NIC's Newsletter

STOP THE SWARM:

SMART SOLUTIONS FOR FUNGUS GNAT CONTROL!

Effective Controls, Gnat-Free Plants

Fungus gnats may seem like a minor nuisance, but for growers and house plant enthusiast, these tiny pests can cause significant damage to all plants. Their presence can be particularly problematic for cannabis production, where they can even compromise the quality of flower Let's dive into what makes fungus gnats such a troublesome pest and how you can manage them effectively.

Who Are Fungus Gnats?

Fungus gnats are part of the *Sciaridae* family, commonly found in greenhouses and plant collections. The adult gnats are small, delicate flies that resemble fruit flies, with long legs and antennae. They are typically grey or black in color at the soil surface, with distinctive Y-shaped wings. While they have weak flight patterns and erratic movements, their larvae are much more concerning. These legless, worm-like maggots with black heads and biting mouthparts cause serious damage to plants, especially when present in large numbers.

The Damage They Cause

Although adult fungus gnats are mainly an annoyance, it's the larvae that can wreak havoc in the root zone. These larvae feed on plant roots, organic matter, and fungi in the growing medium, often causing significant root damage. In severe infestations, this can stunt plant growth or even kill plants. Furthermore, fungus gnats are vectors for plant diseases, spreading spores from diseased plants to healthy ones.

Managing Fungus Gnat Populations

There are several effective strategies to keep fungus gnat populations under control, starting with cultural practices that can reduce their numbers. Reducing excess moisture and allowing the growing medium to dry between waterings can help limit egg survival. Additionally, removing plants with rotted roots minimizes food sources and prevents disease spread. **Yellow sticky traps** are a great way to monitor and capture adult gnats, while watering from the bottom and keeping the tops of pots dry can help reduce their breeding sites.

Biological Control

- **Beneficial Nematodes**: Sentry (*Steinernema feltiae*)nematodes target and eliminate fungus gnat larvae in greenhouses and indoor plant environments.
  - Mode of Action:
    - Nematodes seek out fungus gnat larvae in the soil.
    - They enter through natural openings and release symbiotic bacteria, which multiply and kill the host within days.
    - Nematodes reproduce inside the dead larvae, creating a new generation to continue the cycle.
  - Effectiveness and Benefits:
    - Controls fungus gnat larvae in soil and growing media.
    - Environmentally friendly—safe for humans, plants, and beneficial insects.
    - Penetrates soil to reach larvae, ensuring thorough coverage.
  - Application:
    - Mix nematodes with water and apply to infested soil.
    - Ideal soil temperature: 50-86°F (10-30°C).
    - Apply early morning or late evening to avoid high temperatures. Repeat this every 2 weeks to break cycle
- Predatory Mites for Fungus Gnat Control in Greenhouses
  - *Stratiolaelaps scimitus*:
    - Known as the "guardian mite" for its effectiveness in controlling soil-borne pests.
    - Targets fungus gnats, thrips pupae, and root aphids.
    - Especially suited for greenhouse environments, offering long-term protection through growing cycles.
  - *Gaeolaelaps gillespiei:*
    - Native Canadian mite highly efficient at controlling fungus gnats and thrips.
    - More effective than Stratiolaelaps at suppressing thrips.
    - Ideal for greenhouse crops, especially on coco-fiber mats and rock wool.
  - Application and Effectiveness:
    - Preventative application: 100-200 mites per square meter.
    - Curative treatment: 250-500 mites per square meter.
    - For potted plants, apply typically once.
    - Mites establish strong colonies in potted plants and propagation trays for reliable pest control.
  - Additional Benefits:
    - Control a wide range of pests beyond fungus gnats, including thrips, springtails, and overwintering spider mites.
    - Effective during crop rotations when pests hide in cracks and crevices.
    - Contribute to overall soil health and reduce reliance on chemical pesticides.

Contact NIC for your Biological Needs
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