Rust Sentinel Screen 2022

Date: **11/08/2022** SITE: **Tottenham**

Variety	Growth stage	Stripe Rust Pathotype Rating				Active stripe rust infection in top three leaves
		Score	134 17+	198	239	
Ballista	Z31	***	MSS	MR	MR	Yes
Beckom	Z31	*	MRMS	MR	MR	No
Borlaug 100	Z32	***	MRMS	SVS	MS	Yes
Catapult	Z31	***	MR	MRMS	S	Yes
Condo	Z32	**	MS	MRMS	MRMS	Yes
Coolah	Z31	**	RMR	RMR	RMR	Yes
Devil	Z32	***	MRMS	MR	S	Yes
Emu Rock	Z32	**	MRMS	SVS	MRMS	Yes
Longsword	Z30	*	R/S	RMR	RMR	No
LRPB Flanker	Z31	*	RMR	MR	MR	No
LRPB Hellfire	Z31	**	RMR	RMR	MR	No
LRPB Lancer	Late tillering	*	RMR	RMR	RMR	No
LRPB Mustang	Z31	**	RMR	R	RMR	No
LRPB Spitfire	Z32	*	MR	MR	MR	No
LRPB Trojan	Z31	***	MR	SVS	MRMS (P)	Yes
Mace	Z31	**	SVS	MS	MS	No
Scepter	Z31	**	MSS	MR	MRMS	Yes
Vixen	Z32	**	MS	MR	S	Yes

	no visible stripe rust infections
*	point infections visible
**	hot spots developing
***	wider spread of infection

Comments:

Varying levels of stripe rust were observed in the lower canopy of all varieties at this site. Infections were largely seedling stripe rust infections where the fungus spreads sideways along with up and down the leaf which does not produce a characteristic stripe appearance. It is only in later leaves in the mid canopy and higher that stripe rust infection becomes confined to between the leaf veins producing the classic stripe appearance. All varieties can get seedling stripe rust infections if an early epidemic occurs which complicates the ability to draw conclusions around the main pathotypes present.

Assessing active stripe rust infection in the upper canopy shows that except for Coolah, varieties rated MR and above to all three stripe rust pathotypes have much lower levels of active infection. Varieties with resistance levels to one or more pathotype lower than a MR rating are still showing some level of active stripe rust progression in the top three leaves. The exception to this was Mace that had less active stripe rust infection in its upper canopy than would be expected given its resistance ratings to the different stripe rust pathotypes.

At this stage it is difficult to determine the dominant stripe rust pathotype at this site but great data on the relative strength and timing of adult plant resistance is being captured under an extremely high disease pressure situation. Leaf samples have been sent to the Australian Cereal Rust Survey at the University of Sydney for detailed assessment of stripe rust pathotypes.

For more information:

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Rust Sentinel Screen 2022

Date: 9/08/2022		SITE: Coolah			
		Stripe Rust Pathotype Rating			
Variety	Growth stage	Score	134 17+	198	239
Ballista	Mid tillering		MSS	MR	MR
Beckom	Mid tillering		MRMS	MR	MR
Borlaug 100	Late tillering	**	MRMS	SVS	MS
Catapult	Mid tillering		MR	MRMS	S
Condo	Late tillering		MS	MRMS	MRMS
Coolah	Mid tillering		RMR	RMR	RMR
Devil	Mid tillering		MRMS	MR	S
Emu Rock	Mid tillering	***	MRMS	SVS	MRMS
Longsword	Mid tillering		R/S	RMR	RMR
LRPB Flanker	Mid tillering		RMR	MR	MR
LRPB Hellfire	Late tillering		RMR	RMR	MR
LRPB Lancer	Mid tillering	*	RMR	RMR	RMR
LRPB Mustang	Late tillering		RMR	R	RMR
LRPB Spitfire	Mid tillering		MR	MR	MR
LRPB Trojan	Mid tillering	***	MR	SVS	MRMS (P)
Mace	Late tillering		SVS	MS	MS
Scepter	Mid tillering		MSS	MR	MRMS
Vixen	Mid tillering	*	MS	MR	S

	no visible stripe rust infections
*	point infections visible
**	hot spots developing
***	wider spread of infection

Comments:

Moderate levels of stripe rust were observed in a number of varieties being most prevalent in Emu Rock and LRPB Trojan. Infection in some varieties appears only to be seedling stripe rust infections (no clear stripe appearance) which can occur in all varieties at early growth stages and hence may not provide a robust pathotype discrimination. For this reason, the presence of low levels of infection in LRPB Lancer should be treated with caution and does not indicate increased susceptibility to infection in this variety.

