84A88	Medium/long					
85A14	Medium		78.1	79.8		
85G33	Medium/quick		76.8	79.9		
Acclaim	Medium		79.7	81.4		
Agitator	Medium/quick		79.9	81.6		
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					
Brazen	Medium/slow		80.0	81.2		
Candela	Medium			79.1		
Cracka	Medium		78.1	79.7		
Gibson	Medium		79.2	81.4		
Halifax	Long		78.5	79.9		
Liberty	Long		79.6	79.4		
Maestro	Medium					
MR-Bazley	Medium/quick		79.3	80.0		
MR-Buster	Medium		79.2	80.0		
MR-Taurus	Medium/long		79.5	80.9		
Resolute	Medium/long		80.3	81.4		
Sentinel IG	Medium		79.0	80.3		
Sterling	Medium/quick					
Tanami	Medium/quick		79.0	80.6		
Viper IG	Quick		78.5	79.9		
Site mean			**78.9**	**80.3**		

Table 17: Springsure test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	No trial	No trial	Trial failed	Trial failed	80.6
84A75	Medium					80.0
84A88	Medium/long					79.2
85A14	Medium					79.5
85G33	Medium/quick					78.6
Acclaim	Medium					82.0
Agitator	Medium/quick					81.2
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					80.0
Brazen	Medium/slow					81.0
Candela	Medium					
Cracka	Medium					80.1
Gibson	Medium					81.5
Halifax	Long					80.7
Liberty	Long					80.1
Maestro	Medium					82.1
MR-Bazley	Medium/quick					82.0
MR-Buster	Medium					80.8
MR-Taurus	Medium/long					81.3
Resolute	Medium/long					81.6
Sentinel IG	Medium					81.2
Sterling	Medium/quick					81.2
Tanami	Medium/quick					81.2
Viper IG	Quick					81.6
Site mean						**80.8**

Table 18: Duaringa and Theodore test weight (kg/hL).

