

# Pulse Disease Guide 2024

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## 2023 in review

The 2023 season had variable severity for pulse diseases across Victoria. Early Ascochyta blight was observed in lentils which required fungicides to prevent yield losses. Severe disease occurred where lentils were grown in close rotations. Proactive disease management and below average spring rainfall meant that disease was of isolated concern across most of Victoria. Low levels of disease were still present in many paddocks, which will contribute to the carryover of disease into the 2024 season.

## 2024 pulse disease management

There is a risk of disease carryover into the 2024 season from infected seed and stubble of crops that had disease during 2023. To minimise the risk of disease during 2024, a proactive integrated disease management strategy will be required. This should include:

- avoiding susceptible varieties where possible
- avoiding planting pulse crops into or adjacent to paddocks where there was disease during 2023,
- sowing healthy vigorous seed,
- using fungicidal seed dressings where applicable,
- implementing a fungicide management plan.

Summer rainfall and the growth of weeds will increase the risk of soil-borne diseases including root lesion nematodes and Pythium. A PREDICTA<sup>®</sup>B test will identify paddocks at risk from some important soil-borne diseases of pulses.

There have been no major disease rating changes for most pulses for 2024.

**Beans:** Chocolate spot was observed at very low disease severity in Victoria during 2023. It is important to avoid susceptible varieties where Chocolate spot is common or a high risk. Minimising disease early in the season will reduce the inoculum load later in the season. Reliance on fungicides is not recommended and cannot provide adequate control in a susceptible variety in a high-risk season and/or environment.

**Chickpeas:** Disease was not of major importance during 2023 in chickpeas due to proactive management. Currently, there is limited varietal resistance to Ascochyta blight but breeding lines with improved resistance are expected in coming years. A moderately susceptible (MS) variety in an average season should require minimal fungicide applications in low rainfall zones. In the medium to high rainfall zones, it is likely multiple fungicide applications will be required to prevent Ascochyta blight.

**Lentils:** Ascochyta blight was severe early in the season causing seedling death or stem breakages, and fungicides were required to minimise yield losses. This occurred in paddocks where lentils were grown on a tight rotation, therefore, avoiding tight rotations will minimise disease risk. Sclerotinia white mould (SWM) was not observed during 2023, with conditions not conducive to the disease. However, it is important to monitor paddocks with a history of SWM as the sclerotia (fruiting bodies/survival structures) can survive many seasons. Botrytis grey mould (BGM) was observed at very low levels towards the end of the season, due to dry and mild Spring conditions.

**Vetch:** BGM and Ascochyta blight are the main causes of yield loss in vetch. BGM in Vetch is caused by the same pathogens that cause BGM in lentil and Chocolate spot in faba bean. Therefore, avoid growing vetch, lentil or faba bean in close rotations or in adjacent paddocks where disease was observed in 2023. The disease management strategy should be matched to the crop's end use (hay, fodder, grain, and manure).

**Field peas:** Bacterial blight is the most significant threat to field pea production. There are no in-crop control options, so where possible avoid susceptible varieties, paddocks prone to frost, residual herbicides, or planting into pea stubble.

**Lupins:** Minimal disease was observed in lupins in 2023. Avoid growing lupins in rotation with other pulses and canola to avoid SWM. Monitor crops for disease to ensure disease severity remains low.

**Seed quality:** The quality of seed and the potential for diseases infecting seed is often neglected. Disease (e.g., BGM and SWM) carryover may be through infected seed or sclerotia contamination in seed lots. Seed infection can not only carry the disease between seasons but reduce plant establishment. Testing seed for germination, vigour, and seed-borne diseases before sowing will ensure good plant establishment. Testing can be completed by specialist laboratories (see back page). Seed treatments are effective at suppressing many fungal diseases; however, seed treatments don't combine well with rhizobium used for inoculation. Read labels for compatibilities.

**If you see something different, or high levels of disease in any crop,** please send a sample to Agriculture Victoria. If you suspect an exotic pest or disease contact CropSafe or the Emergency Plant Pest Hotline (see back page).

