Cereal Variety Disease Guide 2022

SARDI

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Summary of 2021 season and implications for 2022

Season Summary

The 2021 season started well but a dry winter period greatly reduced the incidence and threat of the rain-splash diseases such as septoria tritici blotch.
There was minimal rust in cereal crops in 2021. Stripe rust was widespread in the South-East but well managed. Early use of fungicides also kept most other foliar diseases under good control.

Extensive summer and autumn rains across the eastern states and subsequent volunteer growth may lead to a build-up of inoculum of rusts and some other diseases which would pose a threat to the 2022 crop. To reduce the risks posed by these volunteers they should be carefully managed wherever possible. Be prepared for early spraying of susceptible varieties.

Net form net blotch

Net form net blotch was not a significant problem in 2021 but this is no guide to the potential for damage in 2022. There will be sufficient inoculum for an increase in early infection should early sowing and weather conditions favour the disease. It remains a seriously damaging disease that requires early management if control is to be successful. As always it is better to avoid disease through the use of less susceptible varieties and never to sow barley into infected barley stubbles. The continuing spread of resistance to Systiva means that this means of control will be of decreasing value each year that it is widely used.

Powdery mildew in wheat

Powdery mildew continued to be a problem on the Northern Yorke Peninsula and elsewhere. Infected stubbles from 2021 are the principal sources of infection but any infected volunteer wheat would likely lead to more rapid development of early infection. Detection of virulence on an otherwise resistant NVT breeding line grown at Bute gave early warning of the adaptability of this pathogen. The risk will be greater where the pathogen is allowed to remain at high levels in crops.

Septoria tritici blotch

This pathogen cannot spread as fast and far during the season so is less likely to cause surprises than rusts or net form net blotch. Early sowing of the most susceptible varieties remains a high-risk scenario, particularly in the higher rainfall districts.
The detection of resistance to strobilurins in a sample of septoria from the South-East is a reminder that reliance on chemical control in future years is not a sustainable strategy.

Diseases covered in these tables.

The screening for resistance to common root rot and the cereal smuts has been discontinued by the NVT program. They will continue to be included in this factsheet for the time being but with increasing gaps in the tables. Whilst these diseases are mostly of low concern, the release of very susceptible varieties could lead to increased problems in future.

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GRDC Grains Research & Development Corporation
Government of South Australia, Department of Primary Industries and Regions
SARDI South Australian Research and Development Institute

Explanation for resistance classification

R	The disease will not multiply or cause any damage on this variety. This rating is only used where the variety also has seedling resistance.
MR	The disease may be visible and multiply, but no significant economic losses will occur. This rating signifies strong adult plant resistance.
MS	The disease may cause damage, but this is unlikely to be more than about 15% except in very severe situations.
S	The disease can be severe on this variety and losses of up to 50% can occur.
VS	Where a disease is a problem, this variety should not be grown. Losses greater than 50% are possible and the variety may create significant problems to other growers.

This classification based on yield loss is only a general guide and is less applicable for the minor diseases such as common root rot, or for the leaf diseases in lower rainfall areas, where yield losses are rarely as severe.

Where '-' is used then the rating is given as a range of scores that may be observed depending on which strain of the pathogen is present. This is currently only used for some barley and oat diseases where the pathogens are particularly variable and unpredictable.

Where a range is given, that would usually indicate that the more resistant score is more common, but that more virulent strains of the pathogen have been detected either in a limited geographic area or in previous seasons. In other situations, data may be more limited and a definitive rating cannot be provided.

SARDI Crop Watch

For seasonal disease reports, subscribe to the SARDI SA CropWatch e-newsletter pir.sa.gov.au/cropwatch and follow us on Twitter @CropWatchSA.

Disease identification

A diagnostic service is available to farmers and industry for diseased plant specimens. Samples of all leaf and aerial plant parts should be kept free of moisture and wrapped in paper, not a plastic bag. Roots should be dug up carefully, preserving as much of the root system as possible and preferably kept damp.