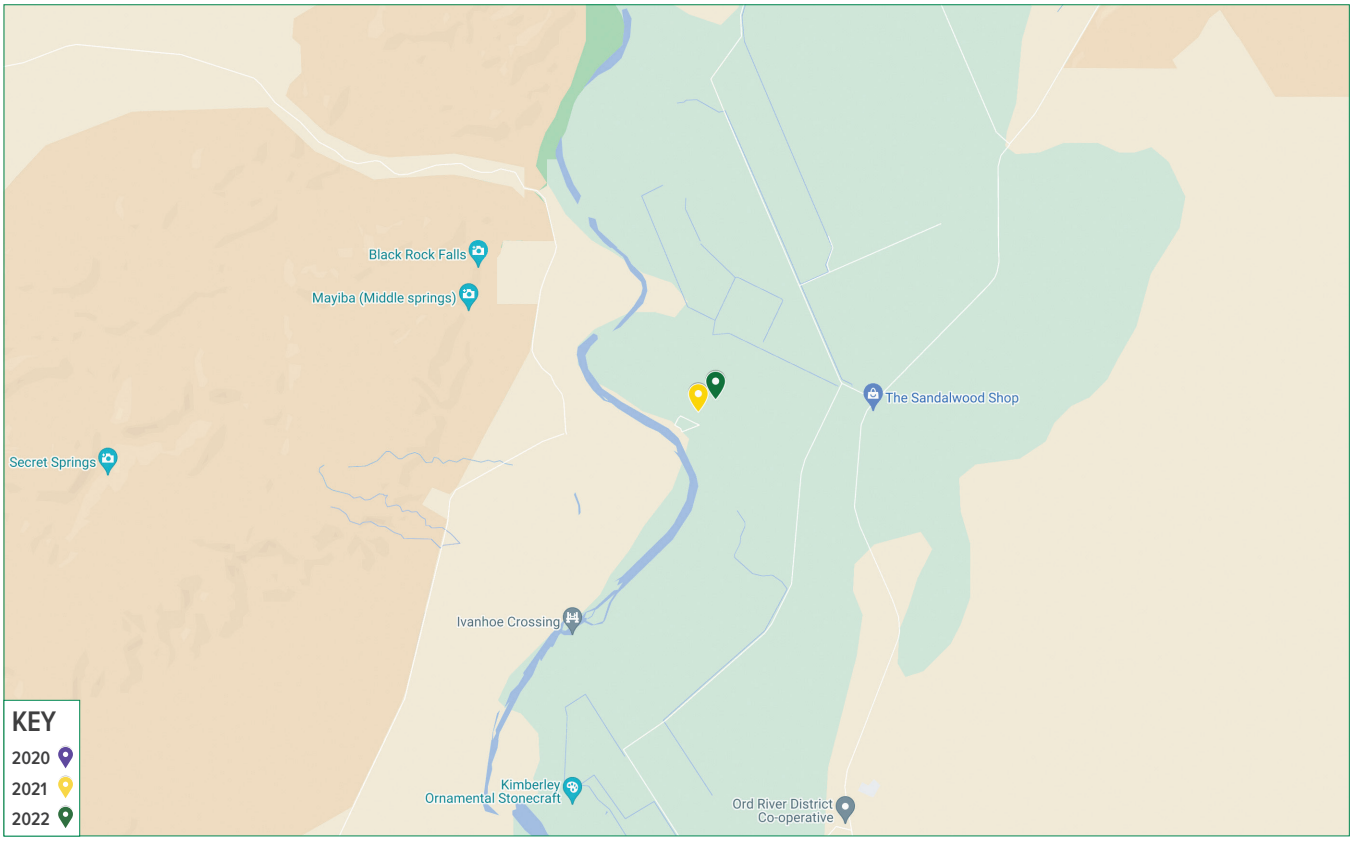
Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Trial failed	No trial	79.6	Trial failed	78.2
84A75	Medium			79.6		77.5
84A88	Medium/long					76.9
85A14	Medium			80.0		77.6
85G33	Medium/quick			79.4		75.9
Acclaim	Medium			81.1		79.7
Agitator	Medium/quick			80.7		79.2
Anvil	Medium/quick					
BAR Cyclone	Medium/slow					77.0
Brazen	Medium/slow			81.0		79.4
Candela	Medium			78.9		
Cracka	Medium			80.3		78.1
Gibson	Medium			81.7		79.1
Halifax	Long			80.1		78.5
Liberty	Long			79.4		79.0
Maestro	Medium					80.0
MR-Bazley	Medium/quick			79.8		79.8
MR-Buster	Medium			79.4		78.9
MR-Taurus	Medium/long			80.5		79.2
Resolute	Medium/long			81.3		79.9
Sentinel IG	Medium			80.6		79.1
Sterling	Medium/quick					78.9
Tanami	Medium/quick			80.8		79.0
Viper IG	Quick			79.7		78.9
Site mean				**80.2**		**78.6**

ORD

NVT SITE LOCATIONS – ORD

Figure 1: Location of the Ord NVT sorghum trial sites from 2020 to 2022.

SOURCE: NVT Online



YIELD PERFORMANCE

The following tables contain yield results from the region for the past five seasons. Data is presented (deviation from the mean t/ha) for each hybrid relative to the mean trial yield for the location within each year. Positive values indicate that the hybrid performs above the mean yield in the environment (year–location combination) cited. Negative values indicate that the hybrid performs below the mean yield in the environment cited. Hybrid names are listed in ascending numerical order, followed by alphabetical order.

The performance of hybrids listed within these tables can be found by further interrogation of the NVT website. Error bars, normally used to compare data, can be viewed within the graph option, also found via the website. Rainfall and irrigation are provided for May to July (M–J) and August to October (A–O). The number of days from sowing to harvest is also provided. Due to unfavourable seasonal conditions, trials not sown are listed as 'No trial' and those not harvested as 'Trial failed'. Trials identified as having no significant difference between hybrids are listed as 'No genetic variance'. Trials listed as 'Compromised trial' are not suitable for making variety decisions and are excluded from the statistical analysis.

Sorghum variety yield performance (t/ha deviation from the mean yield)

Table 1: Kununurra yield values.

