

Wheat National Variety Trial - Narrogin

Living Farm

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KEY MESSAGES

The top yielding varieties in this trial were Devil, LRBP Havoc, Corack, Ninja & Sting (2.61 t/ha average for the top 5 varieties) with 0.14 t/ha difference between the first & the fifth variety. Season 2020 in the region started with rainfall events in February and March which provided some subsoil moisture, below average winter rains were followed by a dryer than average spring & early finish favouring the quicker varieties.

Grower decision on variety choice for 2021 should not purely be based on this data but include data from across the region and over a number of years.

AIM

The aim of the National Variety Trials (NVT) is to generate independent information for growers and industry about newly released varieties of field crops to the current commercial varieties grown in the area.

BACKGROUND

The NVT program has been designed to identify the highest yielding varieties, free from the constraints of nutrition and disease. As a result, the nutrition and crop protection packages applied to NVT trials are typically higher than may be applied by the average grower. Management is the same for all plots with no differences in timing for crop protection or nutrition. All trials have 3 replicates of each variety and all plots are sown (and subsequently harvested) on the same day. Timing of sowing is dependent upon the season, but is typically done within an average district “best practice” window and located on a typical soil type for the area.

TRIAL DETAILS

Plot size & replication	10 m x 1.72 m x 3 replicates
Soil type	Sand
Paddock rotation:	2019 Lupins
Sowing date	18/5/20 dry sown
Sowing rate	200 seed/m ²
Fertiliser	18/5/20: Urea 100 kg/ha, Macro Pro Extra 130 kg/ha 11/7/20 Flexi N 100 L/ha 21/7/20 Flexi N 100 L/ha
Herbicides, insecticides & fungicides	Knockdown & pre-emergents pre-seeding Broadleaf spray Grass spray 2 x Fungicide sprays 2 x Insecticide sprays Details of chemicals used and rates available at nvtonline.com.au
Growing season rainfall	246 mm (May-Oct)

Table 1: Rainfall (mm) Source BOM PPD Data

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
0.2	42.5	24.8	3.4	51.8	55.2	34.6	47.2	49.2	8.4	46.0	0.0

TREATMENTS

1	BH130015S-B3		26	LPB16-7401
2	BSWDH05-233		27	LRPB Cobra
3	BSWDH05-353		28	LRPB Havoc
4	Calingiri		29	LRPB Nyala
5	Catapult		30	LRPB Oryx
6	Chief CL Plus		31	LRPB Trojan
7	Corack		32	Mace
8	Cutlass		33	Magenta
9	Denison		34	Ninja
10	Devil		35	OAGT0024
11	EDGE19SA-1098		36	RAC2721
12	EDGE19WB-4112		37	RAC2736
13	Emu Rock		38	Razor CL Plus
14	Hammer CL Plus		39	RockStar
15	IGW6483		40	Scepter
16	IGW6496		41	Sheriff CL Plus
17	IGW6563		42	Sting
18	IGW6576		43	Supreme
19	IGW6636		44	Valiant CL Plus
20	IGW6637		45	Vixen
21	IGW8073		46	Wedin
22	IGW8139		47	Wyalkatchem
23	Kinsei		48	Yitpi
24	LPB16-5783		49	Zen
25	LPB16-6150			

SOIL COMPOSITION

Table 2: Soil composition of the Narrogin NVT cereal trial site at 0-10 cm and 10-30 cm.

Depth	Texture 1 sand, 2 sandy loam, 3 loam, 4 loamy clay, 5 clay	Total Nitrogen mg/kg	Phosphorus mg/kg	P Test Type	Organic Carbon %	pH (water)	pH (CaCl ₂)	Conductivity (EC) dS/m	ESP %
0-10	1	8	36	Colwell	0.5	5.6	4.8	0	1.45
10-30	1	3				5.6	4.7	0	2.99