## Bean Disease Reactions 2024

Variety	Ascochyta blight	Chocolate spot ( <i>Botrytis</i> )	Cercospora*	Rust*	Root lesion nematode ( <i>Pratylenchus</i> )*	
					<i>P. neglectus</i>	<i>P. thornei</i>
<b>Broad bean</b>						
Aquadulce*	MS	MS	S	MR	MR	MS
PBA Kareema*	MR	MS	S	MRMS	-	-
<b>Faba bean</b>						
Farah	MS	S	S	VS	MR	MS
PBA Amberley	MR	MRMS	S	VS	MR	MS
PBA Bendoc	MR	S	S	VS	MR	MS
PBA Marne	MS	MSp	S	MRMS	MR	MS
PBA Rana	MRMSp	MS	S	VS	RMRp	MRMS
PBA Samira	MRp	MS	S	S	MR	MS
PBA Zahra	MRMS	MS	S	S	MR	MS

## Chickpea Disease Reactions 2024

Variety	Ascochyta blight (foliar rating)	Root lesion nematode ( <i>Pratylenchus</i> )*	
		<i>P. neglectus</i>	<i>P. thornei</i>
<b>Desi</b>			
CBA Captain	S	MR	MS
PBA Maiden	S	MRMS	MRMS
PBA Slasher	S	MRMS	MRMS
PBA Striker	S	MRMS	MRMS
<b>Kabuli</b>			
Genesis 090	MS	MRMS	MSS
Genesis Kalkee	S	MRMS	MS
PBA Magnus	S	MR	MSS
PBA Monarch*	S	MRMS	MS
PBA Royal	MS	MR	MS

## Lentil Disease Reactions 2024

Variety	Ascochyta blight (foliar rating)	Botrytis grey mould	Root lesion nematode ( <i>Pratylenchus</i> )*	
			<i>P. neglectus</i>	<i>P. thornei</i>
<b>Conventional</b>				
PBA Ace	MR	MS	MR	MRMS
PBA Blitz*	MRMS	MSp	MR	MRMS
PBA Bolt	MRMS	S	MR	MR
PBA Jumbo 2	RMR	MRp	MR	MRMS
<b>Imidazolinone tolerant</b>				
ALB Terrier	MRp	MRMSp	-	-
GIA Leader	MRp	MRMSp	R	MR
GIA Lightning	MRMSp	MSp	R	MR
GIA Thunder	MRMSp	MRMSp	MR	R
PBA Hallmark XT	MRMS	MRMS	MR	MRMS
PBA Highland XT	MR	MS	MR	MRMS
PBA Hurricane XT	MRMSp	MS	MRMS	MRMS
PBA Kelpie XT	MRMS	MSp	MRMS	MRMS
<b>Dual herbicide tolerant</b>				
GIA Metro	MRp	MRMSp	MR	MRMS
GIA Sire	MRMSp	MSp	MR	MR

All data, except breeder data (#) and historic data (\*) comes from the NVT system. Data not in the current NVT system may be less accurate as these varieties are not screened annually.

\*Indicates historic data for a variety and/or disease that has not been updated in at least 12 months.

p = These ratings are provisional.

R = Resistant; RMR = Resistant to moderately resistant; MR = Moderately resistant; MRMS = Moderately resistant to moderately susceptible; MS = Moderately susceptible; MSS = Moderately susceptible to susceptible; S = Susceptible; SVS = Susceptible to very susceptible; VS = Very susceptible

