Importance of matching cultivar to environment

Hyper Yielding Crops Project wheat research – NSW Crop Technology Centre, Wallendbeen, NSW, October 2020

SOWING THE SEED FOR A BRIGHTER FUTURE

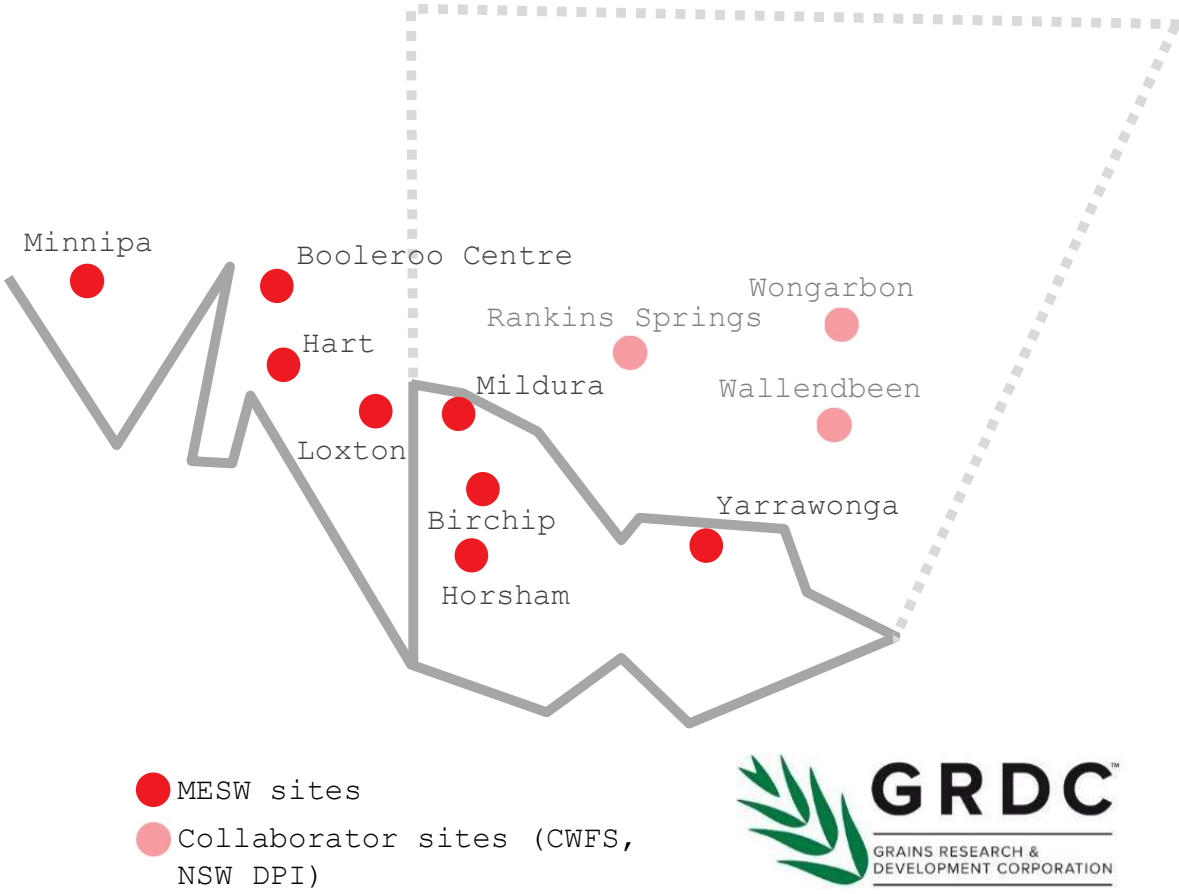
What about the Riverine Plains?

Dr Kenton Porker FAR Australia

(GRDC Management of Early Sown Wheat) 2017 - 2019

Sowing Targets

1. Mar 15
2. Apr 5
3. Apr 15
4. May 1 (Scepter sown at optimal)



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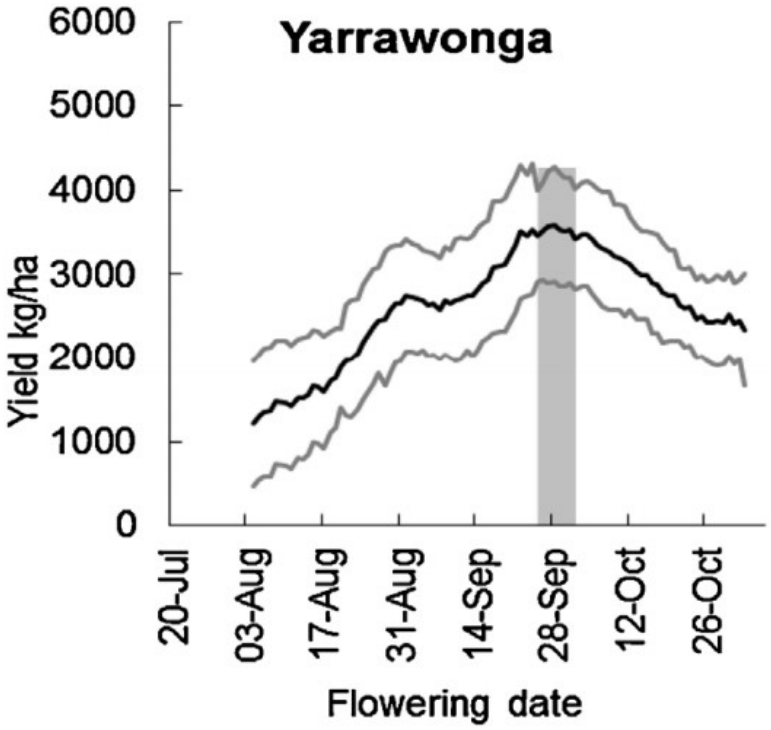
THE OPTIMAL FLOWERING Period is not a safe Window!!!

Know your environment - climate and risk profile



*Flohr et al (2017)

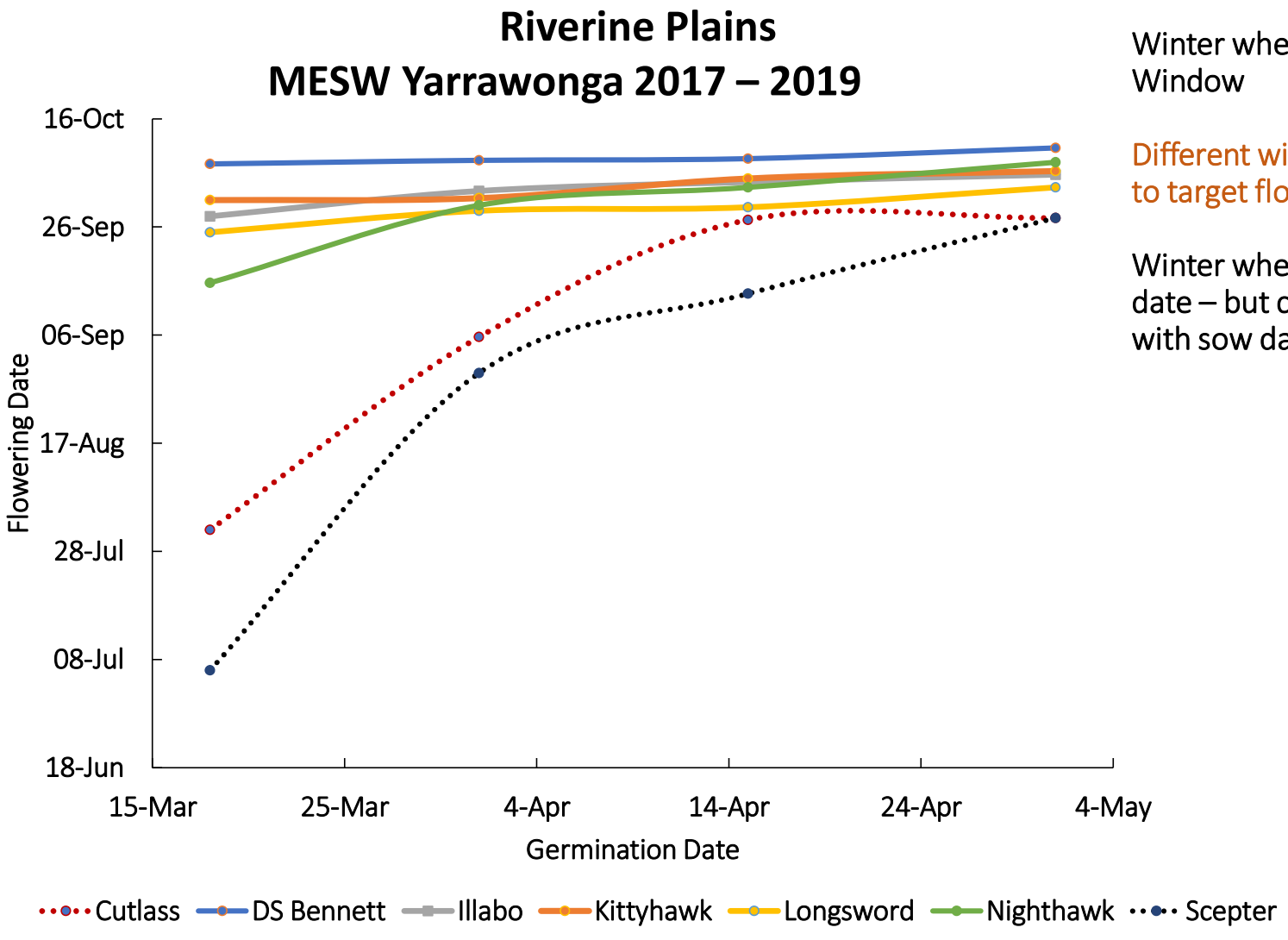
Modelled optimal flowering period*

25 Sep – 2 Oct

Yarrawonga MESW 2017 – 2019 Field Data

17 Sep – 28 Sep

highly variable * stem frost, terminal drought



Winter wheats open up the planting Window

Different winter varieties are required to target flowering windows

Winter wheats are stable in flowering date – but cannot be manipulated with sow date

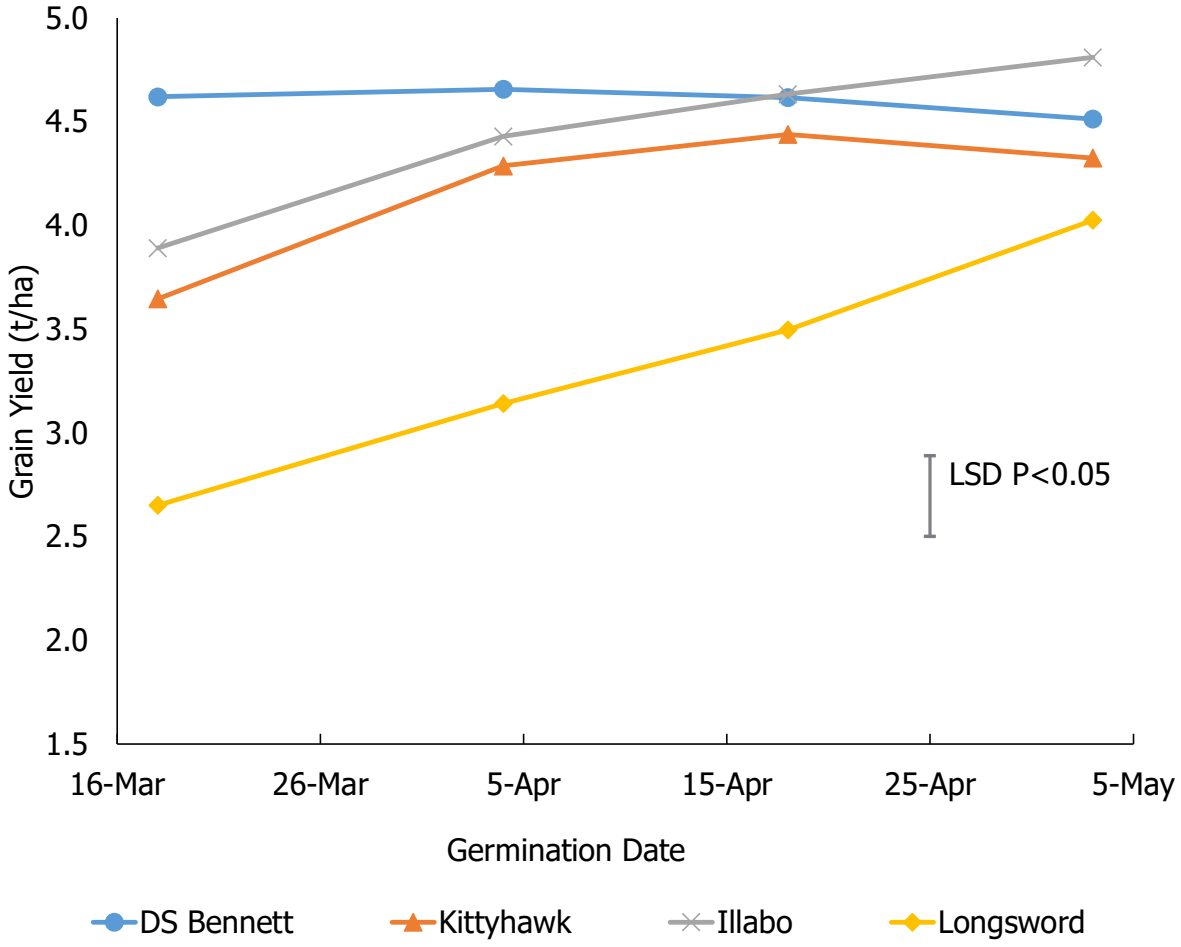
RiverinePlains

LA TROBE UNIVERSITY

FAR AUSTRALIA

GRDC GRAINS RESEARCH & DEVELOPMENT CORPORATION

Grain yields (2017 – 2019)

