

1995 Show Me!

Researchers advancing in discovering biologicals for turf care

By MARK LESLIE

SAN FRANCISCO — Researchers are continuing to discover and verify bacteria and endophytes that effectively control turfgrass pests, according to Dr. Patricia Vittum of the University of Massachusetts at Amherst.

Speaking at the International Golf Course Conference and Show, Vittum said: "Living organisms are available to control some pests. But we need to look at ways to reduce pesticide loads and use

biologicals when available."

Among the findings and recommendations she related are:

- For Japanese beetles, *Bacillus popilliae* works "but controversies surround it. Doom, Japidemic and Grub Attack are very slow-acting and don't remain established long in some areas."
- To find out when moths are laying their eggs, put up a black light trap. When the number of captured moths increases, that is a signal they are out flying. They reproduce two to three

weeks later — 10 to 14 days in warmer regions — and that is when to apply the control material.

• *Bacillus Thuragiensis* (BT) variety *Israeliensis* is effective against mosquito larvae and has no effect on others in that aquatic setting.

• Another BT variation, not yet named, is exciting because it has good activity against white grubs. It is in the hands of university researchers for field testing. "I predict it will be commer-

cially available within two or three years," she said.

• More and more information is available about nematodes — microscopic, worm-like creatures that carry bacteria that they release while moving about inside insects.

Among nematodes, *S. carpocapsae* is effective against caterpillars, while *s. nobravis*, *s. riobravis* and *s. scapterisci* have yielded good results against mole crickets.

Look for *s. glaseri* to come on

the market. It kills white grubs.

• *Steinernema Carpocapsae* (Exhibit, Vector and Biosafe) show good results in caterpillar control. Also displaying some bill bug control and possibly annual bluegrass weevils, they work quickly — in several days.

• Nematodes are formulated in various ways — from packets of jell to newer, pelletized packaging. The pelletized type is "much easier to handle, but perhaps the nematodes are not as lively," Dr. Vittum said.

Reducing solid waste stream made easier

By MARK LESLIE

SAN FRANCISCO — "A waste is a terrible thing to mind," said Dr. Roch Gausson of the University of Nebraska. And with that, the professor informed superintendents at the International Golf Course Conference and Show that technology now exists "to ameliorate a lot of the problems" once affiliated with compost generation.

"The EPA feels the number one way to reduce the organic waste stream is to reduce the amount that is produced. Second is recycling," he said. Along those lines, he pointed to a number of cultural, chemical and design practices that can strongly influence solid waste management. Among them:

• Mowing. Raising the height of cut can reduce clipping production 10 to 15 percent. Twenty percent of the time, let the clippings fall. "This does not influence the thatch level; that is a misnomer that has been around for years," he said.

• Fertilization. Reducing fertility input within the range that is recommended can reduce the clipping production 10 to 20 percent.

• Grasses. When lower, more prostrate-growing ryegrasses are used, as much as 40 percent less organic production can be realized.

• Ornamentals. Select species with quickly decomposing leaves, minimal pruning requirements, relatively low fruit drop and size. Ornamentals are being bred to grow shorter.

• Plant Growth Regulators (PGRs). Estimates suggest they can reduce clipping production 10 to 50 percent.

"New technology is out, but be very careful," Gausson said. "They are very rate-sensitive and can cause negative agronomic problems — much like any pesticide — if not used properly."

PGRs can also be effective on trees.

