

sensitive, groundwater monitoring studies.”

Latta said, “What we may be seeing here are problems of sampling technique or well installation, rather than pesticide leaching.”

Other data Latta has seen from sandy soils show very little evidence that pesticides leach.

“So far, in my exposure to the data, there’s very little evidence of pesticide moving below the root zone. Soil is a good filter, but you can saturate the sponge. If you irrigate much heavier than you should, you can wash the pesticides down through the absorptive layer before they can be absorbed.”

Turf management is urban agriculture, Latta said, and it’s especially important to make sure it is environmentally compatible since high concentrations are nearby.

Chip Lewison, golf course superintendent at Dunedin Country Club, is cooperating in the project.

“They want to collect good quality data to help set future standards. We provide background information on maintenance, use and levels and so on as a guideline as to what we (the golf industry) are doing or not doing to affect groundwater contamination.”

Lewison said, “What I’ve been trying to do is talk with some area supers who have monitor wells on their courses — what they are testing and what some of the results might be.”

Lewison said the data surfacing within the last 18 months has brought the subject to light, but golf course superintendents had discussed the

subject in Anaheim, Calif., in January, 1989.

“We knew it was going to become more of a problem and decided we’d better start collecting data, and keep ourselves abreast of people who are against pesticide usage and so on. We want to avoid the scare tactics some people are using and we want to see if we’re doing something that is harmful.”

Lewison pointed out that most of the products used on golf courses can be bought by homeowners at garden stores. “We buy in larger quantities, and we’re trained and certified — we get four to eight hours of classes and testing every year. That’s the difference between us and the homeowners.”

Mark Jarrell, super at Palm Beach National GC, says he has been doing testing for some time and turf seems to be insurance against groundwater contamination.

“We’re trying to do our part to make sure our use of products and materials is going to be for the benefit of everybody and not end up causing problems for other people down the road. We’ve put a lot of money and research into research.”

Jarrell cited a study of golf course effects on groundwater in Cape Cod. Some 19 wells on 30-year-old golf courses were tested for 17 turf chemicals. Of these, seven were not found, one was at 20 percent of the health advisory level (maximum healthy exposure) and the rest were 6 percent or less of HAL.

DER officials wanted to wait until a formal report was ready to comment.

Red-eyed flies secure beachhead in Bradenton



Some golf courses near Bradenton have busy little silent partners helping them control mole crickets, those brown burrowers who cost Floridians over \$40 million per year, browning out golf courses, lawns, pastures and vegetable fields.

In October, 1988, entomologists from the University of Florida’s Institute of Food and Agricultural Sciences released a biological control agent at the IFAS Research and Education Center in Bradenton.

The result: “red-eyed flies,” *Ormia depleta*, a natural enemy from mole crickets’ native chomping grounds of

IFAS biologist Sue Winewriter



Brazil, have prospered in their new Florida home.

"Descendants of those flies are now abundant and they occupy an area of at least 78 square miles surrounding the IFAS station," said Howard Frank, director of the mole cricket bio-control research at IFAS.

Red-eyed flies respond to the mole cricket mating call and lay living lar-



Howard Frank

vae on or near that scourge of Florida turf. The young burrow into the mole cricket and kill it as they grow.

Before the experiment could

begin, of course, it had to be demonstrated that the fly would not attack any other Florida creatures, and the proper permissions had to be obtained from U.S. and Florida departments of agriculture.

IFAS biologist Sue Winewriter invented the techniques which allowed her to rear *Ormia depleta* in the lab. It was a first, not only for this species, but for its close relatives, too.

Flies showed up in Manatee County and northern Sarasota when Frank's colleague Tom Walker and grad student John Amoroso set traps to measure the spread of the fly. It is not known how far north and south the fly can establish populations. It comes from a moderate climate in Brazil,

though, and the IFAS scientists hope the fly can cover the Sunshine State.

Nematodes meet nemesis in battle with bacteria

Nematodes, worms so small they look like fuzz, are a big problem for golf courses in Florida, but an IFAS scientist thinks he's on the trail of some even smaller organisms that can give the tiny worms a big problem of their own.

"It's exciting, but we're a long way from being there," says Donald Dickson, an IFAS nematologist, studying nematode nemeses — two

SNAPP

Tree Service, Inc.



Fully Licensed and Insured
Established 1979



**Tree Pruning
Tree Removal
Stump Grinding
Root Pruning**

P.O. Box 3888, Boynton Beach, FL 33424-3888

West Palm - Jupiter
407-585-4883 or 588-6253 or 586-2600

Delray - Boca
407-498-5313



We are dedicated to helping turf grass managers do their jobs more efficiently by striving to provide the best parts and service available.

TORO

TORO IRRIGATION
GREEN MACHINE
BILLY GOAT
POWER TRIM
FOLEY
MAIBO
OHIO
CROSLEY TRAILERS

DISTRIBUTOR FOR CUSHMAN/RYAN

CUSHMAN INDUSTRIAL
SARLO
RAYSIDE TRAILER
TRENCHMASTER
OTTERBINE
VICON
BERNHARD EXPRESS DUAL

OLATHE

STANDARD
PAR AIDE
BROYHILL
CYCLONE
GANDY
WINDMILL
DEDOES

SALES MANAGER, Don DeLaney
(407) 841-8460

JACKSONVILLE

1741 Hamilton St. 32210
(904) 387-0516
TERRITORY MANAGERS
Carl Heise
John Higgins
Bob Ward

ORLANDO

1140 S. Rio Grande Ave. 32805
(407) 841-8460
TERRITORY MANAGERS
Phil Bradburn
James Griffin