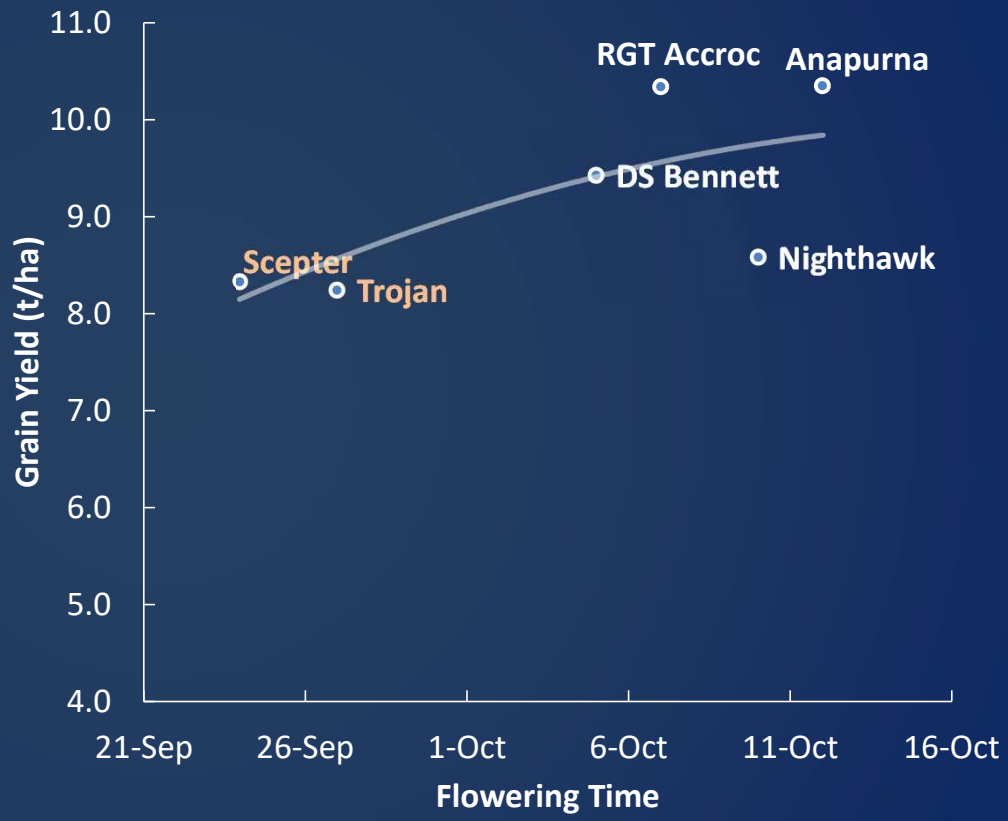


24 Sept

- > 2.5 t/ha (5 sites in SA/Vic)

Hyper Yielding Crops (HYC)

Importance of matching cultivar to environment

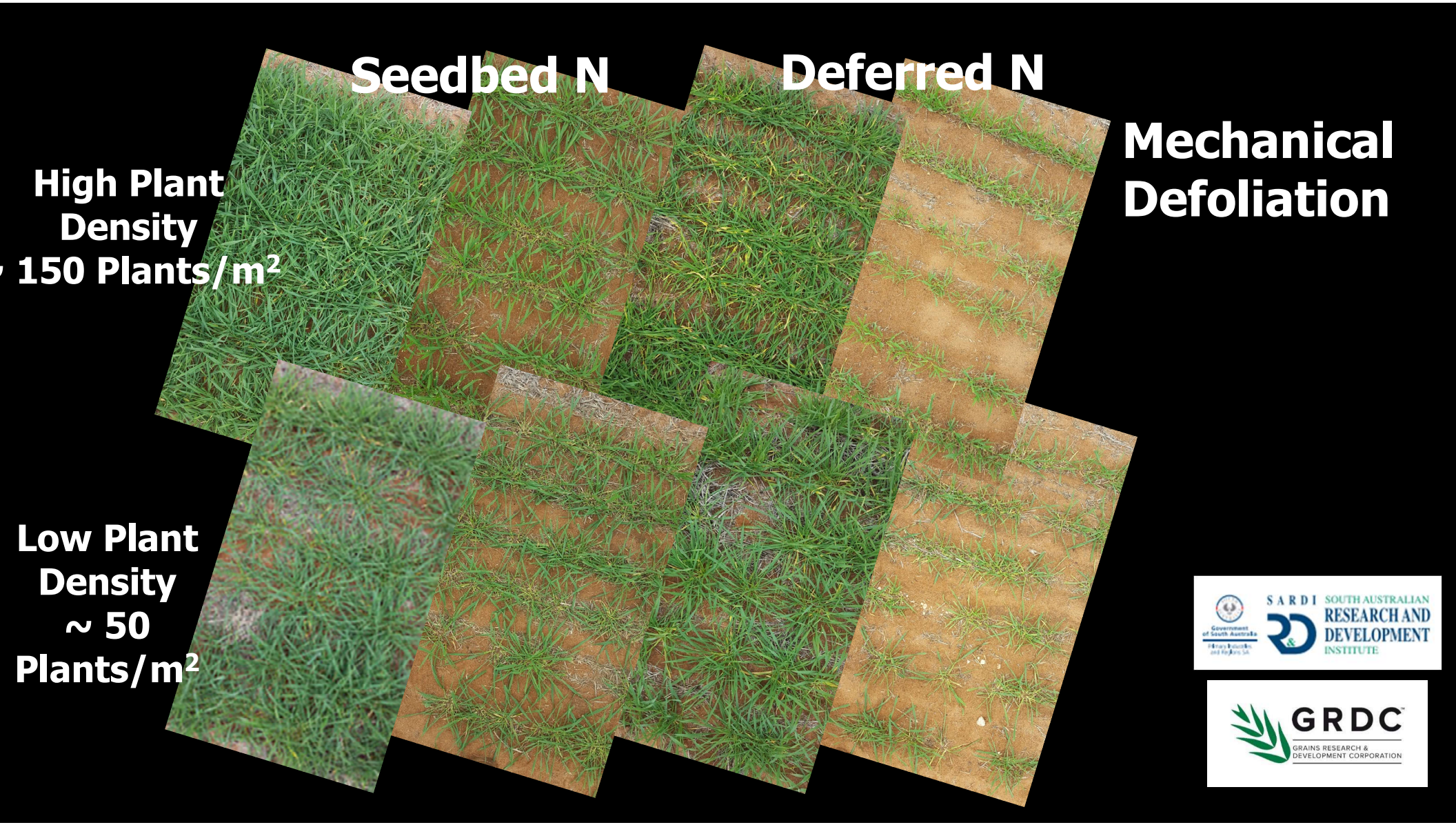


Hyper Yielding Crops Project wheat research – Late April sown
NSW Crop Technology Centre, Wallendbeen, NSW, October 2020

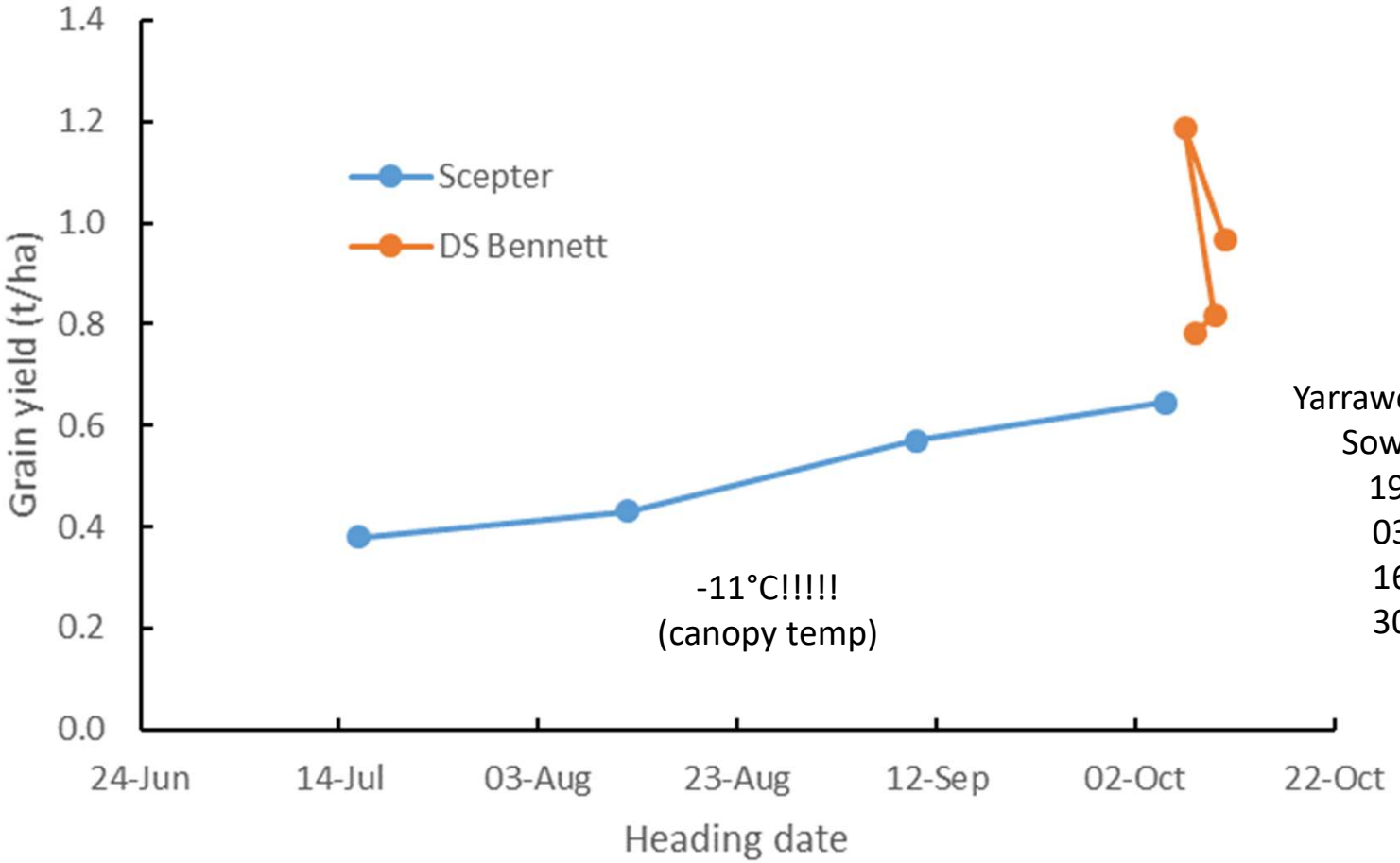
TAKE HOME MESSAGES

- Highest yields for winter wheats come from April establishment
- Yields of best early sown winter wheats are similar to Scepter sown in optimal window
- Flowering time cannot be manipulated with sowing date in winter wheats like spring wheat
- Different winter wheats are required for different environments.
- Slower developing spring varieties are less suited to pre April 20 sowing

Winter Wheat is a different management system


Seedbed N
Deferred N
Mechanical Defoliation
High Plant Density ~ 150 Plants/m²
Low Plant Density ~ 50 Plants/m²
SARDI
SOUTH AUSTRALIAN RESEARCH AND DEVELOPMENT INSTITUTE
GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION

MANAGING FROST RISK – DS BENNETT SOW EARLY TO FLOWER LATE



Yarrawonga 2018
Sow dates;
19-Mar
03-Apr
16-Apr
30-Apr

Other Considerations:

- Early Sowing options for frosty landscapes – DS Bennett achieving similar yields as Scepter sown at its optimal time despite flowering “too late”
- Stripe Rust in Bennett will need to be monitored and managed
- Kittyhawk has superior testweights compared to Illabo
- Sowing opportunities (~70% of years at Yarrawonga)

WHERE DO WINTER WHEATS FIT IN CONJUNCTION WITH SPRING WHEATS IN SOUTH EASTERN AUSTRALIAN FARMING SYSTEMS?

