



Department of
Primary Industries and
Regional Development

Protect
Grow
Innovate

Surveillance and management of major crop diseases in WA, including net form net blotch, and the latest in Decision Support Tools

Geoff Thomas, Andrea Hills, Jean Galloway
Department of Primary Industries and Regional Development





Foliar disease surveillance

DPIRD Grains Pathology

Geoff Thomas, Andrea Hills, Kith Jayasena, Ciara Beard,
Kylie Chambers, Jason Bradley, Jean Galloway, Zia Hoque,
Ben Congdon, Deb Donovan, Laurie Wahlsten, Joel Kidd, Anne Smith

DAW2104-003RTX

What did we get calls about this year



- Powdery mildew in wheat
- Net form net blotch
- Scald in barley
- Botrytis in legumes
- Wheat leaf rust
- Blackleg in canola
- Stem browning in wheat



Wheat leaf rust

- Reports from Geraldton region (35% of paddocks surveyed in Geraldton), Beacon-Mukinbudin, Mt Madden
- (SVS): Brumby, Devil, Vixen, Anvil, Sherriff, Sting, Westonia;
(S): Rockstar, Calibre, Catapult, Hammer, Ninja, Illabo; Valiant
(MSS): Scepter, Kinsei
- **Green bridge** into next season - Wheat Leaf Rust poses real risk

Barley scald – one to watch



Laperouse – South Stirling

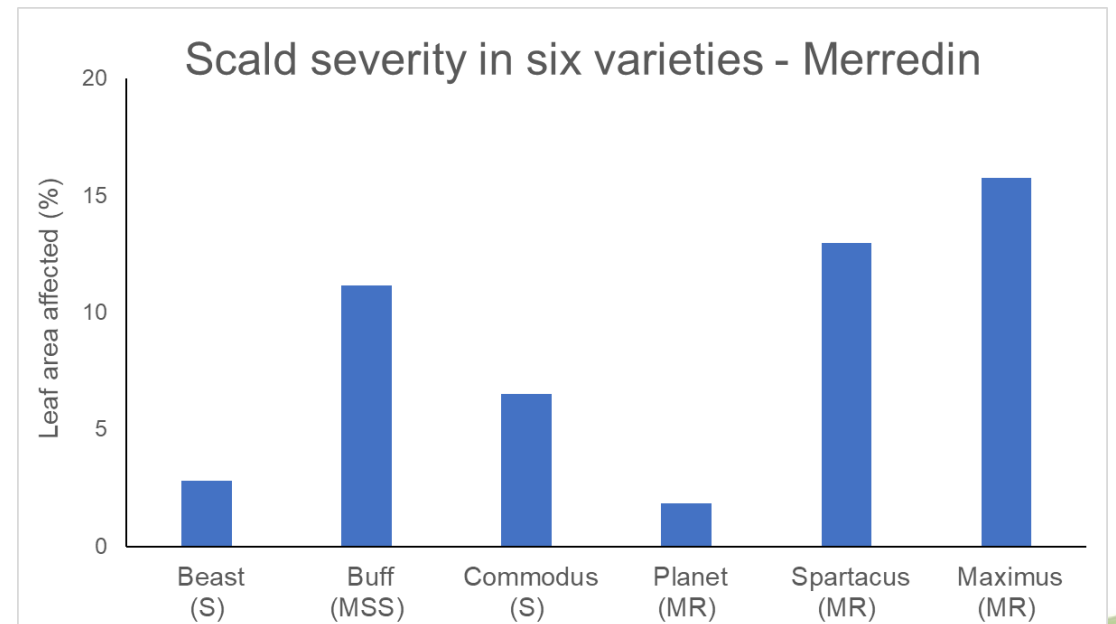
- Reported in a range of varieties across south coast barley growing areas
- Stubble and seed borne pathogen
- Minotaur (VS), Litmus (SVS), Laperouse (S), Commodus CL (S), Combat (Sp), Beast (S), Bottler (S), Rosalind (S), Titan AX (Sp)
- Disease to watch if replacing Planet in 2023



Barley scald – changing virulence



- Scald highly variable pathogen
- Maximus / Spartacus MR in variety guide
- Both varieties affected by scald in 2022
 - Esperance, Albany, Narrogin, Darkan, Merredin

