



# BEST PRACTICES Q&A

## ***What is Mainspring<sup>®</sup> GNL insecticide?***

- A systemic insecticide that controls key chewing and sucking pests: thrips, whiteflies, aphids, caterpillars, leafminers, leaf-feeding beetles, soft scales and lace bugs.
- A powerful resistance management tool in IRAC group 28, a unique chemistry class.
- An excellent addition to integrated crop management (ICM) programs because of its compatibility with many biological control agents, such as nematodes and predatory mites.

## ***How does Mainspring GNL work?***

- Primarily through ingestion, though there is some limited contact activity.
- Stops insect feeding shortly after ingestion, which limits damage to the plant and disease transmission.
- Leads to insect mortality within 2 – 7 days.
- When applied as a spray, Mainspring GNL has translaminar and locally systemic activity. The active ingredient penetrates the plant cuticle to form a reservoir within the plant tissue.
- When drenched, Mainspring GNL is taken up by the roots and moves upward in the xylem throughout the plant canopy.

***Think of Mainspring GNL as a shield. Use it as part of a preventive pest management strategy to keep pest populations from building to damaging levels.***

## ***How should I use Mainspring GNL?***

### ***Greenhouse Crops***

- Use as a spray for young plants and ornamentals with short crop times (less than 8 weeks).
- Use as a drench for plants with larger biomass and with those having crop times longer than 8 weeks.
- In propagation, apply as a foliar spray 7 days after sticking.
- Early in the growing stage, make two preventive foliar applications on a 14-day interval to keep young plants clean and protected from pests.
- During the growing stage of longer crops and production of hanging baskets, apply as a drench once plants have rooted into their container.

### ***Nursery Perennial Crops***

- Apply as a foliar spray as needed when pest pressure is starting. Applications on a 14-day interval provide excellent protection.
- Apply as a drench once plants have rooted into their container for longer and broader control across the pest spectrum.

### ***Nursery Woody Crops***

- Apply as foliar spray as needed when pest pressure is starting.
- Use systemic soil treatments for season-long protection from soft scales, adelgids, plant bugs, psyllids, leafminers and leaf-feeding beetles.

### ***Best Practices for Drench Applications***

- Drench applications should be applied once plants have begun to root into their container. (Ideally 2 weeks after transplant)
- **The more roots present the more Mainspring GNL will be absorbed and moved systemically up into the plant canopy to provide protection.**

## What rate of Mainspring GNL should I use?

### Foliar Sprays

- Recommended rate: 4 – 8 fl. oz./100 gal.
  - Higher rates (up to 16 fl. oz./100 gal.) may be used if needed for longer protection (i.e. woody crops).
- Make 2 applications on a 14-day interval.

### Drench Applications

- Recommended rate: 8 – 12 fl. oz./100 gal.
- Use a higher drench rate on plants with larger biomass, like crops in large containers, woodies and those with longer crop times.

### Systemic Soil Treatments for In-Ground-Grown Plants

- For aphids, lace bugs and soft scales, mix 0.125 – 0.25 fl. oz. per foot of height or per inch of trunk diameter at breast height (DBH) and apply uniformly to the soil around the base of the plant.
- Use 0.25 fl. oz. per foot of height or per inch of DBH for pests such as adelgids, leaf-feeding caterpillars and beetles, borers and leafminers.

### Bark Applications

- Apply to trunks and lower branches of trees and shrubs to control clearwing moth-borer larvae.
- Make applications after the emergence of adult moths, but before their eggs hatch at a rate of 4 – 16 fl. oz./100 gal.

## Can Mainspring GNL be used to clean up insect hotspots?

- **No**, not if that hotspot has a high population and fast knock down is expected. Mainspring GNL works best when used preventively.
- Tank-mix with another insecticide if quick knock down of adults is needed.
- Use when pest activity is first noticed or if the hotspot has a low population.
  - In this scenario, apply as a spray if coverage of foliage can be obtained; otherwise a drench application is recommended.

## Does Mainspring GNL control whitefly?

- Yes, it effectively controls the *Bemisia spp.* of whitefly – both Biotype B and Biotype Q.
- While Mainspring GNL will not control greenhouse whitefly (*Trialeurodes spp.*), it does have some suppression activity.

## How do I use Mainspring GNL in poinsettia production?

- Apply as foliar spray early in production when spray coverage is attainable, OR
- Apply as a drench 1 – 2 weeks after pinch, once plants are well rooted. This will deliver longer systemic protection.
- For best results, apply no later than the second week of October.

## What are other benefits to using Mainspring GNL?

- Improved worker safety compared to pyrethroids, organophosphates and carbamates.
  - Gloves and coveralls are not required for early entry.
- 4-hour REI (restricted-entry interval) is less disruptive to work schedules.
- Broad-spectrum control offers efficiencies by controlling multiple key pests.
- Systemic activity provides extended protection, saving time and labor on repeated applications:
  - Drench applications deliver 5 – 8 weeks of protection or longer with higher use rates
  - Spray applications deliver 14 – 21 days of protection
    - 14 days (aphids, thrips, whiteflies, leaf-feeding beetles)
    - 14 – 21 days (caterpillars, leafminers)
- *Cyantraniliprole*, the active ingredient in Mainspring GNL, was registered by the U.S. EPA under its Reduced Risk Program.\*

For more information, please visit [www.GreenCastOnline.com/MainspringGNL](http://www.GreenCastOnline.com/MainspringGNL).

\*A reduced risk pesticide use is defined as one which may reasonably be expected to accomplish one or more of the following: (1) reduces pesticide risks to human health; (2) reduces pesticide risks to non-target organisms; (3) reduces the potential for contamination of valued, environmental resources, or (4) broadens adoption of IPM or makes it more effective. Mainspring GNL qualifies under one or more of the above criteria.



**Mainspring® GNL**  
Insecticide

**syngenta®**

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