

FUNGUS GNATS & SHORE FLIES *Control Strategies*

Importance: Fungus Gnats (*Bradysia* sp) and Shore Flies (Family *Ephidridae*-200 sp) are small soil inhabiting insects that are a common presence in most greenhouses. Fungus Gnats in high populations can cause damage by chewing the roots of young plants, resulting in reduced vigor, wilting, even the death of young seedlings and cuttings. Fungus Gnats are implicated in the transmission of the plant diseases *Thielaviopsis*, *Verticillium*, *Fusarium*. Shore Flies on the other hand are typically just a nuisance but do not feed on living plant tissues.

Identification: Fungus Gnats adults are black, 1/8" long with a slender body, long legs and long segmented antennae, with Y shaped vein at the wingtip. The larvae are white to translucent with a shiny black round head. The larvae inhabit the top 1"-2" of media.

Shore Fly adults resemble tiny houseflies with a stouter body, short legs and antennae. The larvae feed on algae, but not plant roots. The adults of both pests are readily attracted to yellow sticky traps and the larvae of Fungus Gnats can be detected by placing thick potato wedges on the media for 24 hours, then observing underneath.

Life Cycle: The fungus gnat life cycle is typically 21-27 days, although can extend at lower temperatures. Fungus Gnat larvae thrive on wet, microbiologically active media. They prefer to feed on soil inhabiting fungus, but at higher populations will eat root hairs and root callus tissue. Shore Flies can reproduce in as little as 8-14 days. The larvae feed exclusively on algae, so sanitation and environmental management are important. Avoid soil spills, fix plumbing leaks, eliminate algae on surfaces. If possible allow the soil surface to dry out between watering cycles to dissuade both pests.

Control: As the adults are very mobile and do not feed a lot, the use of contact insecticides will not control an infestation. Use yellow sticky traps (BAS45182529) to assess the severity of an infestation, counting the number of adults weekly to gauge the effectiveness of the control efforts. Applying control agents early in the crop cycle is recommended to prevent population build up. Since most of the life cycle is spent as larvae in the soil the most effective control strategies focus on soil applied drenches.



See back for more information...

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Biological Controls



Exhibitline 5X50 Million BIOLNP1011-02



(Steinernema feltiae) Contains pathogenic nematodes that attack fungus gnat larvae in the soil.



Nemasys 50 Million BAS50359516



(Steinernema feltiae)



Millenium 250 Million BAS50359524



(Beneficial nematodes) Especially good against Shore flies.



Adept 16X1oz OHP981012



(Diflubenzuron) MOA 15 Caution. REI 12HR. RATE: 1-2oz/100 gal. Insect Growth Regulator. Apply as a drench or a heavy soil applied spray-Sprenc. Disrupts molting of the larval stages. 30-60 longevity. Gentle on beneficial insects.



Distance 1qt VAL69730.915



(Pyriproxyfen) MOA 7D. Caution. 12 HR REI. RATE: Varies 2-12 oz/100 gal. but Sprenc application at 3-6 oz/100 gal. wet top 1.5" of soil. Insect Growth Regulator. Affects all life stages. Treat under benches.



Enstar 1qt WLMK100502416



(S-Kinoprene) MOA 7A Caution. 4 HR REI. RATE: 16-32 oz/100 gal. Drench rate 16 oz. Insect Growth Regulator. Expect 14 day control.



Citation 75W 15.96oz SYN52855



(Cyromazine) MOA 17 Caution. 12 HR REI. RATE: 2.66 oz/100 gal. Spray or drench. Treat all surfaces. Labeled for vegetables. Compatible with beneficial insects.



Pylon 1pt BAS59012156



(Chlorofenapyr) MOA 13 Caution. 12 HR REI. RATE: 5.2-10 oz/ 100 gal. Apply early in crop cycle aimed at larval stages, not effective on adults. Can be used on fruiting vegetables in greenhouses. Do not apply to Dianthus, Poinsettia, Rose, Salvia, Zinnia.