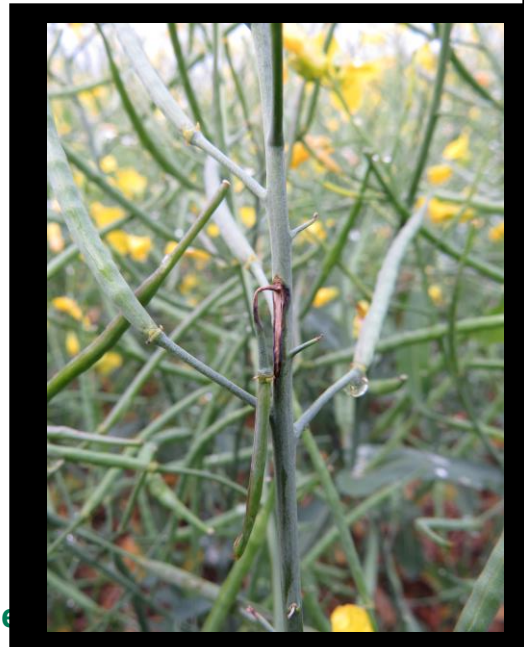


2023 Disease management strategies

- Barley net-form net blotch
- situation, 2022 trials, approaches

Wheat powdery mildew

Canola blackleg



RGT Planet virulent strain – 1st example

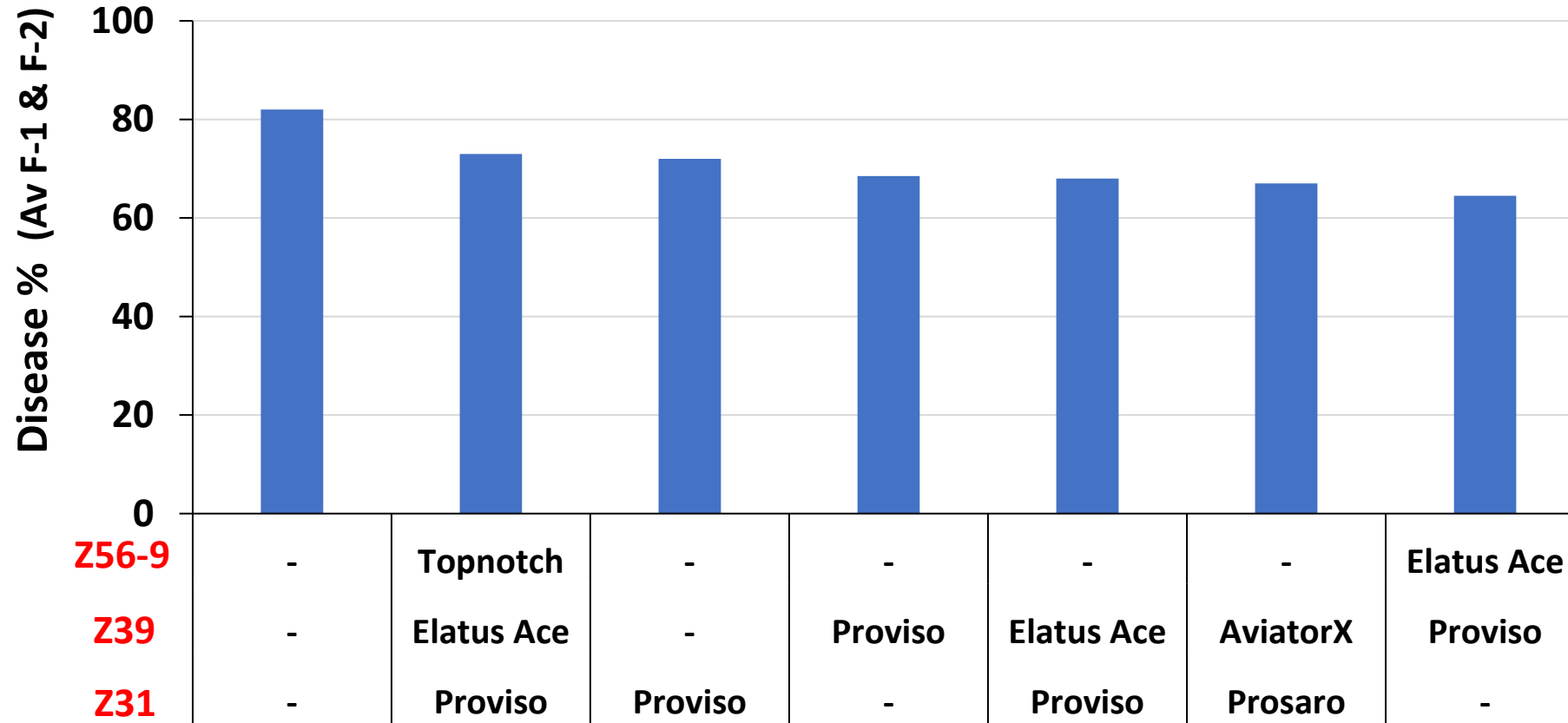
- **South Stirlings, RGT Planet seeded 2nd May**
- **Uniform in-furrow under all treatments**
- **Combination of single, double, triple foliar fungicides**

Dr Kithsiri Jayasena, DPIRD Albany

Fungicide mixtures, rotations, timing and decision on managing net-form net blotch of barley in Southern WA