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Enterprise	Mixed farm		Crop only		
System fit	Dual purpose		Open sowing window	Manage frost risk	
Management	Sow March & April 150 plants/m² N at sowing		Sow April >50 plants/m² Topdress N @Z31		Sow April >50 plants/m² Topdress N @Z31
Environment	<2.5 t/ha	>2.5 t/ha	<2.5 t/ha	>2.5 t/ha	
Cultivar (yield)	Longsword	DS Bennett	Longsword	DS Bennett	DS Bennett
Cultivar (quality)	Illabo	Illabo Kittyhawk	Illabo	Illabo Kittyhawk	NA

ACKNOWLEDGEMENTS

Project Partners:

GRDC

La Trobe University - James Hunt

SARDI - Kenton Porker, Mellissa McCallum, Courtney Peirce, Wayne Reid, Paul Swain, Dylan Bruce, Brenton Spriggs, Sue Buderick

Hart Field Site - Sarah Noack

Frontier Ag - Michael Moodie, Mick Brady, Todd McDonald

FAR Australia - Michael Straight, Darcy Warren

BCG - Genevieve Clarke, Kelly Angel

Ag Victoria – Ash Wallace

Collaborators:

NSW DPI - Felicity Harris, Greg Brooke, Hongtao Xing

CWFS - Neil Fettell, Helen McMillan

AgGrow Agronomy & Research - Barry Haskins

Generating Hyper Yielding Barley – What does a Hyper Yielding crop look like

Kenton Porker, Nick Poole (FAR Australia)

HYC Results and Awards Evening

What does a hyper-yielding barley crop look like?

	Grain Yield (t/ha)	Harvest Index (%)	Dry Matter t/ha	Heads/ m^2	Grains per spike	Grain Weight (mg)
M-HRZ	8	>50	14.5	650	26	48
SE Australian	**10**	**>50**	**18**	**600**	**32**	**50**
TAS Spring	12	>50	22	800	28	55

What's different about these environments?
Is it different enough to change management?
How can we hit these numbers?

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Management and genetics go hand in hand to increase yields

Barley Dissection

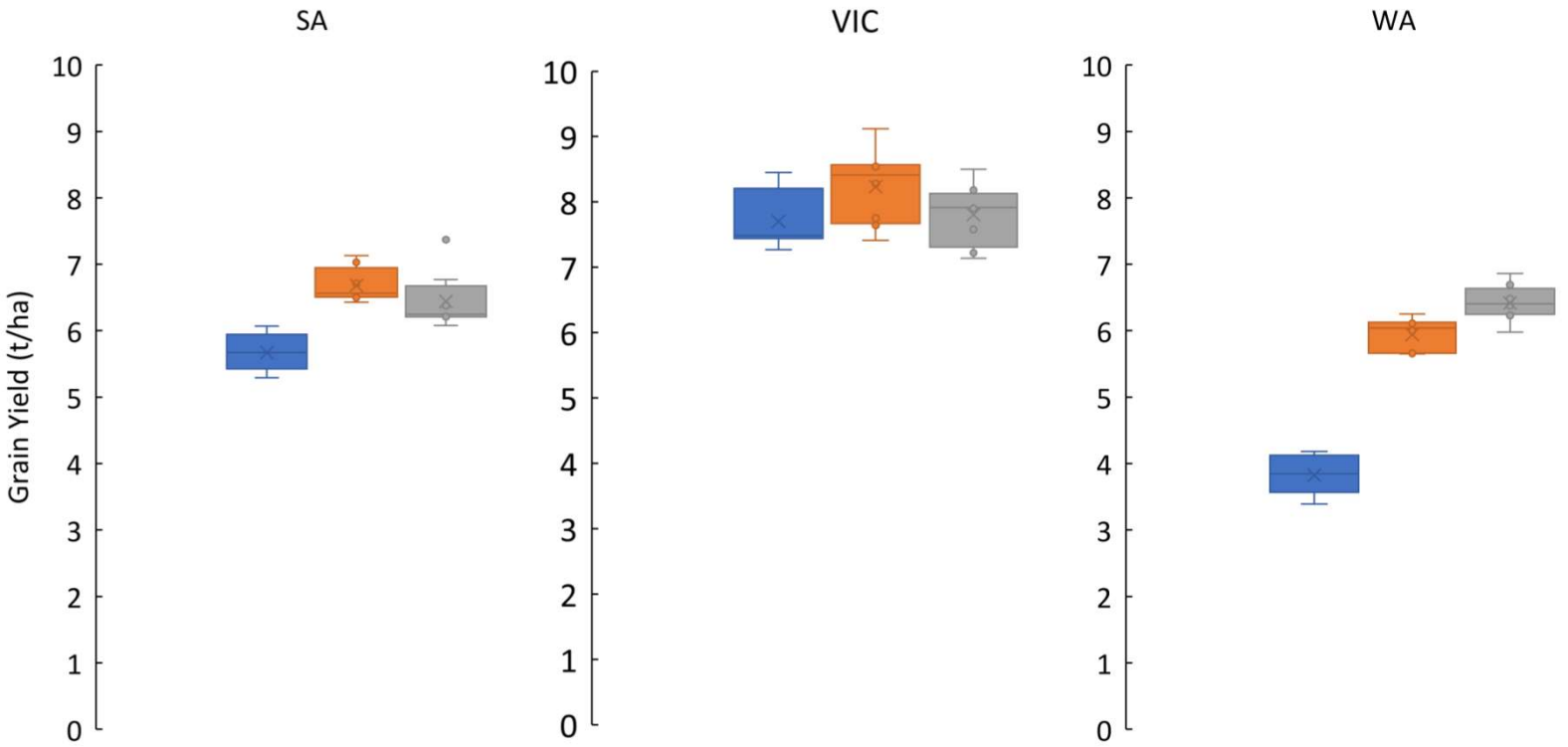
PGR Use in Barley

HRZ Barley Disease

- Increasing grain number potential, its survival and size will increase yields
  - Trying to achieve 40 grains per spike
  - Introduced 6 row for first time in Australia (in coordinated trials)
  - Keep important leaves greener for longer – fungicides/genetics
  - Keep crops standing and heads on the plant – PGR/genetics

2020 HYC GxExM Series

What can we achieve with management?



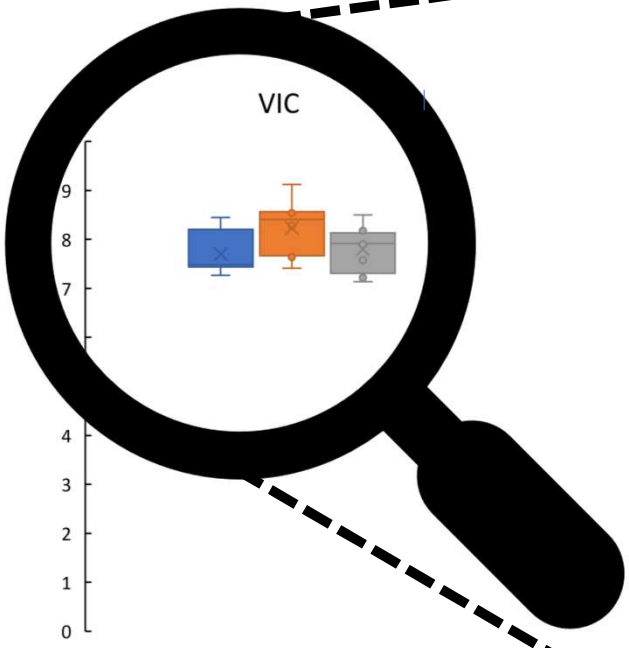
Yields across all management interventions (n= 8 per cultivar per site

Cassiopee
WINTER

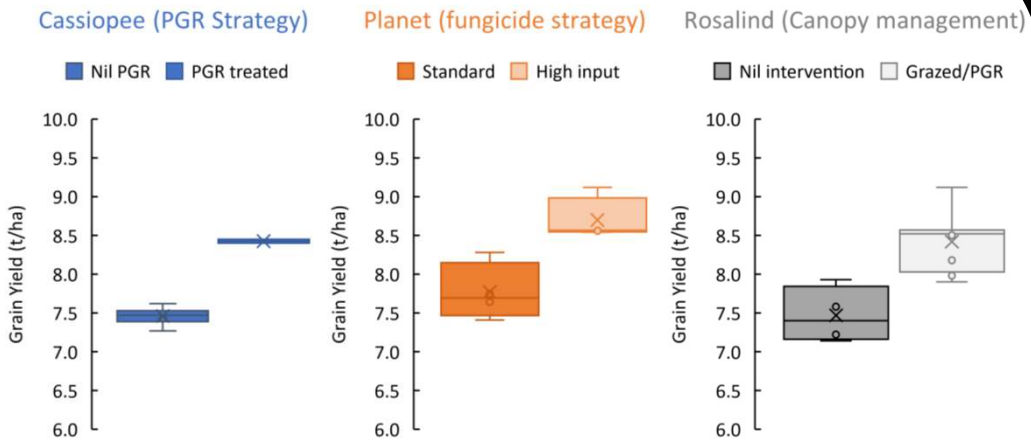
RGT Planet
Mid-quick spring

Rosalind
Very quick spring

2020 HYC GEM Series



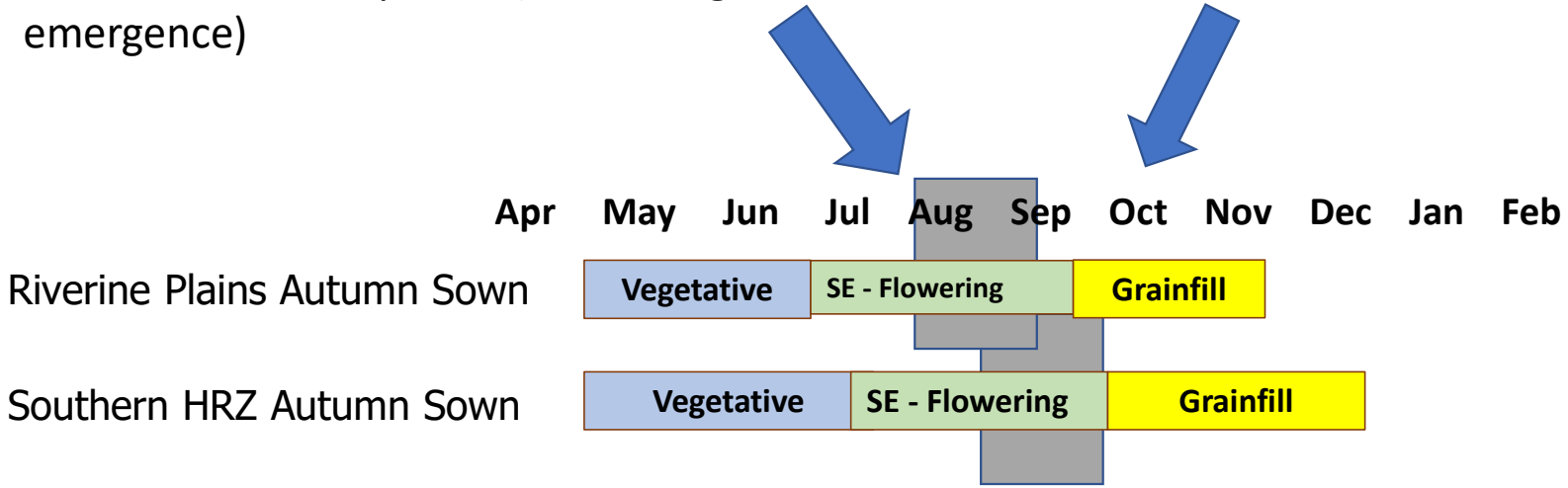
Management lever depended on cultivar, Victoria is a nice example to zoom in on



Crop Physiology rules for the Med - High Rainfall Zone

2. **Manage your crop** so that it is intercepting 90 – 95% radiation with green leaves by the start of the critical period (before flag leaf emergence)

1. Flower during the optimum period



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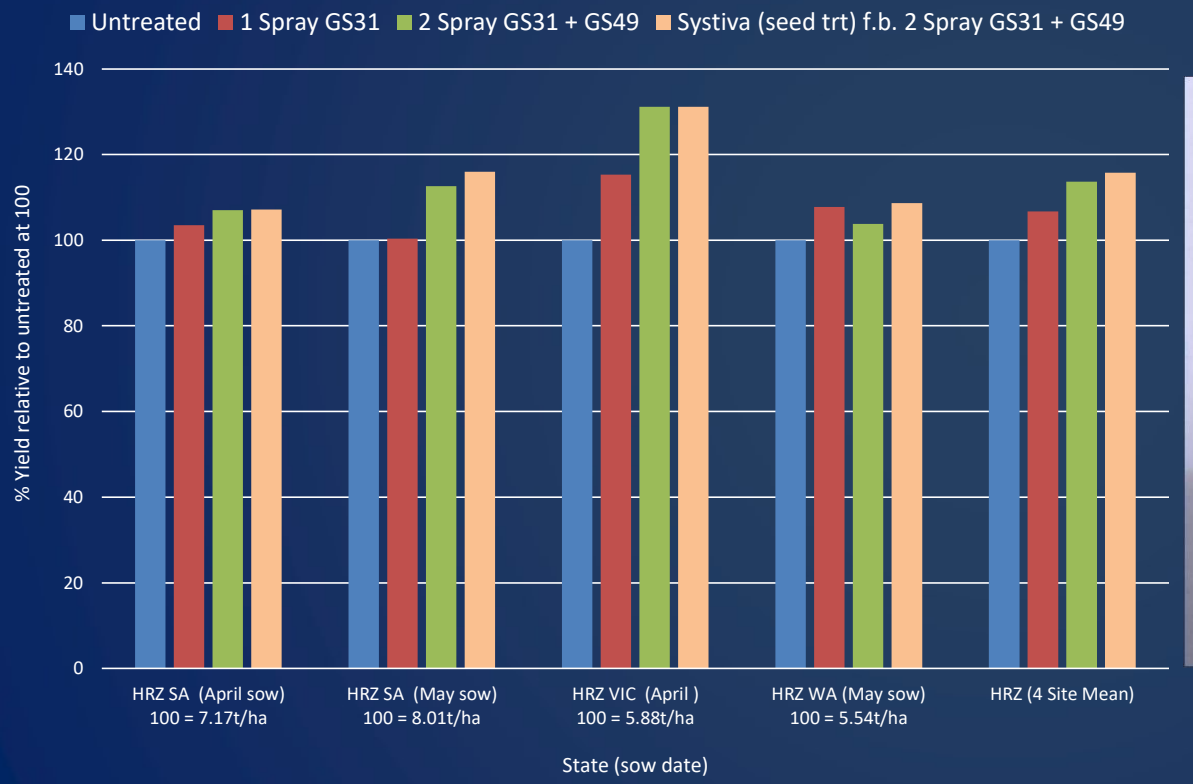
Genetics and management are improving

Nationwide % Fungicide Response in RGT Planet – 4 Sites and Mean - HYC trials 2020



Impact of a second foliar spray apparent across all sites except WA

Where do we use our SDHIs that offer foliar disease control?