FIELD PLAN



	Range 1	Range 2	Range 3	Range 4	Range 5	Range 6
Row 1	Denison	Valiant CL Plus	Sting	Hammer CL Plus	LRPB Havoc	Corack
Row 2	Supreme	Magenta	EDGE19WB-4112	Sheriff CL Plus	Emu Rock	LRPB Trojan
Row 3	LPB16-6150	Zen	Scepter	Filler 2	Wyalkatchem	IGW6637
Row 4	Razor CL Plus	Mace	Kinsei	Devil	EDGE19SA-1098	BSWDH05-233
Row 5	Calingiri	OAGT0024	IGW6496	LRPB Nyala	RockStar	LRPB Oryx
Row 6	Ninja	Chief CL Plus	Yitpi	RAC2721	Catapult	IGW6636
Row 7	IGW6576	IGW8139	LPB16-5783	RAC2736	IGW8073	IGW6483
Row 8	IGW6563	Wedin	LPB16-7401	Cutlass	BH130015S-B3	BSWDH05-353
Row 9	Vixen	LRPB Cobra	Chief CL Plus	IGW6563	Sheriff CL Plus	LPB16-7401
Row 10	LRPB Oryx	Hammer CL Plus	BH130015S-B3	Magenta	RAC2721	Denison
Row 11	Catapult	Scepter	OAGT0024	BSWDH05-233	LPB16-6150	EDGE19WB-4112
Row 12	Kinsei	BSWDH05-353	Zen	LRPB Havoc	LRPB Nyala	IGW8139
Row 13	RAC2736	Emu Rock	Corack	Razor CL Plus	Valiant CL Plus	Filler 2
Row 14	Sting	LPB16-5783	Supreme	IGW8073	Calingiri	Mace
Row 15	LRPB Trojan	IGW6636	RockStar	Wedin	IGW6576	Yitpi
Row 16	Wyalkatchem	IGW6496	IGW6483	Ninja	Devil	LRPB Cobra
Row 17	Cutlass	EDGE19SA-1098	IGW6637	Vixen	Wedin	IGW6496
Row 18	IGW6483	Sheriff CL Plus	EDGE19SA-1098	Calingiri	Zen	Cutlass
Row 19	RAC2721	IGW6637	IGW6576	BSWDH05-353	Vixen	Sting
Row 20	LPB16-7401	LRPB Nyala	Mace	LRPB Trojan	Hammer CL Plus	Ninja
Row 21	Filler 2	IGW8073	IGW6636	LPB16-6150	Kinsei	Magenta
Row 22	BSWDH05-233	Yitpi	Valiant CL Plus	IGW8139	Supreme	Scepter
Row 23	BH130015S-B3	Corack	LRPB Cobra	Catapult	IGW6563	LPB16-5783
Row 24	RockStar	Devil	Emu Rock	Denison	OAGT0024	Razor CL Plus
Row 25	LRPB Havoc	EDGE19WB-4112	LRPB Oryx	Wyalkatchem	RAC2736	Chief CL Plus