RGT Planet virulent strain

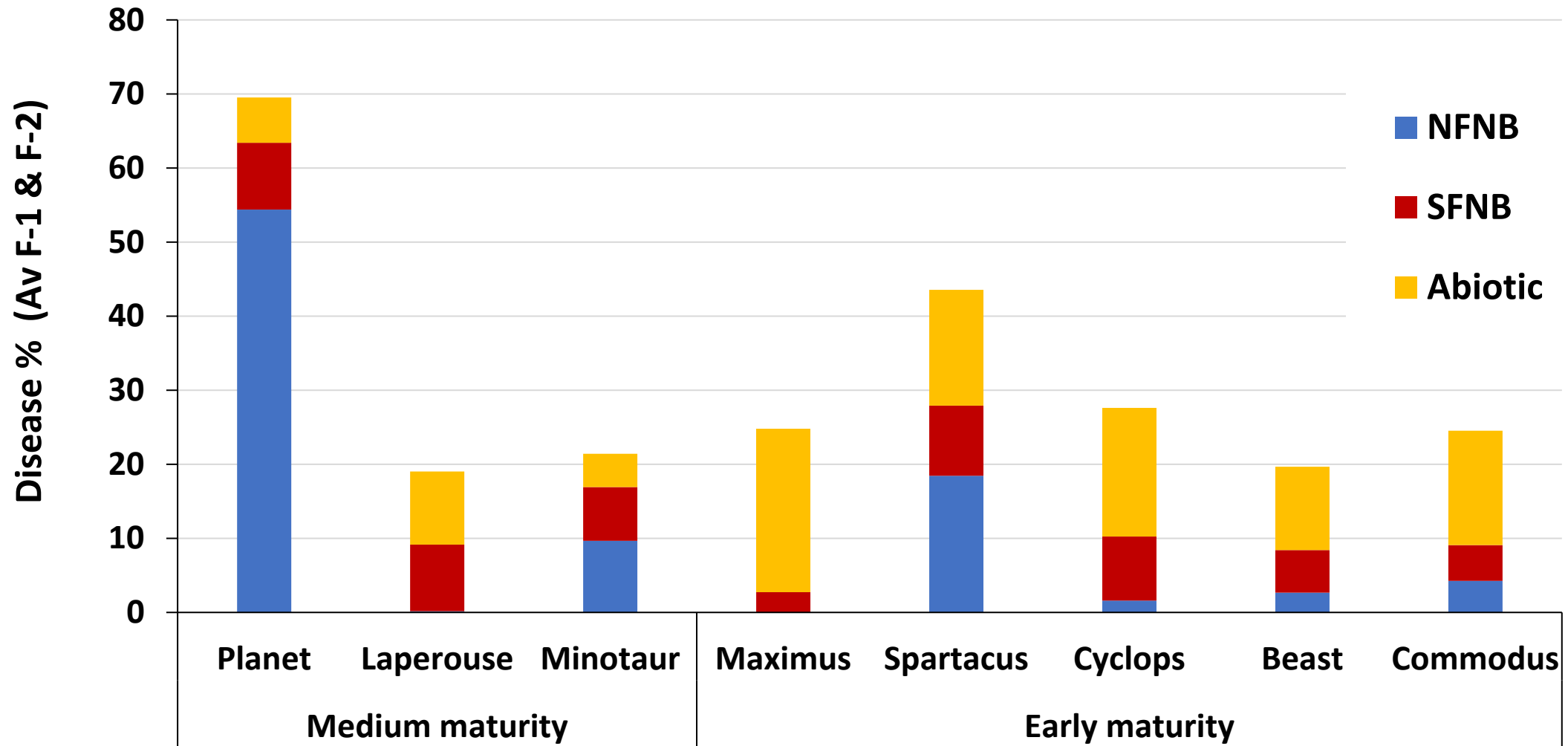


Uniform in-furrow under all treatments

Variety resistance to virulent NFNB?

