



Agronomy of Scepter, Ninja plus others in the northern agricultural region, Western Australia

Christine Zaicou-Kunesch

Jeremy Curry, Bob French, Dion Nicol and Brenda Shackley

Tactical wheat agronomy for the west

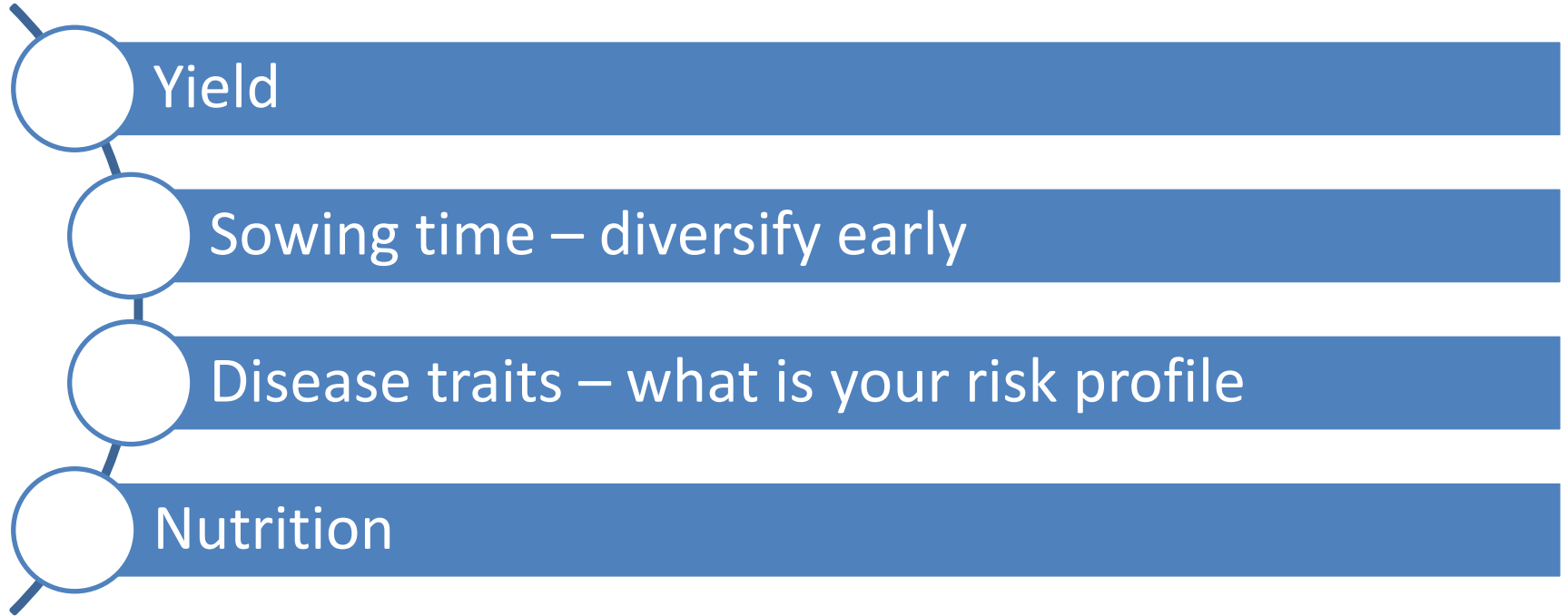


GRDC
UPDATES



GRDC
GRAINS RESEARCH
& DEVELOPMENT
CORPORATION

Things to consider when choosing a variety



Set the scene

- Mace dominant
- Scepter emerging
- Mid- long maturity
approx 20% of area

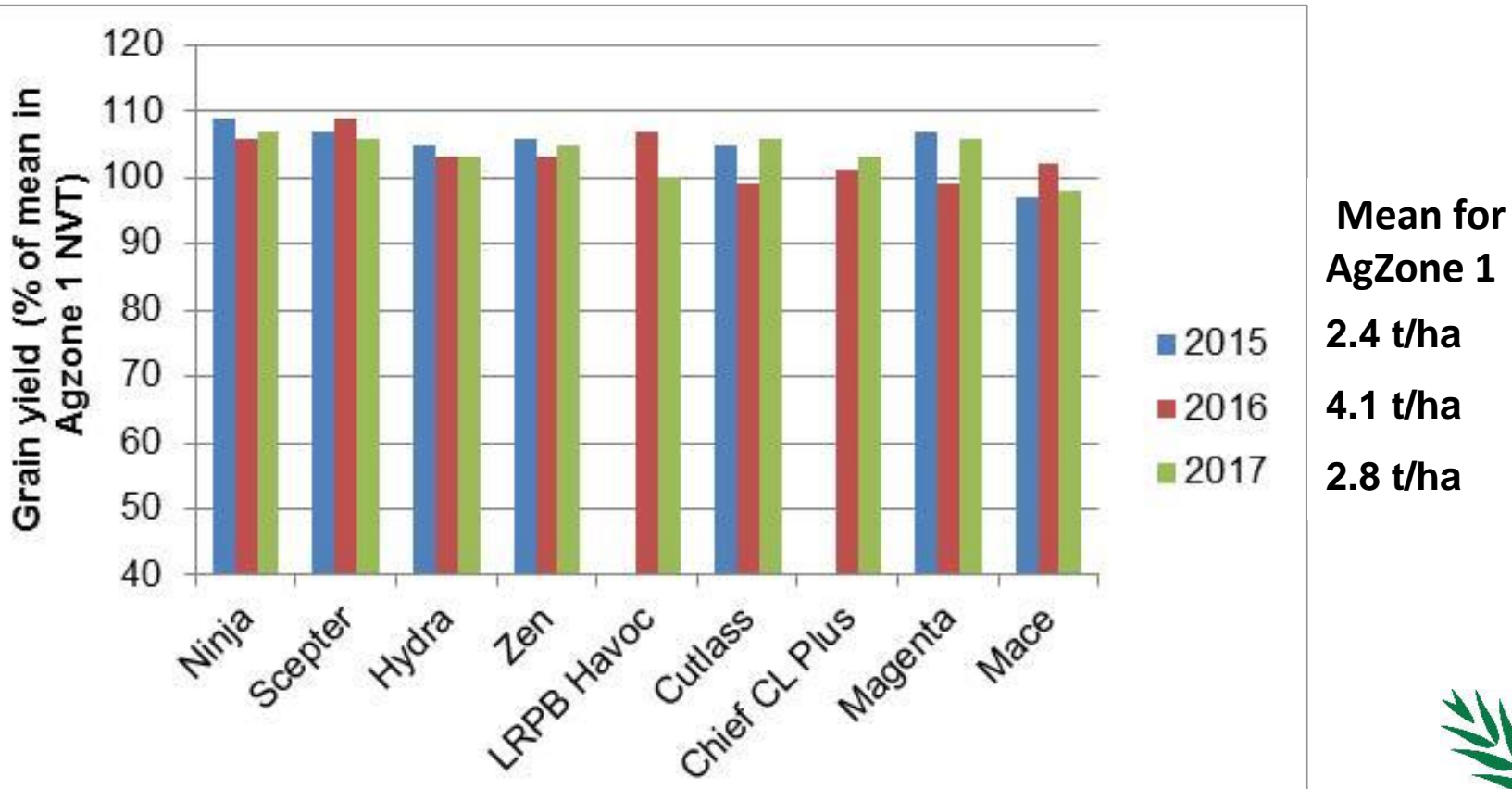
Variety	Planned sowing in 17/18 (% or WA)
Mace	54.5
Scepter	14.6
Calingiri	7.3
Zen	4.3
Magenta	4.0
Yitpi	2.5
Corack	1.8
LPB Trojan	1.8
LPB Cobra	1.7
Wyalkatchem	1.2

