

NIMITZ[®] PRO G

PRODUCT GUIDE



Nematodes

Nematodes that affect turfgrass are microscopic, unsegmented roundworms that live primarily in the soil profile surrounding the root systems of plants. They occupy almost every conceivable habitat on earth and are among the most common multicelled organisms on the planet. Nematodes are generally wormlike and cylindrical in shape, often tapering at the head and tail ends. There are thousands of kinds of nematodes, each with their particular feeding behavior: plant-parasitic, bacteriophagous, fungiphagous, predators, omnivores and others.

The nematodes most associated with turfgrass damage are ecto- and endoparasitic plant parasites. Ectoparasitic nematodes feed from the outside of the plant tissue while endoparasitic and semi-endoparasitic nematodes enter the plant tissue to varying degrees in order to feed.



Fluensulfone, a promising nematicide for use on turfgrasses

Journal of Nematology 45:285-286
W. T. Crow 2013

A 1.5% granular formulation of fluensulfone is among the most promising nematicides evaluated in our turfgrass trials. Our results indicate that this formulation is effective for management of sting nematode (*Belonolaimus longicaudatus*) and lance nematode (*Hoplolaimus galeatus*) on lawn and golf course turfgrasses. Our results also reveal consistent improvement in turf health following treatment on established turf, and improved harvestability of sod in turf production.



"Fluensulfone (NIMITZ®) represents a safer alternative for nematode control with a new mode of action and a much simpler and straightforward product label."

- U.S. Environmental Protection Agency, Proposed Registration Decision, July 24, 2014.

Fluensulfone - The Power of NIMITZ PRO G

NIMITZ Pro G, powered by Fluensulfone, is a novel nematicide developed globally by ADAMA. No other plant protection product in the world has the same mode of action or ability to deliver a higher level of efficacy from a single program. NIMITZ Pro G is a phenomenal nematicide that offers unparalleled reductions in Lance, Sting, Root Knot and Lesion nematodes (among others) as well as remarkable gains in root length and weight creating visibly healthier turf.

Features

- Systemic: xylem and phloem-mobile
- Half-life in soil of 19-22 days depending on environmental conditions
- Relatively low solubility
- Low impact on or unwanted damage to nearby ecosystems
- Does not harm honeybees
- No enhanced microbial degradation
- Favorable environmental and toxicological package
- CAUTION signal word
- No REI
- No buffers

Benefits

- **NIMITZ Pro G** is a highly effective, non-fumigant nematicide that simplifies every aspect of nematode control.
- Nimitz Pro G does not interfere with: rotational nematicide programs, fungicide programs or even beneficial microbial/fungal plant health programs.
- It's easy to apply with less stringent regulatory restrictions and no specialized equipment needed.
- No Fumigant Management Plans or complicated PPE.
- No disruption of the delicate soil balance; fluensulfone does not harm beneficial microbes, fungi, bacteria or other soil microfauna.
- Controls Root-Knot, Lance, Sting and Lesion Nematodes

REAL RESULTS



Before
NIMITZ Program



Four weeks after
first application



Four weeks after
second application



Four weeks after
third application

Mode of Action

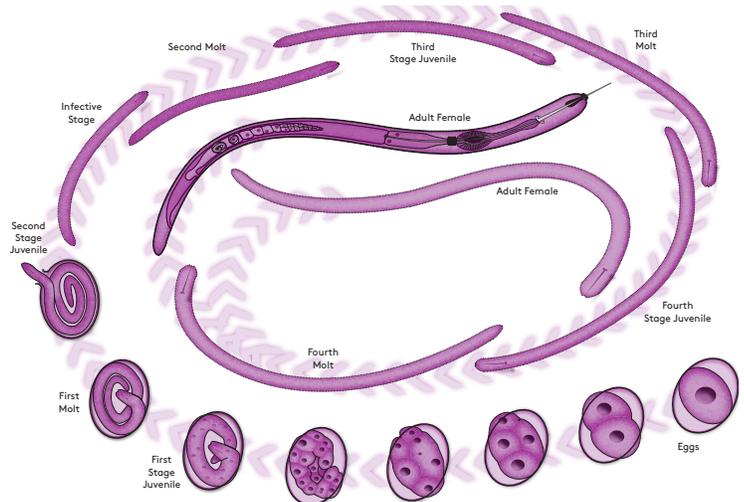
NIMITZ Pro G works by causing irreversible paralysis, disrupting nematode growth and development (all life stages), affecting egg laying and egg hatching and causing feeding cessation. NIMITZ Pro G is a true nematicide causing mortality within one to two days of contact.