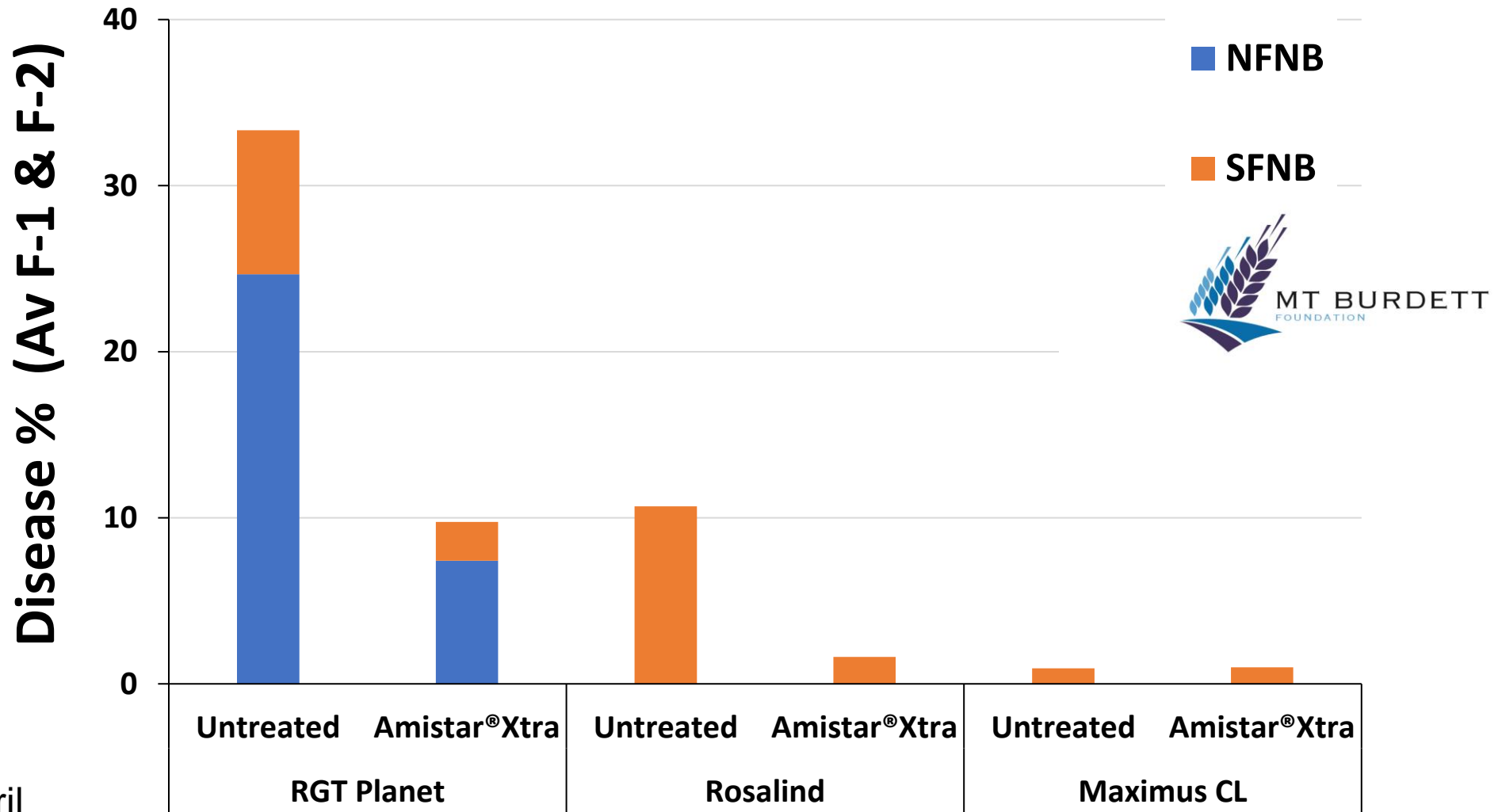


Cascade: Variety x virulent NFNB



Seeded 6th May

Variety x NFNB - Wittenoom Hills



Seeded 28th April

22ES06

Pathotypes are dynamic

Maturity	Pathotype	NFNB	NFNB	NFNB
		Beecher virulent	Beecher avirulent	Oxford virulent
Medium	RGT Planet	S	MS	S
	Laperouse	MRMS	MS	MSS
	Minotaur	MRMS	MRMS	MS
	Combat	MSp	MSSp	MSSp
Early	Spartacus CL	MS	MS	S
	Rosalind	MS	MR	S
	Maximus CL	MS	MRMS	S
	Commodus CL	MRMS	MRMS	S
	Beast	MRMS	MS	MSS
	Cyclops	MRMS	MRMS	S
	Fathom	S	MS	SVS
	Buff	MS	MRMS	MS

- Dominant NFNB pathotype/s present vary by region
- *Planet response less predictable*
- Limited capacity to do detailed regional screening

