



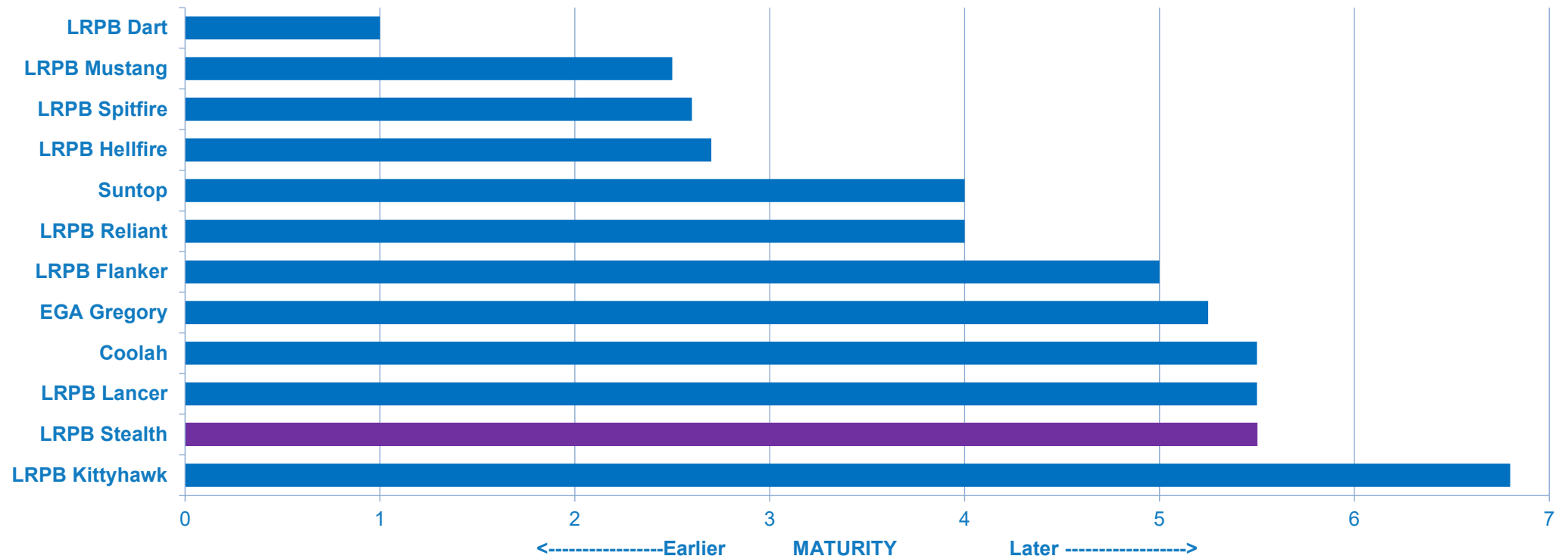
LRPB STEALTH

WHEAT

Pacific Seeds has a diverse portfolio

Introducing LRPB STEALTH our latest APH Variety

Wheat Maturity - NSW/Qld APH Varieties



LONGREACH STEALTH – Tough Mid Late Maturity

- LRPB Lancer x Sunguard cross to stack the best available Crown Rot Resistance into a proven APH background
- Mid Late maturity for late April to Early May planting
- LRPB STEALTH has a premium quality profile similar to the Lancer parent
- APH Classification All NSW and QLD



