## Nematode test begins at Fla.courses Florida researchers will begin Tarpon Springs. Elorida researchers will begin Tarpon Springs.

Florida researchers will begin releasing the most promising biological control agent available for mole crickets this month on 23 test golf courses throughout the state.

It is hoped the microscopic worms called nematodes will help eliminate the pesky insects which cause an estimated \$46 million damage annually to Florida courses, lawns, pastures and fields.

Among the courses participating in the nematode release program are Bay Hill, TPC in Jacksonville, Fiddlesticks in Fort Myers, Royal Poinciana in Naples, Interlachen Country Club in Orlando and Cypress Run Country Club in "Mole crickets just ruin our putting, tees and fairways. Not only do they wear and tear at the grass roots, and prevent grass from growing, but their tunneling makes very, very bad spots on the fairways,"

said Robert J. Yount, vice president of development for the 800member Florida Turfgrass Association. The FTA, through its funding arm, The Florida Turfgrass Research Foundation, is funding research and the release of the Uru-

search and the release of the Uruguayan nematode through a \$100,000 grant to the University of Florida's Institute of Food and Agricultural Sciences. Owners of each of the participating golf courses will also provide \$8,000 to the foundation to help finance the release and further biological research.

Unlike other types of nematodes, the Uruguayan variety is not harmful to man, plants, animals or other insects. It preys solely on mole crickets.

The nematode enters the tiny, tan insect and releases a bacterium that kills the mole cricket. The nematodes feed on the bacteria, which multiply rapidly in the body of the mole cricket. The nematode undergoes two complete life cycles inside the cricket, with about 50,000 juvenile nematodes leaving the cadaver to infect other mole crickets.

IFAS scientists J. Howard Frank and Grover Smart will release 3 million nematodes on the first course. They will use electronic sound emitters that mimic the mole cricket's mating call to lure them to the waiting nematodes. Frank said he will try three different methods of spreading the nematodes near the sound emitter to trap the mole crickets.

Many chemical pesticides to control the pest are still being evaluated by regulatory agencies and may not be available for some time, making a biological control agent all the more attractive. The Florida

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Turfgrass Research Foundation provided \$145,000 to the IFAS over the past five years to find a biological alternative.

The Uruguayan nematode has proven very effective. The release of nematodes at five sites in Gainesville pastures has decreased mole cricket populations by 95 percent.

## Oklahoma remodeling courses

BY PETER BLAIS

Oklahoma is spiffing up its nine state-owned resort golf courses to cash in on the game's growing popularity.

"The people here (state tourism department) are aware of the growth in golf," said Art Proctor, the department's golf director since April. "They want to enhance our courses' image so we can attract more people."

That image was slightly tarnished by poor playing conditions at many courses. Proctor, who has played the PGA and Senior tours and served as head pro at Kickingbird GC in Edmond the past 16 years, often heard complaints about state courses from Kickingbird members. Improper fertilizing, over-watering, poorly cut greens, and too-frequent changing of cup placements were among the gripes.

"It was just a general lack of technical knowledge," said Proctor. "They created this position to take the courses out of the control of the parks and give it to experts."

A \$5-million bond issue, approved in November, includes \$800,000 for expanding three state courses from nine to 18 holes. Although it generally costs much more to build a single nine-hole course, the state can take advantage of such cost savings as inmate labor, use of state equipment, and in-house expertise to design and lay out the additions.

The three courses up for expansion are Quartz Mountain State Park near Altus, Lake Murray State Park near Ardmore and Hochatown State Park near Broken Bow. Three greens were rebuilt at Sequoyah with more expected to get similar treatment as funds become available.

Proctor also plans to install cart trails and buy new equipment at the remaining courses. Driving ranges are on tap for some facilities, with Lake Texoma State Park's expected to open this spring.

Refitted pro shops, new signs, fresh paint, 1,400 newly planted trees and new benches have been spread out among the courses. Lessons will be made more available and PGA members only hired as new golf managers, a move Proctor expects will improve turf quality.