1. As a seed treatment (Systiva)?
Or
2. In crop

- Good disease management is essential in all regions when yield potential is higher due to spring rainfall!

- Genetics and management of barley are improving and screening for high yielding germplasm with good genetic resistance (and standing power) is central to HYC research.

- Key foliar fungicide timings for barley disease control to protect the top four leaves are GS31 (1st node), GS39-49 (flag leaf – 1st awns emerging). Flag-1 is the most important leaf to protect in barley.

- Where possible look to minimize the use of fungicide application and where possible minimize the use of QoI (Group 11) and SDHI (Group 7) applications to one per season.

Current HYC national benchmark

Laureate Barley

Sown 1st September (Hagley)

Yield = 11.42t/ha
Protein = 13.3%
TestWeight = 65.9kg/hL
Retention = 98.5%
Screenings = 0.4%

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Thank you to GRDC and collaborating colleagues

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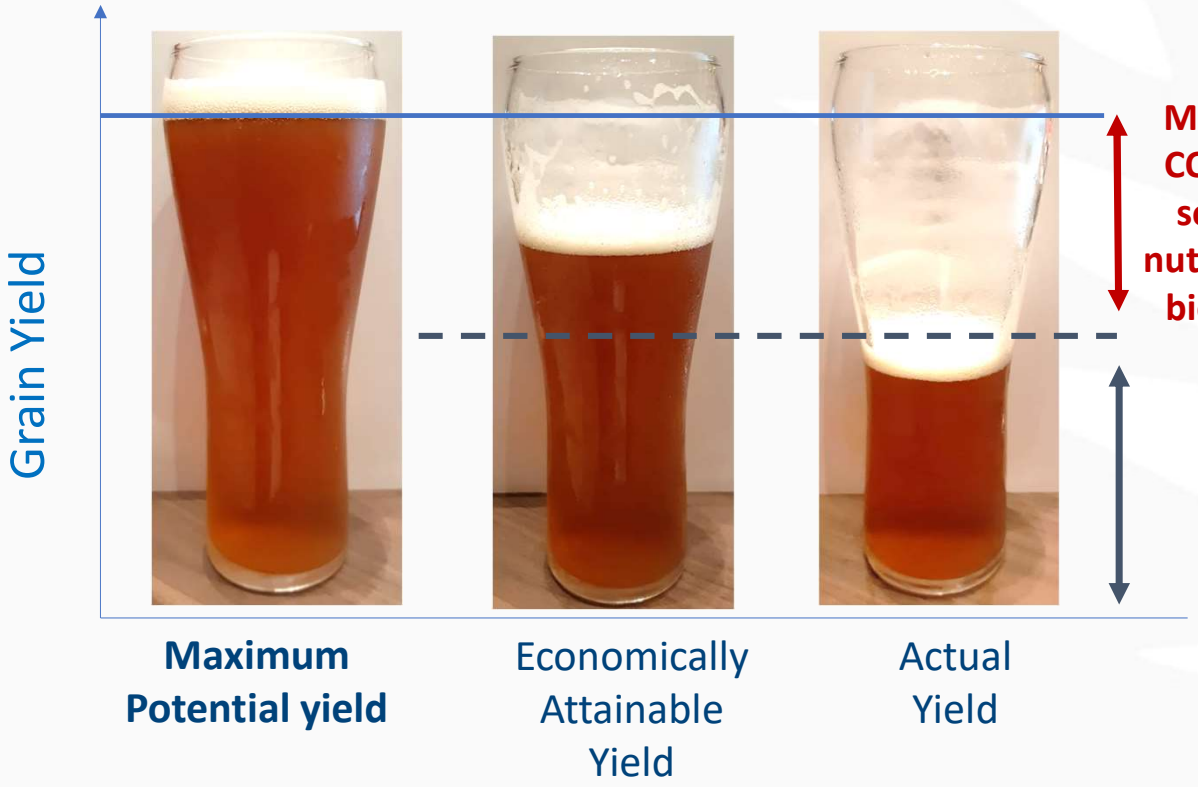
Defining Grain Yield

HYC Awards Vic/NSW

John Kirkegaard (CSIRO), **Kenton Porker (FAR),** Nick Poole (FAR), Jon Midwood (TechCrop)

How should we think about yield?

Potential Yield - Under best practice water and climate are the only factors limiting crop growth.



Award 2:
% of potential
= exploitable yield gap

Award 1:
Actual Farm Yield

The HYC Awards Community

Lets **close the yield gap**

and **raise the yield frontier** together

(get closer to 100% of potential yield)

HYC Yield Potential Calculation - Built on the fundamental principles of crop growth

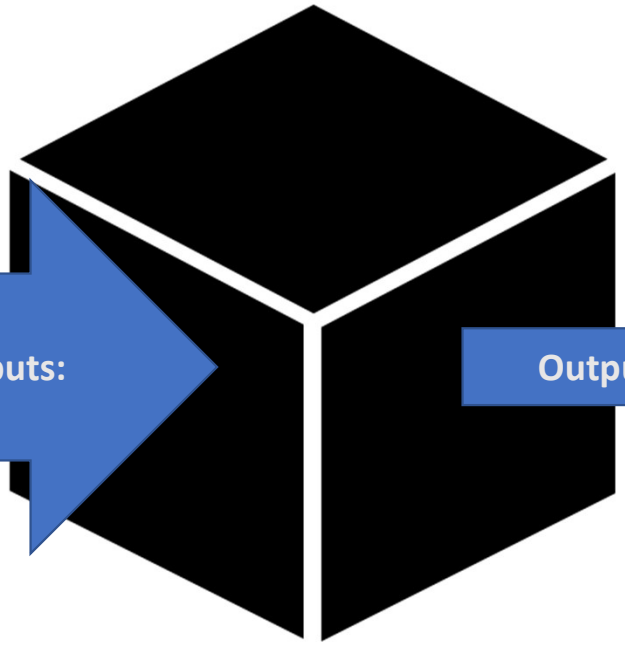
1. Temperature and solar radiation light during the critical period

2. Water use efficiency model

3. Solar radiation and conversion to yield (Harvest Index)

4. Soil water holding capacity

Inputs:



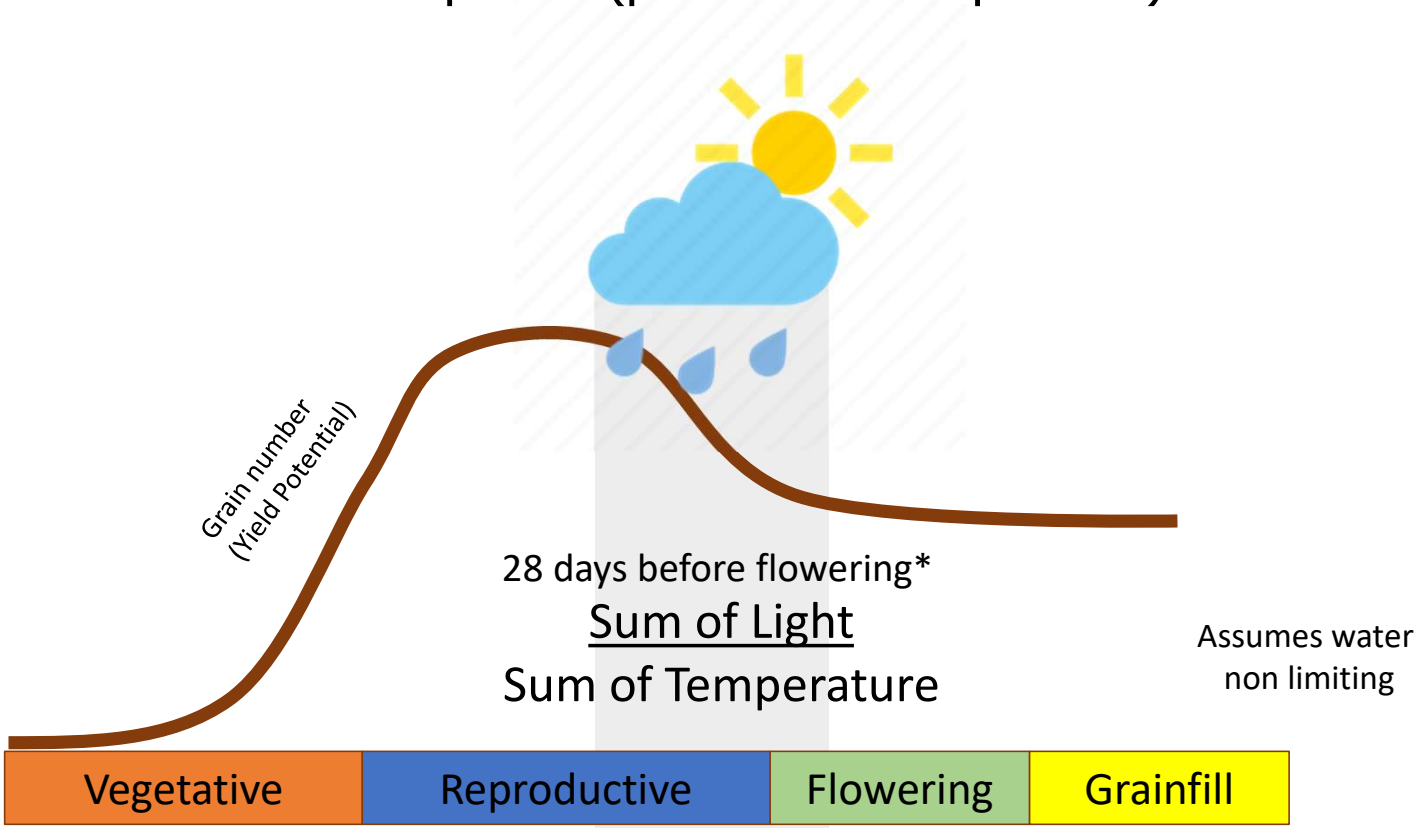
Output

The HYC Yield Potential (PyHYC)