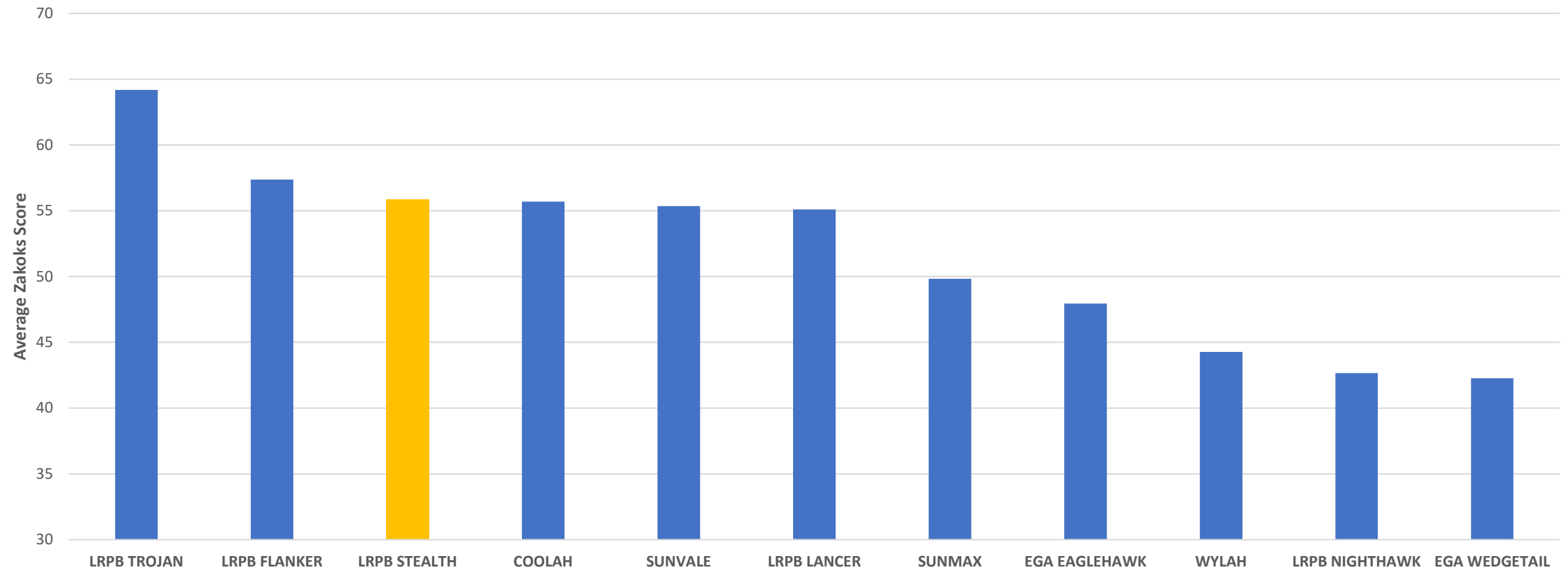
LONGREACH STEALTH – Agronomy

- LRPB Stealth has combined key agronomic traits from both its parents
 - Growth pattern and yield build very similar to LRPB Lancer
 - Longer peduncle (distance between flag leaf and head) and faster grain fill than Lancer and similar to classical Northern NSW/QLD APH lines such as Sunguard/Reliant
- The bottom line is a variety that builds yield during the season like LRPB Lancer but finishes quicker to secure yield in tight finishes

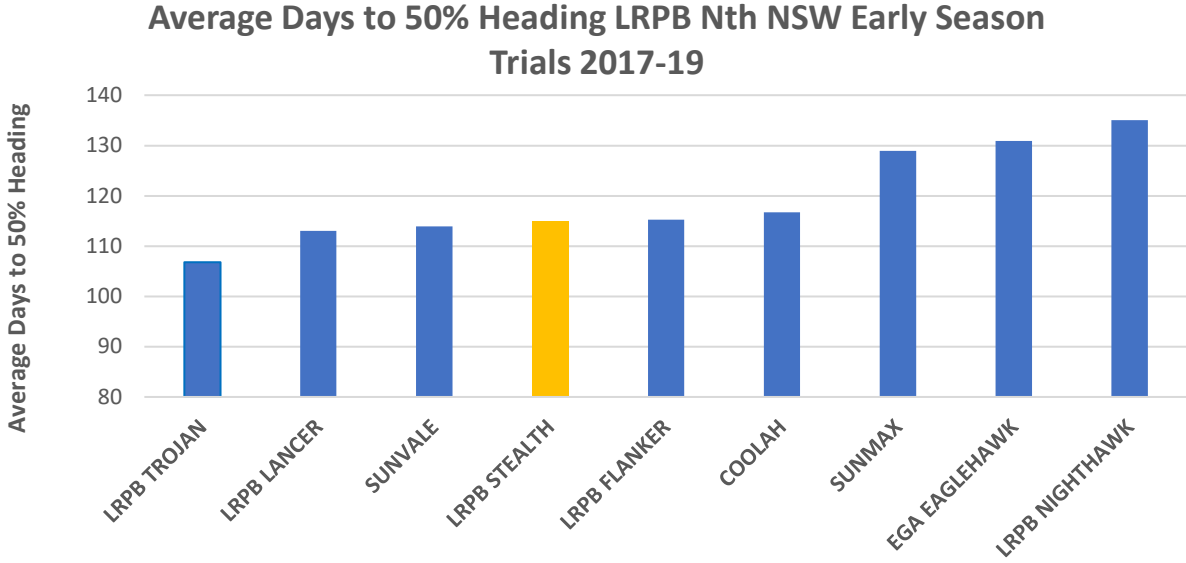


LRPB STEALTH – Mid/Late Maturity NSW

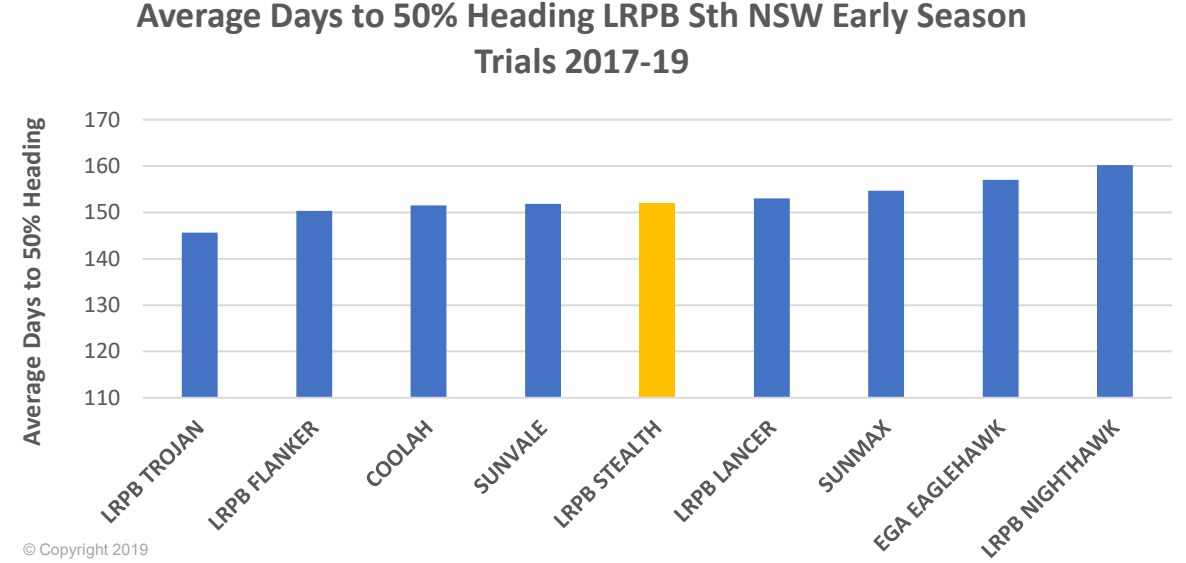
Average Zadoks Growth Stage Assessment LRPB NSW Early Season Sites 2017-19



LRPB STEALTH – Days to 50% Heading



L-R,LRPB Flanker, LRPB Lancer, LRPB Stealth. Tullooona Early Season NVT Trial 2019



LRPB STEALTH has been shown to hold 1-2 days longer to head emergence than Lancer in the warmer Northern environments and quicken itself in the cooler southern environments. This indicates a stronger vernalization requirement than its Lancer parent.

