

Welcome to *wheatcurlmite.org*

A new website has been created as an online wheat streak mosaic virus and wheat curl mite portal primarily for use by grain growers, agronomists and scientists. It will be a central repository for recording WSMV outbreaks, field observations, field trials and current research.

CESAR, in conjunction with GRDC, have been conducting research on wheat curl mite in Australia and its association with wheat streak mosaic virus since 2004. Over the next three years the *wheatcurlmite.org* website will evolve as disease outbreaks occur and new research findings are published.

The wheat curl mite is an eriophyoid mite (*Aceria tosichella* Keifer) that typically colonises the youngest tissue of wheat plants. WCM alone will generally not cause damage to wheat plants, although when population sizes become extremely large, WCM presence can be identified by a longitudinal rolling or curling of the leaf, a characteristic trait for which they derive their name. WCM are tiny (approximately 0.2 mm in length), wingless, and known to be the vector of WSMV.

WSMV has the potential to cause millions of dollars of damage annually to the wheat industry. Up until recently, Australia had not felt the effects of WSMV, and it was only in 2003 that isolated cases of WSMV in eastern Australia were officially recorded.

Subsequent to this, massive outbreaks (affecting at least 5000 hectares of wheat with many crops sustaining 100 per cent losses) in the NSW high rainfall region were reported in 2005, and 2006 had reports of WSMV in WA (which was initially thought to be WSMV free). It is now evident that the entire Australian wheat belt is at risk of WSMV outbreaks.

This website aims to be very interactive so as to provide as much relevant information as possible. This will be best achieved by input from grain growers. Please feel free to contact us via email with any related observations or queries.

**For more information, visit the GRDC supported website www.wheatcurlmite.org or E: emilyct@unimelb.edu.au
Contact: Geoff Strickland, Mob: 0404 819 611**

'MITEY' BIG PROBLEM

With no effective miticides or wheat streak mosaic virus (WSMV) resistant wheat varieties available, hygiene measures, such as controlling volunteer cereals or grasses during summer and completely removing them two weeks before sowing, is recommended.

Less than 0.2 mm long, *Aceria tosichella*, or wheat curl mite, transmits WSMV.

It is active after surviving summer on host plants if there is sufficient autumn rain to establish a 'green bridge' of grasses and volunteer cereals, enabling transfer of WSMV to adjacent crops.

The mite can't live long without suitable green plant material, so regions with 100 mm or more rainfall in January to March are at the greatest risk of an outbreak.

GRDC supported DAFWA entomologist, Geoff Strickland said it typically colonises the youngest tissue of wheat plants, causing longitudinal rolling of leaves with high mite populations.

WSMV symptoms include light green-yellow, discontinuous streaks and dashes parallel to veins.

"Unfortunately, symptoms are easily confused with nutritional disorders, environmental effects and chemical damage," Geoff said.



When wheat curl mite populations are large – such as this 2007 outbreak near Koorda in WA – leaf curling and rolling is a classic indication of their presence.