Getting to the Root of the Problem



Nematode Life Cycle

- Plant parasitic nematodes have a simple life cycle of six stages: egg, four juvenile stages, and adult.
- The embryo develops inside the egg to become the first-stage juvenile.
- The first-stage juvenile molts inside the eggshell to become a second-stage juvenile, which hatches from the egg, and in most species must feed before continuing to develop.
- The nematode molts three more times to become a fully developed adult. The length of the life cycle varies considerably depending on nematode species, host plant, and the temperature of the habitat.
- During summer months when soil temperatures are in the 80's, many plant nematodes complete their life cycles in about 30 days.



Ease of Application

Simple application: NIMITZ Pro G is a non-fumigant nematicide, which saves time and money with a simple broadcast application method. The granules can easily be applied with rotary spreader at a rate of 60-120 pounds per acre, not exceeding 240 pounds per acre per year.

Flexible Timing: NIMITZ Pro G can be applied any time of year as long as the soil temperature is above 55°F.

Irrigation: NIMITZ Pro G must be watered immediately following application.

Equipment: Rotary Spreader

Aerification: It is not necessary to aerify prior to treatment, but solid or hollow tine core aerification or even light grooming have shown to facilitate the movement of NIMITZ Pro G into the soil profile.

Use Rates

Rate per acre	60 lb. per acre	80 lb. per acre	120 lb. per acre	Spread pattern width
Rate per 1000 sq.ft.	1.38 lb.	1.84 lb.	2.75 lb.	
Lesco® Spreaders (numbers)	7 - 7 1/2	8 - 8 1/2	10 1/2	3 mph - 12 ft.
Andersons® AccuPro 2000	G 3/4	H 1/4	I 3/4	3 mph - 12 ft.

Spreader settings are approximate and can vary with ground speed, pattern, adjustments, wear, and changes in the manufacturing of the equipment. Therefore, you should ALWAYS calibrate your spreader before applying any product.

Simplicity and Safety

NIMITZ Pro G has the signal word of CAUTION, the lowest signal word of any nematicide in the market, allowing turfgrass professionals to avoid public hazard and complex application requirements like those associated with fumigant nematicides.

Personal Protective Equipment (PPE) requirements are simple – requiring only a long-sleeve shirt, long pants, shoes plus socks and chemical resistant gloves for all common turfgrass applications.

Unlike other nematicides available, Nimitz Pro G has no REI.

Efficacy Summary

NIMITZ Pro G has been extensively studied by university and independent turfgrass researchers since 2008. NIMITZ Pro G reduces nematode populations and allows your turf to recover. Following a NIMITZ Pro G application turf begins to recover by developing robust root systems, increased turf color, better turf quality, increased leaf density and overall greater plant health.

For the sod farm experiments of Empire Zoysiagrass infested with lance nematodes, the data shows decreased population density and improved sod harvestability.



NIMITZ Pro G at a Glance

Tolerant Turfgrass

Bermudagrass, Centipedegrass,
Seashore Paspalum, St.
Augustinegrass, Zoysiagrass

Application Sites

Golf course greens, tees
and fairways, Sports fields,
Commercial turfgrass areas,
Residential lawns, Sod Farms

Product Profile

- 40 lb. Pail
- 1.5% fluensulfone on BioDac
- 80-100 SGN
- Water immediately after application