LRPB MET Analysis 2017-2019

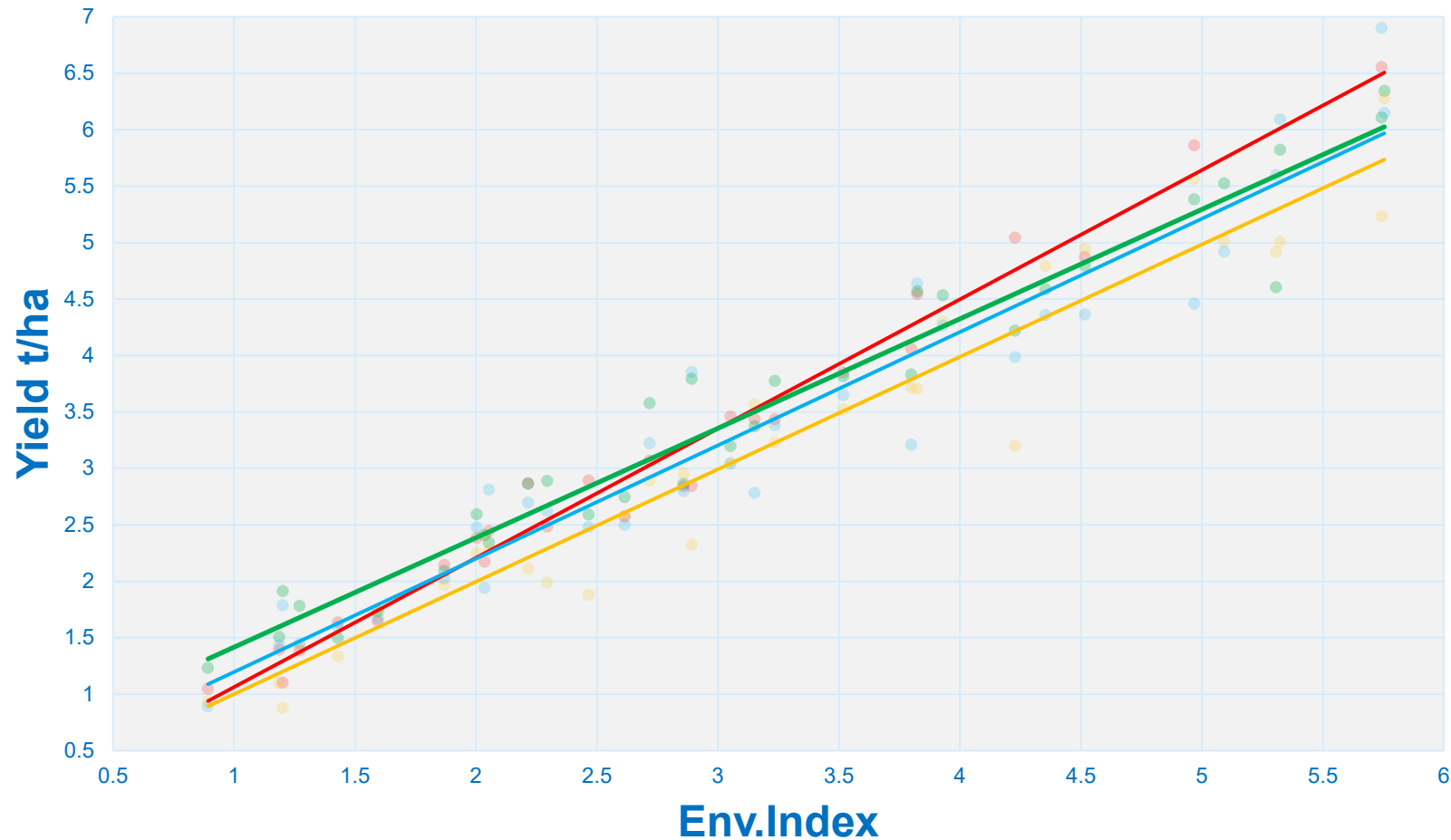
MET Cluster	LRPB MET Cluster Analysis 2017-2019						
	C1 - Grenfell 2018	C2 - Tough finish	C3 - Irrigated	C4 - Late Early Plant	C5 - Lodging	C6 - Frost Sth NSW 2018	C7 - Wallendbeen
LRPB STEALTH	105	123	101	104	103	114	103
LRPB TROJAN	106	118	108	106	104	98	100
COOLAH	116	109	104	114	109	115	108
LRPB LANCER	92	115	100	102	114	99	100
LRPB IMPALA	100	113	96	99	99	99	97
LRPB RELIANT	98	118	86	97	101	109	97
SUNMAX	112	101	101	103	98	95	91
SUNVALE	99	103	87	95	81	94	77
EGA EAGLEHAWK	101	85	98	100	88	92	91
LRPB FLANKER	109	93	80	87	88	100	103
LRPB NIGHTHAWK	90	65	97	100	105	110	104
LONGSWORD	96	76	96	98	93	98	96
ILLABO	88	60	101	96	98	94	100
EGA WEDGETAIL	87	55	89	90	92	93	95
WYLAH	85	51	77	86	74	61	65
Number Trials Included	2	9	3	3	1	3	2
Mean Yield Cluster (t/ha)	4.99	2.25	6.36	2.78	5.94	1.67	5.8