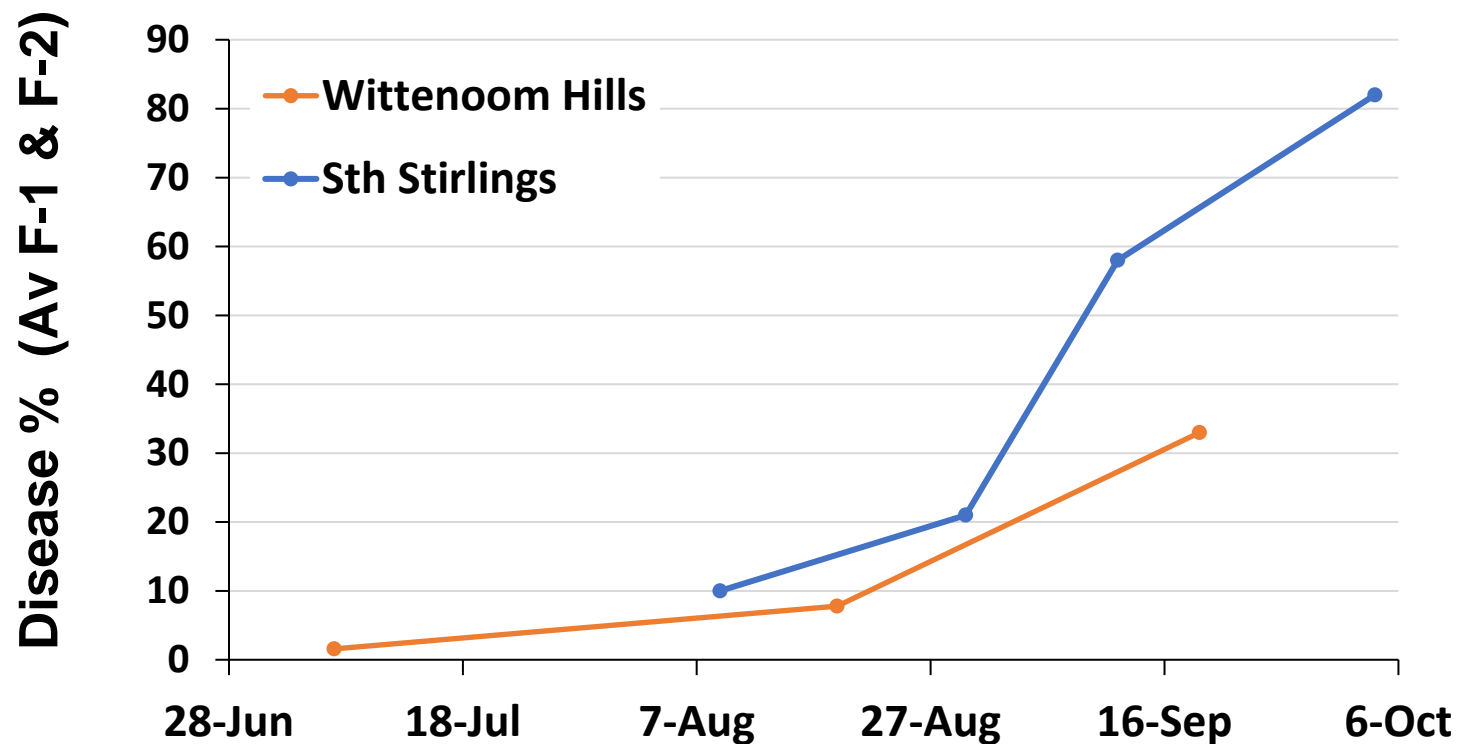
Strategies for NFNB

- Change variety - to nearly anything; except Zena CL, Oxford, Rosalind in HRZ

Planet:

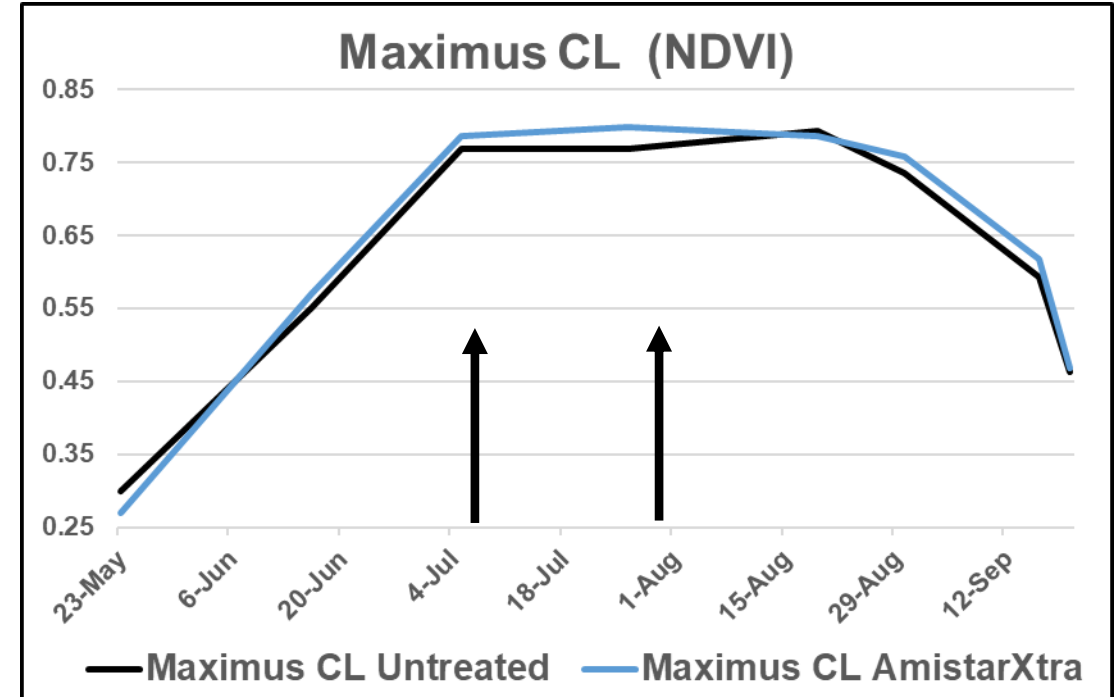
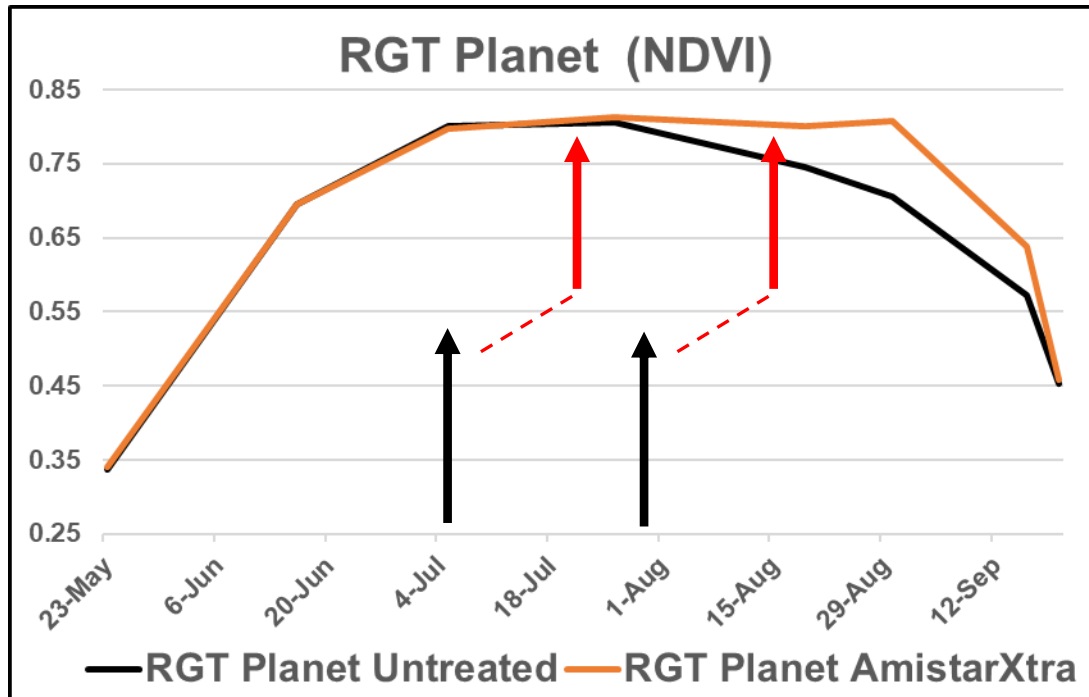
- Delay sowing
- Delay first foliar fungicide if little disease present at stem extension - shift fungicide protection later into grain filling
- Consider Systiva* - **ONLY** if no fungicide resistance to Group 7 (SDHI) in your region