## Field Pea Disease Reactions 2024

Variety	Blackspot* (Ascochyta)	Bacterial blight*	Downy mildew	Powdery mildew	Pea seed-borne mosaic virus (PSbMV)#*	Bean leaf roll virus (field rating) (BLRV)#*	Root lesion nematode ( <i>Pratylenchus</i> )*	
							<i>P. neglectus</i>	<i>P. thornei</i>
<b>Yellow/white grain type</b>								
PBA Hayman*	MS	-	-	R	-	-	-	-
PBA Pearl	MS	MS	S	S	S	R	MR	MRMS
Sturt	MS	MS	S	S	S	S	MR	MR
<b>Kaspa grain type</b>								
APB Bondi	-	-	RMR (S)	RMRp	-	-	-	-
GIA Kastar	MS	S	S	RMR	-	-	MR	MS
PBA Butler	MS	MS	S	S	S	S	RMR	MRMS
PBA Gunyah	MS	-	S	-	S	S	RMR	MRMS
PBA Taylor	MS	S	S	S	-	-	RMR	MRMS
PBA Twilight	MS	S	S	S	S	S	MR	MRMS
PBA Wharton	MS	S	S	RMR	R	R	MR	MRMS
<b>Australian dun grain type</b>								
GIA Ourstar	MS	Sp	S	S	-	-	MRMS	MSS
PBA Oura	MS	MS	S	S	S	R	MR	MRMS
PBA Percy	MS	MRMS	S	S	S	S	RMR	RMR
<b>Blue pea type</b>								
PBA Noosa	MS	S	MS	S	S	R	MR	MRMS

## Lupin Disease Reactions 2024

Variety	Brown leaf spot*	Pleiochaeta root rot*	Cucumber mosaic virus (CMV)(seed transmitted)*	Anthracnose	Phomopsis	
					Stem	Pod
<b>Albus lupin</b>						
Luxor*	MR	R	Immune	VS	MR	S
Murringo*	MR	MR	Immune	VS	MS	S
<b>Narrow leaf</b>						
Gidgee	-	-	-	RMR	MR	Sp
Rosemont	-	-	-	MRMS	MR	MRMSp
Coyote	MSp	-	MRMS	MRMS	S	MRMS
Jenabillup	MRMS	MRp	MRMS	MS	MS	MR
Jindalee	MS	MRMSp	S	MRMS	RMR	MR
Lawler	MSp	MRp	MRMS	MR	MR	MS
Mandelup	MS	MRMSp	MRMS	MRMS	MR	S
PBA Barlock	MS	MRMS	MR	RMR	MR	MR
PBA Bateman	MS	MRp	MR	MRMS	RMR	MS
PBA Gunyidi	MS	MRp	MRMS	MRMS	RMR	MRMS
PBA Jurien	MS	MR	MS	RMR	RMR	MRMS
Wonga	MS	MRp	MR	RMR	MR	MR

## Vetch Disease Reactions 2024#

Variety	Rust	Ascochyta	Botrytis grey mould
<b>Common vetch</b>			
Morava	R	MSp	VSp
Rasina	R	Sp	Sp
Studenica	R	MRp	Sp
Timok	R	Sp	Sp
Volga	R	MRMSp	Sp
<b>Purple vetch</b>			
Benetas	-	MRMSp	Sp
Popany	R	MRp	Sp
<b>Woolly pod vetches</b>			
Capello	R	MRp	Sp
RM4	R	MRp	Sp

Note: vetch is not included in the NVT, ascochyta and botrytis grey mould ratings are from Agriculture Victoria and the rust ratings are from the breeder.

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\*Indicates historic data for a variety and/or disease that has not been updated in at least 12 months.

p = These ratings are provisional. (S) means the results had a outlier and need further testing.

R = Resistant; RMR = Resistant to moderately resistant; MR = Moderately resistant; MRMS = Moderately resistant to moderately susceptible; MS = Moderately susceptible; MSS = Moderately susceptible to susceptible; S = Susceptible; SVS = Susceptible to very susceptible; VS = Very susceptible

## Crop protection products

There are often changes to permits for the use of fungicides in pulse crops. See the Australian Pesticides and Veterinary Medicines Authority website ([www.apvma.gov.au](http://www.apvma.gov.au)) for current information on crop protection products.

## Fungicide resistance

Resistance to fungicides is an increasing threat to crops. There are no new detections of fungicide resistance in pulses.

Five strategies can be adopted to slow the development of resistance in pathogen populations and extend the longevity of the limited range of fungicides available:

1. Avoid susceptible crop varieties.
2. Rotate crops.
3. Use non-chemical methods to reduce disease pressure.
4. Spray only if necessary and apply strategically.
5. Rotate and mix fungicides / modes of action.