LRPB MET Regional Analysis		
Average	Northern NSW	Southern NSW
109	112	108
109	111	108
109	110	109
104	109	102
102	105	101
100	103	100
101	101	101
93	95	92
94	93	93
91	82	98
90	81	94
91	79	97
88	77	92
81	66	88
70	60	74
21	7	14
3.51	3.52	3.38

LRPB Stealth has produced high yield performance over a range of sites and years particularly in mid to low yield environments

Dryland Yield Comparison

Yield Performance All NSW & QLD LRPB and NVT Dryland sites 2016-2019 (33 trials)



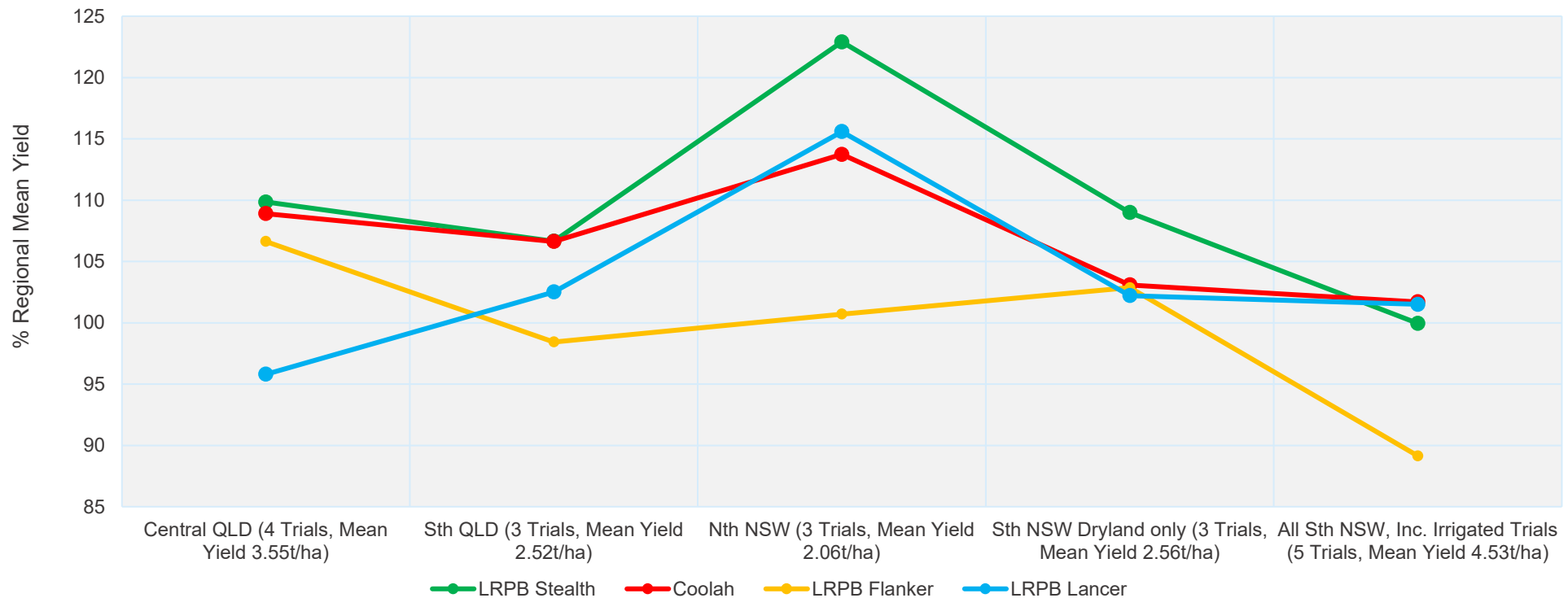
LRPB STEALTH has a demonstrated yield advantage of competitor APH lines in the average yield environments of NSW and QLD (<3t/ha) while still maintaining excellent yield competitiveness in the higher yielding environments.

● Coolah ● LRPB Stealth ● LRPB Flanker ● LRPB Lancer
— Linear (Coolah) — Linear (LRPB Stealth) — Linear (LRPB Flanker) — Linear (LRPB Lancer)

Yield – NVT Regional Performance

- LRPB STEALTH has wide adaption throughout the traditional APH marketplace with excellent yield across all dryland environments during its first year of NVT trials