Black Box assumptions published methods

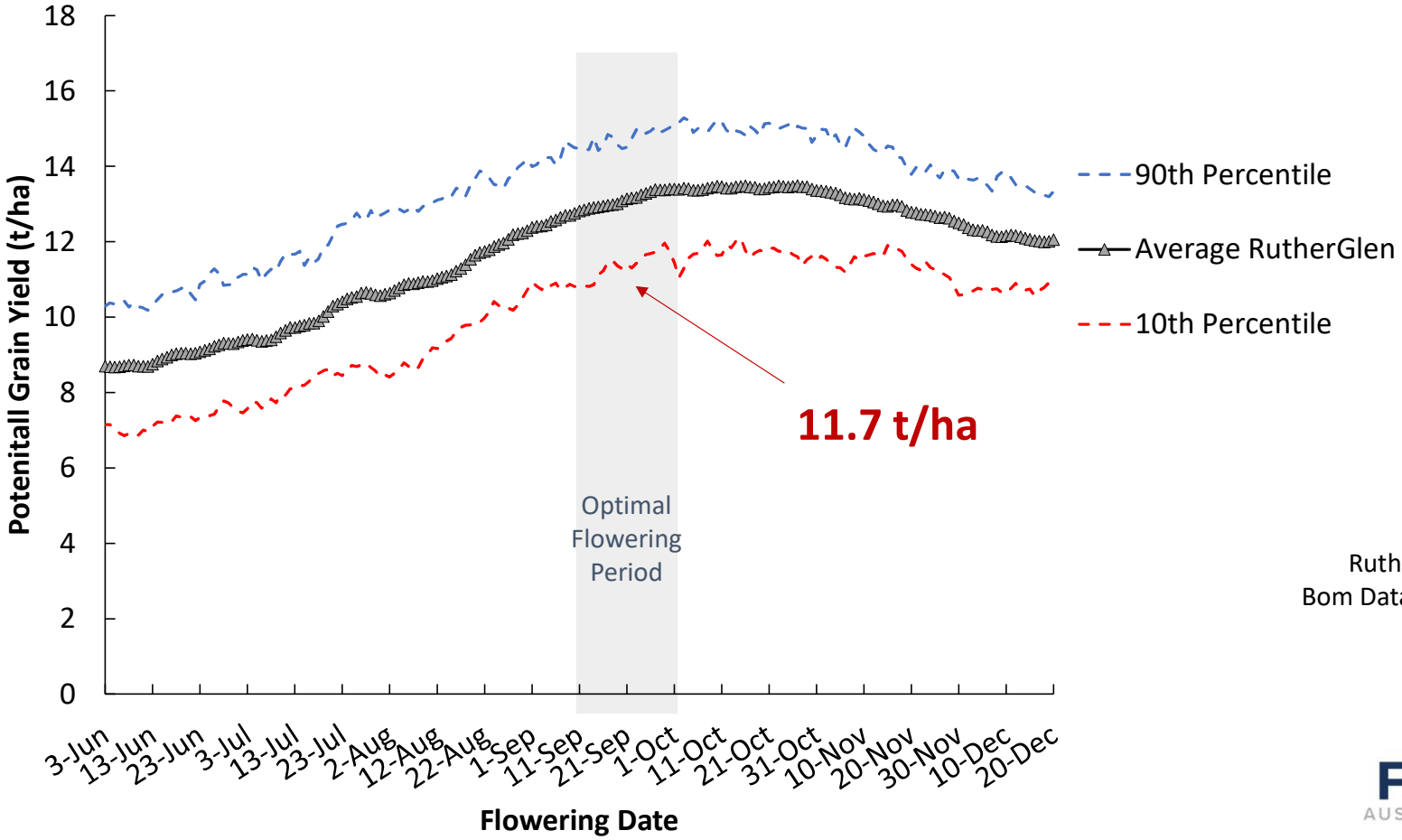
FAR AUSTRALIA

Potential yield is primarily determined by growth during the critical period (photothermal quotient)



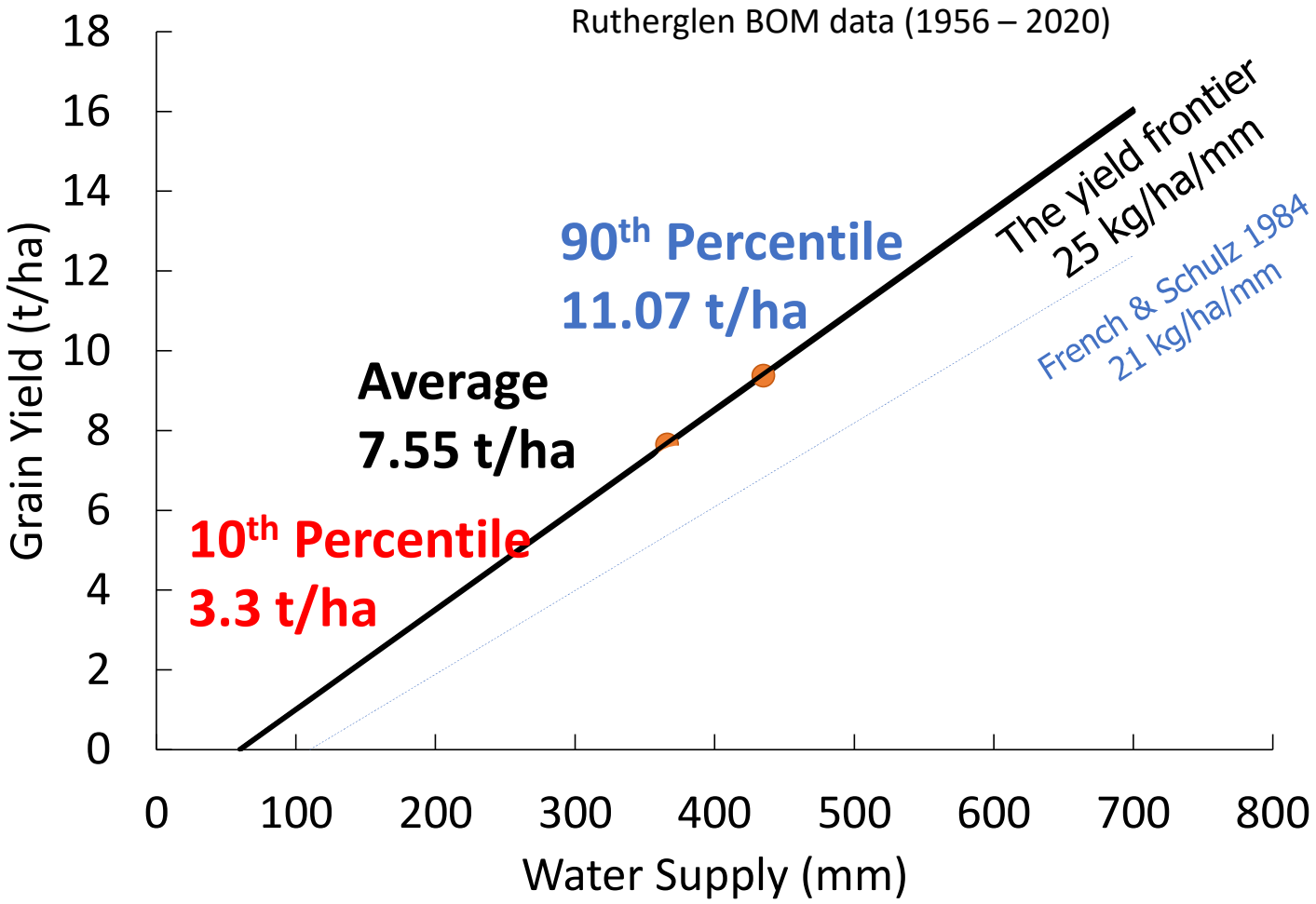
* Modified based on (Rawson et al., (1988))

In high rainfall zones the PTQ may limit yield potential as often as water supply to the crop (coastal, cloudy areas) – **This is not likely in Riverine Plains**



Rutherglen Vic
Bom Data: 1957 - 2020

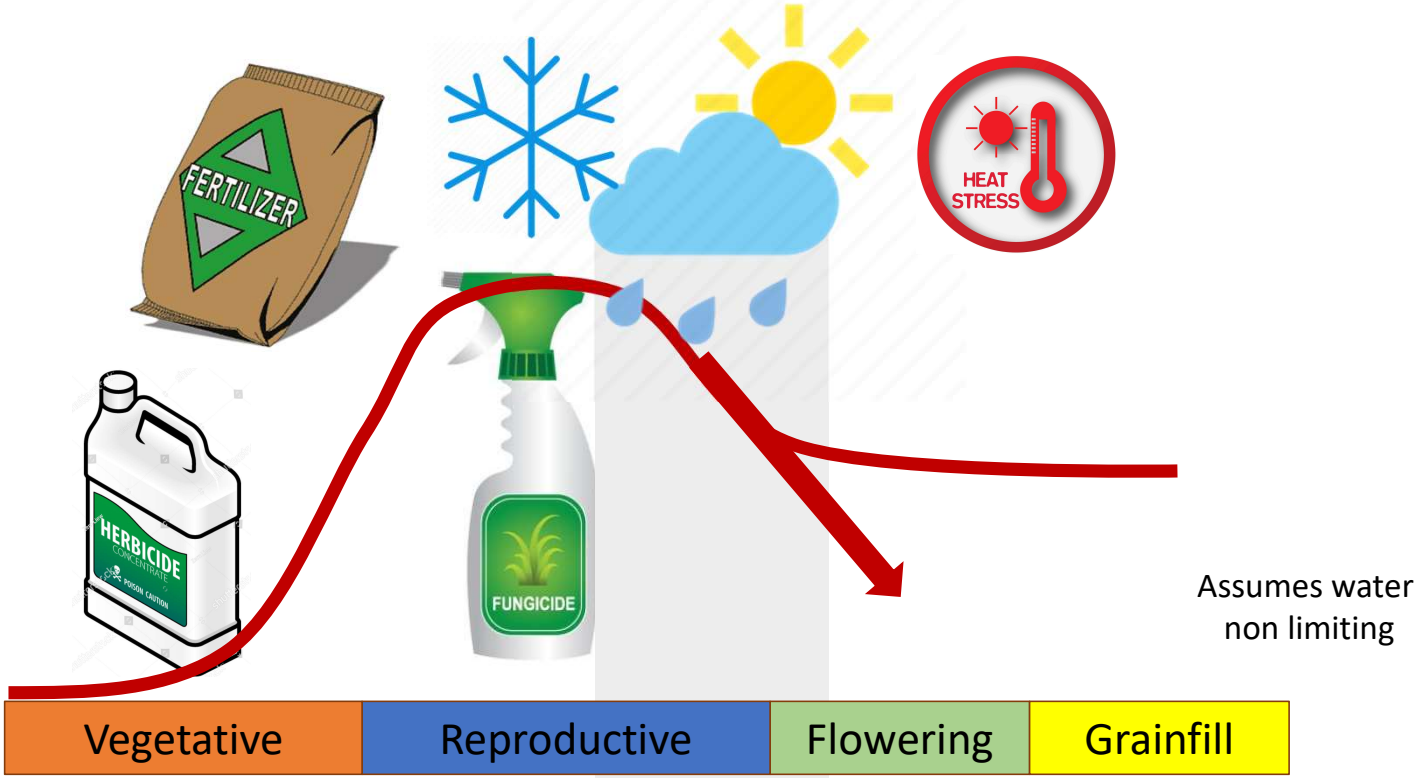
Water limited yield frontier (WUE) – Aspirations
Most likely to be water limited



Other factors considered in HYC Yield Potential

- **Soil water holding capacity** – soil type/rooting depth/incident rainfall
- **Growing season solar radiation and harvest Index –** conversion of dry matter to grain yield (Harvest Index of 55%)

Other **manageable factors** (including heat and frost stress) **lower actual yield** not yield potential



Duration of critical period

*modified by (Rawson et al., (1988))

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Lets **close the yield gap**

and **raise the yield frontier** together

(get closer to 100% of potential yield)

HYC AWARDS 2020 Report

Hyper Yielding Crops

HYC Award report - 2020

NSW

FAR2004-0025AX

The details shown below are a record of the inputs you applied to your crop of wheat during the growing season. Your agronomic decisions will have been made based on crop development, the seasonal variations in the weather and your judgement on the crops yield potential. This data plus additional information has been used in this report to compare your individual agronomy and management to the other Award growers in your region.

The data provided allows us to benchmark your key agronomy decisions with the other Award growers in your region and by comparing this data we're able to see the agronomic benchmarks of the top 20% in your region, the average and where you sit compared to the rest. Where appropriate we also add in critical levels, like soil test levels for example, for you to further benchmark your decisions.

This report will help you identify different agronomic decisions you made and the growing conditions that you had during the season that you could consider when looking at closing the yield gap on what you achieved compared to the potential for your paddock.

