

Cornell University, New York, Dr. John Sanderson

BioWorks Products Included in Trial

Molt-X®

NemaShield®

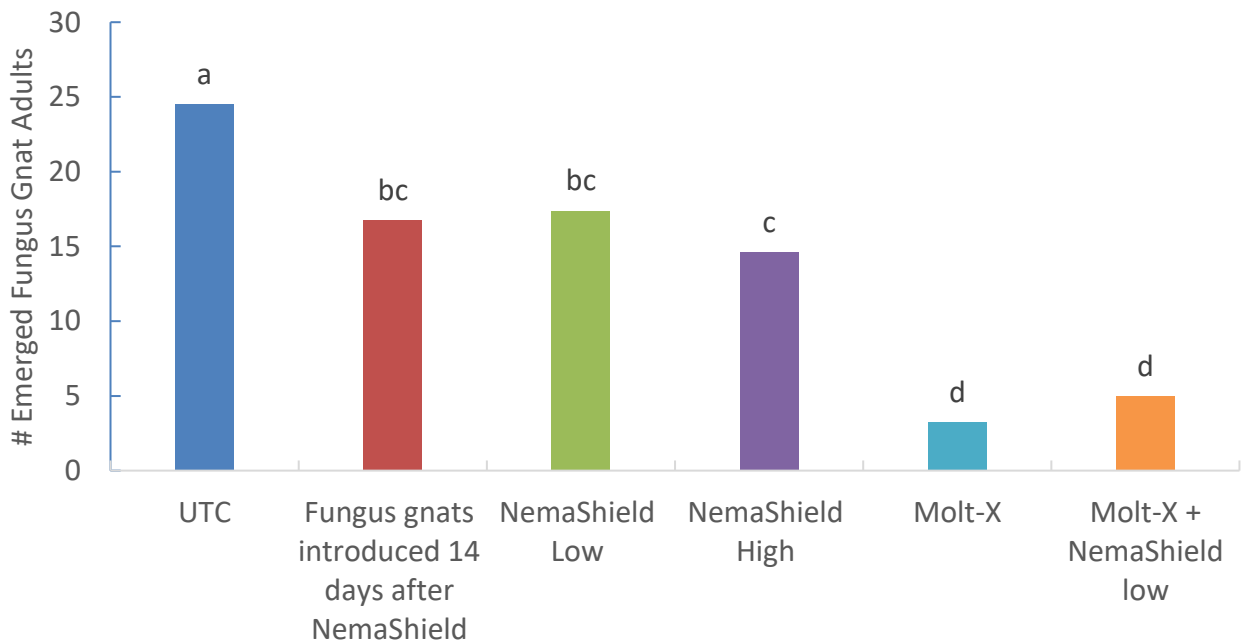
Summary:

Molt-X (3% azadirachtin) and NemaShield (*Steinernema feltiae*) significantly reduced adult fungus gnat emergence in a laboratory-based container study.

Treatment	Rate
Untreated Check	-
NemaShield® High; *14 DAT	100 million/2,200 ft ²
NemaShield® High; *1DAT	100 million/2,200 ft ²
NemaShield® Low; *1DAT	100 million/3,400 ft ²
Molt-X®; 1DAT	8 fl oz/100 gallons
Molt-X® + NemaShield Low; *1DAT	8 fl oz/100 gallons + 100 million/3,400 ft ²

Method Summary	
Crop	Peat-based media with ground pinto beans
Location	Cornell University, New York
Pest	Fungus gnat maggots
Trial Design	Completely randomized
Application Date	1/25/2022
Application Method	Drench

*Thirty late-instar fungus gnat maggots were added to each container either one day after nematode treatment (DAT), or 14 DAT.



The average number of emerged fungus gnat adults after a single treatment application was made. Means followed by the same letter do not significantly differ.

Result Summary

- A single application of Molt-X and/or NemaShield significantly reduced fungus gnat emergence when compared to the control.
- Molt-X caused an 87% reduction of fungus gnat maggots after a single application.
- Molt-X tank mixed with the low rate of NemaShield caused 83% reduction after a single application.
- NemaShield at the low rate (100 million/3,400 ft²) caused a 29% reduction after a single application.
- NemaShield at the high rate (100 million/2,200 ft²) caused a 40% reduction after a single application.
- When fungus gnats were introduced 14 days after NemaShield, nematodes caused a 32% reduction suggesting that under ideal circumstances, nematodes can live for several weeks and remain effective.

Recommendations from Data

- Apply Molt-X at 8 fl oz /100 gallons for control of fungus gnat maggots.
- Apply NemaShield at 100 million nematodes per 2,200-3,400 ft² for management of fungus gnats.
- Regular applications of Molt-X and/or NemaShield are recommended to manage insect populations.
- Apply Molt-X and NemaShield as a drench to fully wet the soil but not to the point of leaching.
- Compatible wetting agents can be tank-mixed to improve nematode movement in the soil.
- Molt-X and NemaShield can be used in an integrated program to control fungus gnats as well as other damaging insects.