% Regional Mean Yield 2019 Early Season NVT Trials



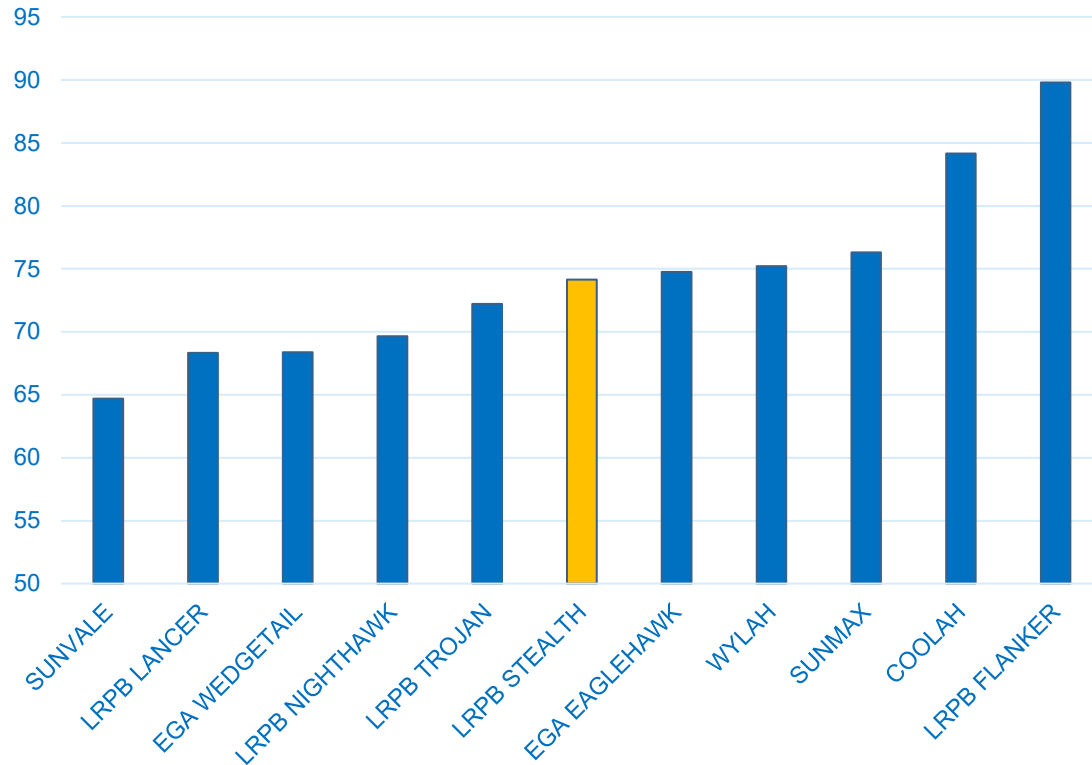
Yield – NVT Regional Performance

Variety Name	Central QLD	Sth QLD	Nth NSW	Sth NSW	Sth NSW (Dryland trials)	Sth NSW (Irrigated trials)
LRPB Stealth	110	107	123	100	109	95
Coolah	109	107	114	102	103	101
LRPB Flanker	107	98	101	89	103	82
EGA Gregory	104	97	93	86	101	79
LRPB Lancer	96	103	116	102	102	101
Mitch	111	99	112			
LRPB Reliant	106	111	106			
LRPB Nighthawk			76	97	83	104
Suntop			101	99	111	93
Beckom				108	116	104
Catapult				107	118	102
LRPB Trojan				106	114	101
RockStar				116	119	115
Number of trials	4	3	3	5	3	2
Mean Yield (t/ha)	3.55	2.52	2.06	4.53	2.56	7.48

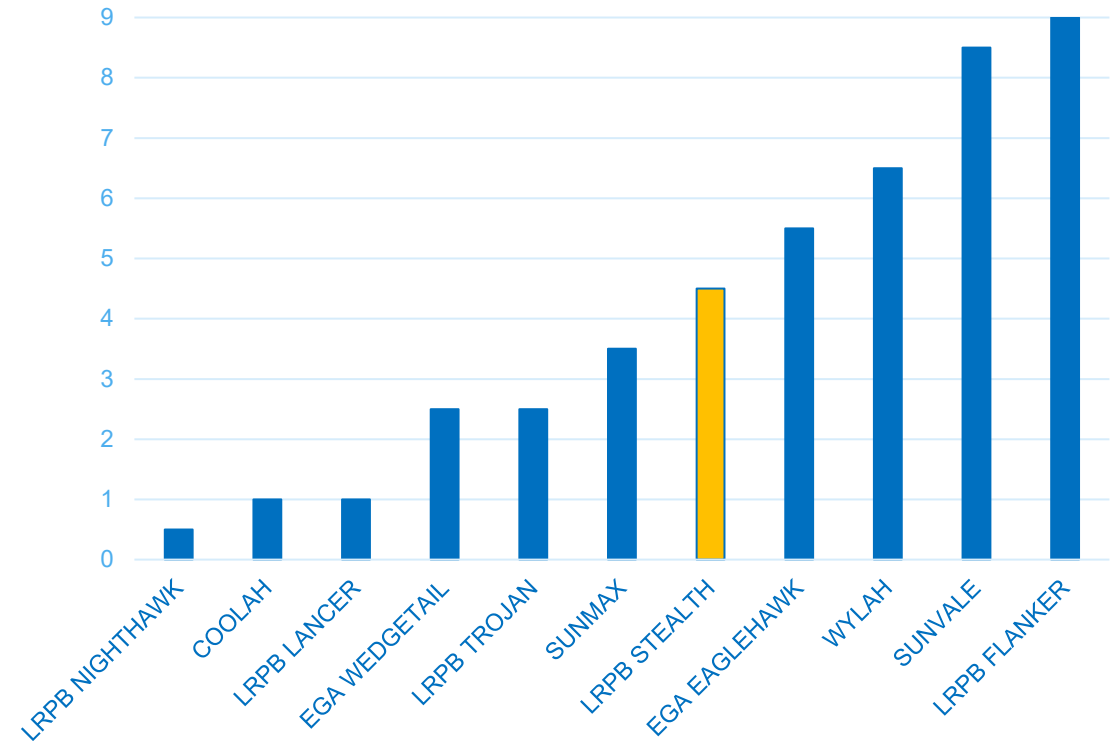
LRPB STEALTH has shown increased yield performance and stability against similar APH varieties across all environments in NSW and QLD

Plant Height and Lodging

Average Plant Height (cm)
LRPB NSW Early Season Trials 2017-19



Lodging Assessment LRPB Young Trial 2017
Mean Site Yield 5.94t/ha
(0= No lodging, 9 = >90% Plot Lodged)



