

Managing root-lesion nematode (*Pratylenchus thornei*) in the Northern Grains Region

The Bottom Line

Growing tolerant and resistant wheat varieties will minimise yield loss and maximise profits

Where *Pratylenchus thornei* is an issue, growers must avoid intolerant and susceptible varieties

Importance of *Pt*

The root-lesion nematode *Pratylenchus thornei* (*Pt*) is one of the major wheat diseases in the northern grains region. *Pt* is of high importance due to:

- **Widespread distribution:** commonly found in ~75% of cropping paddocks
- **Frequently at damaging levels:** ~50% of paddocks have peak populations greater than the damage threshold (2 *Pt*/g soil)
- **Large yield impacts:** yield losses of 50% or more are common when an intolerant variety is grown under high *Pt* pressure

Management of *Pt*

Currently the key tools for managing *Pt* are **crop rotation** and **varietal choice**. Wheat variety choice is critical for both yield performance in the year the crop is grown but is also important in the longer term management of *Pt* populations. Growing resistant crops like canola, cotton, maize, millet, sorghum or sunflower in rotation with wheat will help keep populations below damaging levels.

Are the differences in resistance important?

Field trials have frequently shown that more susceptible varieties leave up to 5 times higher *Pt* populations than more resistant options. Reducing *Pt* populations can be difficult and slow, therefore it is vital to avoid growing susceptible varieties where *Pt* is an issue.

What should I do?

Use the **Tolerance** column in Table 1 to select varieties that will **yield well** in *Pt* situations (highlighted green).

The varieties are ranked from the most tolerant to the least tolerant.

Then, use the **Resistance** column to select varieties that will **minimise the increase** of *Pt* populations (highlighted green).

Table 1. Tolerance and resistance ratings of wheat cultivars to the root-lesion nematode *Pratylenchus thornei*.

Low risk Medium risk High risk

Genotype	<i>Pratylenchus thornei</i> Rating	
	Tolerance	Resistance*
Lancer	T-MT	MS
EGA Wylie	T-MT	MS
Suntop	MT	MR
Sunguard	MT	MS
Gauntlet	MT	MR
EGA Gregory	MT	MS
Sunvale	MT-MI	MS
EGA Bounty	MT-MI	S
Baxter	MT-MI	MS
Sunzell	MT-MI	MS
Hyperno**	MT-MI	R-MR
Merinda	MT-MI	MS
Spitfire	MT-MI	MS
Ventura	MT-MI	MS
Livingston	MT-MI	MS
Caparoi**	MI	MR
Kennedy	MI	S
EGA Bellaroi**	MI	MR-MS
Dart	MI	MS-S
Jandaroi**	MI-I	MR-MS
Crusader	I	S
Elmore CL Plus	I	S
Sunvex	I	S
Gazelle	I	S
Janz	I-VI	S
Clearfield Janz		S
Sunco	I-VI	S
Impala	I-VI	S-VS
Strzelecki	I-VI	S-VS
Ellison	I-VI	S
Lincoln	VI	S-VS

* Classifications have been updated during April 2014 and are agreed ratings based on DAFF, NSW DPI, NVT and NGA generated data and may vary from ratings listed in wheat variety guides.

** Durum cultivar

Tolerance Ratings		Resistance Ratings	
T	Tolerant	R	Resistant
MT	Moderately tolerant	MR	Moderately resistant
MI	Moderately intolerant	MS	Moderately susceptible
I	Intolerant	S	Susceptible
VI	Very intolerant	VS	Very susceptible