Things to consider when choosing a variety



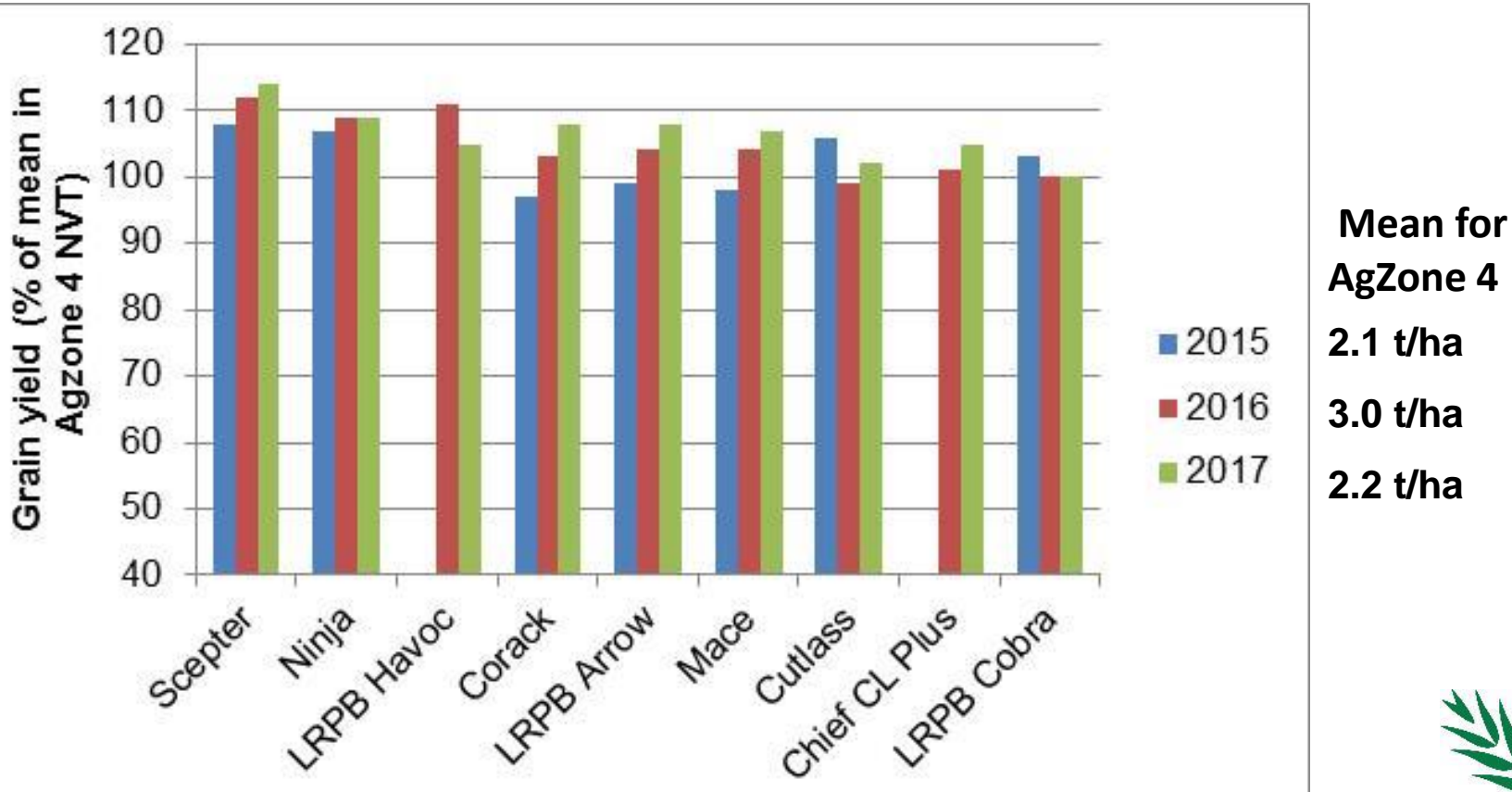
Yield: Scepter and Ninja ranked highly in NVT 2015-17

However there are other varieties of value to your farming system

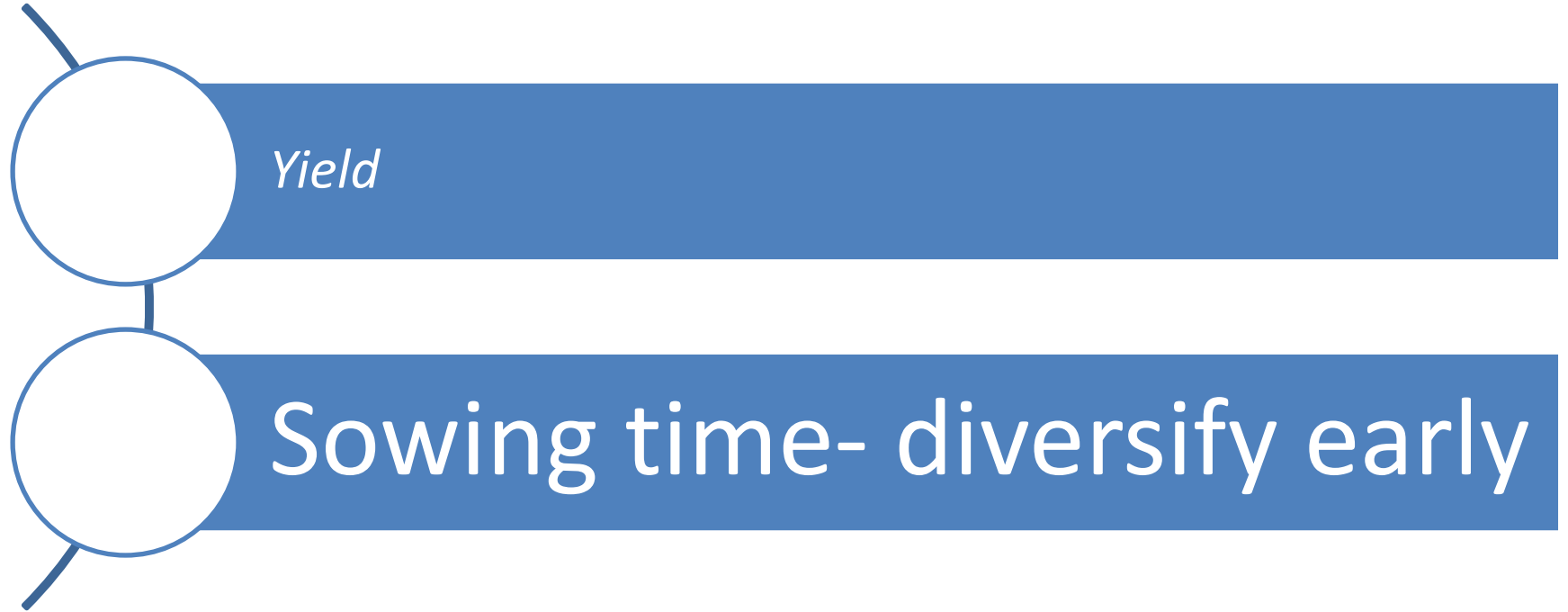


Yield: Scepter and Ninja ranked highly in NVT 2015-17

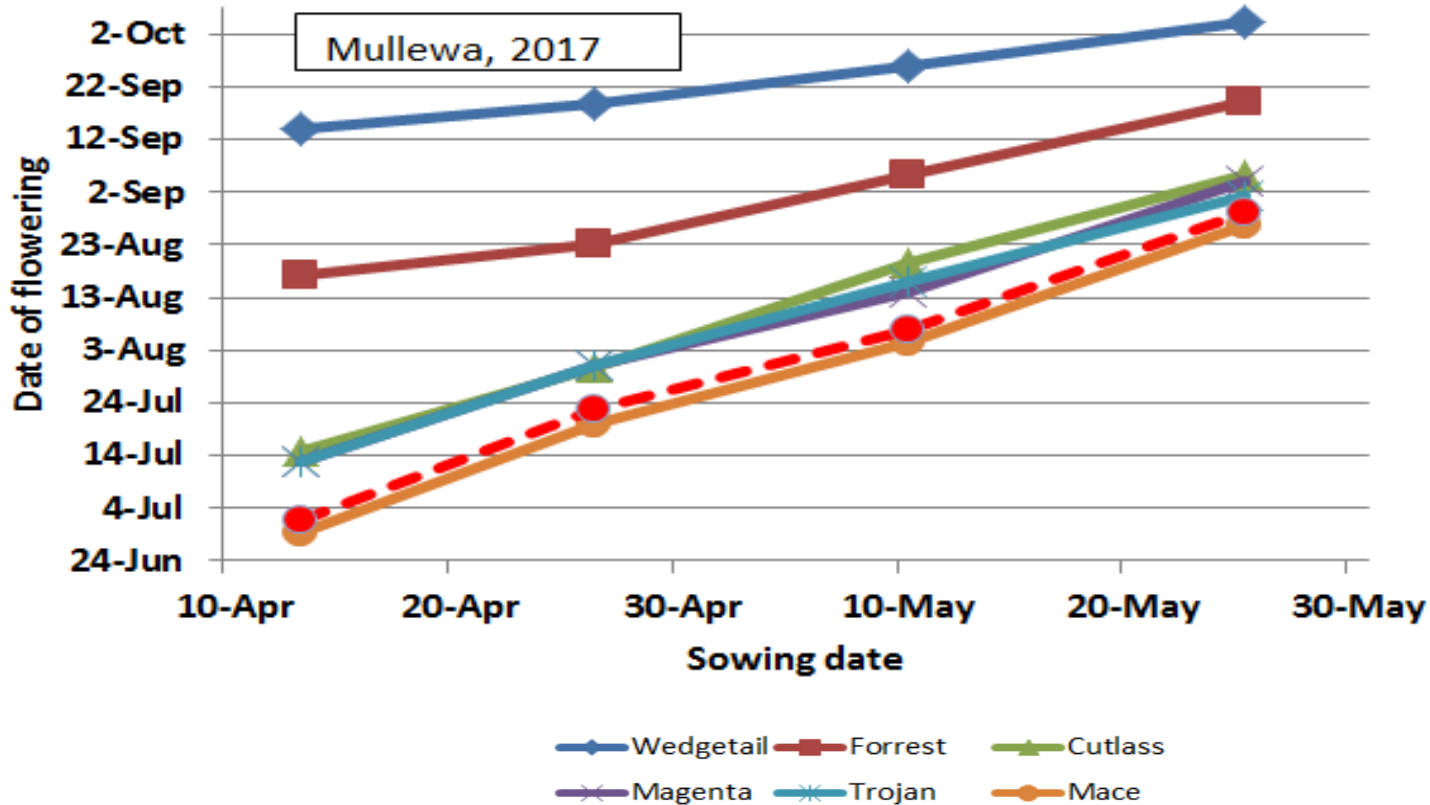
However there are other varieties of value to your farming system