LRPB STEALTH is average plant height, but has shown only moderate straw strength which increases its lodging risk in high yielding environments (>5t/ha) but still a significant improvement over Flanker

DISEASE RATINGS

Variety	Leaf Rust	Stem Rust	Stripe Rust East	Stripe Rust Yr13417+	Stripe Rust Yr198	Stripe Rust Y_239	Yellow Leaf Spot	Crown Rot	Prat.neglectus resistance	Prat. Neglectus tolerance	Prat.Thornei resistance	Prat.Thornei tolerance	Septoria Tritici Blotch	CCN	Black Point
Coolah	RMR	MR	MRMS	RMR	RMR	RMR	MSS	MSS	S	MT	MS	MT	MSS	S	S
Coota	MS	RMR	MS	MS	MR	MS	MSS	MSS	MR	MI	MS	MT	S	MR	MR (P)
EGA Gregory	RMR#	MR	MR	MR	MR	MR	S	S	S	MT-MI	MSS	MT	MSS	S	MSS
LRPB Flanker	RMR#	RMR	MR	RMR	MR	MR	MS	MSS	S	MT	MSS	MT	MSS	S	MS
LRPB Nighthawk	MSS	RMR	MRMS	MR	MRMS	MR	MS	MSS	MSS	I-VI	MS	MI-I	MS	MS	MS
LRPB Raider	R#	R	RMR	RMR	RMR	RMR	MSS	MSp*	MS	-	MS	MT	MSS	S (P)	MSSp
LRPB Stealth	RMR#	R	RMR	RMR	RMR	RMR	MS	MRMSp*	MSS	MI	S	MT-MI	MS	S	RMR (P)
LRPB Trojan	MR#	MRMS	SVS	MR	SVS	MRMS (P)	MSS	MS	MSS	MT	MSS	MI	MSS	MS	MS
RockStar	S	MR	S	MRMS	MR	S	MRMS	S	MRMS	MI-I	MS	MI	S	MSS	MSS
Sunflex	RMR/S (P)	MR	-	RMR (P)	RMR (P)	RMR (P)	MS	MSS (P)	S	MT-MI	MSS	MI	MSS	MS	MSS
Sunmaster	RMR#	MS	MRMS	MRMS	MR	MR	MSS	MSS	MRMS	MT-MI	MS	T-MT	S	MSS	RMR (P)
Sunmax	MS	MRMS	RMR	RMR	RMR	RMR	MS	MSS	S	MT-MI	MS	MI	MSS	MRMS	MRMS

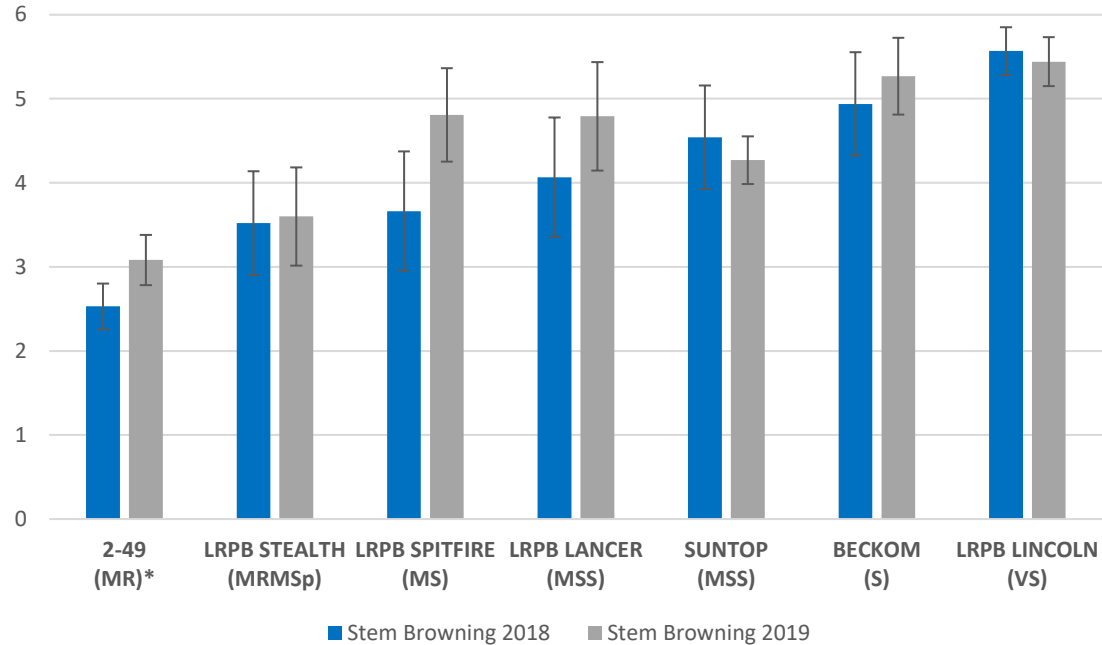
Resistance ratings: VS=Very Susceptible, S=Susceptible, MS=Moderately Susceptible, MR=Moderately Resistant, R=Resistant. Tol Rating - T=Tolerant, MT=Moderately Tolerant, MI=Moderately Intolerant, I=Intolerant, VI=Very Intolerant

Varieties with # indicate susceptibility to pathotype variant. Ratings with * Indicate data sourced from LRPB Disease Nurseries results. Data sourced via NVT (www.nvtonline.com.au) and LRPB Disease Screening Results Feb 2022. p=Preliminary Data

