

Kaolin effectively controls whitefly in beans

January 5 2016

In Colombia, bean crops contribute significantly to the region's agriculture. Because these important crops are vulnerable to pests and diseases, growers often need to rely on chemicals to protect valuable crops. New research on the use of kaolin (aluminosilicate clay) contains information that can help bean producers limit the use of conventional pesticides and develop new strategies for integrated pest management.

The authors of the study in *HortScience* said previous experiments in temperate regions have shown that kaolin foliar sprays have insecticidal attributes. "However, this type of research in tropical areas, specifically in Andean regions, is virtually nonexistent," they noted. The researchers from Universidad Nacional de Colombia studied the greenhouse whitefly *Trialeurodes vaporariorum* (Westwood), one of the most prevalent pests in the [region's](#) bean [crops](#). The study design consisted of three experiments using four treatments: no insecticide (control), synthetic chemical insecticides, foliar applications of kaolin at 2.5%, and foliar applications of kaolin at 5% (weight/volume).

Foliar applications of kaolin at both doses controlled $\approx 80\%$ of the population of whitefly in different stages (eggs, nymphs, and adults) in all three experiments. Analyses showed that the percentage of efficacy of the two doses of kaolin was similar to that obtained in bean plants treated with synthetic chemical insecticides (90%).

The study also showed kaolin doses at 5% produced positive effects on the bean plant physiology, causing a 40% reduction in transpiration and an increase of 43% in leaf chlorophyll content compared with untreated

plants.

"We can suggest that the use of kaolin can be considered as an alternative to control whitefly, *T. vaporariorum*, without any negative effect on seed yield," the authors said. They added that kaolin may also help the plant physiology, especially under conditions of abiotic stress such as drought.

More information: ASHS *HortScience*: hortsci.ashspublications.org/c.../50/10/1503.abstract

Provided by American Society for Horticultural Science

Citation: Kaolin effectively controls whitefly in beans (2016, January 5) retrieved 24 April 2024 from <https://phys.org/news/2016-01-kaolin-effectively-whitefly-beans.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.