Send your samples to:

SARDI Diagnostics
Plant Research Centre, Gate 2B Hartley Grove Urrbrae SA 5064

Wheat	Rust			Septoria tritici blotch	CCN	Yellow leaf spot	Eyespot	Powdery	Root lesion nematodes		Crown	Common	Flag	Black	Quality
	Stem	Stripe	Leaf		Resistance			mildew	*P. neglectus*	*P. thornei*	rot	root rot	smut	point †	in SA
Accroc	MS	RMR	S	MRMS	S	MR	MSS	MRMS	S	S	SVS	S	SVS	MRMS	Red Feed
Anapurna	MSS	RMR	MS	MRMS	MRMS	MRMS	–	RMR	MS	MS	SVS	MSS	R	S	Red Feed
Ascot	MRMS	MSS	RMR	S	MR	MRMS	S	S	S	S	S	MS	MRMS	MSS	APW
Ballista	MR	MSS	S	SVS	MRMS	MSS	S	SVS	S	MS	SVS	MS	SVS	MRMS	AH
Bennett	MRMS	S	S	MSS	S	MRMS	MSS	R	S	S	VS	S	SVS	MSS	ASW
Calabro	MS	RMR	MSS	MRMS	S	MR	–	RMR	S	MS	SVS	MSS	RMR	MS	Red Feed
Calibre	MR	MS	MSS	S	MRMS	MRMS	–	S	S	MS	S	-	-	-	AH
Catapult	MR	MRMS/SVS	S	MSS	R	MRMS	S	S	S	MS	MSS	MS	MS	MS	AH
Chief CL Plus	MR	SVS	MR	MSS	MS	MRMS	S	SVS	MRMS	MSS	MSS	MS	SVS	MS	APW
Cutlass	R	MSS	RMR	MSS	MR	MSS	S	MSS	MSS	MSS	S	MS	MS	MS	APW
Denison	MS	MSS	S	MSS	MS	MRMS	S	S	S	S	S	MS	MS	MS	APW
Emu Rock	MS	SVS	SVS	SVS	S	MRMS	MSS	MSS	MSS	S	MSS	MS	MS	MSS	AH
Forrest	RMR	RMR	S	MS	S	MRMS	MS	S	VS	SVS	SVS	MS	MR	MR	APW
Grenade CL Plus	MR	MRMS	S	S	R	S	S	MSS	MSS	S	S	MS	MR	MSS	AH
Hammer CL Plus	MR	MS	S	MSS	MRMS	MRMS	S	MSS	MSS	S	MSS	MSS	RMR	MRMS	AH
Illabo	MRMS	MRMS	S	MSS	MRMS	MS	–	R	S	MSS	S	MSS	R	MRMS	AH
Impala	MR	MRMS	SVS	SVS	MSS	MSS	MSS	R	SVS	S	MSS	MSS	S	MS	Soft
Kittyhawk	MRMS/S	MR	MR	MRMS	S	MRMS	S	MS	S	S	SVS	S	RMR	MRMS	AH
Longsword	MR	R/S	MR/S	MSS	MRMS	MRMS	S	MSS	MRMS	MRMS	MSS	MS	MRMS	MS	Feed
Mace	MRMS	SVS	S	SVS	MRMS	MRMS	S	MSS	MS	MS	S	MS	S	MRMS	AH
Manning	MR	RMR	MSS	MR	S	MRMS	MS	MS	MSS	S	VS	SVS	R	S	Feed
Nighthawk	RMR	MRMS	MSS	MSD	MS	MS	–	SVS	MSS	MS	MSS	MSS	MSS	MS	APW
Orion	MR	MS	R	MRMS	MS	MSS	S	SVS	MS	S	MSS	MSS	S	S	Soft / Hay
Razor CL Plus	MR	MS	S	SVS	MR	MSS	S	MSS	S	MS	S	MSS	RMR	MS	ASW
Revenue	RMR^	RMR	VS	MSS	S	MRMS	S	R	S	S	S	SVS	S	MS	Feed
Rockstar	MR	S	S	S	MSS	MRMS	S	SVS	MRMS	MS	S	MSS	VS	MSS	AH
Scepter	MRMS	MSS	MSS	S	MRMS	MRMS	S	SVS	S	MSS	MSS	MS	MSS	MS	AH
Sheriff CL Plus	MS	S	SVS	S	MS	MRMS	S	SVS	MRMS	MRMS	S	MSS	S	MS	APW
Trojan	MRMS	SVS	MR#	MS	MS	MSS	MS	S	MSS	MSS	MS	MS	SVS	MS	APW
Valiant CL Plus	RMR	MSS	S	S	MSS	MRMS	–	VS	S	S	S	–	–	–	AH
Vixen	MRMS	S	SVS	S	MSS	MRMS	S	SVS	MRMS	MS	S	MSS	SVS	MSS	AH
Zanzibar	VS	RMR	SVS	S	MSS	MS	–	MRMS	S	MS	S	S	SVS	MRMS	Red Feed

