



# Chitosan-Based Turf Products

The Green Way to Grow!



[www.organisancorp.com](http://www.organisancorp.com)



# Highly Effective EPA Registered Nematicide

## NEMASAN - Nematode Suppression / Control

Use Nemasan to control **Root Knot, Reniform, Lance and Sting**. Nemasan is a highly effective, Environmental Protection Agency (EPA) registered nematicide that can both be applied during all phases of the growing cycle and assist in treating nematode outbreaks without using any special spray protocol, respirator or personal protective equipment (PPE). Nemasan is developed from a proprietary formula using a unique chemistry to deliver effective results from sustainable sources of naturally occurring ingredients.

### NEMATODES' EFFECTS ON TURF

Nematodes are the most damaging, most costly, and often the most invisible, plant-parasitic issues facing turf managers. When nematode populations densities get high, or when environmental stressors occur, above ground symptoms may become evident. Nematode-damaged turf typically needs frequent irrigation to avoid wilting and decline. Once other aboveground symptoms are evident (wilting, discoloration, limited growth), it's a good chance your issues lie underground. Nematodes feed on a plants' root systems. Once the plants roots are compromised, it reduces the plants' ability to obtain water and nutrients from the soil (which often causes nutrient leeching in the environment). This also makes that turf environment more susceptible to drought and other stressors. Most importantly, once your roots have been compromised, the cellular door for disease has been opened!

Plants want to survive and thrive. Don't let this invisible enemy compromise your turf this year!



### Benefits of the revolutionary new Nemasan product to combat nematodes include:

- **Effective suppression/control of plant-parasitic nematodes** – Use before above ground symptoms are evident to support a healthy growth environment.
- **Year-Round Application** – With Nemasan, you have the ability and flexibility to deal with nematode issues during the entire growing cycle.
- **Naturally Made** - Created from sustainable sources of naturally occurring ingredients. Use without any special spray protocol, respirator or personal protective equipment (PPE).
- **Plays Nice with Others** - Only nematode product that can be safely used with other products at the same time.
- **Cost Savings** - Application cost for Nemasan is significantly less than current nematode control compounds.

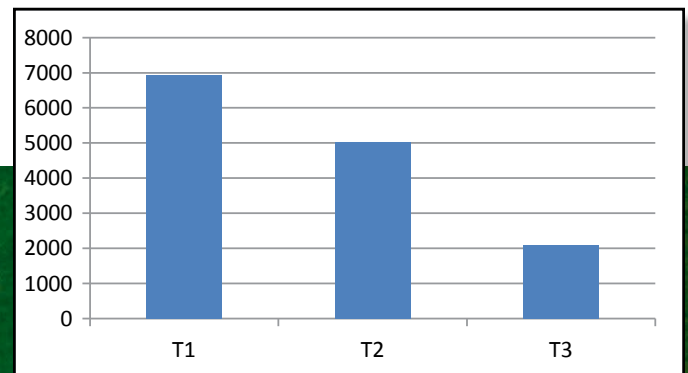
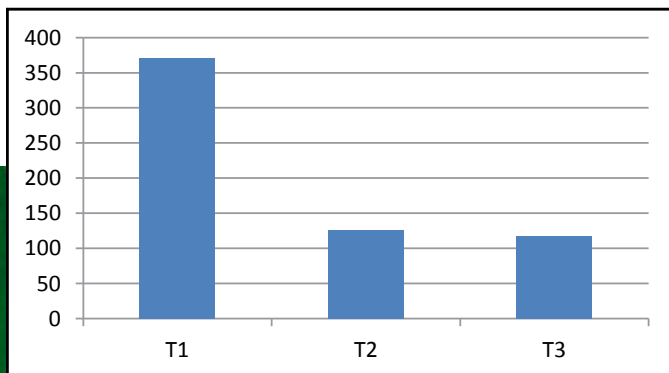
#### Walnut Grove, MS

T1 - No Treatment	371
T2 - Neem Oil	126
T3 - Nemasan	117

#### Root Knot Nematode Trial

#### Goodman, MS

T1 - No Treatment	6959
T2 - Neem Oil	5009
T3 - Nemasan	2143



# Highly Effective EPA Registered Fungicide

## ChitoPro-F - EPA Approved Fungicide

**ChitoPro-F** is a chitosan-based, biological fungicide that provides suppression of fungal plant diseases and allows sod to grow under far less disease pressure to full maturity. **ChitoPro-F** provides a multi-pronged fungicidal effect and can be applied at all growing stages while working with the soil biology to control plant diseases.

