What Universities, the USDA, Private Researchers and Growers are saying about ECO™

- Reduces water loss through transpiration and evaporation.
- Reduces irrigation requirements in turf, crops, and ornamentals.
- Encapsulates nutrients – preventing nutrients from leaching into groundwater.
- Provides protection against nematodes, bacterial and fungal infections.
- Prevents fungus in St. Augustine grasses, and stops existing fungal infections.
- Builds resistance to disease in plants.
- Eliminates Phytophthora root rot and bud rots in palms and other trees.
- Used as a seed coating to provide seedlings with protection from pathogens.
- Increases shelf life of harvested crops.
- Reduces groundwater toxicity, chelating toxins to prevent leaching.
- Reduces cOD in groundwater and stormwater.
- Encourages deeper more massive root systems.
- Provides leaf surface protection from spores and insects.
- Helps build plants’ own natural defenses.
- Helps all plants endure stressful conditions such as drought.
- Considered safe for humans, animals and the environment by the EPA.
- Certified Organic by Indiana Certified Organic, LLC. and meets all standards of the National Organic Program.
By J.B. Williams, Technical Director, Green World Path, Inc.

Nematodes are microscopic roundworms which live in soils where winters are short and warm and the soil never gets too cold. This includes all of Florida and most of the Southeastern U.S. An integral part of the natural ecology of the soil, many nematodes are considered beneficial to agriculture, helping balance microscopic life that lives underground.

Some species of nematodes are destructive pests for Florida agriculture, causing crop losses of millions of dollars. Many of these are called "root-knot" nematodes from the appearance of galls on the infected plants. These pests bore a hole directly into the root of the plant, feeding on the plant's fluids, reducing plant health, vitality and production. Plants infested with these parasitic nematodes will also be less able to tolerate stress such as heat and drought. They can feed on thousands of plant species, from backyard tomato plants in Spring Hill to citrus and ornamentals - or turf and pasture.

Many of the nematode control methods practiced until recently relied on toxic chemicals to kill destructive nematodes – these nematicides, however, also could kill the beneficial nematodes – upsetting the natural balance of the microscopic life in the soil. This unbalancing can lead to other soil pests or plant pathogens becoming dominant, creating a new set of problems for the farmer.

Since the 1990's, and as the U.S. continues to develop a "green" awareness, many of these toxic controls are being removed from the marketplace. Many of the ones that remain are wide-spectrum, killing not only the root-feeding nematodes, but also a wide range of beneficial creatures living in the soil – effectively wiping out the entire soil ecosystem.

Fortunately, there are methods, plant cultivars, and non-toxic products to reduce root-knot nematodes and the damage they produce. Look for the letters V, F, and N on seeds and seedlings you buy – the N indicates a resistance to root feeding nematodes in the plant. Clean your gloves, shoes and tools after working in the soil – nematodes (and their eggs) can spread to new areas on dirty equipment. If you are between plantings, you can cover a small sunny garden plot with clear plastic sheeting for several weeks before planting – this heats the soil underneath, killing the nematodes.

Planting some crops, such as broccoli, cauliflower, and sorghum, in rotation with other crops can help reduce nematode infestation. Certain cultivars of French marigolds, such as Petite Harmony and Petite Gold, and Tangerine repel nematodes planted in rows 6”-8”. Grow the marigolds for 60-90 days, then till them under and plant a crop which may be prone to nematode infestation. The plowed under marigolds will repel nematodes from the area.

There are also non-toxic nematode control products available today – these include GreenTek ECOTM, manufactured by Green World Path in Brooksville, FL. GreenTek ECOTM is made from only natural ingredients, and can be sprayed on all crops, plants, turf and pasture. Safe for all pets and livestock, GreenTek ECOTM is proven effective on root-feeding nematodes as well as many fungal diseases Florida farms and ranches battle every day.

ECO Nematode control without toxic chemicals

By J.B. Williams, Technical Director, Green World Path, Inc.
Efficacy testing of Global Earth Tek as (NPP 1,2,3)

Product tested: NPP 1,2,3 Organic Product

Method of testing: We used one of the Miltona coring cups with the handle on it. The depth was approximately 2.5 inches and we pulled 30 cores from each green.

**Customer #1: Warwick C.C. in Warwick, RI**

History: This is a coastal golf course with a long history of nematode problems.

Pretreatment Dates: 6/18/08 Putting Green 11,200 count on Stunt Nematodes and

#2 Green 7,420 count on Stunt Nematodes.

7/31/08 Putting Green 9,220 count on Stunt and 760 on Lance and

#2 Green 5,640 count on Stunt and 920 on Lance.

Date of Treatment: 8/6/08 at recommended rate.

Post Treatment Samples: 8/27/08 Putting Green 1,200 count on Stunt and 920 Lance and

#2 Green 2,080 Stunt and 640 Lance.

**Observations**
The customer and University of Rhode Island were surprised at how far the numbers declined. Normally, with Nemacure, one should expect the numbers to be cut in half. In this case the Stunt numbers fell dramatically, but the Lance numbers did not seem to change that much. The turf quality was much better, but the customer did apply extra fertilizer to all the greens, so everything looked better. The only problem with this test was that the customer was suppose to leave a check plot, but instead applied the product to both greens and a few others. This left us wondering, if there was a natural decline in the populations or if the product caused the reductions. Dr. Mitkowski (URI) thinks the product has real potential and even though there was no check plot, to have the numbers decline naturally, as much as they did, seems unlikely and would be very surprising.
Customer #2 Metacomet C.C. in East Providence, RI

History: I have pulled samples on this golf course for a number of years and they always come back with high nematode counts.

Pretreatment Dates: 7/31/08 #1 Green 6,360 Stunt and 640 Lance and # 10 Green 3,680 Stunt and 1,100 Lance.

Date of Treatment: First treatment 8/7/08 and second treatment 8/14/08.

Post Treatment Samples: 9/4/08 #1 Green 2,760 Stunt and 520 Lance and #10 Green 2,000 Stunt and 1,020 Lance.

Observations
This customer applied the product twice (one week apart). Both greens seemed to visually improve and the customer was happy. Again the counts seemed to drop drastically. Not as much as Warwick, but still very significantly. Unfortunately, I must not have been clear enough with this customer either, because he also did not leave me a check plot. So, once again, we are not 100% sure of the reduction being natural or from the product, except for the fact that the Lance counts did not reduce naturally.

OVERALL OBSERVATIONS:

Neither customer noticed any nutrient reaction from any of the applications (which I think is good). All the greens (where the product was applied) seemed to improve a lot and all the greens tested have always been season long problems (in past years) for both customers. I think this is a very positive sign. The product seems to be effective on Stunt (Tylenchorhynchus) nematodes, but the Lance (Hoplolaimus) nematodes did not seem to change on any of the tests.

It should be noted that we had a fairly mild winter in this region and many of my territory's disease plugs came back with very high nematode counts from early spring through the summer. Record numbers were observed at URI from other territories as well. We waited at least two weeks after our applications (before we recounted) because we treated this product as if it was like Nemacure. Nemacure, after it is applied, stops the nematodes from feeding. Since, nematodes have a vast reserve of nutrients in their system; they can survive for weeks after a treatment. So, even though they are no longer causing damage, they can still be alive and would be included in a recount. Next year, I can see doing counts right after application and two weeks later, because I was told the product can kill nematodes days after application.