Environmental Engineering and Management Journal

April 2024, Vol. 23, No. 4, 729-734
http://www.eemj.icpm.tuiasi.ro/; http://www.eemj.eu
http://doi.org/10.30638/eemj.2024.056

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BIO-TEXTILES AGAINST ARTHROPOD PESTS: A REVIEW

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Abstract

The use of biodegradable textiles is driven by respect for nature, which should be enhanced by utilizing purely natural products. The aim of the present study is to review, with the help of existing literature, our knowledge of plant-based anti-arthropod parasitic textiles and natural anti-arthropod parasitic textile treatments. The results show that natural textiles studied to date are susceptible to attack by parasitic arthropods, and natural anti-arthropod parasitic textiles are treated with anti-arthropod chemicals. These chemicals include pyrethroids such as deltamethrin, permethrin, alphacypermethrin, and bifenthrin, which are organohalogen products. In some cases, piperonyl butoxide (PBO) is added as a synergist. Textiles treated with these anti-parasite chemicals are available on the market. However, little is known about natural textiles that are inherently anti-arthropod or treated with natural products. Today, in the interest of nature conservation, there is a global focus on natural textiles treated with purely natural products. Several natural anti-arthropod parasitic substances have been proposed, including neem oil, garlic extract, eucalyptus extract, lemongrass extract, aloe vera gel, and *Sida rhombifolia* fiber, but they have not yet been tested in textiles.

Key words: arthropod parasite, attack, biotextile, pyrethroids, plant-based repellents

Received: September, 2023; Revised final: January, 2024; Accepted: February, 2024; Published in final edited form: April, 2024

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