For more information visit: [afren.com.au](http://afren.com.au)

### Rhizobium test

The PREDICTA® rNod test can measure Group E and F rhizobia and predict if growers need to inoculate field pea, faba bean, lentil and vetch crops. More information can be obtained by contacting Russell Burns at SARDI, [Russell.Burns@sa.gov.au](mailto:Russell.Burns@sa.gov.au)

**Blackspot manager** is a tool to predict the risk of blackspot infection in field peas. To subscribe to this free service, text 'blackspot', your name and nearest weather station to 0475 959 932 or email [Blackspot.Manager@agric.wa.gov.au](mailto:Blackspot.Manager@agric.wa.gov.au).

### Pulse pathology (Agriculture Victoria)

[croppathology.horsham@agriculture.vic.gov.au](mailto:croppathology.horsham@agriculture.vic.gov.au)  
[joshua.fanning@agriculture.vic.gov.au](mailto:joshua.fanning@agriculture.vic.gov.au)

Private Bag 260 Horsham, Vic 3401

### Seed testing laboratories

Crop Health Services, Agriculture Victoria, Tel. (03) 9032 7515  
[CHS.reception@agriculture.vic.gov.au](mailto:CHS.reception@agriculture.vic.gov.au)

### CropSafe

[Crop.safe@agriculture.vic.gov.au](mailto:Crop.safe@agriculture.vic.gov.au)

Ph: 03 5450 8301

Private Bag 260 Horsham, Vic 3401

**Exotic plant pest hotline:** 1800 084 881

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**Contact/Services available from DEECA** Field Crops Pathology, Grains Innovation Park, 110 Natimuk Rd, Horsham 3400. Tel 03 5450 8301, or the DEECA Customer Service Centre 136 186

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### Further Information

Detailed information on each of the pulse diseases can be obtained from:

[Agriculture Victoria AgNotes](http://Agriculture Victoria AgNotes)

[Field Crop Disease Victoria \(extensionAUS.com.au\)](http://Field Crop Disease Victoria (extensionAUS.com.au))

[Pulse Australia](http://Pulse Australia)

[Victorian Crop Sowing Guide](http://Victorian Crop Sowing Guide)

[Australian Fungicide Resistance Extension Network](http://Australian Fungicide Resistance Extension Network)

[www.grdc.com.au/ManagingFrostRisk](http://www.grdc.com.au/ManagingFrostRisk)

### Interpreting Resistance Classifications

Below is an explanation of the resistance ratings used in this guide for foliar diseases, and how they should be interpreted.

- R** Resistant - No symptoms visible. No fungicides are required.
- RMR** Resistant to Moderately Resistant - The disease may be visible but will not cause significant plant damage or loss. However, under extreme disease pressure or highly favourable environments conditions fungicide applications may be required e.g. to prevent seed staining.
- MR** Moderately Resistant - The disease may be visible but will not cause significant plant damage or loss. However, under high disease pressure or highly favourable environments conditions fungicide applications may be required e.g. to prevent seed staining.
- MRMS** Moderately Resistant to Moderately Susceptible - The disease symptoms are moderate and may cause some yield and/or seed quality losses in conducive conditions. Fungicide applications, if applicable, may be required to prevent yield loss and seed staining.
- MS** Moderately Susceptible - Disease symptoms are moderate to severe and will cause significant yield and seed quality loss in the absence of fungicides in conducive seasons, but not complete crop loss.
- S** Susceptible - The disease is severe and will cause significant yield and seed quality loss, including complete crop loss in the absence of fungicides, in conducive conditions.
- VS** Very Susceptible - Growing this variety in areas where a disease is likely to be present is very high risk. Significant yield and seed quality losses, including complete crop loss can be expected without control and the increase in inoculum may create problems for other growers.

Below is an explanation of the resistance ratings used in this guide for **nematodes**, and how they should be interpreted.

- R** Resistant, nematode numbers will decrease when this variety is grown.
- MR** Moderately Resistant, nematode numbers will slightly decrease when this variety is grown.
- MS** Moderately Susceptible, nematode numbers will slightly increase when this variety is grown.
- S** Susceptible, nematode numbers will increase greatly in the presence of this variety.
- VS** Very Susceptible, a large increase in nematode numbers can occur when this variety is grown and this will cause problems to a following intolerant crop.

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