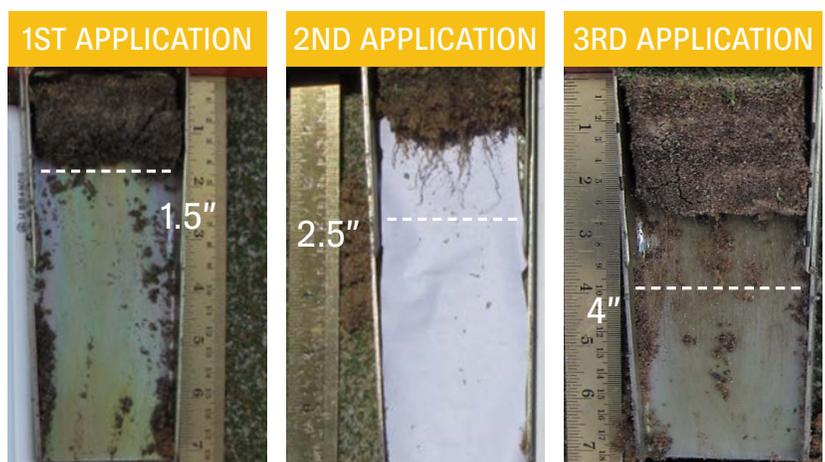
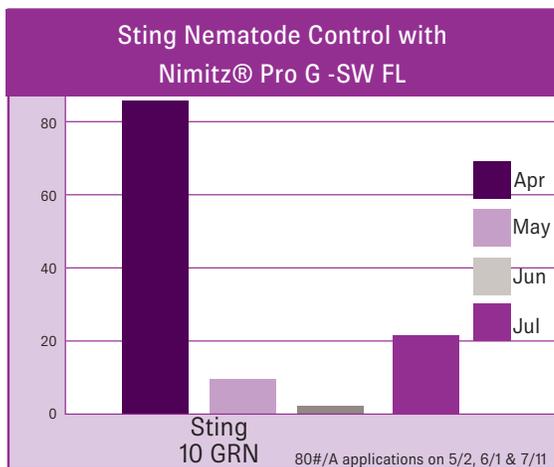
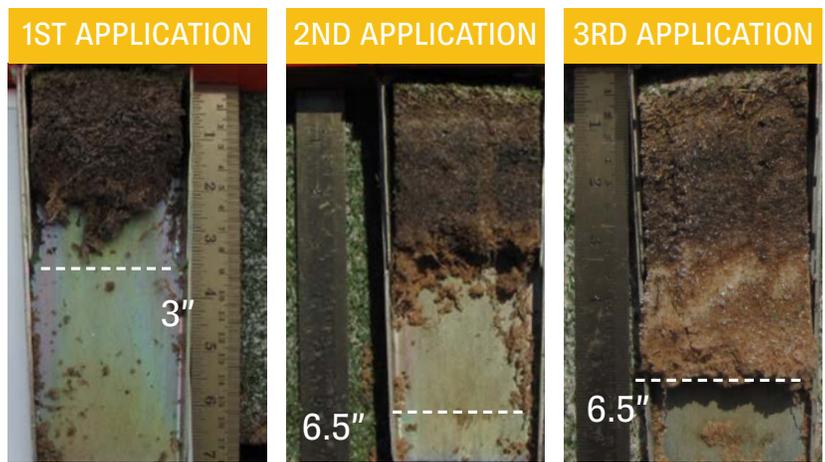
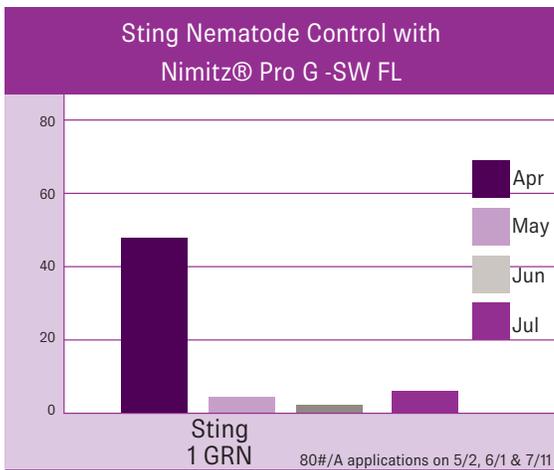
Turf Quality & Root Health Improvements



Sting Nematodes

Sting Nematodes - *Belonolaimus* spp.

Ectoparasitic nematodes that live in the soil. They insert their large stylet into the root and ingest plant tissue from the outside.



