Crop(s)	**Pasture/Winter crops**
Insect(s)	**Redlegged earth mite (RLEM) (*Halotydeus destructor*)**

Guidelines

1. Determine the risk of RLEM for each paddock before making management decisions.[1]
2. **Rotate** insecticide Groups.
3. **Do not** apply consecutive sprays of products from any one insecticide Group.
4. **Avoid** prophylactic pre-emergence/bare-earth sprays in autumn.

Crop stage	Group*	Chemical subgroup	Example chemical
Seed treatment (or in-furrow)	4A 1B 2B 30	neonicotinoids or organophosphates or phenylpyrazoles or isoxazolines	imidacloprid chlorpyrifos fipronil or isocycloseram (canola only)
Bare Earth (Pre-emergent)	1B 3A	organophosphates or synthetic pyrethroids	omethoate bifenthrin
Early post-emergence	1B 3A 12A	organophosphates or synthetic pyrethroids or diafenthiuron	chlorpyrifos alpha-cypermethrin diafenthiuron (Canola only)
Spring	1B 3A 12A	organophosphates or synthetic pyrethroids or diafenthiuron	omethoate gamma-cyhalothrin diafenthiuron (Canola only)

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

Further detailed information about registered products and chemical windowing strategies for RLEM is available at: https://ipmguidelinesforgrains.com.au/important/uploads/Science-behind-the-RLEM-IRMS-in-Australian-grains-and-pastures_October-2024.pdf

Monitoring and timing of sprays:

- Monitor RLEM activity carefully, particularly in the first 3-5 weeks after sowing.
- Only apply chemical if damage has reached economic threshold levels and/or the risk of RLEM is elevated.
- Use the hatch timing tool to estimate RLEM hatching in autumn.[2]
- Optimal timing of spring sprays can be calculated using the TIMERITE® tool.[3] Follow the recommended best spray date and ensure RLEM is the dominant mite species.

Continued on next page.

Placement of sprays:

- Apply perimeter sprays where infestations are concentrated on the edge of paddocks.
- Spray the entire paddock when RLEM numbers exceed thresholds or risk is elevated. However, with pyrethroid products, recent research has shown that the risk of **Group 3A** resistance can be minimised through the application of foliar pyrethroids in a 50 m strip with 10 m spacing.[4]

Cultural practices:

- Decrease pasture foliage through grazing or cutting hay/silage to reduce RLEM numbers.
- Keep paddocks and fence-lines free of host weeds, such as capeweed.
- Sow crops and pastures that are more tolerant to RLEM, such as chickpeas.
- Encourage predator survival by judicious use of insecticides.
- Burn stubble prior to sowing to directly kill RLEM and its eggs.

Notes regarding the application of insecticides:

- There is known RLEM resistance to **Group 3A** and **Group 1B** insecticides in Western Australia, South Australia, and Victoria. Resistance is expected to expand across these regions.
- To ensure the most effective control of RLEM, follow the recommendations in the RLEM Best Management Practice Guide Revised November 2024 https://ipmguidelinesforgrains.com.au/important/uploads/Redlegged-Earth-Mite-GRDC-24111322.pdfredlegged-earth-mite-grdc-20250130.pdf
    - Product labels should at all times be carefully read and adhered to;
    - Full recommended rates of registered insecticides should always be used; and
    - Ensure good coverage of the target area to maximise contact.

References

[1.] The online RLEM seasonal risk tool developed by Cesar Australia considers multiple risks and management tactics https://cesaraustralia.shinyapps.io/rlemseasonalrisk/

[2.] The Hatch timing tool developed by Cesar Australia to aids early season monitoring and prediction of RLEM risk at crop establishment https://cesaraustralia.shinyapps.io/RLEM-hatch/

[3] TIMERITE® predicts the best spray window and ideal spray date in spring to control RLEM https://www.wool.com/timerite/

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