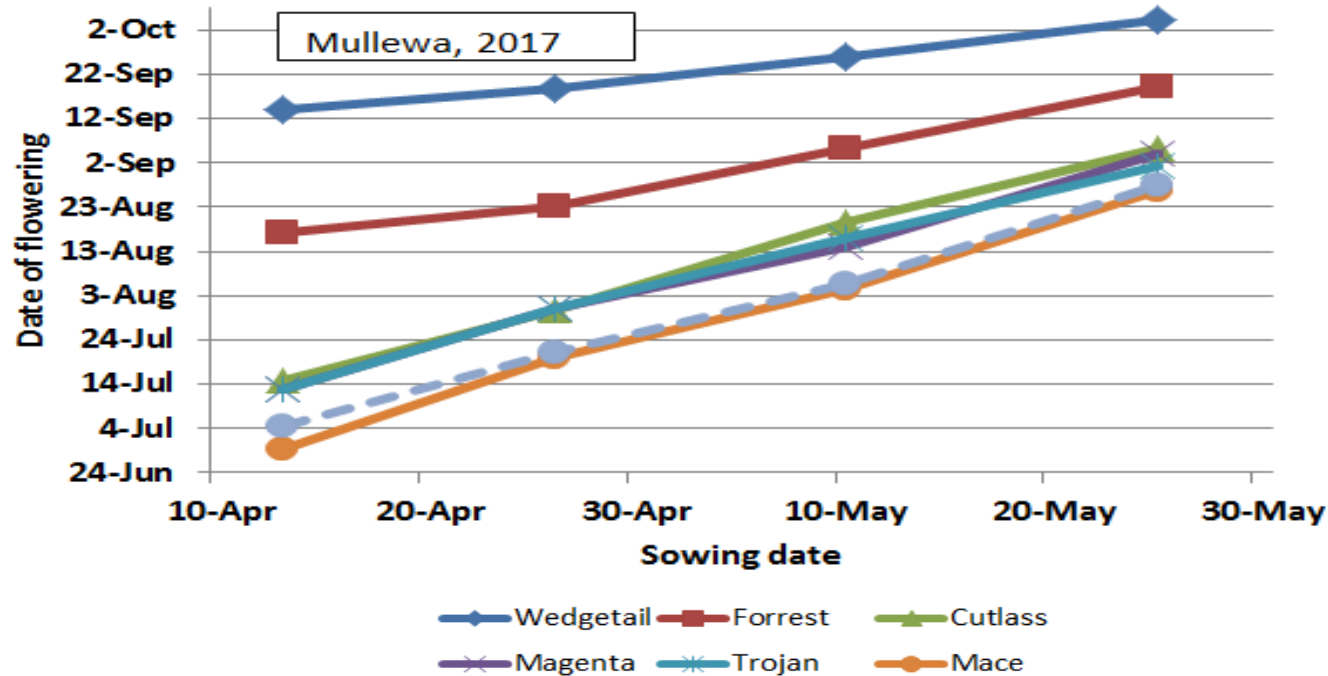
Things to consider when choosing a variety



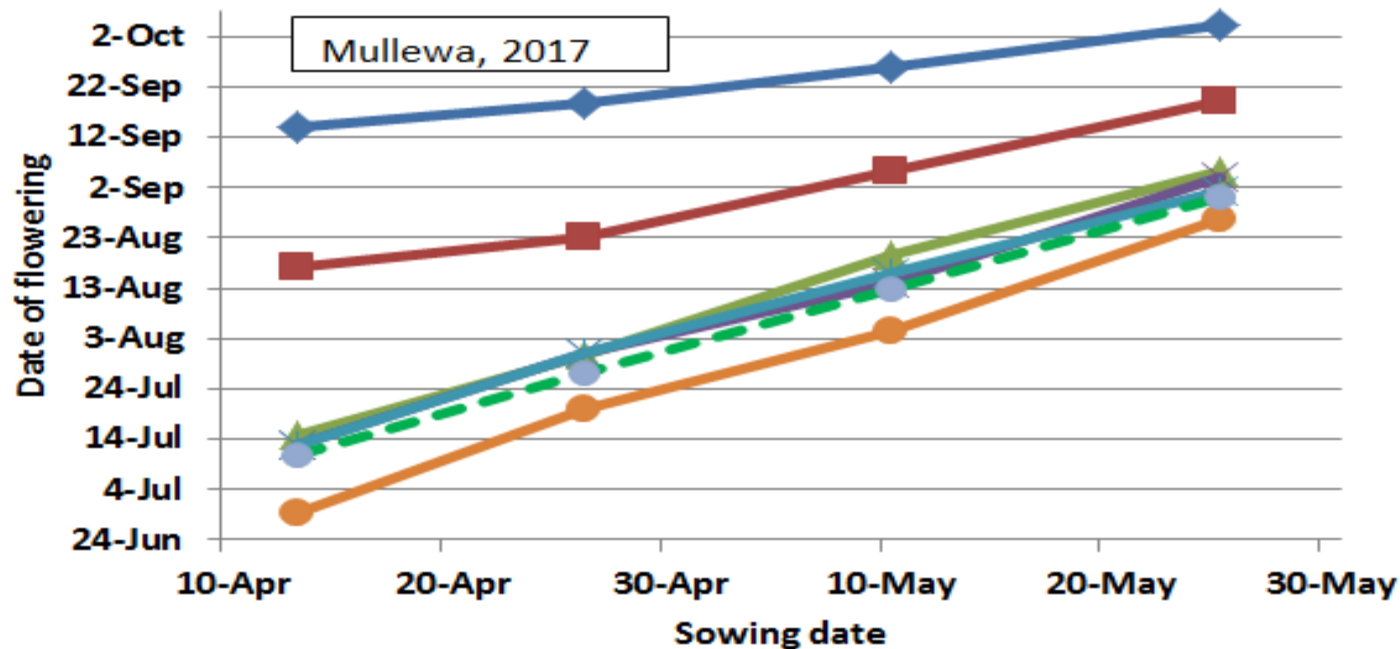
Scepter vs Mace – similar flowering time