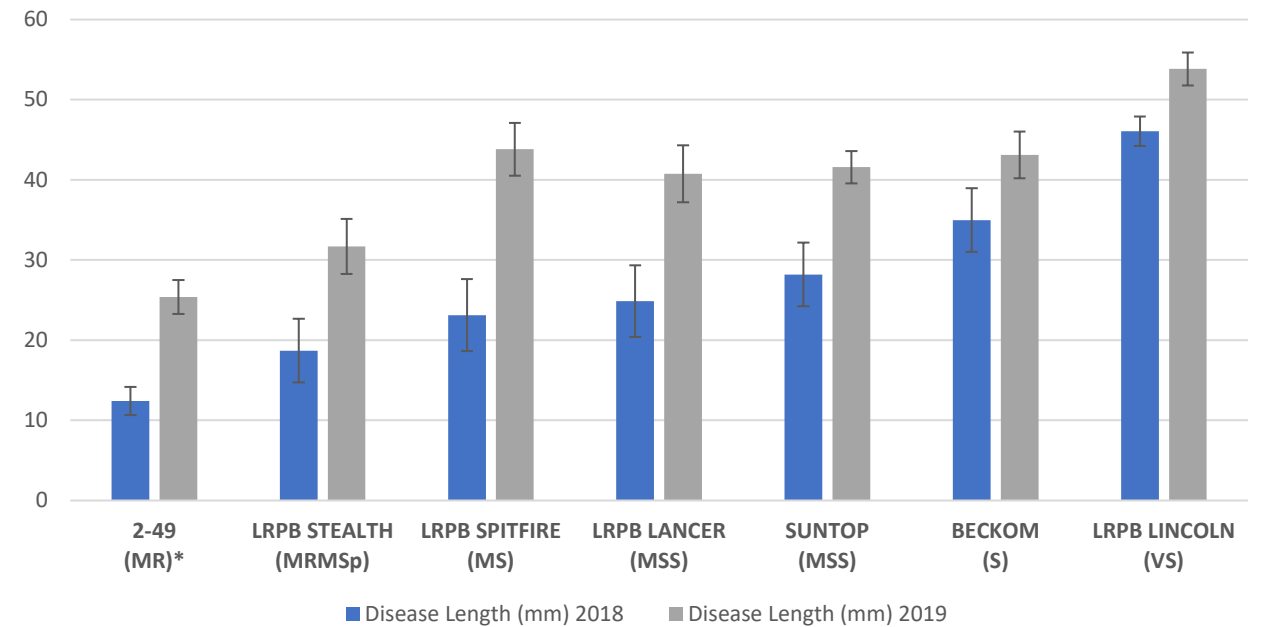
- High Crown Rot Resistance (**MRMSp**) making LRPB Stealth the highest rated APH variety available to the market.
- Solid Resistance to all major Leaf diseases important in the APH market with an increase in Yellow spot resistance (**MS**) and Septoria (**MS**) over the majority of its competitors
- Good tolerance to RLN (*p.thornei*)

LRPB STEALTH - Crown Rot Resistance

LRPB / Sydney University Crown Rot Nursery 2018 - 19
Stem Browning Rating at Maturity (0 = No Browning, 9 = Heavy Browning)



LRPB / Sydney University Crown Rot Nursery 2018 - 19
Measured Disease Length at Maturity (mm)



* 2-49 is a public breeding line that has been shown to display high levels of Crown Rot Resistance

- LRPB Stealth is the result of a targeted cross to increase Crown Rot Resistance in widely grown APH germplasm
- LRPB Stealth has shown increased levels of Crown Rot resistance over well regarded varieties currently available on the market across multiple years when assessed in artificially inoculated disease nurseries.
- These results support breeding observations from the field throughout its development within the LongReach breeding program

Grain Quality – 2019 NVT Early Season Trials

Northern Classification

Variety Name	Protein			Hectolitre Weight			Screenings			1000 grain weight		
	Average	Max	Min	Average	Max	Min	Average	Max	Min	Average	Max	Min
Coolah	12.0	15.1	8.3	81.3	84.3	73.6	1.97	4.77	0.6	38.15	42.8	33.6
Cutlass	13.2	15	10.9	80.8	87.7	74.2	2.07	5.53	0.7	38.71	42.9	36.5
DS Faraday	13.3	15.8	10.4	81.8	85.1	74.5	2.09	4.43	0.7	38.34	43	34.2
EGA Gregory	12.7	15	9.9	83.8	92.2	76.7	2.02	4.4	0.6	39.39	44.4	35.1
LRPB STEALTH	12.5	14.8	8.5	81.9	85.3	72.4	1.75	3.95	0.3	39.79	42.9	35.8
LRPB Flanker	13.0	15.1	9.7	81.9	85.3	72.8	1.78	4.27	0.3	39.06	44.1	34.1
LRPB Gauntlet	13.1	15.4	10.5	82.2	85.5	74.8	1.95	4.38	0.4	41.51	44.2	38.2
LRPB Lancer	13.4	15.7	10.4	82.5	85.5	73.6	1.45	3.85	0.2	39.47	43.5	36.6
LRPB Reliant	12.3	15.2	9.1	82.3	85	74.3	2.51	7.08	0.4	40.31	46.1	35
Mitch	11.7	15.3	9.9	79.5	83.7	71.5	3.30	6.82	0.8	38.87	44.4	33.8
Sunmax	13.8	17.3	10.1	80.3	85.5	73.6	2.52	4.75	0.9	35.34	39.1	30.6
Suntime	13.4	14.9	11.3	81.9	85.5	75.1	1.99	3.79	0.8	36.99	38.7	32.6
Suntop	11.9	15	9.9	80.6	84.7	75.7	2.33	3.4	0.8	38.25	40.6	36

