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Cereal Rust Report
Season 2003

Expected Responses of South East Australia Wheats (South Australia and Victoria) to Stripe Rust in 2004

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The severe stripe rust epidemic in 2003 has resulted in many wheat varieties showing less than expected resistance to the disease. This will be an important topic in a series of meetings to be held in February-March, as we head into the 2004 season. This brief article is being circulated to provide some information on expected disease responses to wheat stripe rust, and is intended to support growers and advisors considering sowing options for 2004.

Stripe Rust Response to the WA Pathotype

A significant development in 2003 has been the first occurrence of the Western Australian stripe rust pathotype in the eastern wheat growing region. Experiments at PBI Cobbitty and field sites in Victoria and South Australia have evaluated Australian wheat varieties for response to the WA pathotype. Although the data is preliminary and will require further field tests for confirmation in the coming season, it is being released now in order to provide a basis for expected disease responses in 2004. However, disease response will depend on many factors, including the pathotype occurring at a particular location. The following table provides expected disease responses of varieties to two pathotypes of the stripe rust pathogen in order to show the changes that are expected to occur for certain varieties. The scale is based on combinations of the following basic responses:

R	resistant
MR	moderately resistant
MS	moderately susceptible
S	susceptible
VS	very susceptible

Conclusions

1. Varieties with *Yr17* are expected to be resistant to both pathotypes listed above. However, a pathotype with virulence for *Yr17* has been detected in eastern Australia in 2003, and will likely cause higher responses on certain varieties, *eg* Bowie (MR), Camm (MS), Trident (S).
2. Certain varieties will be expected to show a noticeably higher response to the WA pathotype, *eg* Babbler, Diamondbird, Lorikeet, Mitre. Variety H45 has proved to be more susceptible to the WA pathotype and is now rated very susceptible (VS). It is recommended that this variety should not be grown in 2004.
3. It can be anticipated that varieties ranked MS and higher will sustain yield loss, although the nature and quantity of these losses will depend on a range of factors.
4. Over summer growth of varieties rated MS and higher will be expected to significantly contribute to pathogen survival between seasons. Thus it will be important to monitor and take appropriate action to reduce this material in summer stubble growth wherever possible.

Variety	Disease Response Ranking	
	H45 Pathotype (code: 110 E143 A+)	**WA Pathotype (code: 134 E16 A+)**
Anlace	MR-MS	MS-S
Annuello	R-MR	MR-MS
Babbler	MR	MS
Bowie [1]	R	R
Brennan	R	R
Camm [1]	R	R
Chara	R	MR-MS
Currawong	MR	MR-MS
Diamondbird	MR	MS
Declic	R	R
Dennis	R	-
Drysdale	-	MS
Frame	MR-MS	MR-MS
Goldmark [2]	MR	MR-MS
Goroke	MR	-
H45	MS-S	VS
Janz	MR	MR-MS
Kellalac	MR	MR-MS
Krichauff	MR-MS	S
Kukri	MR	MR
Lorikeet	MR	MS-S
Machete	MS	MS-S
Meering	MR	MR-MS
Mira	MR	MR
Mitre	MR	MS-S
Ouyen	MR	MR-MS
Pugsley	R[1],MS	R[1], MS
Rosella	MR	MR-MS
Rudd [1]	R	R
Snipe	R	MS
Silverstar	MR	S
Tamaroi	R	R
Tennant	R	R
Triller	R	S
Trident [1]	R	R
Warbler	R	-
Whistler	MR	MR-MS
Wyalkatchem	S	MS-S
Wylah	R	MR-MS
Yallaroi	R	MR,MR-MS
Yitpi	MR	MR-MS

[1]Indicates the presence of the *Yr17* resistance; note Pugsley is mixed for this gene and thus will show a mixed response.

[2]Goldmark has shown a higher than expected response in one location in South Australia in 2003. The reasons for this have not been established.

Flag leaf infection in field plots at PBI Cobbitty. These plots were infected with the WA pathotype 134 E16 A+.

H45

Wyalkatchem

Lorikeet

Mitre

Babbler

Snipe

Drysdale

Yitpi

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Cereal rust samples may be collected and posted in paper envelopes to the following address:

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