LRBP Havoc vs Mace –similar flowering time

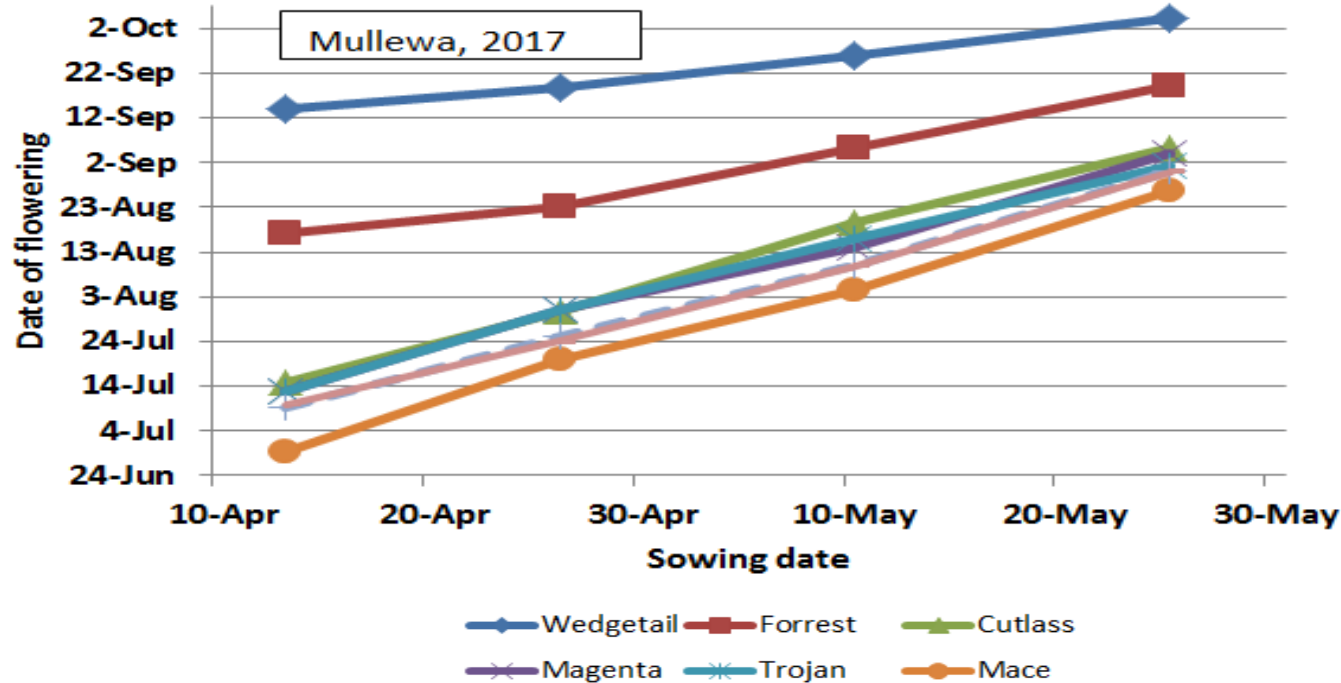


Chief CL Plus is similar to Magenta

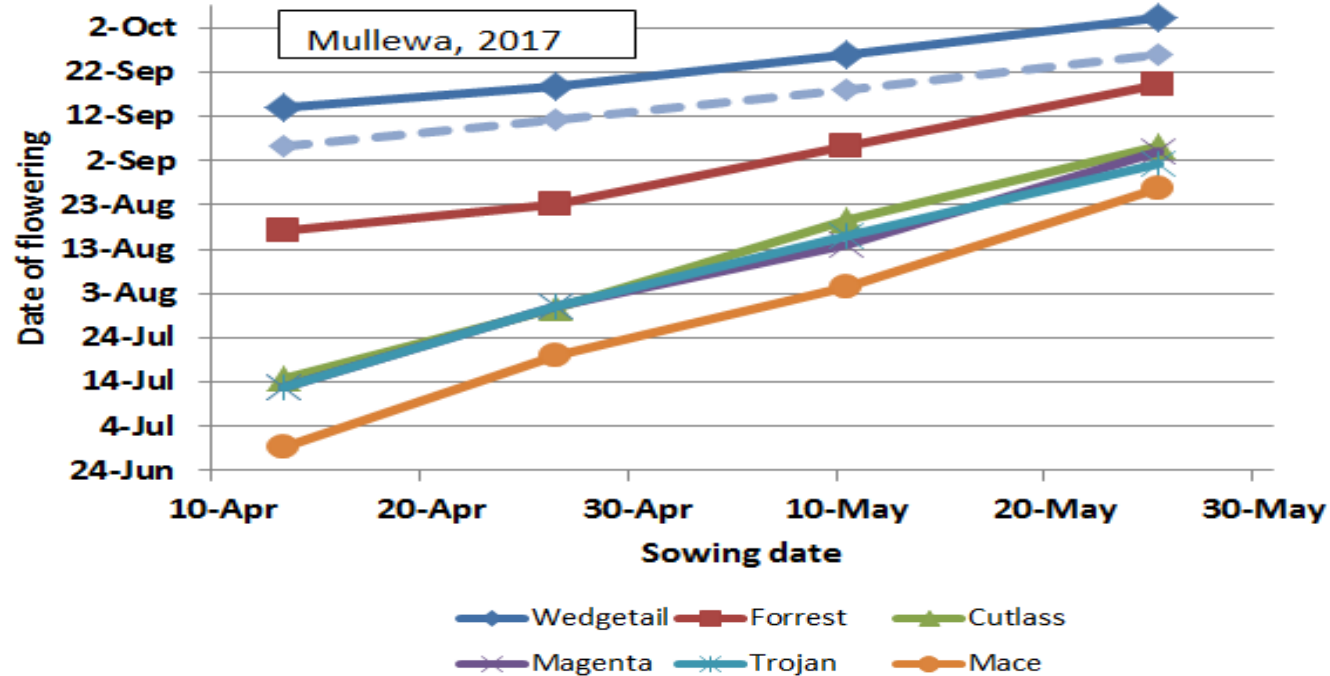


—◆— Wedgetail —■— Forrest —▲— Cutlass
—×— Magenta —*— Trojan —●— Mace

Ninja and Zen – similar development



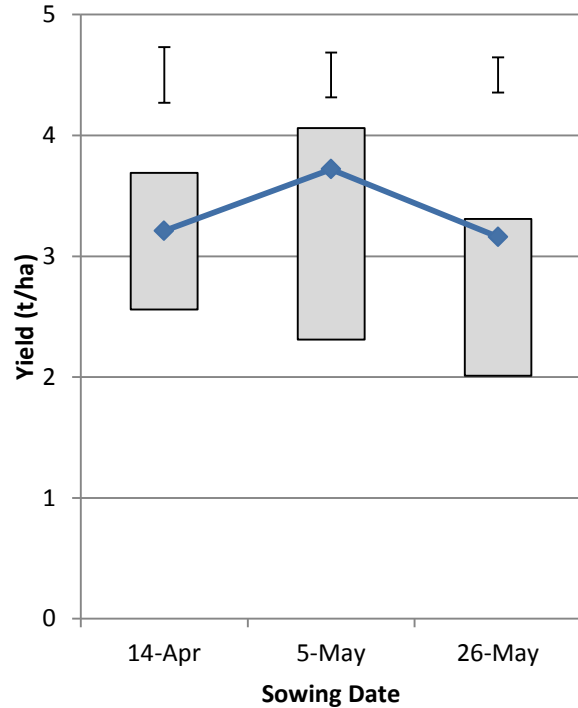
Longsword – a fast winter wheat



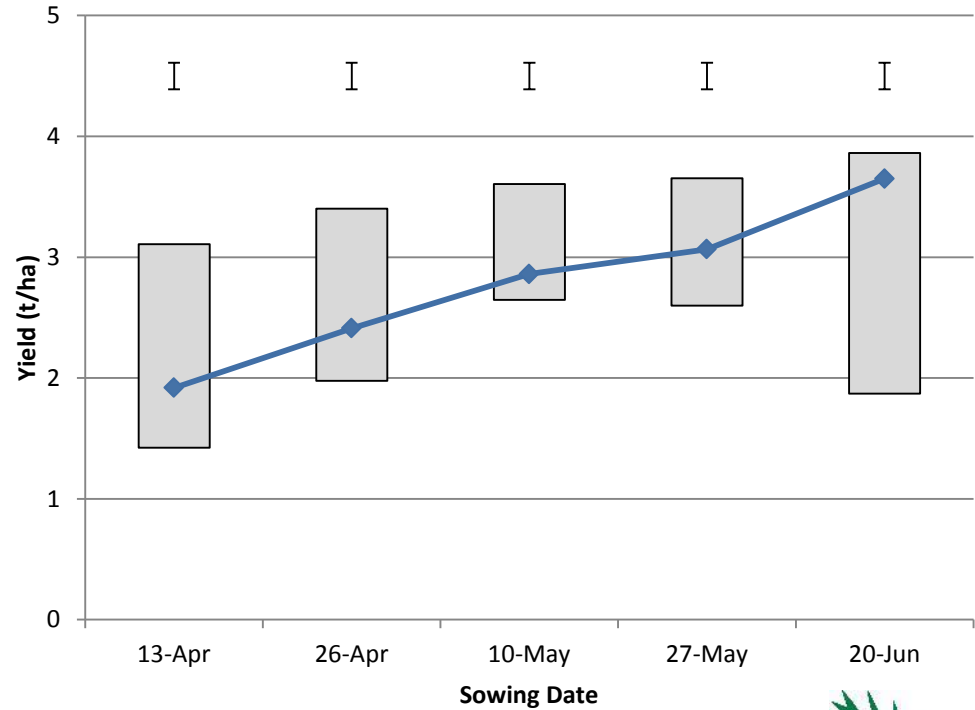
◆ Mace

Mullewa sowing time response

2016



2017



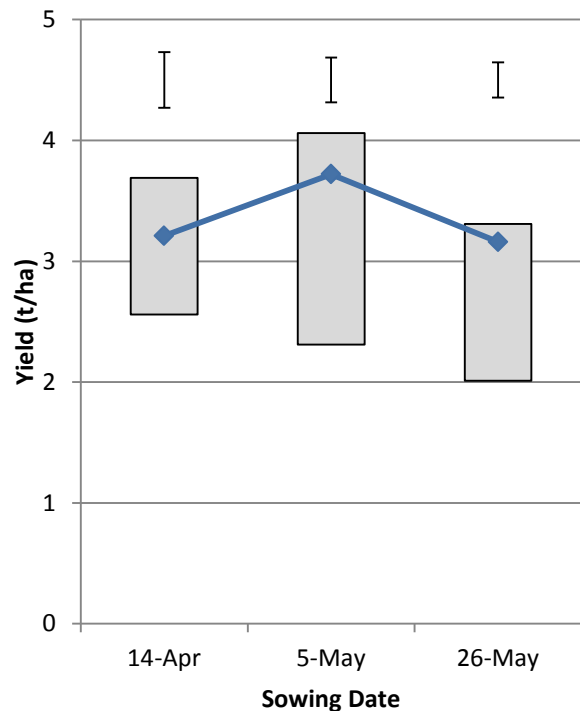
Error bar = LSD ($p < 0.05$) for within TOS.

