

Swift Greenhouse, Gilman Iowa

BioWorks Products Included in Trial

EpiShield™

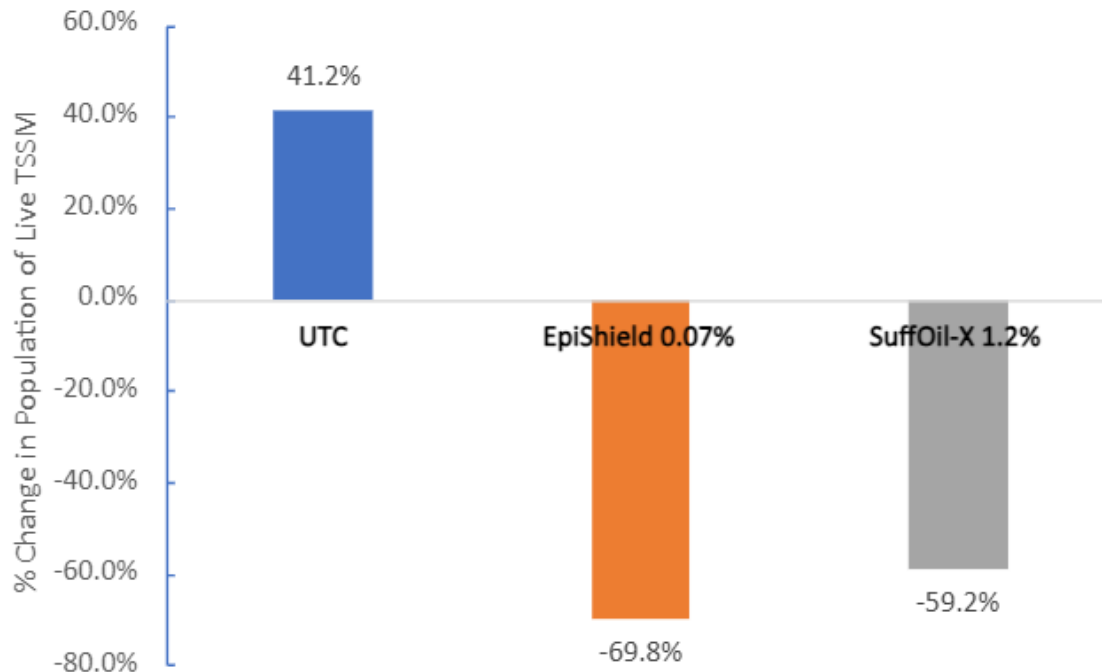
SuffOil-X®

Summary:

EpiShield and SuffOil-X controlled twospotted spider mites on greenhouse grown *Aegopodium*.

Treatment	Rate
Untreated Check	-
EpiShield	0.07% V/V
SuffOil-X	1.2% V/V

Method Summary	
Crop	<i>Aegopodium</i> 'Variegatum' Snow of the Mountain
Location	Swift Greenhouse, Gilman IA
Pest	Twospotted spider mites (<i>Tetranychus urticae</i>)
Trial Design	Completely randomized
Application Date	9/28/2023 at 4:00 pm
Application Method	Foliar Spray (see application details below)



Percent change in population of live twospotted spider mites. The untreated control grew in population by 41.2%. EpiShield and SuffOil-X populations decreased by 69.8 and 59.2 % respectively after a single application. The greenhouse temperature was 74 °F with 55% relative humidity.

Result Summary

- SuffOil-X (80% mineral oil) and EpiShield (15% peppermint oil, 10% clove oil & 3% sodium lauryl sulfate) significantly reduced twospotted spider mites after a single application.
- EpiShield at 9 fl oz/100 gallons (0.07%) resulted in a 69.8% reduction of twospotted spider mites after a single application.
- SuffOil-X at 1.2% resulted in a 59.2% reduction of twospotted spider mites after a single application.
- *Neoseiulus californicus* was present before and after the EpiShield application, indicating that *N. californicus* may have some tolerance to EpiShield.
- No phytotoxicity was observed on *Aegopodium* during the study.
- EpiShield was applied to the entire 14,400 ft² greenhouse at 9 fl oz/100 gallons. Many perennial species were treated with no crop tolerance issues on foliage or flower.

Grower Feedback

After the trial, the grower continued to apply EpiShield to this greenhouse as well as other greenhouses on site. Here is what the grower had to say:

- 1.No phytotoxicity issues were noticed.
- 2.There was a slight uptick in thrips numbers the day after the spray. I anticipated this happening since a lot of botanicals are irritants. The per-day average is down from the previous week's count, and I am not seeing the same increase that I saw the day after.
- 3.Shore fly and fungus gnat numbers are very obviously lower.
- 4.There were no complaints about odor.
- 5.Spear-T was added at 2% with no compatibility issues.
- 6.There was some foam in the tank, but nothing that would deter me from using the product.

Recommendations from Data

- Apply EpiShield at 0.07% (9 fl oz/100 gallons) for control of twospotted spider mites.
- Apply SuffOil-X at 1% (1 gallon/100 gallons) for control of twospotted spider mites.
- Apply EpiShield & SuffOil-X as a fine spray to full coverage but not the point of run off.
- EpiShield and SuffOil-X can be used in rotation to control twospotted spider mites as well as other damaging arthropods.