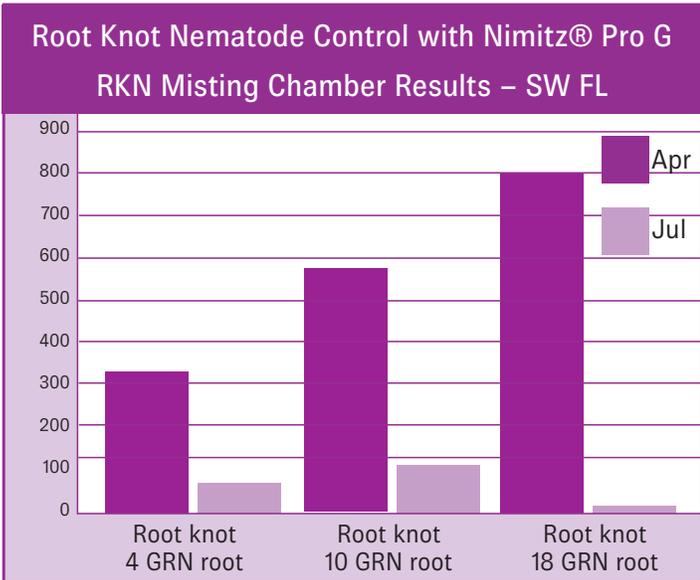
Fluensulfone, the active ingredient in NIMITZ Pro G, provides direct contact activity on nematodes as well as systemic protection within the plant.



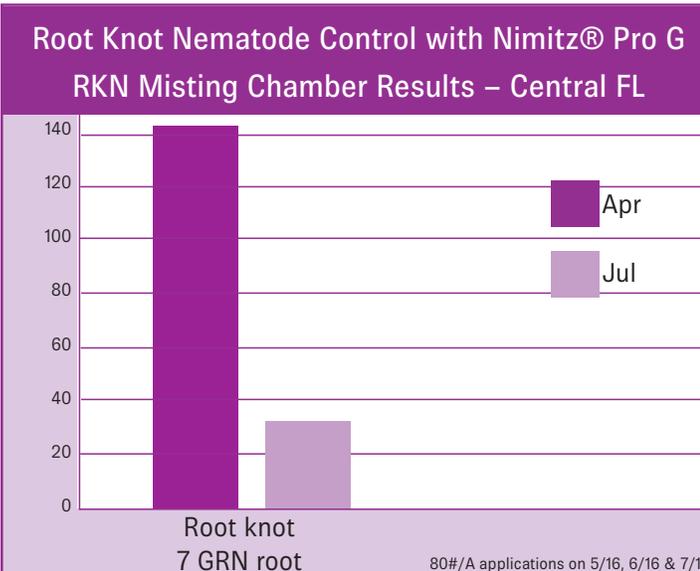
Root-Knot Nematodes

Root-Knot Nematodes - *Meloidogyne* spp.

Sedentary endoparasitic nematodes that live stationary inside the plant root. They will release hormones into the root to develop specialized feeding sites, which appear as galls on the plant roots.