2022 – NFNB acceleration in August



- NFNB present early but at low levels
- NFNB accelerated mid-August
- **Delay 1st foliar fungicide until mid-late July (3rd or 4th node)**

Delay foliar fungicide to 3rd or 4th node if disease levels low



22ES06 Wittenoom Hills

- Monitor NFNB disease levels closely - tillering and after fungicide applications
- Keep water rates high



Wheat powdery mildew management

- Switch varieties
 - eg Catapult, Calibre
- S varieties: impossible to eradicate with fungicide under conducive conditions



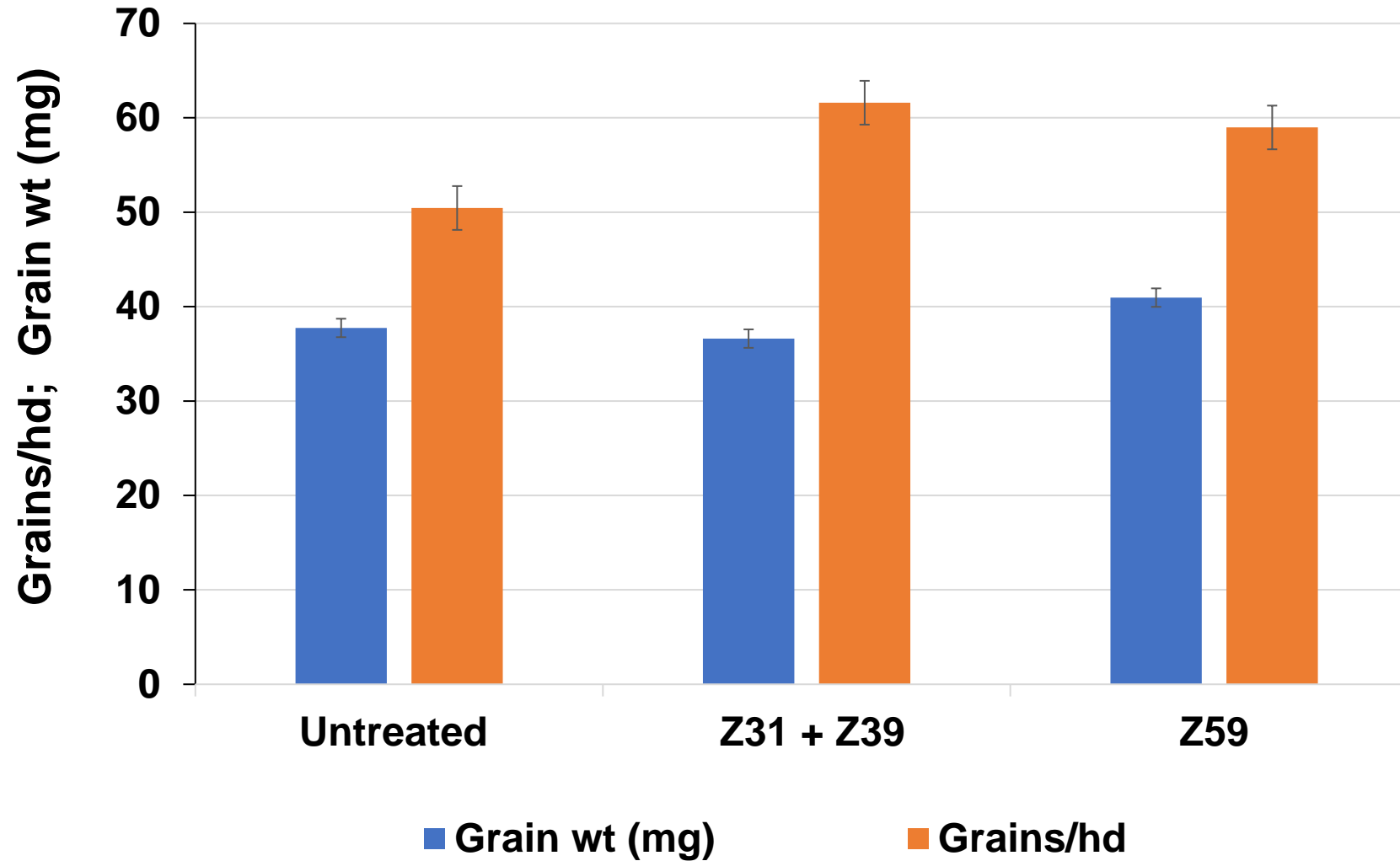
Wheat powdery mildew

- Switch varieties
 - eg Catapult, Calibre

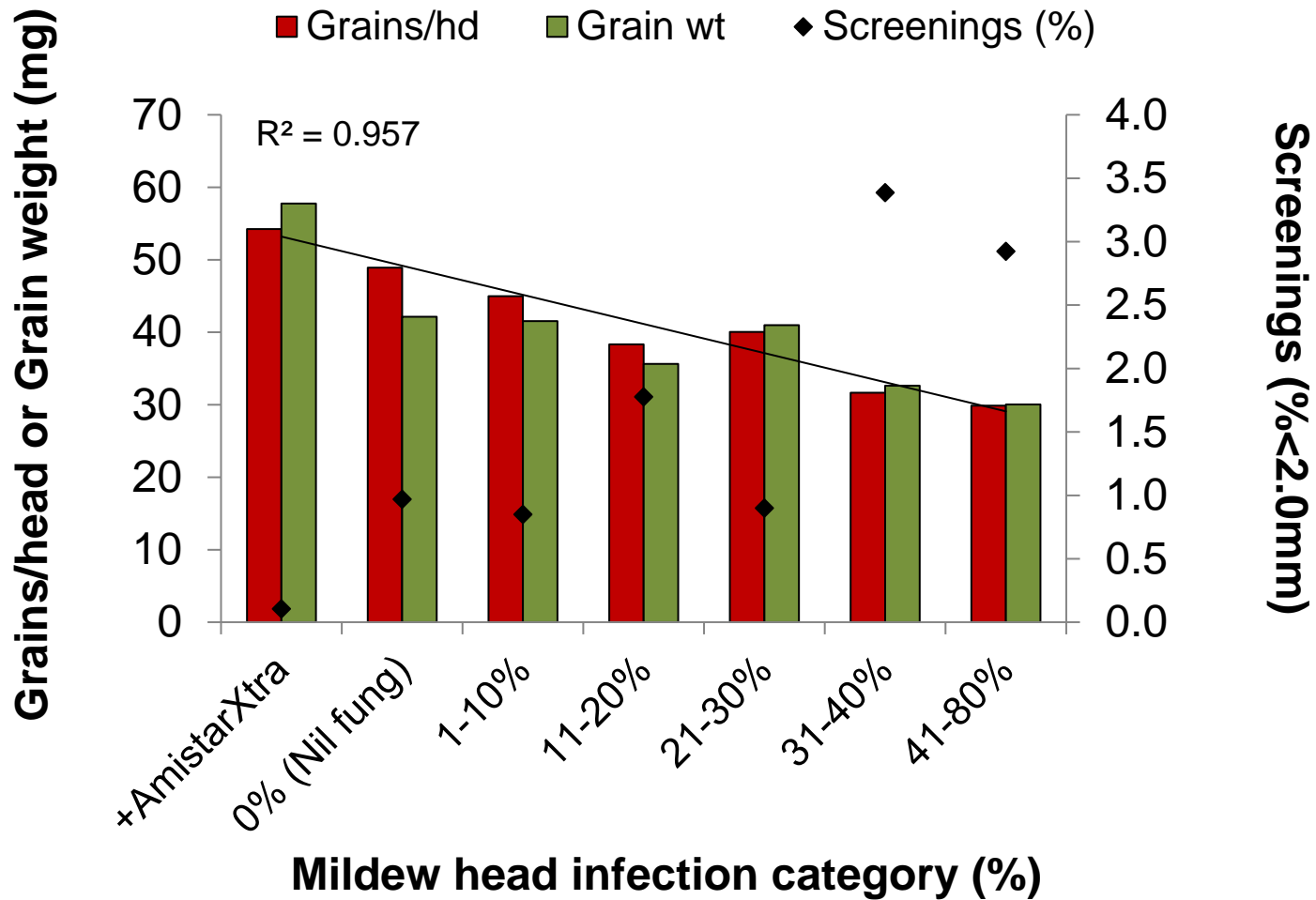
- **Flutriafol at seeding** ✓
- 2nd node & flag leaf,
- Head emergence – HRZ?