Crop details 2020

Crop	Cereal: Wheat
Variety	Sceptre
Area	164.00ha
Sow Rate	80.00 kg/ha
Germination Rate	100%
Sow Date	12-05-20
Harvest Date	15-12-20
Harvest Yield	6.71T/ha
Harvest Yield Method	Harvester (Direct)
Stubble Management 1	Retained Stubble
Fallow Management 1	Grazed (Sheep)
Row spacing	250mm

Location

Key growth stages

Date	Band	Growth Stage
12-10-20	Anthesis	65: Mid flowering

Paddock history

Season	Crop	Variety
2020	Cereal: Wheat	Sceptre
2019	Oilseed: Canola	
2018	Cereal: Barley	
2017	Cereal: Wheat	

Soil

Type and texture

Soil order	Sodosol
Soil texture	Clay

National Soil Grid estimates 95% EV

Depth	BD	AWC	Clay	Silt	Sand
0-5cm	1.4g/cm3	13.2%	24.3%	16.2%	50.5%
5-15cm	1.5g/cm3	13.3%	27.2%	16.1%	48.5%
15-30cm	1.5g/cm3	13.3%	34.7%	15.6%	43.5%
30-60cm	1.5g/cm3	13.0%	42.8%	14.9%	36.4%
60-100cm	1.5g/cm3	12.2%	45.0%	14.9%	33.3%

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30-60cm	1.5g/cm3	13.0%	42.8%	14.9%	36.4%
60-100cm	1.5g/cm3	12.2%	45.0%	14.9%	33.3%

Inputs

Seed

Date	Product	AI	Rate	Units
12-05-20	Sceptre		80	kg/ha

Seed treatment

Date	Product	AI	Rate	Units	Growth Stage
12-05-20	Hombre Ultra	Imidacloprid (360 GAI) Tebuconazole (13 GAI)	200	mL/100kg	

Fertiliser

Date	Product	AI	Rate	Units	N	P	K	S	Zn	Mn	Cu	Mo	B
12-05-20	MAP		80	kg/ha	8	18	0	2	0.0	0.0	0.0	0.0	0.0
05-06-20	UREA		100	kg/ha	46	0	0	0	0.0	0.0	0.0	0.0	0.0
05-08-20	UREA		100	kg/ha	46	0	0	0	0.0	0.0	0.0	0.0	0.0
		Cumulative total	**100**		**18**	**0**	**2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	

Herbicide

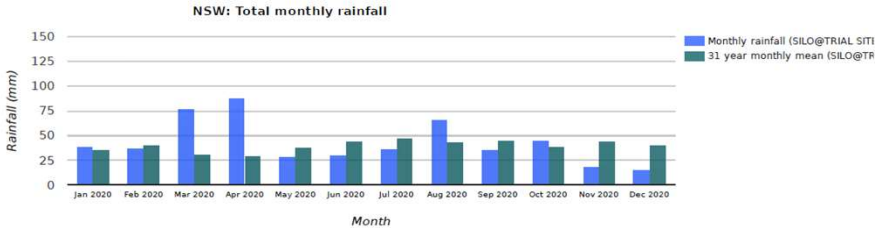
Date	Product	AI	Rate	Units	Growth Stage
12-05-20	Sakura 840 WDG	Pyroxasulfone (850 GAI)	118	Gm/ha	IBS (Incorporated by sowing)
08-07-20	Tigrex	MCPA Ester (250 GAI) Diflufenican (25 GAI)	0.75	L/ha	GS15 (5 leaves unfolded)

Fungicide

Date	Product	AI	Rate	Units	Growth Stage
28-08-20	Opus 125	Epoxiconazole (125 GAI)	0.5	L/ha	GS31 (1st node detectable)

-

More information can be found here https://www.longpaddock.qld.gov.au/silo/

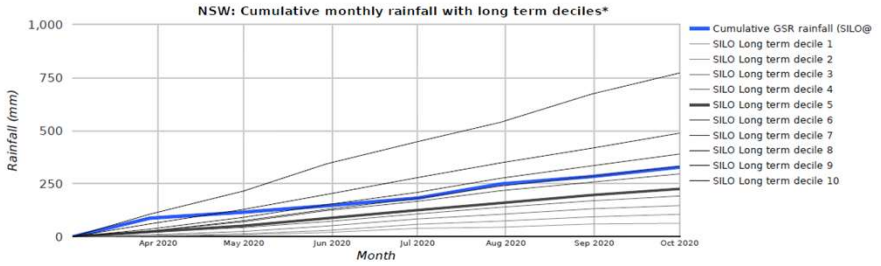


Overall the annual rainfall in 2020 was above average in the Murray region of NSW and well above average in the Southern Tablelands, which was a complete contrast to the previous two/three seasons which had been very dry.

Late summer and early autumn rainfall was well above average in all regions which gave excellent sowing conditions and establishment. In some locations the excess rainfall caused delays in sowing. With a full profile coming into the winter, fortunately June and July was drier than average, which allowed good conditions for applications of herbicides, fungicides and fertiliser.

Spring rainfall was average for the Award paddocks in the Murray region, with a wetter than average October but the Award paddocks in the Southern Tablelands had a very wet spring with wetter than average October and November. Some of the paddocks nearer the border in southern NSW, had produced some large biomass canopies, but the spring cut out after October and many crops had insufficient moisture to fill the grain, resulting in increased screenings. However, compared to recent harvests crops still yielded well.

Harvesting conditions for the Award paddocks in the Southern Tablelands were not so kind, especially as harvest is later due to altitude. The higher than average rain in November meant that some crops suffered significant yield and quality losses.



HYC AWARD REPORT

- Detailed soil test analysis (0 – 10cm)
- Agronomy benchmarks
- Key cost comparisons
- Analysis of yield components
- Grain nutrient benchmarking

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RiverinePlains

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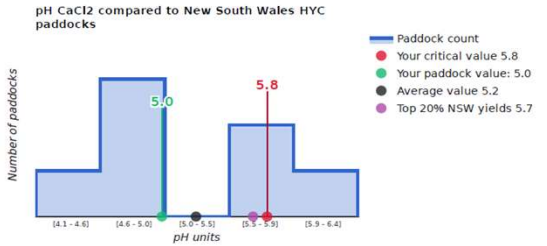
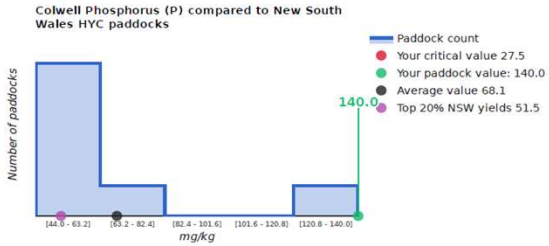


Topsoil pH

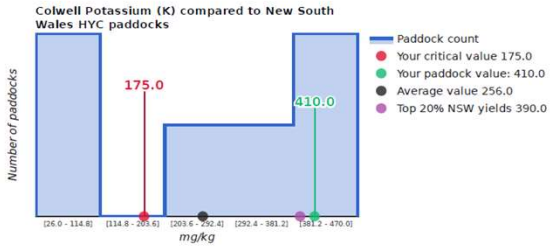
Soil pH(CaCl2) is the standard method of measuring soil pH in southern Australia. A soil pH (CaCl2) of 5.2–7.5 provides optimum conditions for most wheat varieties and at these levels the greatest amount of microbial activity occurs. Where extremes of acidity or alkalinity occur, various species of earthworms and nitrifying bacteria disappear. Soil pH also affects the availability of nutrients, and affects how the nutrients react with each other. At low pH, beneficial elements such as Mo, P, Mg, S, K, Ca and N become less available and others may become toxic.



Topsoil P - Colwell P

Adequate P is essential for the early growth of wheat. In most cropping systems, the Colwell-P soil test is the benchmark soil P test used in Australia.

A soil-test critical value is the soil-test value required to achieve 90% of crop yield potential. The critical value indicates whether nutrient supply is likely to result in a crop yield response. If the soil test value is less than the lower limit of the range, the site is highly likely to respond to an application of the nutrient.

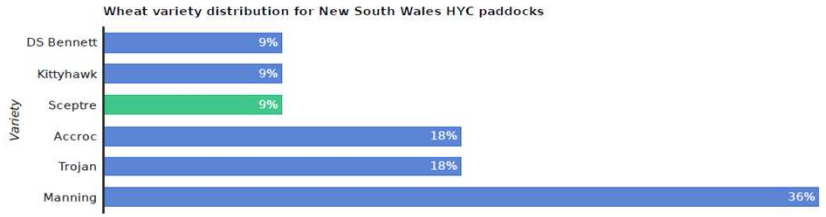


Topsoil K - Colwell K

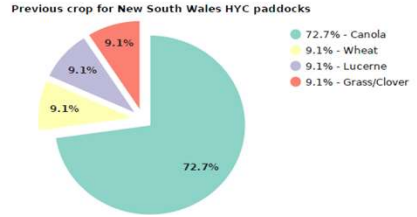
Potassium deficiency is more likely to occur on light soils and with high rainfall, especially where hay is cut and removed regularly. Factors such as soil acidity, soil compaction and waterlogging will modify root growth and the ability of crops to extract subsoil K.
Colwell K will measure extractable K in soil solution. The critical values for surface soils are generally around 80-250 mg/kg (ppm). The levels can be significantly lower on sandier soils.

1. High yields are not achievable by simply applying more nitrogen fertiliser above approx. 225 - 250kg N/ha. Effective rotations using break crops and legumes are the key.
2. Applying adequate nitrogen, including the use of multiple applications
3. Timeliness of operations is vital if you are to get the best out of your agronomic inputs. This starts with good planning at the start of the season, and continues with all inputs right through to harvesting.
4. Attention to detail

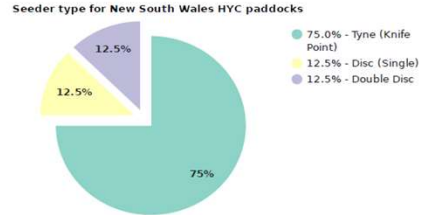
The following charts show how your agronomy compared to all other HYC Award growers in your region



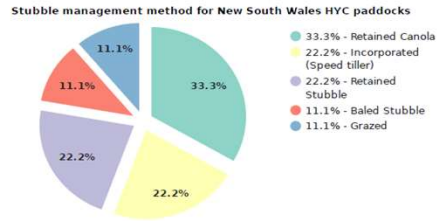
Previous crop



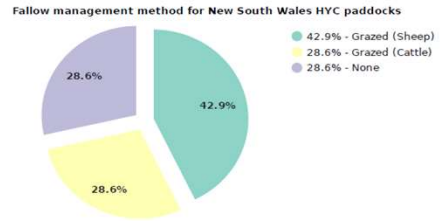
Seeder type



Stubble management method



Fallow management method



Key input costs per ha

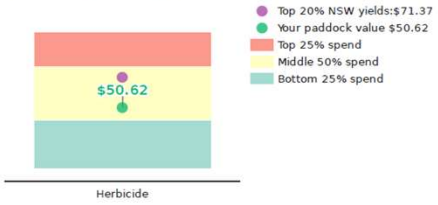
Three key variable costs - herbicides, fungicides and nitrogen fertiliser have been put into individual charts. The total input cost per hectare, by State, has been divided into four: The minimum value, the 25th percentile value, the 75th percentile value and the maximum value. This determines the lowest 25%, middle 50% and top 25% spend.

Input cost per tonne of production

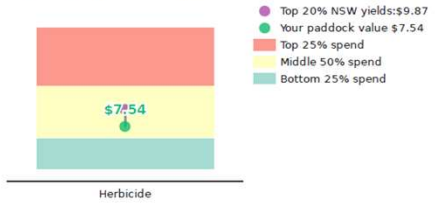
The figures below have been derived from the use of standardized pricing across all HYC Award paddocks. The data came from the GRDC 2020 Farm Gross Margin and Enterprise Planning Guide.

These charts are probably of more importance than input cost per hectare as they give a better idea of your return as; cost per tonne produced.

Herbicide total spend per hectare for New South Wales HYC paddocks



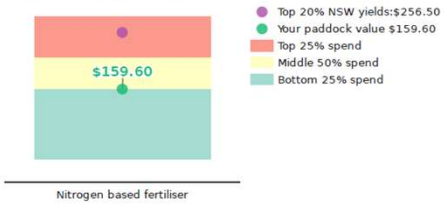
Herbicide spend per tonne of yield for New South Wales HYC paddocks



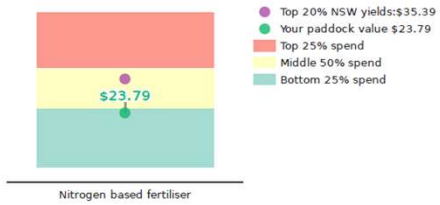
Fungicide total spend per hectare for New South Wales HYC paddocks

Fungicide spend per tonne of yield for New South Wales HYC paddocks

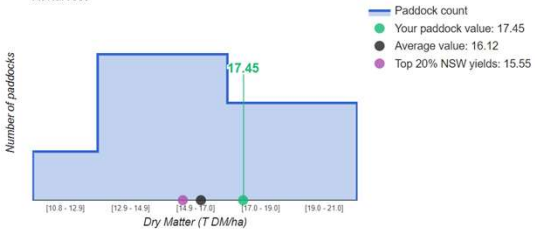
N Fertiliser total spend per hectare for New South Wales HYC paddocks



N Fertiliser spend per tonne of yield for New South Wales HYC paddocks



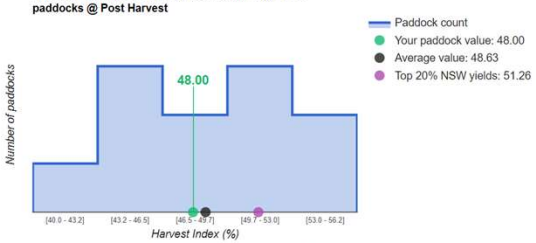
Dry Matter distribution for New South Wales HYC paddocks @ At Harvest



Harvest Dry Matter

Dry matter production at harvest is a reflection of your crops ability to convert the radiation, rainfall and soil water into biomass.

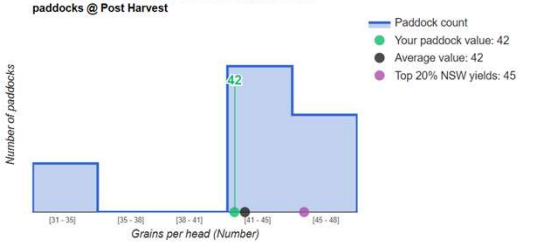
Harvest Index distribution for New South Wales HYC paddocks @ Post Harvest



Harvest Index

The Harvest Index is the proportion of the total harvest dry matter that is harvested as grain. Therefore a harvest index of >50% has a greater % of grain compared to biomass present at harvest maturity.

