

BioWorks Research & Development, Dr. Eric Clifton, Victor, New York

BioWorks Products Included in Trial

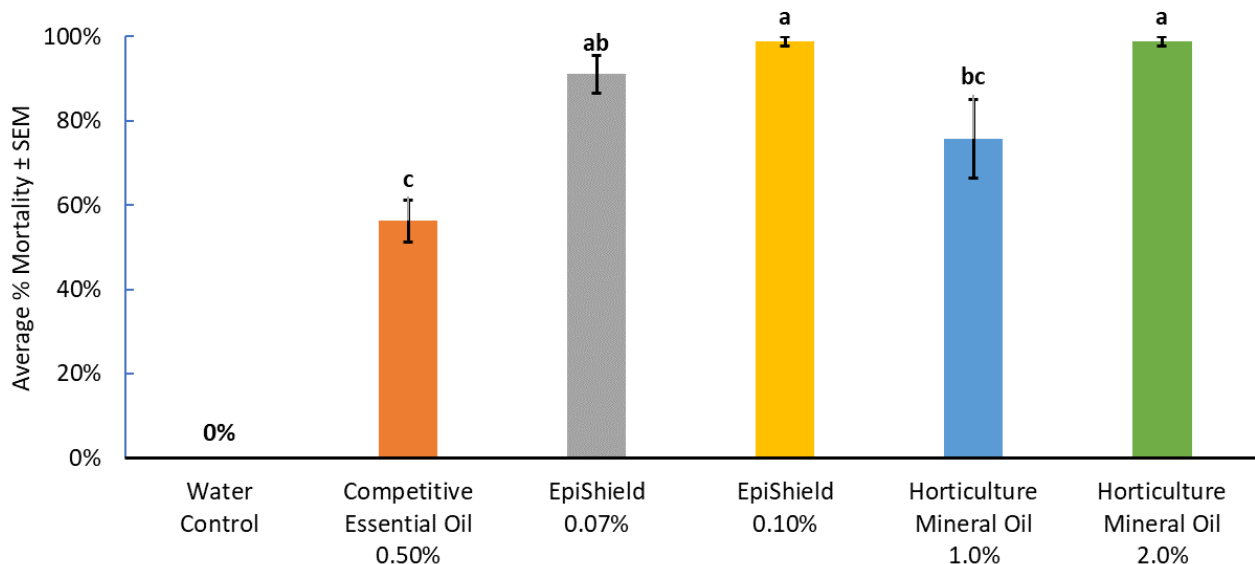
EpiShield™

Summary:

EpiShield controlled twospotted spider mites on greenhouse grown lima beans.

Treatment	Rate
Untreated Check	-
Competitive Essential Oil	0.5% V/V
EpiShield	0.07% V/V
EpiShield	0.1% V/V
Horticulture Mineral Oil	1% V/V
Horticulture Mineral Oil	2% V/V

Method Summary	
Crop	Lima beans
Variety	Fordhook 242
Location	Victor, New York - Greenhouse
Pest	Twospotted spider mites (<i>T. urticae</i>)
Trial Design	Completely randomized
Application Date	5/10/2023
Application Method	Foliar Spray



Average percent mortality of twospotted spider mites. A single application was made, data recorded two days after treatment. Means followed by the same letter do not significantly differ. Error bars indicate standard error of the means (SEM) and demonstrates data precision.

Result Summary

- Horticulture Mineral Oil (80% mineral oil) and EpiShield (15% peppermint oil, 10% clove oil & 3% sodium lauryl sulfate) significantly reduced twospotted spider mites after a single application.
- Horticulture Mineral Oil at 1% caused a 76% reduction of twospotted spider mites.
- Horticulture Mineral Oil at 2% caused a 99% reduction of twospotted spider mites.
- EpiShield at 0.07% caused a 91% reduction of twospotted spider mites.
- EpiShield at 0.1% caused a 99% reduction of twospotted spider mites.
- A competitive essential oil product containing castor oil, rosemary oil, clove oil & peppermint oil was included as a standard and caused a 56% reduction of twospotted spider mites.
- No phytotoxicity was observed in any treatment during the study.
- EpiShield provided >90% mortality of twospotted spider mites with 10x-28x lower rates compared to the Horticulture Mineral Oil.

Recommendations from Data

- Apply EpiShield at 0.07-0.1% (9-12 fl oz/100 gallons) for control of twospotted spider mites.
- Apply EpiShield as a fine spray to full coverage but not the point of run off.
- EpiShield and Horticulture Mineral Oils can be used in an integrated program to control twospotted spider mites as well as other damaging arthropods.