Source: B Shackley, J Curry, D Nicol, C Zaicou, DPIRD

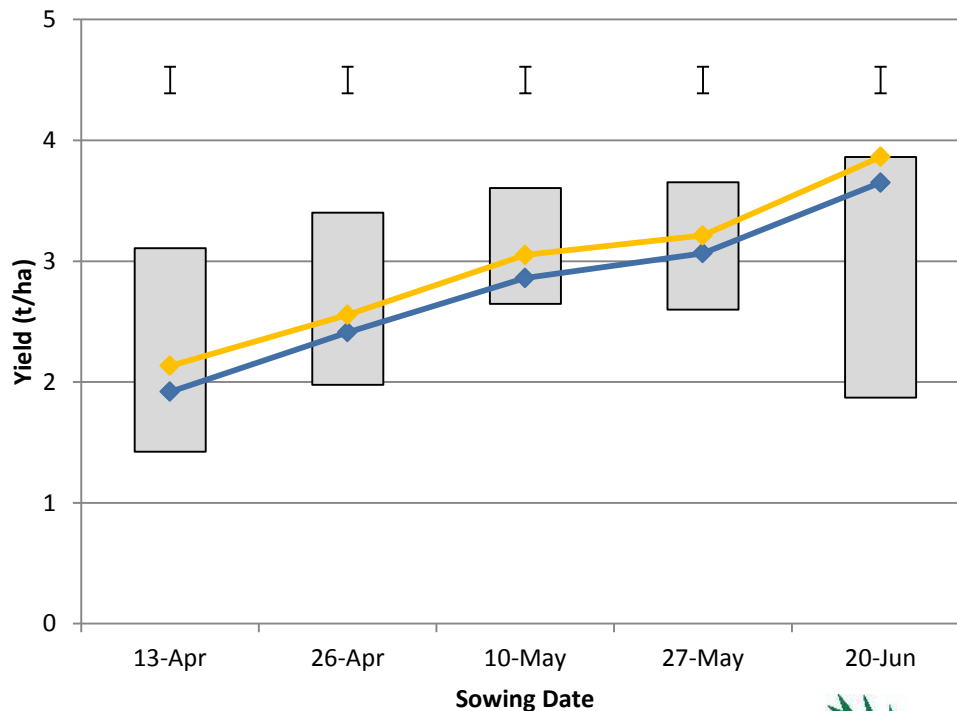
Mullewa sowing time response

◆ Mace
◆ Scepter

2016



2017



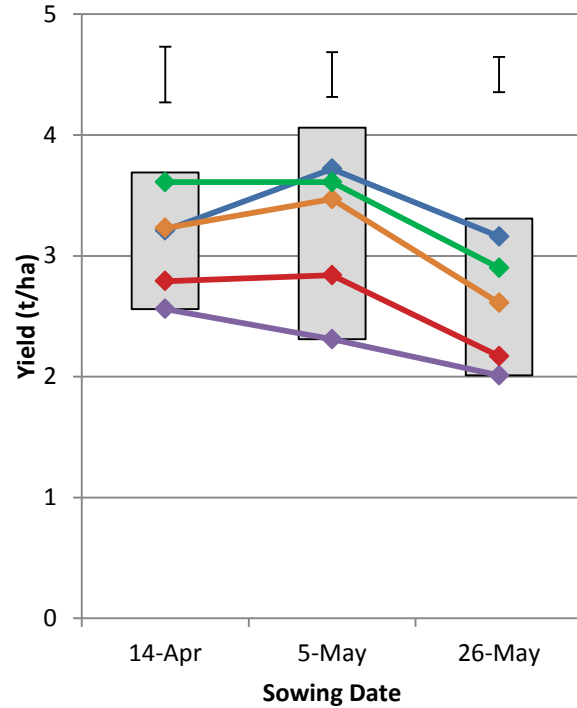
Error bar = LSD ($p < 0.05$) for within TOS.

Source: B Shackley, J Curry, D Nicol, C Zaicou, DPIRD

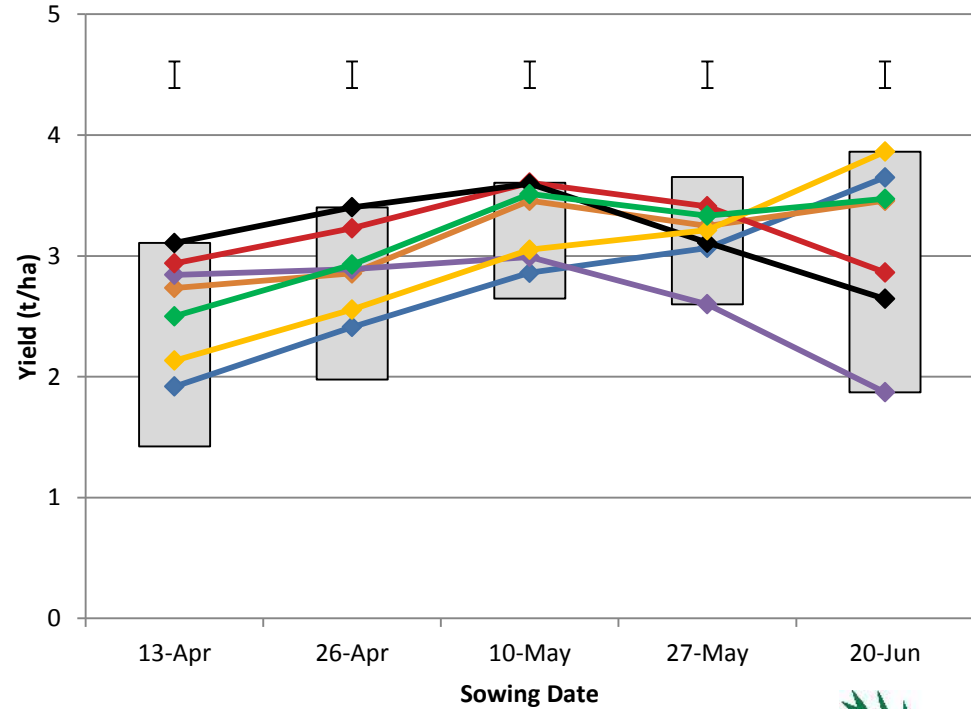
Mullewa

- ◆ Mace
- ◆ Cutlass
- ◆ Forrest
- ◆ Magenta
- ◆ Wylah/Wedgetail
- ◆ Longsword

2016



2017

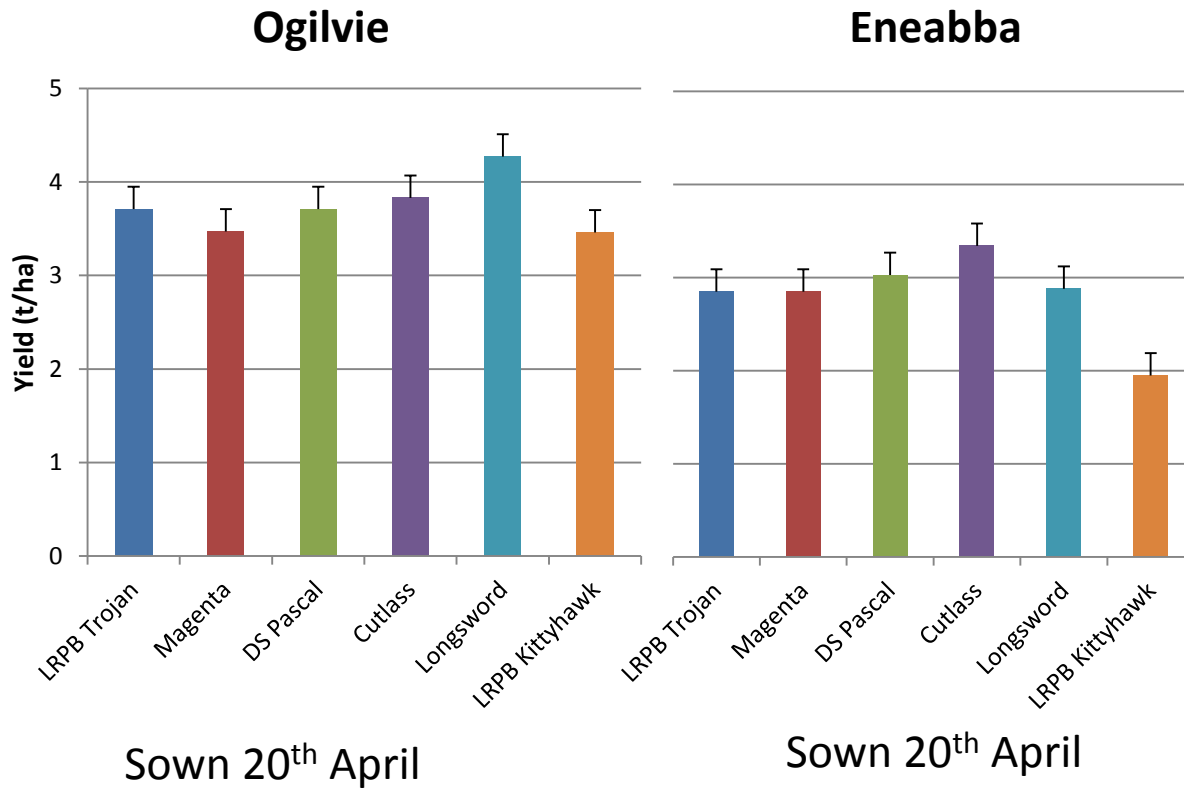


Error bar = LSD ($p < 0.05$) for within TOS.