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	0.178	0.542	–0.082	Trial failed	Trial failed
84A75	Medium	0.137	1.047	–0.130		
85A14	Medium	0.015	–0.324	–0.327		
85G33	Medium/quick	–0.127	0.305	0.197		
Agitator	Medium/quick		–0.785			
Brazen	Medium/slow		–0.500			
Cracka	Medium		0.660	–0.672		
Gibson	Medium		0.062	0.126		
Halifax	Long	0.887		–0.805		
Liberty	Long			–0.073		
MR-Bazley	Medium/quick	0.348		–0.515		
MR-Buster	Medium	0.031		–0.663		
MR-Taurus	Medium/quick			0.012		
Resolute	Medium/long	1.133		–0.490		
Sentinel IG	Medium			–0.054		
Tanami	Medium/quick			0.405		
Mean yield (t/ha)		**8.02**	**4.67**	**5.00**		
Rainfall mm (M–J)		Irrigated	Irrigated	Irrigated	Irrigated	Irrigated
Rainfall mm (A–O)		Irrigated	Irrigated	Irrigated	Irrigated	Irrigated
Sowing date		23 May 18	4 Jul 19	22 Jun 20	24 Jun 21	15 Jun 22
Harvest date		20 Sep 18	13 Nov 19	16 Nov 20		
Days to harvest		120	132	147		

Special thanks to the 2022 trial cooperator.

GRAIN QUALITY

Grain quality for individual hybrids varies from site to site and from year to year. However, long-term and across-site trends highlight hybrids that can consistently achieve either higher test weights or low grain screenings under a broader range of environments. The grain quality tables of screenings (%<2.0mm) and test weight (kg/hL) contain MET-analysed results for each trial. Trials identified as having no significant difference between hybrids are listed as 'No genetic variance'. Trials listed as 'Compromised trial' are not suitable for making variety decisions and are excluded from the statistical analysis.

Screenings comparisons

Table 2: Kununurra screenings (%<2.0mm).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Not measured	Composite samples	5.3	Trial failed	Trial failed
84A75	Medium			5.5		
85A14	Medium			5.3		
85G33	Medium/quick			5.5		
Agitator	Medium/quick					
Brazen	Medium/slow					
Cracka	Medium			5.3		
Gibson	Medium			5.9		
Halifax	Long			5.4		
Liberty	Long			5.5		
MR-Bazley	Medium/quick			5.3		
MR-Buster	Medium			5.4		
MR-Taurus	Medium/quick			5.6		
Resolute	Medium/long			5.5		
Sentinel IG	Medium			5.8		
Tanami	Medium/quick			6.3		
Site mean				**5.5**		

Test weight comparisons

Table 3: Kununurra test weight (kg/hL).

Hybrid	Maturity	2018	2019	2020	2021	2022
84A66	Medium	Not measured	Composite samples	68.0	Trial failed	Trial failed
84A75	Medium			66.2		
85A14	Medium			64.6		
85G33	Medium/quick			66.3		
Agitator	Medium/quick					
Brazen	Medium/slow					
Cracka	Medium			63.5		
Gibson	Medium			63.6		
Halifax	Long			64.8		
Liberty	Long			65.3		
MR-Bazley	Medium/quick			68.0		
MR-Buster	Medium			68.6		
MR-Taurus	Medium/quick			65.4		
Resolute	Medium/long			65.1		
Sentinel IG	Medium			64.6		
Tanami	Medium/quick			65.7		
Site mean				**65.7**		

NOTES

Useful NVT tools

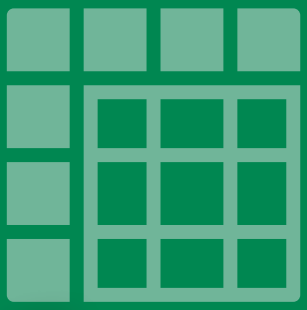
GRDC NATIONAL VARIETY TRIALS™

Visit the NVT website @ nvt.grdc.com.au

- Harvest Reports
- Sowing Guides

Trial results

Long Term Yield Reporter



NVT Disease Ratings

To receive email notifications the moment results for your local NVT trials are available, sign up to the NVT Trial Notification Service

SCAN QR CODE

To receive the latest NVT publications (Harvest Reports and Sowing Guides), subscribe to NVT communications

SCAN QR CODE

GRDC™
GRAINS RESEARCH & DEVELOPMENT CORPORATION

Follow us on Twitter @GRDC_NVT

P Level 4, 4 National Circuit, Barton ACT 2600 | PO Box 5367, Kingston ACT 2604
T 02 6166 4500 **F** 02 6166 4599 **E** grdc@grdc.com.au