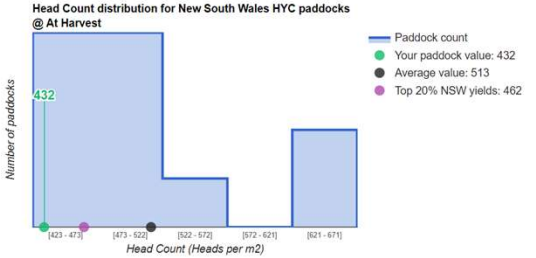
Grains per head distribution for New South Wales HYC paddocks @ Post Harvest



Grains per head

Grain number per head is largely controlled by survival of the florets while the last leaves and head are emerging, which is during the critical period just prior to flowering

Head Count distribution for New South Wales HYC paddocks @ At Harvest



Head Count

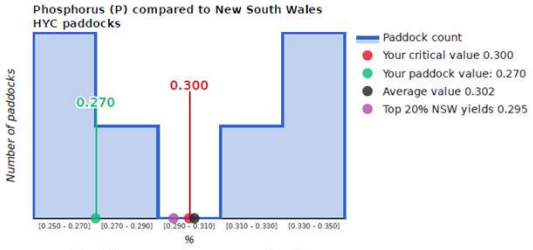
Head number starts at sowing by the number of plants/m2 that are established. Then numbers are influenced by management and growth from the start of tillering until flag leaf appearance (GS39)

- Value of grain analysis
  - Allows you to measure P, K etc offtake
  - Allows you to cross check your soil analysis
  - Allows you to gauge possible nutrient deficiency
- Most research and confidence in N, P, S and Mn
- Less research work and so less information at present for K, Mg, Zn, Cu

Data and critical grain nutrient levels provided by Australian precision ag laboraotory (APAL) who are undertaking the lab analysis for this GRDC project.

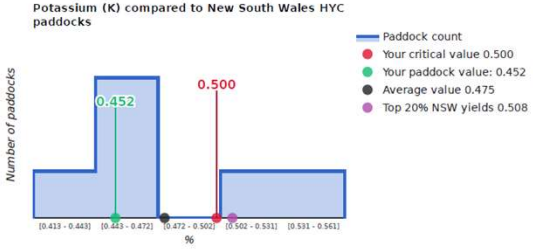
Grain N

Grain Nitrogen content relates directly to the grain protein, with a ratio of 1 to 5.7. So a grain N content of 1.75% equates to 10% protein. High concentrations of grain protein can arise either from large N uptake or poor starch formation during grain filling. Protein contents of wheat crops grown after a break crop are usually diluted by their greater yields. Conversely, factors that reduce yield without affecting N transport to grain, such as drought, early lodging or some diseases, may raise protein.



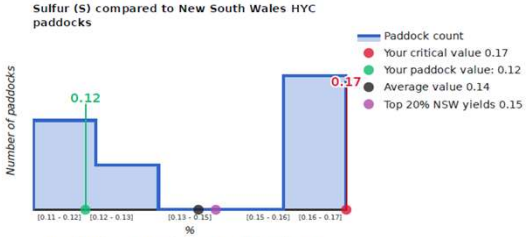
Grain P

Grain P levels of less than 0.3% indicate that the crop would have produced a worthwhile yield response if extra P uptake could have been achieved. Grain P levels of more than 0.3% indicate that responses to extra P uptake would be small and probably uneconomic.



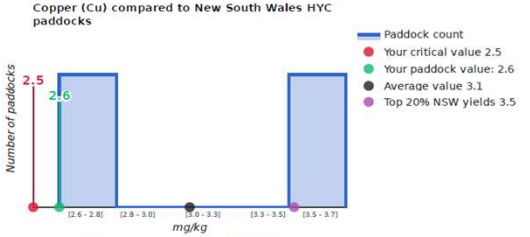
Grain K

Values less than 0.5% indicate a need for
further checks on your K nutrition, especially by looking at your most recent soil analysis.



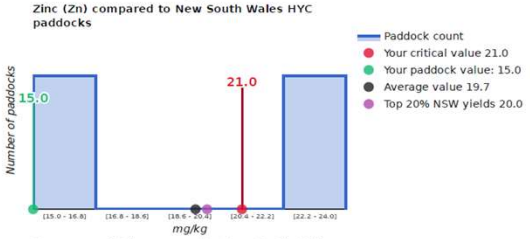
Grain S

Values less than 0.17% indicate a need for
further checks on your S nutrition. There is a close relationship between N and S and so a N:S ratio of >17 suggest a possible deficiency S. Divide grain N by grain S.



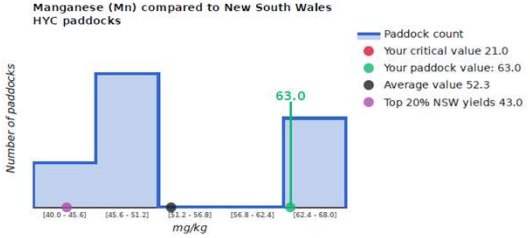
Grain Cu

Grain copper (Cu) less than 2.5 mg/kg indicates possible deficiency.



Grain Zn

Grain zinc (Zn) less than 21 mg/kg indicates possible deficiency.



Grain Mn

Grain manganese (Mn) less than 21 mg/kg indicates possible deficiency.

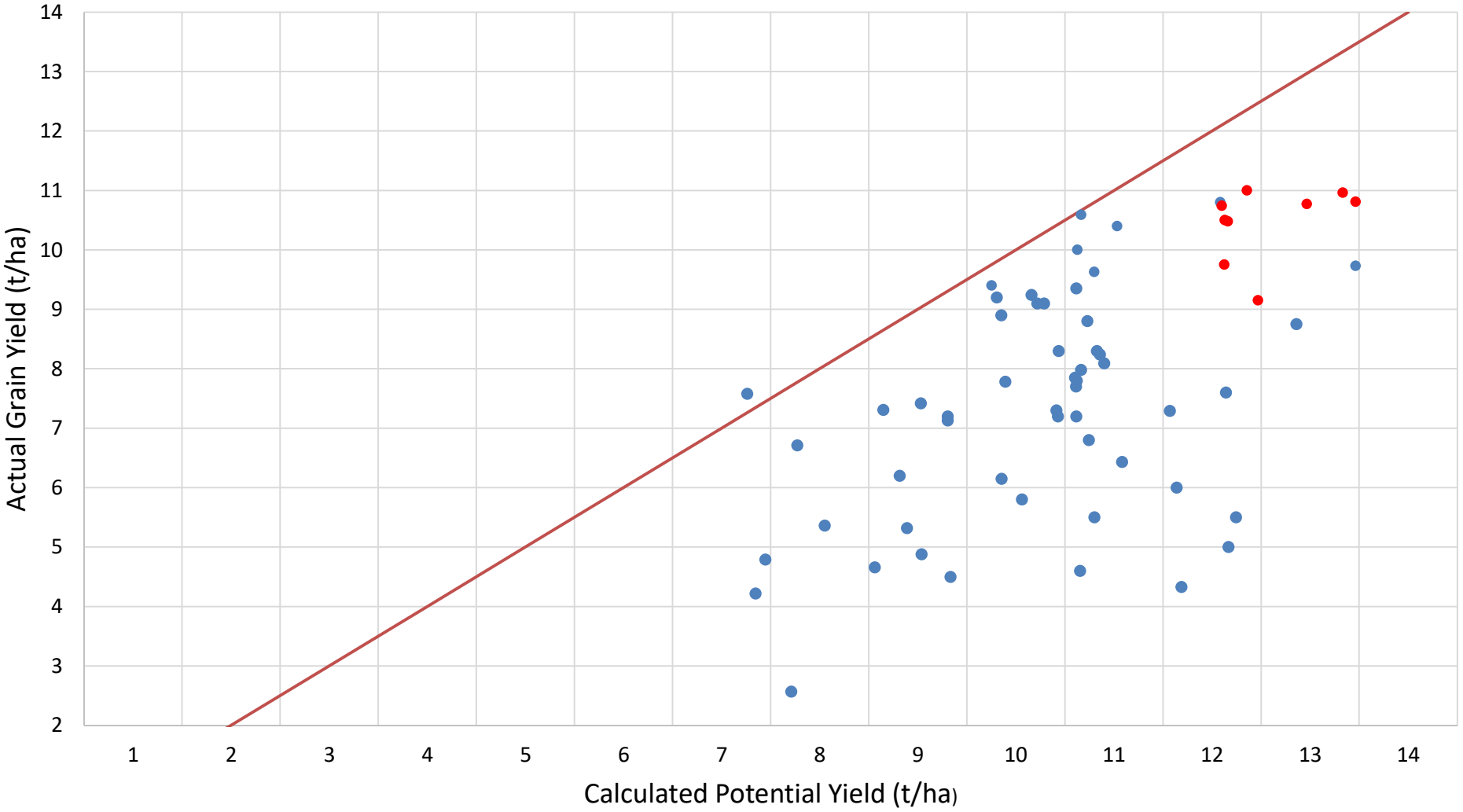
WHERE WE ARE TODAY AND WHAT WE SHOULD BE THINKING TOMORROW?

Focus is currently on dealing with specific problems

- Weed control – Ryegrass and Wild radish
- Fungicides for control for disease
- Nitrogen rates and timings
- Not much focus on soil structure and rooting depth
- Yield expectations are conservative based on historic results

What we should be thinking?

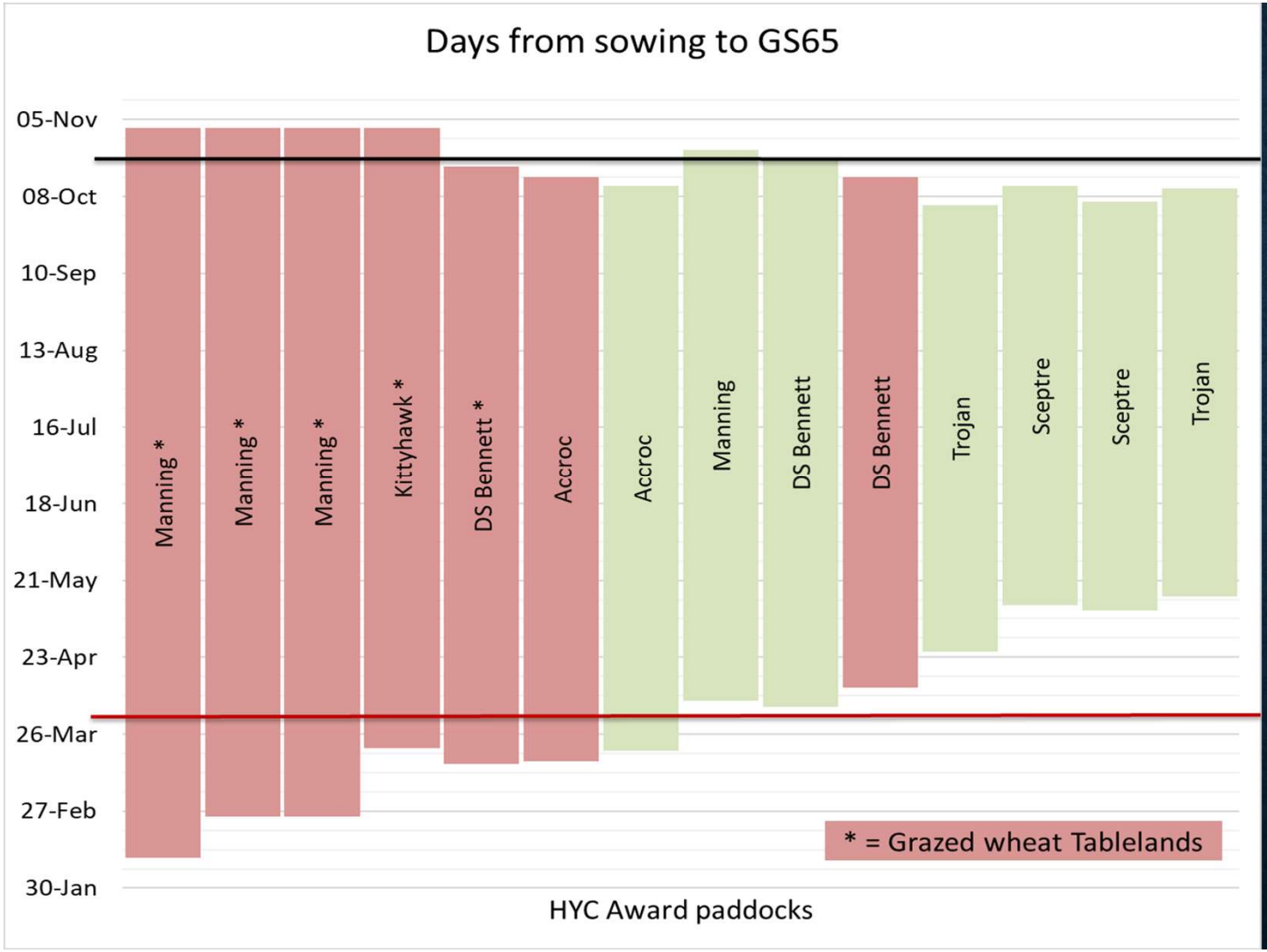
- Optimise capture of water, light & nutrients
- Crop canopy size, structure and longevity
- Resilience of our cropping systems
- It's not all about the weather! Consider management, timing and attention to detail
- Raise the expectations of yield potential both water and light limited.