However, there is clearly more stripe rust infection in varieties most sensitive to the 198 pathotype such as Emu Rock and LRPB Trojan. The lack of infection in Catapult, Devil and Vixen at this site currently would suggest that the 239 pathotype is currently not present at this site. This may change during the season.

Currently the 198 pathotype of stripe rust appears to be dominant at this site.

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Rust Sentinel Screen 2022

Date: **9/08/2022** SITE: **Gilgandra**

Variety	Growth stage	Stripe Rust Pathotype Rating				Leaf Rust Rating	
		Score	134 17+	198	239	Score	
Ballista	Late tillering		MSS	MR	MR	*	S
Beckom	Late tillering		MRMS	MR	MR	*	MSS
Borlaug 100	Z31		MRMS	SVS	MS	*	MR
Catapult	Late tillering		MR	MRMS	S	*	S
Condo	Z31		MS	MRMS	MRMS		S
Coolah	Mid tillering		RMR	RMR	RMR		RMR
Devil	Mid tillering	*	MRMS	MR	S	*	SVS
Emu Rock	Z31		MRMS	SVS	MRMS	*	SVS
Longsword	Mid tillering		R/S	RMR	RMR		MR
LRPB Flanker	Mid tillering		RMR	MR	MR		RMR
LRPB Hellfire	Z31		RMR	RMR	MR	*	MSS
LRPB Lancer	Mid tillering		RMR	RMR	RMR		RMR
LRPB Mustang	Z31		RMR	R	RMR	*	MSS
LRPB Spitfire	Late tillering		MR	MR	MR		S
LRPB Trojan	Late tillering		MR	SVS	MRMS (P)	*	MR
Mace	Late tillering		SVS	MS	MS		S
Scepter	Mid tillering		MSS	MR	MRMS	*	MSS
Vixen	Late tillering		MS	MR	S	*	SVS

	no visible stripe rust infections
*	point infections visible
**	hot spots developing
***	wider spread of infection

Comments:

Very low level of stripe rust infection currently at this site. Infection only observed in Devil which could indicate dominance of 239 pathotype but no infection observed in Catapult and Vixen at this stage which are also rated S to the 239 pathotype of stripe rust. Infections are not advanced and widespread enough across this trial site to draw robust conclusions around potential stripe rust pathotypes present. However, low to moderate leaf rust infections were observed in a number of varieties at this site which generally correlate to their level of susceptibility to this different wheat rust. Growers are urged to monitor their own crops for leaf rust along with stripe rust.

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Rust Sentinel Screen 2022

Date: 11/08/2022		SITE: Wongarbon			
		Stripe Rust Pathotype Rating			
Variety	Growth stage	Score	134 17+	198	239
Ballista	Late tillering	**	MSS	MR	MR
Beckom	Z31		MRMS	MR	MR
Borlaug 100	Z31	***	MRMS	SVS	MS
Catapult	Late tillering	**	MR	MRMS	S
Condo	Z31		MS	MRMS	MRMS
Coolah	Late tillering	*	RMR	RMR	RMR
Devil	Z31	*	MRMS	MR	S
Emu Rock	Z31	***	MRMS	SVS	MRMS
Longsword	Late tillering		R/S	RMR	RMR
LRPB Flanker	Late tillering		RMR	MR	MR
LRPB Hellfire	Z30		RMR	RMR	MR
LRPB Lancer	Mid tillering	*	RMR	RMR	RMR
LRPB Mustang	Z31		RMR	R	RMR
LRPB Spitfire	Z31		MR	MR	MR
LRPB Trojan	Z31	***	MR	SVS	MRMS (P)
Mace	Z31	*	SVS	MS	MS
Scepter	Z31	*	MSS	MR	MRMS
Vixen	Z31	**	MS	MR	S

	no visible stripe rust infections
*	point infections visible
**	hot spots developing
***	wider spread of infection

Comments:

Significant infections were observed in the 198 "SVS" pathotypes of Bourlag 100, Emu Rock and LRPB Tojan. Lower level infections were also observed in the lower resistance lines for the 239 pathotype in Vixen, Scepter, Mace, Devil and Catapult which may support the presence of this pathotype but may also be the tail end of a seedling infection in this varieties. The lower level of infection particularly in Vixen and Devil which are both "S" to the 239 pathotype could support the conclusion that the dominant pathotype currently is 198 at this site.

The low level infection in LRPB Lancer should be monitored as adult plant resistance may not yet have activated sufficiently to clean up what is likely the tail end of seedling infections.

For more information:

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