80#/A applications on 5/16, 6/16 & 7/11



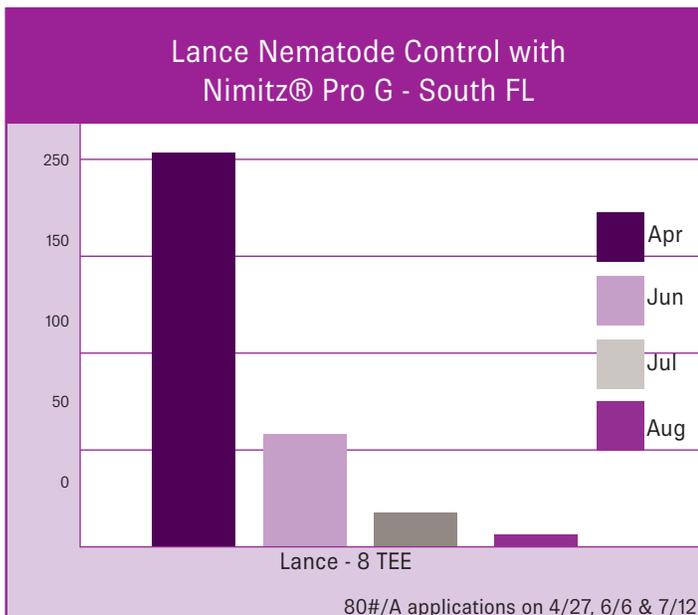
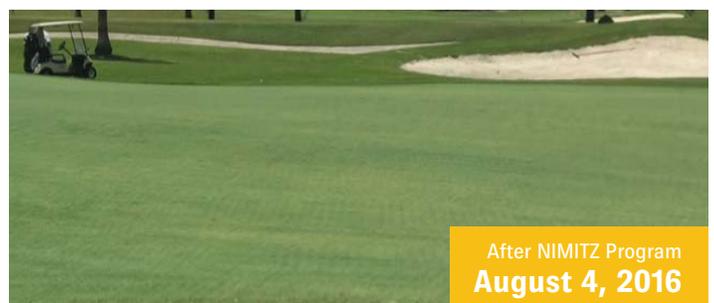
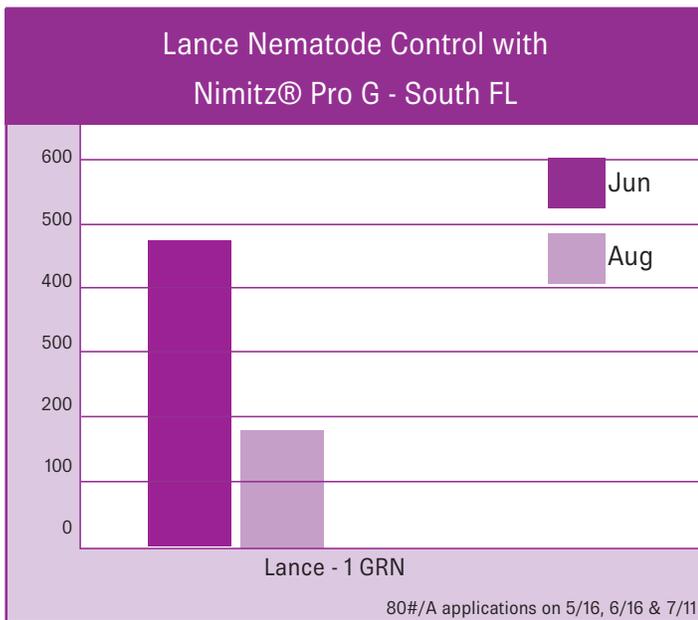
80#/A applications on 5/16, 6/16 & 7/11





Lance Nematodes

Lance Nematodes - *Hoplolaimus* spp.
Migratory endoparasitic nematodes that partially or completely enter the root tissue, feeding from cell to cell.



Best Practices with NIMITZ Pro G

Calibration is key

Minimizing overlap when applying will ensure turf receives the correct rate of NIMITZ Pro G.

- The best application strategy is to go “throw-to-throw” with each pass; avoiding “wheel-to-wheel” to minimize overlap. Repeat applications should be made at a 90 degree angle to previous application.
- Verify the rate of application as well as the throw pattern of the spreader.
- Nearly all rotary spreaders have a tendency to throw product more to the left or right.

Spreader settings are approximate and can vary with ground speed, pattern, adjustments, wear, and changes in the manufacturing of the equipment. Therefore, you should ALWAYS calibrate your spreader before applying any product. We also recommend to verify spreader gate opening with a drill bit to assure that the gate consistently opens to the same setting. If your spreader cannot consistently and repeatedly open to the desired setting then check for wear or binding of the gate or linkage.

Check the spreader gate opening measurement every few greens during an application of multiple greens. They can easily get knocked out of adjustment during the application.

Rate per. acre	**60 lb. per. acre	**80 lb. per. acre	**120 lb. per. acre	Spread pattern width	Foot notes
Rate per 1000 sq.ft.	1.38 lb.	1.84 lb.	2.75 lb.		
Lesco® Spreaders (numbers)	7 - 7 1/2 *1/4 drill bit	8 - 8 1/2 *9/32 drill bit	10 1/2 *11/32 drill bit	3 mph - 12 ft.	1
Andersons® AccuPro 2000	G 3/4 *19/64 drill bit	H 1/4 *21/64 drill bit	I 3/4 *25/64 drill bit	3 mph - 12 ft.	2,3
1. Calibration point. Standing behind the spreader as if pushing the spreader during application. The far right hole should be used for your calibration.					
2. Calibration point. Standing behind the spreader as if pushing the spreader during application. The middle hole should be used for your calibration.					
3. Cone setting. Standing behind the spreader as if pushing the spreader during application. The cone pointer should be between the first gate opening on the left and the middle hole.					
* Drill bit sizes are a reference point and should only be used as a starting point for calibration.					
** Do not exceed 240 pounds/acre per year per area or spot treated.					