Actual Grain Yield (t/ha)
Calculated Potential Yield (t/ha)
14
13
12
11
10
9
8
7
6
5
4
3
2
1
2
3
4
5
6
7
8
9
10
11
12
13
14

CROP DEVELOPMENT AND RELATIONSHIP WITH YIELD

Metric	Top 30% Yield: 7.4 t/ha	Remaining 70% Yield: 5.3 t/ha
Sowing date	21 April 2020	12 April 2020 1 March 2020*
Mid Flowering	11 Oct 2020	17 Oct 2020 30 Oct 2020*
Harvest	8 Dec 2020	13 Dec 2020 20 Dec 2020*

* Award paddocks from Sth Tablelands



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Average sowing date:
31 March

Average GS65:
20 October

Optimum start flowering :
28 Sept (Y'wonga)
10 Oct (Sth T'lands)

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SOWING AND IN CROP GRAZING MANAGEMENT AND RELATIONSHIP WITH YIELD

Metric	Top 30% Yield: 7.4 t/ha	Remaining 70% Yield: 5.3 t/ha
Row Width	241mm	251mm
Tine seeders (%)	50%	100%
In crop grazing	50% Grazed	75% Grazed

CROP MANAGEMENT AND RELATIONSHIP WITH YIELD

Metric	Top 30% Yield: 7.4 t/ha	Remaining 70% Yield: 5.3 t/ha
N applied (kg N/ha)	150	116
Number of applic’	4	3.5
Cost of N / tonne yield	$31/t	$35/t
P applied (kg P/ha)	20	20
K applied (kg K/ha)	0	0

CROP AGRONOMY AND RELATIONSHIP WITH YIELD

Metric	Top 30% Yield: 7.4 t/ha	Remaining 70% Yield: 5.3 t/ha
Fungicides ($/ha)	$25.5	$18
Fungicides ($/t)	$3.5	$3.4
Number of applic’	2.3	1.9
Head Fungicide	25%	11%

SOIL FACTORS AND RELATIONSHIP WITH YIELD

Metric	Top 30% Yield: 7.4 t/ha	Remaining 70% Yield: 5.3 t/ha
pH (CaCl)	5.3	5
Soil Org carbon (%)	1.5	1.6
Colwell P (mg/kg)	49	62
Colwell K (mg/kg)	278	210

SOIL FACTORS AND RELATIONSHIP WITH YIELD

Metric	Top 30% Yield: 7.4 t/ha	Remaining 70% Yield: 5.3 t/ha
Soil Texture	50% Clay, 25% CL, 25% Loam	10% Clay, 40% CL, 50% Loam
Available Water capacity to 100cm	133 mm	126 mm (134 mm*)
GSR (1 April – 31 Oct)	384 mm	419 mm (598 mm*)

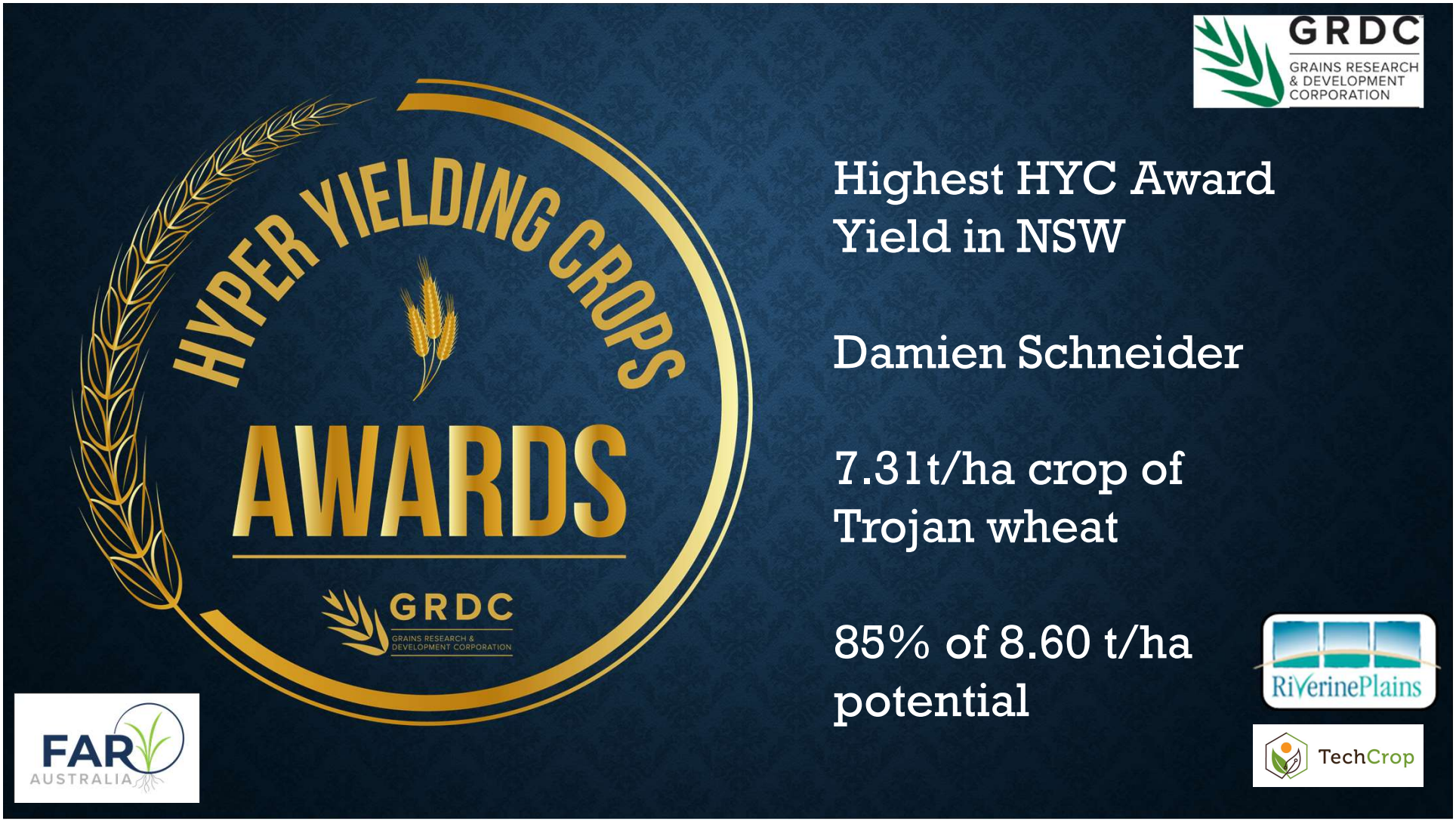
* Award paddocks from Sth Tablelands (incl 1 more month GSR)

YIELD COMPONENTS AND RELATIONSHIP WITH YIELD

Metric	Top 30% Yield: 7.4 t/ha	Remaining 70% Yield: 5.3 t/ha
Dry Matter (t/ha)	16	12.1
Harvest index	51.7%	46.5%
Head count (m^2)	445	384
Grains per head	40	50
Grains per m^2	17,735	19,200
1000 grain weight	45.3	42.3

GRAIN NUTRIENTS AND RELATIONSHIP WITH YIELD

Metric	Top 30% Yield: 7.4 t/ha	Critical Values	maining 70% ield: 5.3 t/ha
Grain N	2.1	1.9	2.0
Grain P	0.29	0.3	0.31
Grain K	0.5	0.5	0.46
Grain S	0.14	0.17	0.14
Grain Cu	4.1	2.5	3.0
Grain Zn	18.3	21	18.8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HYPER YIELDING CROPS
AWARDS
GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION
Highest HYC Award Yield in NSW
Damien Schneider
7.31t/ha crop of Trojan wheat
85% of 8.60 t/ha potential
FAR AUSTRALIA
RiverinePlains
TechCrop


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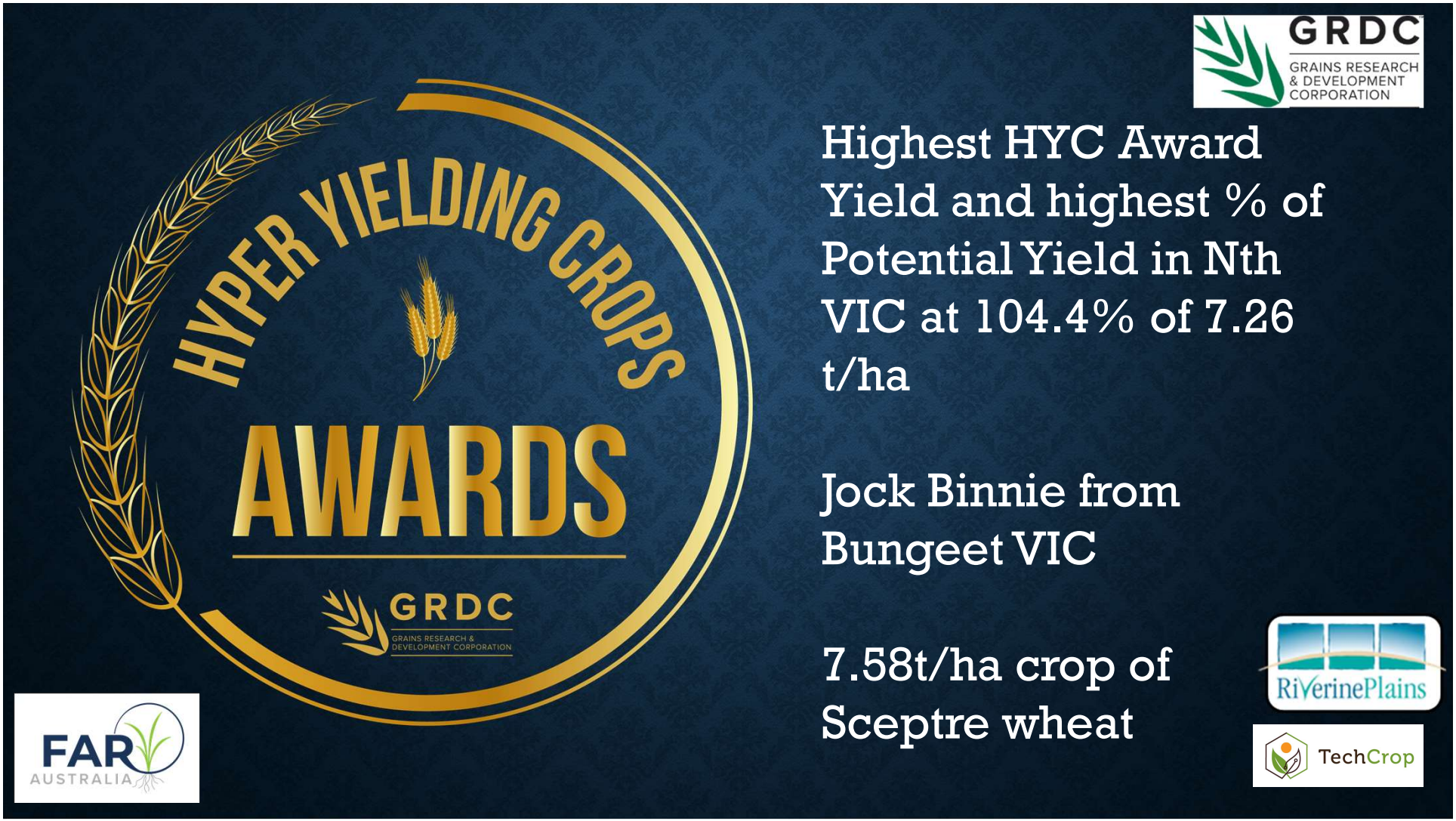
HYPER YIELDING CROPS
AWARDS
GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION
Highest % of Potential Yield in NSW at 86.4% of 7.77 t/ha
Craig Marshall from Rennie NSW
6.71t/ha crop of Sceptre wheat
FAR AUSTRALIA
RiverinePlains
TechCrop


HYPER YIELDING CROPS
AWARDS
GRDC
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GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION
Highest HYC Award Yield and highest % of Potential Yield in Nth VIC at 104.4% of 7.26 t/ha
Jock Binnie from Bungeet VIC
7.58t/ha crop of Sceptre wheat
FAR AUSTRALIA
RiverinePlains
TechCrop

WHERE TO FROM HERE?

JOIN ONE OF THE INNOVATION GROUPS IN NSW/NTH VIC AND GET INVOLVED IN CROP WALKS, IN PADDOCK DISCUSSION AND FOCUS TRIALS
PLUS
HYC WHEAT AWARDS FOR 2021

Growers, advisers and others wishing to become involved in the HYC project can contact their respective state project officer:

NSW – Kate Coffey from Riverine Plains kate@riverineplains.org.au

or Jon Midwood of TechCrop, jon@techcrop.com.au