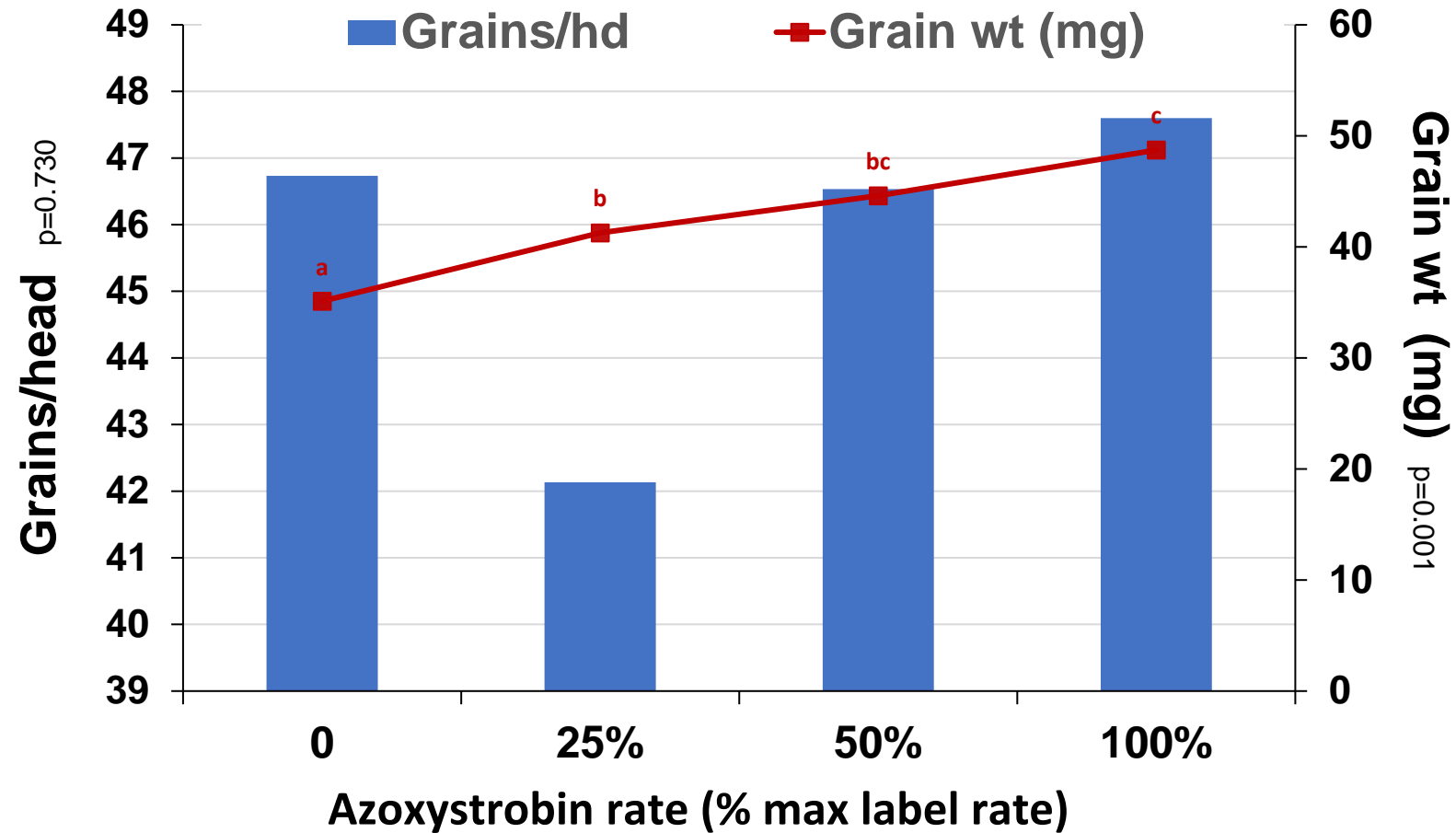
Fungicide – effect of timing



Head emergence fungicides



Flowering fungicide application



Canola blackleg - canker

- **Standard management strategies**
- **Mix it up; change resistance groups**
 - every few yrs when updating variety
 - sowing ≥ 2 varieties? Switch groups across pdks / farm so different group nearest 2022 stubble

Canola blackleg – upper canopy infect.

- **Effective major genes – no leaf lesions – no UCI**
- **Mix it up; change resistance groups – helps with UCI too**
- **Thresholds for fungicide application still a work in progress**

Thank you

dpird.wa.gov.au    

Important disclaimer

The Chief Executive Officer of the Department of Primary Industries and Regional Development and the State of Western Australia accept no liability whatsoever by reason of negligence or otherwise arising from the use or release of this information or any part of it.

Copyright © State of Western Australia (Department of Primary Industries and Regional Development), 2022.