

Crops(s) **Pasture/Winter crops**

Pest (s) **Redlegged earth mite (RLEM) (*Halotydeus destructor*)**

Guidelines:

1. **Rotate** insecticide Groups.
2. **Do not** apply consecutive sprays of products from any one insecticide Group.

Crop stage	Group*	Chemical sub-group	Example chemical
Seed treatment (or in-furrow)	4A	neonicotinoids or	imidacloprid
	1B	organophosphates or	chlorpyrifos
	2B	phenylpyrazoles	fipronil
Bare Earth (Pre-emergent)	1B	organophosphates or	omethoate
	3A	synthetic pyrethroids	bifenthrin
Early Season (Autumn when limited green growth)	1B	organophosphates or	chlorpyrifos
	3A	synthetic pyrethroids or	alpha-cypermethrin
	12A	mitochondrial ATP synthase inhibitors	diafenthiuron (Canola only)
Spring	1B	organophosphates or	omethoate
	3A	synthetic pyrethroids	gamma-cyhalothrin
	12A	diafenthiuron	diafenthiuron

*Refer: CropLife Australia Expert Committee on Insecticide Resistance Mode of Action Classification for Insecticides

3. If both autumn and spring applications are needed, alternate chemical groups.
4. Timing of sprays:
 - a) Monitor RLEM activity carefully and only treat if damage has reached threshold levels. Hatch timing tool can be used to determine season risk.¹
 - b) One well timed spray in Autumn or Spring will maximise effectiveness of treatment. Optimal timing of Spring sprays can be calculated using the TIMERITE tool.²

Please note:

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5. Placement of sprays:

- a) Apply perimeter sprays where infestations are concentrated on the edge of the fields.
- b) Use blanket sprays where appropriate. However, with pyrethroid products, recent research has shown that the risk of pyrethroid resistance can be minimised through the application of foliar pyrethroids in a 50 m strip with 10 m spacing.³

6. Cultural practices:

- a. Heavy grazing or cutting for hay or cultivation will reduce mite numbers.
- b. Control alternative hosts such as Capeweed and Paterson's curse.
- c. Develop damage thresholds.
- d. Rotate crop and pastures that are more tolerant to the pest.
- e. Encourage predator survival by judicious use of insecticides.

For more detail on resistance management for RLEM in grain crops and pastures, refer to:
<https://grdc.com.au/resources-and-publications/all-publications/publications/2020/redlegged-earth-mite-best-management-practice-guide-southern>

Notes regarding the application of insecticides:

1. To ensure the most effective control of the pest:
 - a) Product labels should at all times be carefully read and adhered to;
 - b) Full recommended rates of registered insecticides should always be used; and
 - c) Ensure good coverage of the target area to maximise contact.

References

¹ Hatch timing tool developed by Cesar to aid with early season monitoring and predict RLEM risk at crop establishment <https://cesaraustralia.com/pestfacts/new-redlegged-earth-mite-hatch-timing-tool/>

² TIMERITE tool [TimeRite \(wool.com\)](https://www.wool.com/time-rite)

³ [Strip spraying delays pyrethroid resistance in the redlegged earth mite, Halotydeus destructor: a novel refuge strategy - Maino - 2021 - Pest Management Science - Wiley Online Library](#)

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