RESULTS

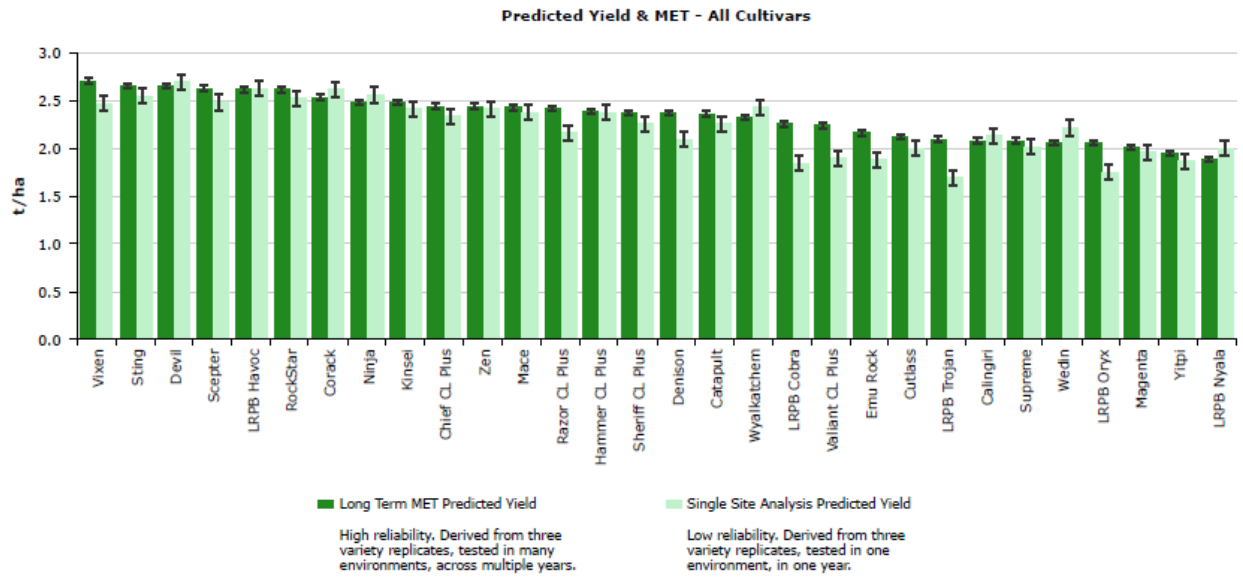


Figure 1: Yield comparison of wheat cultivars sown in Narrogin, 2020

Table 3: 2020 yield analysis and grain quality of wheat cultivars at Narrogin in descending order of yield (t/ha)

Variety	Long term MET predicted yield (t/ha)	Single site analysis Yield (t/ha)	1000 grain weight g/1000 seeds	Protein %	Hectolitre Weight (kg/hl)	Screenings <2.0mm sieve (%)
Vixen	2.70	2.47	32.1	12.5	77.9	2.9
Sting	2.65	2.55	38.8	11.5	77.5	3.6
Devil	2.65	2.69	39.0	12.1	78.8	2.8
Scepter	2.63	2.48	39.0	11.6	78.8	3.3
LRPB Havoc	2.62	2.63	36.6	12.4	80.7	2.4
RockStar	2.62	2.52	33.9	11.4	77.6	3.2
Corack	2.53	2.62	41.0	11.7	78.9	2.2
Ninja	2.48	2.56	37.1	12.3	78.9	2.7
Kinsei	2.47	2.42	32.9	11.8	74.5	6.0
Chief CL Plus	2.44	2.34	40.0	12.4	78.7	1.9
Zen	2.44	2.42	35.2	11.7	78.1	2.6
Mace	2.43	2.38	35.9	11.9	80.2	1.9
Razor CL Plus	2.42	2.16	35.1	11.3	78.3	3.2
Hammer CL Plus	2.39	2.37	34.2	11.9	77.4	6.6
Sheriff CL Plus	2.38	2.25	31.6	12.5	77.7	2.8
Denison	2.37	2.10	29.7	12.1	77.2	6.1
Catapult	2.35	2.25	32.4	11.9	78.3	3.6
Wyalkatchem	2.31	2.43	39.5	12.2	80.0	1.2
LRPB Cobra	2.25	1.84	30.1	14.2	71.3	6.4
Valiant CL Plus	2.23	1.90	31.9	12.7	76.0	4.7
Emu Rock	2.15	1.88	36.6	13.3	76.9	4.3
Cutlass	2.13	2.00	39.9	12.0	75.2	7.8
LRPB Trojan	2.09	1.70	29.7	13.2	74.5	12.6
Calingiri	2.09	2.13	32.6	12.9	77.5	3.2
Supreme	2.08	2.02	30.0	12.7	76.4	7.1
Wedin	2.06	2.21	30.2	11.9	74.5	5.4
LRPB Oryx	2.05	1.75	25.7	12.5	74.9	10.7
Magenta	2.02	1.96	32.5	13.8	75.8	5.9
Yitpi	1.95	1.87	31.8	12.8	78.0	4.3
LRPB Nyala	1.89	2.00	26.9	13.0	74.0	9.6

VARIETY DESCRIPTIONS

For variety descriptions and information on the best choice of variety to grow this season see the 2021 WA Crop Sowing Guide at <https://grdc.com.au/2021-western-australian-crop-sowing-guide>

COMMENTS

The NVT Narrogin Wheat trial was sown on the 18th May into dry soil and germinated after opening rains on the 25th May. Some staggered germination was observed due to non-wetting soil and initial growth was compromised due to grazing by kangaroos. The trial was fenced and the addition of good nutrition saw it recover to have an overall site yield of 2.61 t/ha. Good protein but higher screenings were observed in the longer season varieties that were disadvantaged by the early finish.

For results of all NVT trials for 2020 please visit the National Variety Trials online www.nvtonline.com.au

ACKNOWLEDGEMENTS

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