*SVS to a pathotype identified near Bute in 2021

Durum

														†	
Artemis	MR^	MR	RMR	MRMS	MS	MRMS	–	S	MS	MR	VS	MS	MRMS	MS	Durum
Aurora	RMR	MR	R	MR/S	MSS	MRMS	S	MSS	MRMS	RMR	VS	MSS	R	MS	Durum
Bitalli	RMR	MRMS	MR	MRMS	MSS	MRMS	–	S	MSS	RMR	SVS	MS	R	MS	Durum
Saintly	MR	MS	MRMS	S	MS	MRMS	MS	MSS	MRMS	MR	VS	MS	R	MS	Durum

Triticale

Fusion	R	S	RMR	MR	R	MRMS	MS	R	RMR	MSS	MSS	S	R	MSS	Triticale
KM10	R	S	MR/S	MR	S	MR	–	R	RMR	MS	MS	MRMS	R	MRMS	Triticale
Kokoda	R	RMR#	RMR	RMR	MR	MR	–	R	MRMS	MS	MS	S	R	MS	Triticale
Normandy	R	RMR	RMR	RMR	MR	MR	–	R	RMR	MS	MR	MS	R	MRMS	Triticale
Razoo	MS	MSS	RMR	RMR	MS	MR	–	R	R	MSS	MS	–	–	–	Triticale
Wonambi	R	S	R	MR	MS	MR	–	R	MR	MS	MSS	MSS	R	–	Triticale
Joey	S	MSS	RMR	RMR	MS	MR	–	R	MR	MSS	MRMS	MRMS	R	MS	Triticale

R = Resistant, MR = Moderately Resistant, MS = Moderately Susceptible, S = Susceptible, VS = Very Susceptible

, = mixed reaction ^ = some susceptible plants / = reaction to less common strains

† Black point is not a disease but a response to certain humid conditions
Tolerance levels are lower for durum receivals

