

ALTERNATIVES FOR NEMACUR?

Turfgrass Manager's Goal is Vigorous Healthy Turf, Not Dead Nematodes

By Joel Jackson and Billy Crow

Unless you have had your head stuck in the sand for the past year, you should be aware that the Environmental Protection Agency is in the final stages of reviewing the registration of the organophosphate nematicide fenamiphos (Nemacur). In fact by the time you read this, the decision probably will have been made.

Over the past year, the Bayer Corporation, the FGCSA, the state of Florida and the U. S. EPA have been conducting numerous conference calls to discuss the importance of the product, the risks and benefits and just how the product is used on today's golf courses. It seems inevitable, regardless of the real-world data, that EPA is leaning heavily to a three- to five-year phase-out of the product. Curfew is another synthetic nematicide on the market, but so far only slit injection for fairways is workable. Research continues on less disruptive ways to apply it to greens.

In the late stages of the discussions, a chemical company, Parkway sent an email to the EPA stating that their organically-based product Neo-Tec might be considered as an alternative product. In fact Parkway recommends a combination of applications of a "conventional nematicide" with its product, especially if you have high nematode populations.

Parkway reports that 150-200 courses in Florida have purchased and tried the product. I have had one reliable source confirm he is getting satisfactory results using Neo-Tec.

I have also had recent reports from two highly respected Central Florida superintendents reporting positive results in reducing nematode problems using another organic product called Synzyme distributed by the Howard Fertilizer and Chemical Company.

Every time someone uses an organic product; we always ask "Where's the university research?" A couple of years ago, UF nematologist Dr. Bob Dunn shot down a whole bunch of natural products.

With the testimonials by some pretty reliable superintendents, I asked UF/IFAS nematologist Billy Crow the same question that arose when the Neo-Tec issue surfaced in the Nemacur discussions.

"I wanted to pass on some more info regarding the Neo-Tec," he said. "I did one study with the product while I was in Texas, but it had a different name 'Sincocin.' In that test it did not perform well, but neither did Nemacur.

"The main thing I wanted to point out that, other than my one test - which was inconclusive - this product has never been evaluated for nematodes on turf! It has also never been evaluated on any other crop in the US.

"Joe Noling, another nematologist with UF will be testing it this year on tomatoes and I plan on doing the same for turf."

We may be in a situation with conventional nematicides, where you are going to have to try some of these products and put their claims to the test. If you do try one of the organic products how do you know what's happening?

Dr. Crow responds:

I agree that products that prevent problems are hard to quantify. If you use a product and don't get a problem does that mean that the product worked or would you not have had a problem anyway?

These types of products can have several ways of working, if they do work.

They can kill nematodes. If they do this you should be able to detect nematode reductions compared to untreated plots. You should also get a turf response if nematodes were causing damage.

They can change the nematodes behavior (as Neo-Tec claims) by preventing feeding, reproduction, etc. If the product works this way then you may or may not see a short-term nematode response as the nematodes will still be present in a soil sample even if the product works. However, you should see a turf response in comparison with untreated plots.

They can cause a turf response that has nothing to do with nematodes. For instance, if a product stimulates root development, the turf can become more tolerant of nematode damage and have a turf response even if nematodes are unaffected.

This is a valid nematode-management approach, and I will be working with a couple of these products this year.

They can affect another organism. For instance; in some of my tests last year I included both Nemacur and Heritage plots for comparison. Interestingly, often both Nemacur and Heritage gave a visual turf response. This could be because both nematodes and fungi were causing damage so you get a response if you control either pest, or because the nematodes and certain fungi like take-all fungus can work together to cause damage in many instances. So, if you had a product that was primarily a fungicide you could get a visual turf response in some cases in areas with "nematode damage."

Turf performance has to be a major criterion for evaluating all of these products. The goal is to have healthy turf, not necessarily to kill nematodes. But, if you are preventing nematodes from feeding over a period of months there should be a reduction in populations over time because nematodes cannot reproduce without food.

My plan is to apply Neo-Tec and similar products monthly and then evaluate nematode populations, turf visual performance, and root production over a period of 6 months. If the products have any efficacy there should be both turf responses and nematode responses in comparison with untreated plots.

NEMATODE MANAGEMENT IN GOLF COURSE PUTTING GREENS USING 1,3-DICHLOROPROPENE

Help For Nematode Control Pending Registration Approval by EPA

J. Bryan Unruh and Robert A. Kinloch

Plant parasitic nematodes have long been known to adversely affect plant health. However, only since the early 1950s have nematodes been known to negatively affect turfgrass health (Dunn, 1999). Today, nematodes cause significant injury to both cool- and warm-season turfgrasses by puncturing and feeding on turfgrass roots. By debilitating the root system, nematodes weaken the turf and additional nutrients and water

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