Getting the most out of your NIMITZ Pro G Treatment

Program 1*	Program 2*	Program 3*
4 applications @ 60#/acre every 28 days	3 applications @ 80#/acre every 28 days	2 applications @ 120#/acre 2-6 months apart
Warm season turf only	Warm season turf only	Warm season turf only

*See label for specific uses and rates



Transition Zone Tips

Turf in transition zone may be under additional stress due to geographical location vs. turf type. NIMITZ Pro G is only recommended for warm season turf at this time.

Wetting Agents and NIMITZ Pro G

Avoid wetting agents prior to and just after a NIMITZ Pro G application. NIMITZ Pro G does not need anything other than 1/4" to 1/2" of water immediately after application to ensure proper movement into the soil. If possible, avoid applying if heavy rains are expected within 24 hours of the application.

PGRs and NIMITZ Pro G

It is recommended to not apply PGR products within one week prior or one week after a NIMITZ Pro G application.

Control Solutions offers free untreated Biodac® carrier to assist in the calibration process. Contact your Quali-Pro sales representative for details.

*Scan here for more
calibration tips!*



NIMITZ Pro G Frequently Asked Questions

What is NIMITZ Pro G?

NIMITZ Pro G is a novel broad-spectrum, non-fumigant nematicide, which is highly effective in controlling plant-parasitic nematodes with simplified application features and unprecedented user safety.

What makes NIMITZ unique?

NIMITZ Pro G provides an unmatched combination of safety and efficacy. As a non-gas formulation, the unique mode of action of NIMITZ Pro G reduces human and environment impact - avoiding public hazard and complex regulations generally associated with nematicides.

What is the best treatment program to follow?

Either the 60 or 80 pounds per acre monthly programs will work best. Multiple studies have shown the very best results from 60 pounds per acre for 4 monthly applications.

EPA Comments on NIMITZ PRO G

NIMITZ Pro G is classified by the EPA as having the least restrictive signal word of 'CAUTION' on its label. EPA summarized this new active ingredient best in the Federal Docket, stating 'Fluensulfone (NIMITZ Pro G) represents a safer alternative for nematode control with a new mode of action and a much simpler and straight forward product label.'

What PPE is required?

NIMITZ Pro G has no re-entry interval (REI) and does not require certified applicator training. Personal protective equipment (PPE) is minimal. Always read and follow label directions.

What types of Nematodes do you pick up?

Lance, Sting, Root knot and Lesion. NIMITZ Pro G is the only nematicide on the market that significantly reduces populations of Lance nematodes.

How important is the spreader calibration?

Calibration is key. Every spreader must be properly calibrated to ensure efficacy and a healthy turf response. We recommend that spreaders be calibrated prior to each NIMITZ Pro G application. A calibration guide has been provided as a reference only. Visit www.nimitz-pro.com for more details.

How long does it work and what is its half-life?

NIMITZ Pro G has a soil half-life of 17-22 days with nematicidal activity observed up to 45 days from a single application. Repeated monthly applications provide extended control.

When should I apply NIMITZ Pro G?

NIMITZ Pro G can be applied any time of the year as long as the soil temperature is above 55 degrees. Spring application programs can be made to reduce populations and develop stronger turf throughout the summer months. Fall application programs may be made to reduce nematode populations and enhance turf health prior to seasonal play.

Do I need to water in NIMITZ Pro G applications?

Watering in immediately after application is imperative with a minimum of .25"-.5".

Can I apply wetting agents and PGRs while using NIMITZ Pro G?

Wetting agents are not to be used less than 1 week prior to or 1 week after a NIMITZ Pro G application. It is recommended to not apply PGR products within 1 week prior or 1 week after a NIMITZ Pro G application.

Which turf types can I apply NIMITZ Pro G on?

NIMITZ Pro G is for warm season turf. Although cool season varieties have been tested, certain varieties have shown transient sensitivity.

Why do I need to apply NIMITZ Pro G more than once?

In order to achieve the best and longest-lasting results, a complete (240 lbs./A/year) NIMITZ Pro G program is recommended.