**Data sourced 2019 Early Season NVT Trials Qld and Northern NSW (10 Sites)

Grain Quality – 2019 NVT Early Season Trials

South East Classification

Variety Name	Protein			Hectolitre Weight			Screenings			1000 grain weight		
	Average	Max	Min	Average	Max	Min	Average	Max	Min	Average	Max	Min
Beckom	12.2	13	11.3	82.2	85.3	77.5	2.1	7.8	0.2	36.04	40.4	30.3
Catapult	11.8	14.2	10.8	82.1	85.8	76.1	1.8	6	0.2	38.48	45.6	30.1
Coolah	11.9	13.5	11	81.1	84.9	75.1	3.7	9.3	0.2	36.06	43.6	30
Cutlass	12.6	13.2	12	82.2	84.8	79	0.8	2.2	0.2	39.58	46.8	33.7
DS Bennett	12.6	14	11.3	78.2	81.8	72.8	5.1	10.3	1.5	34.18	40.4	28.5
DS Darwin	12.3	13.1	11.2	82.2	85.5	76.8	0.9	1.7	0.2	40.08	48.4	32.5
DS Faraday	12.4	14.1	11.3	82.3	85.7	76.5	1.2	3.5	0.2	37.98	44.8	32.9
DS Pascal	12.6	14.7	11.2	80.2	84.2	73.8	2.6	4.7	0.5	32.12	38.4	26.3
EGA Gregory	12.4	14.5	11.3	81.7	85	75.3	1.7	5.1	0.2	38.74	46	33.3
EGA Wedgetail	14.1	16.4	12.8	77.0	80.4	69.8	2.9	8.2	0.3	33.48	39.2	25.4
Illabo	13.1	14.6	12.3	77.9	81.1	71.3	1.5	3.2	0.2	35.66	40.8	30.6
LRPB STEALTH	12.2	13.4	11.2	81.2	85.7	76.4	2.2	5.3	0.3	36.82	46	29.5
LRPB Flanker	12.6	15	11.4	81.7	84.9	75.2	2.1	8.7	0.1	37.86	44.8	31.4
LRPB Lancer	13.6	15.5	12.5	81.7	85	77.2	2.4	7.3	0.2	37.82	46	32.3
LRPB Nighthawk	12.9	14	11.5	80.9	83.9	77.2	3.8	7.5	0.4	33.6	39.6	27.6
LRPB Trojan	12.4	13.3	11.3	83.1	85.8	78.4	1.3	4.5	0.1	41.66	48.8	34
RockStar	11.6	13.1	10.2	81.2	84.7	75.2	1.2	3.3	0.2	43.96	49.6	36.6
Scepter	11.9	12.6	11.5	82.4	85.5	77.7	0.7	2	0.2	42.58	50.8	34.7
Sunlamb	13.9	16	12.8	79.9	82.2	76.5	2.4	3.5	1.3	31.24	35.2	27.9
Suntop	12.5	13.7	11.7	79.9	83.9	76.1	4.8	11.5	0.2	36.82	44.4	29.3

**Data sourced 2019 Early Season NVT Trials Southern NSW (5 Sites)

Grain Quality – 2018 LRPB Early Season Trials

Variety	Protein			Test Weight			Screenings			1000g weight		
	Narrabri	Grenfell	Young	Narrabri	Grenfell	Young	Narrabri	Grenfell	Young	Narrabri	Grenfell	Young
COOLAH	15.3	14.1	11.6	81.3	80.4	79	1	1.6	1.9	35.7	36.3	35.3
DS PASCAL	16.6	15.4	13.5	78.8	79.1	78.4	1.5	3.4	2.6	30.7	31.3	32
EGA EAGLEHAWK	16.5	15.1	12.3	78.7	79	79.7	8.4	2.8	3.5	25	30	34
EGA GREGORY	16.4	14.6	12.7	81.3	80.1	80	1	1.5	3.4	39	35.3	38
EGA WEDGETAIL	16.2	16.4	11.8	75.7	77.5	75.4	2.7	0.6	2	30	36	38.3
LONGSWORD	18.6	16.4	12.5	78.2	77.4	79.2	3.6	0.5	1.1	29	34.3	36.3
LRPB STEALTH	16.2	14.4	12.8	81	79.5	78.7	4.5	1.8	5	34	35.7	38.7
LRPB FLANKER	17	15	12.9	81.1	80.3	79.5	0.8	1.2	2.6	39.3	37	36.7
LRPB KITTYHAWK	15.7	15.9	11.5	81	81	80.2	2.9	0.5	4	32	35.3	39.3
LRPB LANCER	16.7	16.3	14.4	81.4	79.8	79.2	1.6	1.9	2.9	37.7	34.7	38
LRPB NIGHTHAWK	15.5	14.7	11	79.3	77.5	78	6.6	9.3	2.8	29	22.7	33
LRPB TROJAN	15.2	15	12.3	83.1	82.1	79.1	0.7	1	3.1	42	38.7	40.3
SUNMAX	17.3	15.5	13.1	78.9	79.4	78.4	9.8	1.9	3.9	25.3	33	34.7
SUNVALE	16.2	15.4	14.3	81.9	80.9	79.8	0.8	0.6	1.8	36	33.7	36
WYLAH	18.4	16.2	15.5	80	80.2	80.1	4.9	1.2	2.9	29.7	35.7	39.3

Data Sourced from LRPB Early Season Trials 2018

LRPB STEALTH is available from Seed Associates to plant in 2022



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