Source: B Shackley, J Curry, D Nicol, C Zaïcou, D PIRD

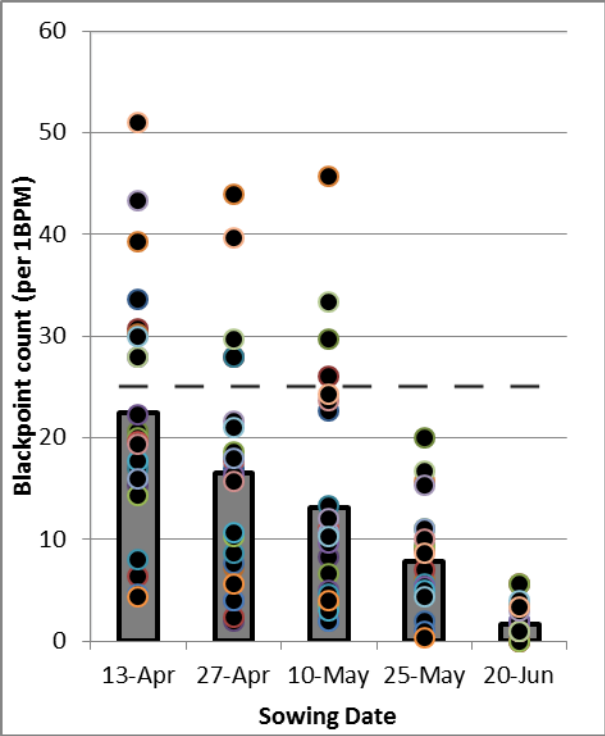


WA early season NVT 2017

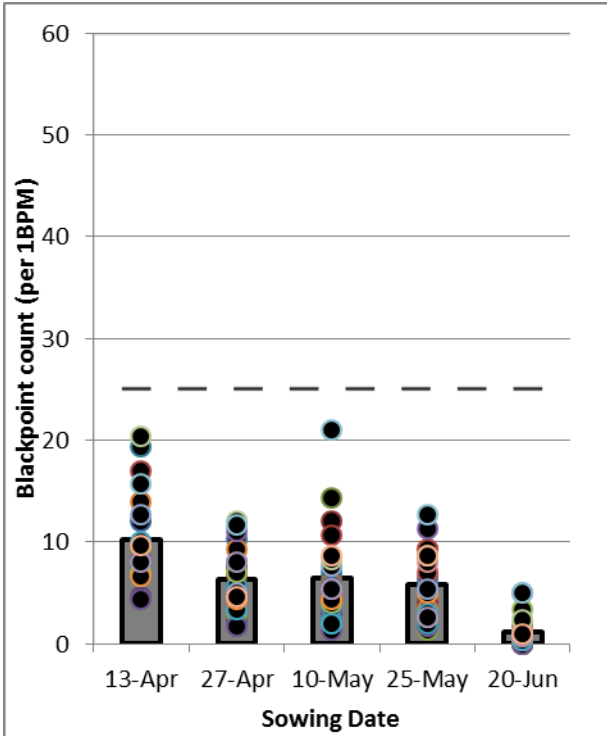


2017 Blackpoint

Gibson



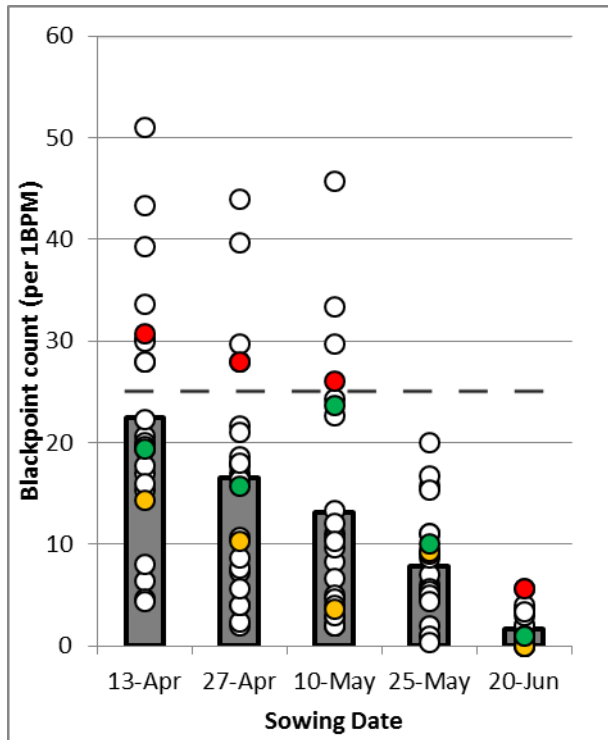
Mullewa



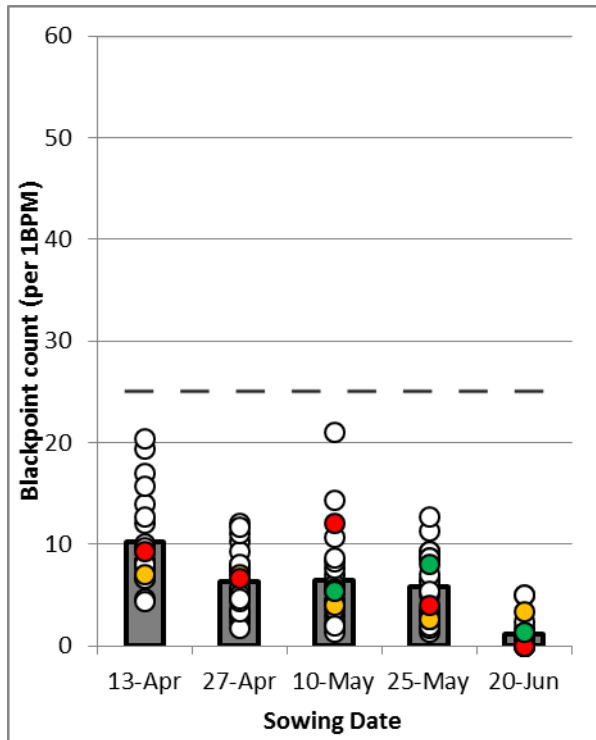
Source: Curry, DPIRD Wheat Agronomy

2017 Blackpoint

Gibson



Mullewa



- Cutlass
- Mace
- Mace

Diversify variety choice

There are typically more gains with variety diversification at early sowing than late.

- If sowing early, sow long, Cutlass or Magenta
- If you are concerned about 'bolting' a variety with a cold requirement is a better option eg Magenta for early sowing
- Use time of sowing and variety to minimise major constraint (e.g. frost, blackpoint).

Other crops may be a better option for very early sowing

Things to consider when choosing a variety

- 
- Yield*
 - Sowing time – diversify early*
 - Disease traits – what is your risk profile

Ninja- not a great disease package..better than Calingiri

	Ninja	Zen	Calingiri
S nodorum	MSSp	MRMS	MSS
Yellow Spot	MRMS	MRMS	MSS
Stem rusts	SVS	MSS	S
Stripe rust	SVS	MRMS	S
Leaf rust	MS#	MR#	MS#
Powdery mildew	VS	SVS	S

Scepter- note change with leaf rust and powdery mildew

	Scepter	LRPB Havoc	Mace
S nodorum	MRMS	MRMS	MS
Yellow Spot	MRMS	MRMS	MRMS
Stem rusts	MR	S	MR
Stripe rust	MR	MR	RMR
Leaf rust	MS#	RMR	MS#
Powdery mildew	SVSp	MSp	MSS

Source: GRDC and DPIRD's Wheat variety guide for WA

Chief CL Plus is a mid maturity so don't confuse as replacement for Cutlass and Magenta

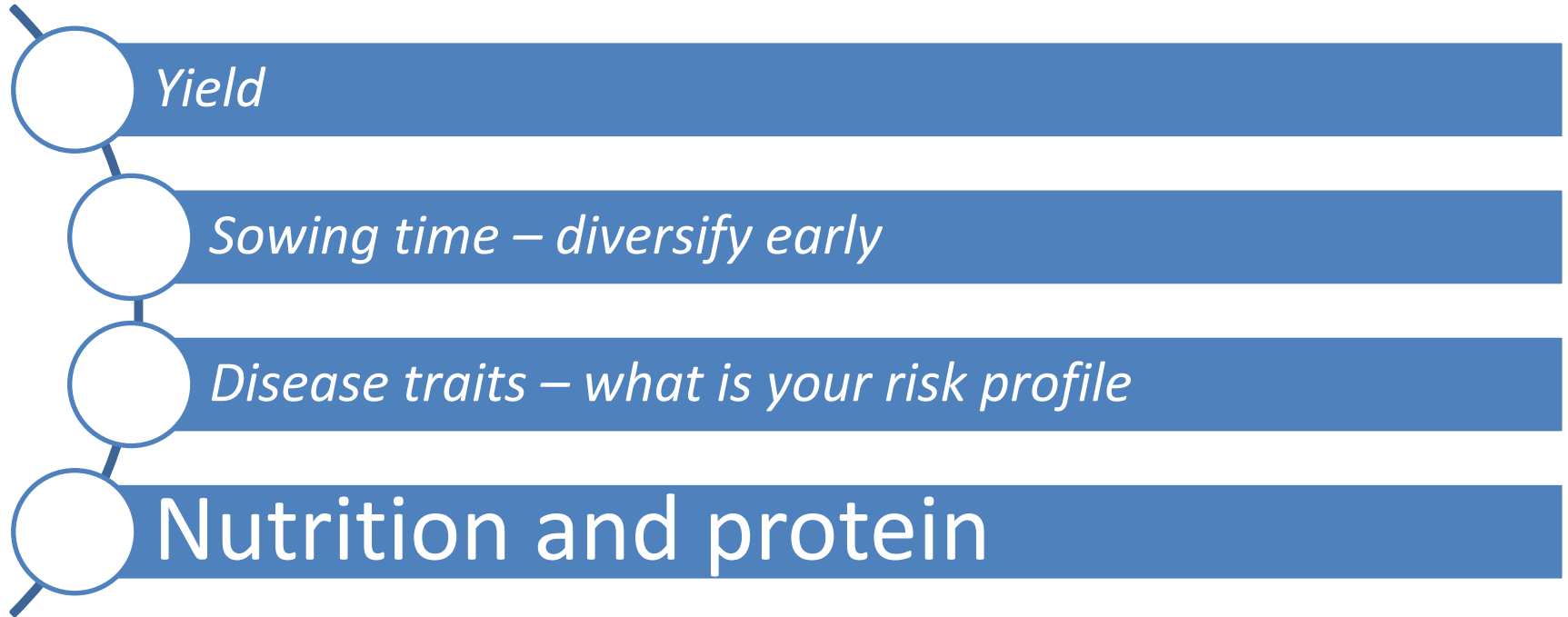
	Chief CL Plus	Cutlass	Magenta
S nodorum	MSp	MRMSp	MRMS
Yellow Spot	MRMS	MSS	MRMS
Stem rusts	RMR	R	RMR
Stripe rust	S	RMR	MS
Leaf rust	R	RMR	R*
Powdery mildew	MSSp	Sp	MRMS

