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Revised Variety Response to Stripe Rust for Eastern Australian Wheats

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The anticipated response of wheat varieties to stripe rust pathotypes is clearly an important issue for growers making varietal choices in 2004. Preliminary information with some illustrations was circulated on 10 November (Issue 2) and 19 December 2003 (Issue 4) as part of the Cereal Rust Report series from the Cereal Rust Laboratory, PBI. This issue provides updated information for growers and advisors.

Background on the data

The following table summarises a consensus of data following a teleconference between colleagues at Adelaide (Hugh Wallwork), Horsham (Grant Hollaway, Russell Eastwood, John Brown), Wagga Wagga (Peter Martin, Andrew Milgate), Orange (Frank McRae) and Cobbitty (Robert Park, Harbans Bariana, Colin Wellings). The meeting arose from discussions concerning preliminary data distributed by PBI Cobbitty on the assessments of several varieties, although the overall relative ranking order was generally agreeable. In an attempt to reconcile these issues, and that of ranking scales, the table presents an agreed set of responses based on the following scale:

Rank (NSW/QLD)	Disease response	Description
1	VS	
2	S	susceptible
3	MS-S	
4	MS	moderately susceptible
5	MR-MS	
6	MR	moderately resistant
7	R-MR	
8	R	resistant
9	VR	

The first two columns of data indicate the responses expected to the respective pathotypes. The final column indicates a worse case scenario, based on either the highest response from the previous columns, or in the case of varieties with Yr17, the expected response to a pathotype with virulence for Yr17. In several instances, data is indicated in brackets. This signifies that the available data is scant, even anecdotal, and is yet to be verified. Entries marked “-” indicate no available data.

Variety	H45 Pathotype (code: 110 E143 A+)		WA Pathotype (code: 134 E16 A+)		Worst case scenario	
	Response	Ranking	Response	Ranking	Response	Ranking
Anlace	MR-MS	5	MS-S	3	MS-S	3
Annuello	MR	6	MS	4	MS	4
Babbler	R-MR	7	MS	4	MS	4
Baxter	R-MR	7	MS	4	MS	4
Bowerbird	MR	6	MS-S	3	MS-S	3
Bowie ¹	R-MR	7	R	8	MR-MS	5
Braewood	R-MR	7	R	8	R-MR	7
Brennan	R-MR	7	R	8	R-MR	7
Camm ¹	R	8	R	8	S	2
Chara	R-MR	7	MS	4	MS	4
Cunningham	R-MR	7	MR-MS	5	MR-MS	5
Currawong	R-MR	7	MR	6	MR	6
Diamondbird	R-MR	7	MS	4	MS	4
Declic	R	8	R	8	R	8
Dennis	R	8	-	-	-	-
Drysdale	MR	6	MR-MS	5	MR-MS	5
EGA Bellaroi	R	8	R	8	R	8
EGA Wedgetail	R-MR	7	MR	6	MR	6
Frame	MR-MS	5	MR-MS	5	MR-MS	5
GBA Combat	MR, MS-S	6,3	MR,MS-S	6,3	6,3	MR,MS-S
GBA Ruby	R	8	R	8	R	8
GBA Sapphire	MS	4	MS	4	MS	4
GBA Shenton	R	8	R	8	R	8
Giles	R-MR	7	MR-MS	5	MR-MS	5
Goldmark	MR	6	MR-MS	5	(MS)	(4)
Goroke	MR	6	(MR-MS)	(5)	(MR-MS)	(5)
H45	MS-S	3	VS	1	VS	1
Hybrid Mercury	R-MR	7	MS	4	MS	4
Janz	R-MR	7	MR-MS	5	MR-MS	5
Kellalac	MR	6	MR-MS	5	MR-MS	5
Kennedy	R-MR	7	MR-MS	5	MR-MS	5
Krichauff	MR-MS	5	S	2	S	2
Kukri	MR	6	MR	6	MR	6
Lang	R-MR	7	MR-MS	5	MR-MS	5
Leichardt	R-MR	7	MS	4	MS	4
Lorikeet	MR	6	MS	4	MS	4
Machete	MS	4	MS-S	3	MS-S	3
Mackellar	R-MR	7	R	8	R-MR	7
Marombi	R	8	R	8	MR-MS	5
Meering	MR	6	MS	4	MS	4
Mira	MR	6	MR	6	MR	6
Mitre	MR	6	MS-S	3	MS-S	3
Ouyen	MR	6	MR-MS	5	MR-MS	5
Pardalote	R-MR	7	MR-MS	5	MR-MS	5
Petrel	MR	6	MS	4	MS	4
Petrie	R-MR	7	MR-MS	5	MR-MS	5
Pugsley ¹	R,MS	8,4	R, MS	8,4	MS	4
QAL Bis	R	8	R	8	MR-MS	5
Rosella	MR	6	MR-MS	5	MR-MS	5
Rudd ¹	R	8	R	8	-	-

¹ Indicates varieties with Yr17. These wheats will be resistant to both pathotypes listed, but will show varying responses to pathotype 104 E137 A-, Yr17+ (see column 3).

() Indicates data requires verification.

Table continues overleaf

Table continued...

Variety	H45 Pathotype (code: 110 E143 A+)		WA Pathotype (code: 134 E16 A+)		Worst case scenario	
	Response	Ranking	Response	Ranking	Response	Ranking
Snipe	MR	6	MR-MS	5	MR-MS	5
Strzelecki	R-MR	7	R-MR	7	R-MR	7
Sunbri	R-MR	7	R	8	R-MR	7
Sunbrook	MR	6	MR-MS	5	MR-MS	5
Sunco	R-MR	7	MR-MS	5	MR-MS	5
Sunlin	R	8	R	8	MR-MS	5
Sunsoft 98	R-MR	7	R-MR	7	MR-MS	5
Sunstate	R	8	R	8	R	8
Sunvale	R	8	R	8	R	8
Silverstar	MR	6	MS-S	3	MS-S	3
Tamaroi	R	8	R	8	R	8
Tennant	R-MR	7	R-MR	7	R-MR	7
Thornbill	MR	6	MR-MS	5	MR-MS	5
Trident ¹	R	8	R	8	S	2
Warbler	R	8	-	-	-	-
Whistler	MR	6	MR-MS	5	MR-MS	5
Wollaroi	R	8	MR	6	MR	6
Wyalkatchem	S	2	MS-S	3	MS-S	3
Wylah	R-MR	7	MR-MS	5	MR-MS	5
Yallaroi	R	8	MR,MR-MS	6,5	MR-MS	5
Yitpi	MR	6	MR-MS	5	MR-MS	5

¹ Indicates varieties with Yr17. These wheats will be resistant to both pathotypes listed, but will show varying responses to pathotype 104 E137 A-, Yr17+ (see column 3).

() Indicates data requires verification.

Post-script

Recent data has come to hand from Robert Loughman and colleagues from Western Australia. The field site at Manjimup was inoculated and the disease level noted to be uniform. Comparisons between the WA data and that from the east show a very good correlation. The exceptions were Banks, Datatine and Wollaroi that were more diseased in the west, and Mitre and Wyalkatchem that were more resistant in the west. These differences may be due to several factors, including seed source and environment, and will require further confirmation.

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

Australian Cereal Rust Survey
Plant Breeding Institute
Private Bag 11
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