

BioControls, BioStimulants, and Wetting Agents

With lofty goals and good intent, I dedicated this edition of Hands On to the discussion of programs involving products in the title above. A funny thing happened on the way to production of this issue, no one sent in any articles discussing their programs.

Some suppliers volunteered additional product information, but this space is dedicated to those comments and tips from superintendents about the topic at hand. Armed with my trusty tape recorder I ambushed a slew of superintendents attending the Poa Annuua in Naples and asked them point blank about these products and how they are using them.

The results of my interviews can be summed up rather quickly. First, practically everyone is trying or testing all of these products in some form or the other. I suppose the relatively new emergence of so many products has a lot of us taking a wait and see approach.

Practically everyone is using some type of wetting agent on "hot spot" and a few are on a regular program. More courses are cautiously trying the nematodes for mole cricket control. Some folks report success using products like Roots, Iron Roots, Panasea, and Sand Aid. There is also a product called Syn-Zyme Activator which has reported success in algae treatment on greens and in ponds.

At Disney, we have applied Proactant and Vector II for mole cricket suppression. We increased the coverage this year after seeing success on the Oak Trail fairways last year. Overall feeling is that although there still are hot spots emerging, the number and severity is less than last year at the same time.

We are also trying a consistent wetting agent program, by applying Aquatrol's Primer monthly to the greens. On the Palm course we are trying the Bio-Ject system for thatch reduction, and we are trying Toro's Bio-Pro on the Lake Buena Vista course.

While it is our fervent desire to embrace natural organic products to avoid

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Editor's Note: This edition of Hands On will take care of some old business and include articles on Professionalism that had to be cut due to size limitations last time out. And frequent contributor, Darren Davis, has some good input about the Golf Link computer service that needs to make it to print. Since everyone was bashful about speaking up on their "Bio" programs, we'll just partake of a mulligan stew of topics and clean up my files.

using more potentially toxic products, there is some concern about the overall efficacy and benefit of some of the products. An article by Dr. Wayne Kussow follows and offers a dose of healthy skepticism. More importantly it points out the need for more independent research in this area.

Joel D. Jackson, CGCS
Disney's Magnolia G. C.

A Letter From IFAS

Enclosed are excerpts from a recently-published book chapter by Howard Frank which describes, in detail, our biocontrol efforts against mole crickets in Florida. I have highlighted important facts and concepts, but I urge you to read the entire thing to get the whole story. Although published in 1994, some important events have occurred since then:

The parasitic wasp *Larra bicolor* (pp. 469, 470, 473) collected from Bolivia was released near Gainesville in 1988-89. This population was discovered (in fall 1993) to be established near Gainesville and is apparently spreading quite well. 10% of tawny mole crickets collected from a local golf course were found parasitized.

The parasitic fly *Ormia depleta* is now known to be established in **all counties of the Florida peninsula at the latitude of Alachua County (Gainesville) and south** (except Monroe County where we have not looked at it). I have found as many as

25% of female tawny mole crickets, collected from a golf course, to be parasitized, although the fly does not perform equally well in all locations.

We are still having difficulty in rearing the predatory beetle *Pheropsophus aequinoctialis*; however, this has improved somewhat recently.

The nematode *Steinernema scapterisci* is now sold commercially as a biopesticide. It can provide control similar to chemical insecticides but is much more expensive and requires greater care in storage, handling and application. However, it can act as a classical inoculative biocontrol agent (p. 469) similar to *O. depleta*; once established in a mole cricket population, it will kill a certain percentage of adult mole crickets indefinitely and it can spread, via infected hosts, to untreated areas.

Future research needs include determining nectar sources (landscape and wild flowers) of adult flies so that their performance might be enhanced; determining host range of the beetle so that we may obtain permission from regulatory agencies to make field releases; and determining effects of the wasp on mole cricket populations. Currently **no** funding is available for such research which, of course, seriously hampers progress.

Best regards,
Patrick Parkman
Research Associate