Source: GRDC and DPIRD's Wheat variety guide for WA

What is your risk factor? Factor in management

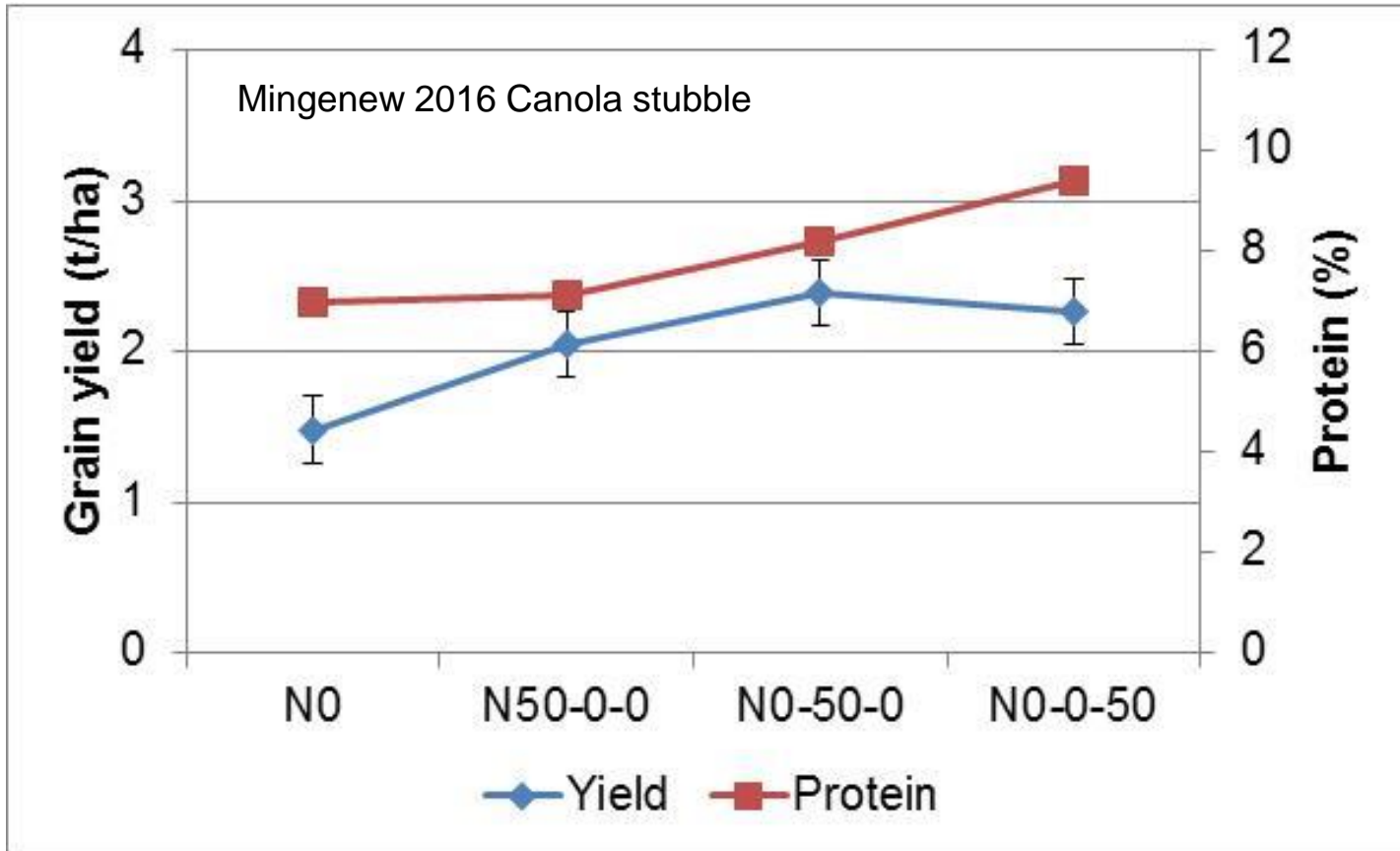
- Think RISK
 - Green bridge and your location
 - Previous rotation and stubble
- Consider variety choice AND
- MONITOR and Management

