

# Researchers find broccoli and cabbage by-product are safe pest control for spider mites

January 22 2014, by Jeff Renaud

---

An international research team, led by Western University, has discovered that a naturally occurring plant by-product, which is not harmful to humans, can be utilized as pest control against spider mites – one of the world's most cosmopolitan (and aggressive) agricultural pests.

In a paper recently published by *Plant Physiology*, Vojislava Grbić, Miodrag Grbić and Vladimir Zhurov from Western's Faculty of Science and their collaborators successfully demonstrated for the first-time ever how plant and spider mite genomes interact. The findings are the latest from the team that sequenced the genome of the two-spotted spider mite, *Tetranychus urticae*, in 2011.

Feeding on more than 1,000 different [plants](#) – including 150 of agricultural importance, such as maize, soy, strawberries, tomatoes, cucumbers and peppers – the spider mite causes global damage that approaches \$1 billion annually. Insects and mites currently destroy 13 per cent of all potential crops.

Natural by-products, known as indole glucosinolates, are present in *Arabidopsis thaliana*, which is a small flowering plant from the Brassicaceae family native to Europe and Asia that was used in the study. The molecules are also found in members of the Brassicaceae family, like cabbage and broccoli.

Vojislava Grbić notes that these molecules are not toxic for humans and in some cases, have proved to possess anticancerogenic properties.

"The discovery that indole glucosinolates are toxic to [spider mites](#) holds incredible potential for developing alternative pest control strategies against this pest that are environmentally safe and consumer-friendly, proving a great substitute for chemical pesticide-based [pest control](#)," explains Grbić.

**More information:** Read the full paper:  
[www.plantphysiol.org/content/e ... 231555.full.pdf+html](http://www.plantphysiol.org/content/e...231555.full.pdf+html)

Provided by University of Western Ontario

Citation: Researchers find broccoli and cabbage by-product are safe pest control for spider mites (2014, January 22) retrieved 11 May 2024 from <https://phys.org/news/2014-01-broccoli-cabbage-by-product-safe-pest.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.