**ChitoPro-F** carries an EPA label and was recently approved as an EPA registered, end-use label fungicide to suppress/ control plant diseases listed on its label.

**HIGHLY EFFECTIVE on  
Turf and Sod Diseases, including:  
Curvularia, Leaf Spot, Fairy Ring,  
Anthracnose, Brown Patch, Gray Leaf Spot,  
and *Pythium spp.***

**Lower Spray Solution pH to 5.0 or Below!**

## CitriSan™ - Citric Acid

Use **CitriSan™** to lower spray solutions to pH 5.0 OR below for maximizing the efficiency of Organisan products in all your Nematicide, Fungicide, Fertilizer, Herbicide, Insecticide, and Nutritional Sprays.

- **CitriSan™** is an ideal acidifier for reducing the pH of spray solutions.
- **CitriSan™** can positively affect the application of nematicides, pesticides and fungicides designed for use with wetting/spreading type adjuvants.
- **CitriSan™** can be applied to all ornamental trees, shrubs and flowers, containerized plants and turf. The application of **CitriSan™** to spray mixtures complexes minerals in both the water and the soil.
- **CitriSan™** IS NOT FOR AQUATIC USE.

**Spray Mixture must be adjusted to a pH of 5.0 or below  
in the final tank mix before adding NEMASAN or ChitoPro-F.**



"As a Director of Golf Maintenance Instructional Program for a South Florida college. I first used chitosan products on my college course over 3 years ago and subsequently began recommending its use as a consultant. I have observed a decrease in my pesticide applications and rates in addition noticeable increase in turf quality. I have also seen a dramatic recovery of damage where chitosan is a part of the spray program. As a "Green, environmentally friendly" product, I feel it should be a part of every program."

M.P., Turf Consultant and Director of Golf Maintenance Instruction, IRSC, South Florida



# chitosan

[ kahy-tuh-san ]

Chitosan is our functional foundation raw material. Chitosan is a totally natural, fibrous biopolymer very closely related to cellulose and obtained from various sources. All commercial Chitosan is obtained from its parent material chitin, mostly extracted from the exoskeletons of shellfish. Second to cellulose as the most abundant global biopolymer, it is estimated the global biological production of chitin is around 1011 metric tonnes. Our chitosans are manufactured from shellfish exoskeletons that are sustainably harvested.

**Natural Substance:** It is a natural substance derived and commercially prepared from chitin. As a natural material, nature has a way of processing it so Chitosan is biodegradable, unlike synthetics that persists in nature. **Cationic Properties:** As a natural carbohydrate polymer, Chitosan is a highly functional polymer. It's functionality is based on chitosan's cationic nature. It is this cationic property that allows chitosan to be soluble in various liquids that are bio friendly and biocompatible. It's the facile solubility and biocompatibility that greatly increases the value of chitosan over chitin.

**Natural Biology:** Chitosan is recognized as a plant growth regulator, a plant defense booster, an elicitor, has fungicidal and antimicrobial properties and is also employed as a sticker agent in adjuvant formulations. Chitosan works well with the natural biology of the soil and has been employed with much success with several commercial beneficial biological agents such as *Beauveria bassiana* in combatting the deleterious effects of many plant pathogens as well as harmful insects.

**Chitosan Quality:** Our chitosans are top quality food grade material. In addition, our chitosans enjoy a "Generally Recognized As Safe" (GRAS) status from the US FDA. Our Chitosans are also compliant with California Proposition 65, that state's Safe Drinking Water and Toxic Enforcement Act of 1986.

## NEMASAN Application on Turf



Application on October 12th

32 oz per acre of Nemasen was applied as a spray over the top and watered in on October the 12th. The photos show the day of application and the results of the spray on October the 30th.



Results on October 30th