Things to consider when choosing a variety



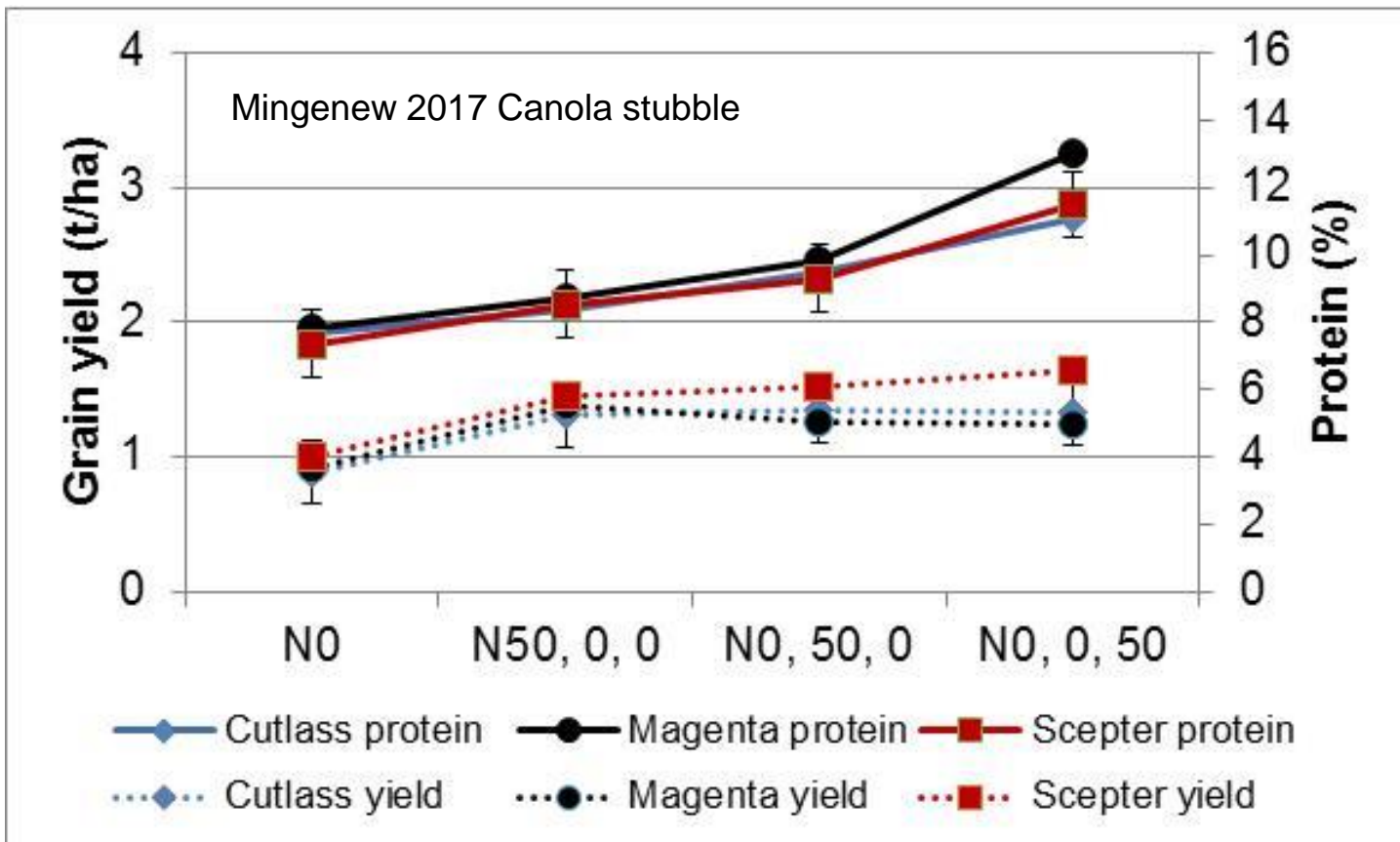
Protein and late N

Late N will be of value
to manage protein



Protein and late N

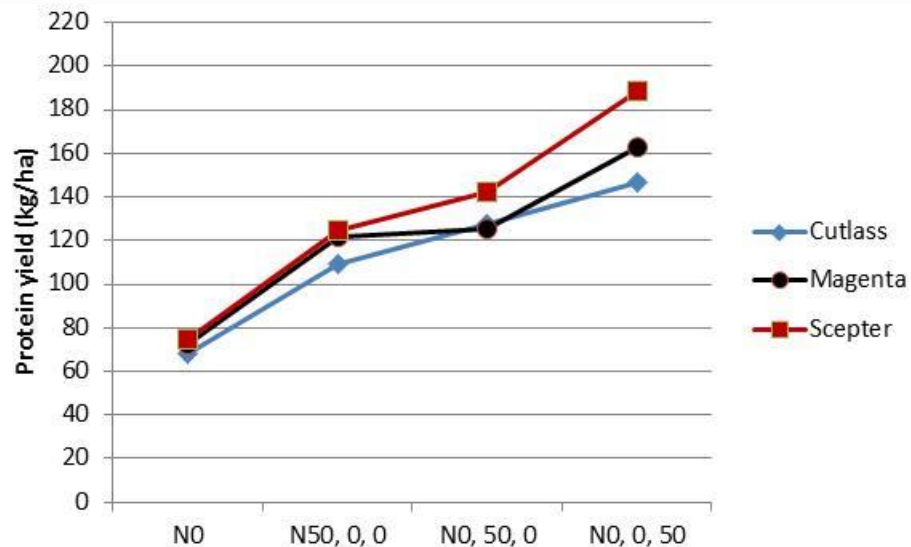
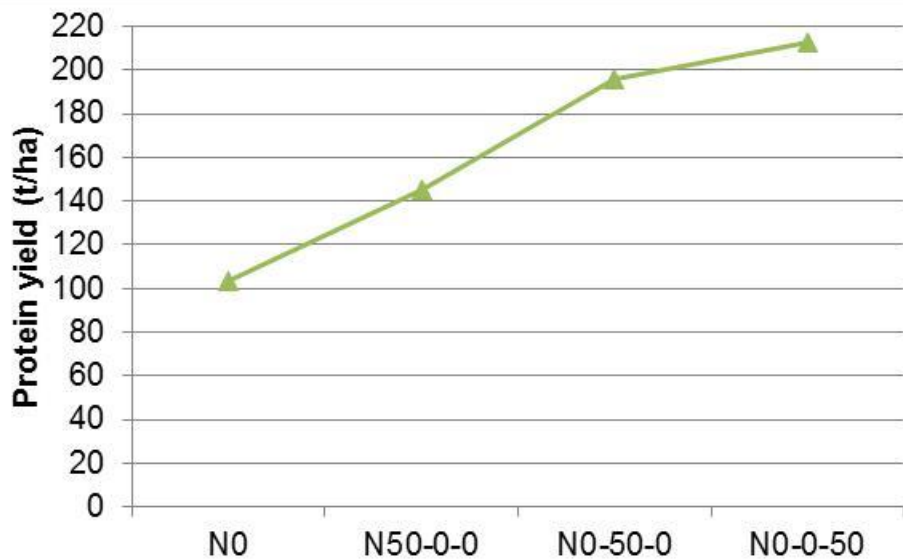
Late N will be of value to manage protein
Varieties will respond similarly



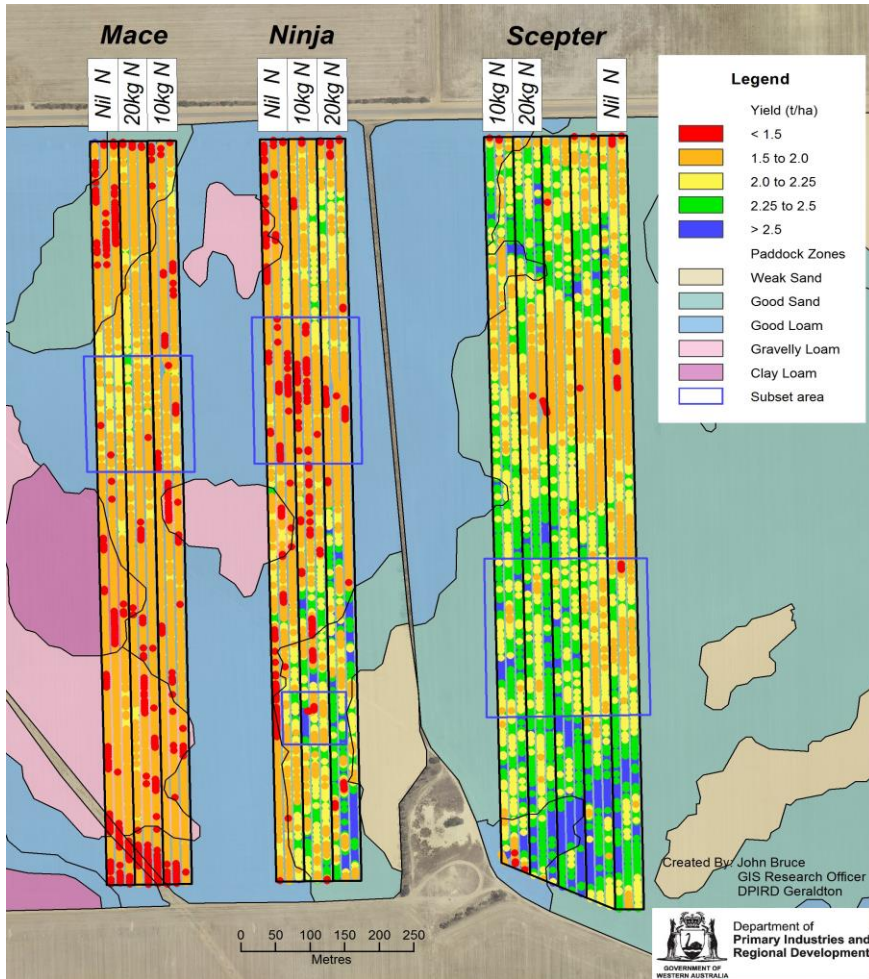
Protein yield

Yield will influence protein

Mingenew 2016 Canola stubble



Mingeneew 2017 Canola stubble



Demo strips for tactical N

Sown: 25/5/2017 Germination
not fantastic

Rotation: 2016 Canola, 2015
wheat, 2014 wheat

Fertiliser @ seeding:
90 kg/ha SOA pre seed, 45
kg/ha DAP extra,
25 kg/ha potash.
~27kg/ha N at seeding

**Top up nitrogen
on 10th August (weeks after
sowing)**

Rotation and Soil type

Rate N applied	Wheat t/ha	Protein (%)	Grade	Gross margins \$/ha
Scepter on lupin stubble	WEP22	Good sand		
0	2.16	11.7	AH	360
10	2.37	12.1	AH	392
20	2.36	12.0	AH	376
Mace on canola stubble	WEP20	Good loam		
0	2.03	11.0	APW	310
10	1.89	11.1	APW	263
20	2.01	11.8	AH	296

Demo strips and value of tactical N

N applied (kg/ha) to each zone	Wheat (t/ha)	Protein (%)	Gross margins \$/ha
Good loam			
0	1.72	10.3	329
10	1.77	11.1	325
20	1.85	11.4	335
Good sand			
0	2.13	9.8	437
10	2.17	9.9	431
20	2.43	10.4	489

Assumptions: Ninja ANW1 \$/t= \$266; Fixed costs = \$130; N as flexi cost including application at 10kg/ha = 16.30

Tactical N and protein

- Consider legumes in your system
- Shift more nitrogen to stem elongation to manage protein

Key messages - Ninja

- Stable yields, better than Calingiri
- Early May sowings better yield option than Zen
- Manage protein window through site selection and top up nitrogen
- Disease profile not outstanding
 - Powdery mildew VS
- Black point MR – as good as Bonnie Rock

Key messages - Scepter

- Stable yields over a range of sowing times in NVT but target for May sowings
- Seed size like little footballs, so manage seeding rate to target populations greater than 120-150 plants/m²
- Big head
- Lupin stubble better option and budget for tactical nitrogen for protein
- Disease
 - Powdery mildew SVS
 - Leaf rust – MS to 104 strain



Department of
Primary Industries and
Regional Development

TACTICAL WHEAT AGRONOMY FOR THE WEST

thank you to

- Rod Bowey, Bruce Haig and Melanie Kupsch (technical support)
- DPIRD research units
- NVT and related projects for additional information
- Growers and Grower groups





Department of
Primary Industries and
Regional Development

THANK YOU

Grains Research and Development Corporation (GRDC)

A Level 4, East Building, 4 National Circuit, Barton, ACT 2600 Australia

P PO Box 5367 Kingston, ACT 2604 Australia

T +61 2 6166 4500

F +61 2 6166 4599

www.grdc.com.au

 @thegrdc @GRDCWest #GRDCUpdates



Traits - Ninja

- Doesn't have a strong disease package
 - Monitor for leaf diseases
 - Use seed dressing because of powdery mildew
- Coleoptile length is not long
 - similar to Calingiri and Wyalkatchem (NOT long)
- Blackpoint is moderately resistant
 - Best rating as per EGA Bonnie Rock
 - Compared to the Magenta (S); Calingiri (MS) and Zen (MRMS)
- Falling number
 - Sprouting has not been a big risk factor for the northern districts
 - Rated (4), similar to Calingiri, better than Zen but slightly lower than Mace (5).

Traits - Scepter

- Disease package slightly better than Mace for leaf disease BUT
 - Monitor for leaf diseases
 - SVS for powdery mildew -Use seed dressing
- Coleoptile length similar to Mace
- Blackpoint is moderately susceptible
 - Compared to the Magenta which is Susceptible
- Falling number
 - Sprouting has not been a big risk factor for the northern districts
 - Rated (4), similar to Calingiri, better than Zen but slightly lower than Mace (5).