

## Million-dollar mite eradicated via selective spray dates

September 23 2015, by Jo Fulwood, Sciencenetwork Wa

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The red-legged earth mites (*Halotydeus destructor*).

As tiny as a pinhead, red-legged earth mites (*Halotydeus destructor*) might be small, but they are costing Australian farmers up to \$200 million in lost production every year.

While [farmers](#) have long known the damage these miniscule creatures can do to an emerging pasture or broadacre crop, scientists now believe

the most effective way to control them in the previous spring.

According to CSIRO honorary fellow James Ridsdill-Smith, chemicals do not control mite eggs, and there is just a small window in the spring when all the [mites](#) are the susceptible active stage, making them vulnerable to pesticides.

"If populations are high the previous year, then massive numbers can emerge from the over summering diapause stage, regardless of what the crop is," he says.

"Pastures are a favorable habitat for mites, so where farmers have gone from a pasture to a canola or cereal crop, the mites can completely destroy emerging seedlings, and re-seeding is an enormous cost."

He says during the summer all the mites are in the eggs stage and can not be controlled using pesticides.

"During the winter, half the population is active and half are eggs" he says.

"There is one short period of a few weeks when all the population are in the active stage and can be killed with chemicals."

## **Prediction model based on daylight length**

Dr Ridsdill-Smith and CSIRO scientist Celia Pavri developed a model for southern Australia that predicts this small spring window, and it is based on the length of daylight. It varies by several weeks between locations.

[TIMERITE](#) allows farmers to find their optimum spray date, by putting their location (longitude and latitude) into the website which will give

them the most effective control for these mites.

"This tool allows farmers to spray for the mite pre-emptively providing benefits eight months later," Dr Ridsdill-Smith says.

Trials on more than 40 farms across southern Australia, including 20 in Western Australia such as in Cunderdin, Corrigin, Kojonup, Bindi, and Eneabba, gave 93-97 per cent [control](#) of mites for the following autumn, using a typical pesticide.

Dr Ridsdill-Smith says farmers are reaping upwards of \$50 per hectare by using the TIMERITE® tool.

"An independent assessment of this research shows the program is saving farmers \$37 million every year," he says.

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Provided by Science Network WA

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