Barley	Leaf rust*	Net form net blotch*	Spot form net blotch*	Scald*	CCN Resistance	Powdery mildew*	Eyespot	Covered smut	Common root rot	Root lesion nematodes		Black point
										P.neglectus	*P. thornei*	
Beast	MS-S	MR-S	MS	SVS	MR	MSS	–	R	S	MRMS	MRMS	MSS
Commander	MS-S	S-VS	MSS	MSS-SVS	R	MS	–	RMR	MSS	MRMS	MRMS	MSS
Commodus CL	MRMS-SVS	MR-MSS	MSS	MSS-SVS	R	MS	-	R	S	MRMS	S	MSS
Compass	SVS	MRMS-S	MS	MSS-SVS	R	MS	MS	R	MS	MRMS	MR	MSS
Cyclops	SVS-VS	MR-MS	MS-S	R-S	S	MSS	-	-	-	S	MRMS	MS
Fathom	MRMS-S	MSS-SVS	RMR	R-S	R	MRMS	MRMS	MR	MSS	MRMS	MR	MSS
Laperouse	MS-SVS	MR-MSS	MRMS	MSS-VS	S	MS	–	R	MSS	MR	MR	MSS
Leabrook	S-VS	MR-MS	MS	R-SVS	MR	MS	–	R	MS	MRMS	RMR	MSS
Maximus CL	MS-S	R-MS	MS	R-SVS	R	MS	–	MS	S	MRMS	MR	MSS
Minotaur	S-VS	R-MS	S	VS	R	S	-	-	-	MRMS	MR	MS
Oxford	MR-MS	MR-VS	S	MR-VS	S	RMR	MRMS	MRMS	MSS	MR	MR	MR
Planet	MRMS-MS	MR-SVS	SVS	R-S	R	R *mlo*	S	R	MSS	MRMS	MR	MRMS
Rosalind	MR-MS	R-MRMS	MSS	MR-S	R	MSS	MS	MRMS	S	MRMS	MR	MSS
Scope	MS-SVS	R-MR	MS-S	MRMS-SVS	S	RMR	MS	MS	MS	MRMS	MRMS	MS
Spartacus CL	MR-S	S-VS	S	R-SVS	R	MSS	MS	MS	MSS	MRMS	MRMS	MSS
Westminster	MR-MRMS	R-S	S	R-S	–	R *mlo*	–	MR	MSS	MRMS	MS	MRMS

R = Resistant, MR = Moderately Resistant, MS = Moderately Susceptible, S = Susceptible, VS = Very Susceptible

* These pathogens are very variable so a range of possible reactions may be observed.

mlo - This variety carries durable resistance to powdery mildew

Oats	Rust		CCN		Stem nematode		Bacterial	Red leather		Septoria	
	Stem *	Leaf *	Resistance	Tolerance	Resistance	Tolerance	blight	leaf	BYDV*	avenae	End use
Bannister	S	MSS	MR	I	MRMS	MT	S	MS-SVS	MS	MRMS	Grain
Bilby	S	MS	VS	–	S	MI	SVS	MR-S	S	S	Grain
Brusher	SVS	MS/MRMS/RMR	MR	MI	S	MT	S	MR-SVS	SVS	MSS	Hay
Durack	S	MR/S	MRMS^	MI-MT	S	MI	S	SVS	MSS	S	Grain/Hay
Forester	R-S	MR-MS	MS	MI	S	I	MS-S	MR	MR-S	S	Hay
Glider	MR-S	MS-S	MS	I	R	MT	R	MRMS	MR-S	MSS	Hay
Kingbale	S	MRMS	R	–	MR	MT	MSS	MRMS-S	MS	MSS	Hay
Koorabup	S	MSS	MRMS	–	S	I	S	MS-SVS	MS	MRMS-SVS	Hay
Kowari	S	S	S	–	S	I	MSS	MR-S	S	MRMS-S	Grain
Mitika	S	S	VS	I	S	MT	MSS	R-SVS	SVS	MR-S	Grain
Mulgara	S	MR/MS	R	MT	R	MT	MSS	MS-SVS	MSS	SVS	Hay
Tungoo	S	MR	R	MT	R	T	MR-MSS	RMR-MSS	MS	MR-S	Hay
Wallaroo	S	S	R	MT	MS	MI	S	MR-VS	MS	S	Hay
Williams	S	MRMS	VS	I	S	MT	MSS	MR-MS	MSS	MSS	Grain/Hay
Wombat	MS-SVS	SVS	R	T	MS	MT	MS-S	S	MR	MSS	Grain
Wintaroo	S	MRMS/S	R	MT	MR	MI	S	MR-S	MSS	MSS	Hay
Yallara	S	S	R	I	MS	MI	MS	VS	MSS	MSS	Grain/Hay

T = Tolerant, MT = Moderately Tolerant, MI = Moderately Intolerant, I = Intolerant, VI = Very Intolerant, – = Uncertain