**ONE IF BY AIR, TWO IF BY SEA**

**Gambusias worth their weight in mosquitoes**

**By Mark Leslie**

HESTERTON, Ind. — So, you've tried the "air" approach — the bat, purple martin and tree swallow. Houses are all installed — but the mosquitoes are still bugging golfers and the grounds crew alike. How about trying the "water" approach, getting the little pests before they take flight?

That's what senior ecologist Robert Walkerton-based J.F. New & Associates here recommended to superintendent Don Ewoldt of Sand Creek Country Club in Chesterton. The water approach entails transplanting the little-known Gambusia afis, commonly known as mosquitofish, to Sand Creek's ponds and wetlands. Gambusia could become the superintendent's best friend at golf courses with still, or slowly moving water — the best breeding ground for mosquitoes.

Since their mouths are located on top of their heads, the Gambusia eat mosquito larvae off the water surface before they hatch. And since they grow to a full size of 1 to 2 inches, they can reach very shallow water that larger fish can not.

Also, they are tolerant of poor water-quality conditions and don't need much oxygen.

When we deal with golf courses, they are always concerned with mosquitoes and want to drain the wetlands, Wolfe said. "But you can't do that. "Mosquitofish are one piece in the control puzzle. I recommend purple martin, tree swallows, bats and..."

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**MSU's Vargas on the cusp of pioneering research**

**By Mark Leslie**

Dr. Joe Vargas has been a professor of botany and plant pathology for 28 years at Michigan State University, where he has been involved in teaching, research and extension. His has helped develop the pseudomonas aeruginosa (TX-1) biological control microorganism that is proving useful in treating winter-weather diseases when applied through Ecoterra's Bicist system (see August '96 Golf Course News; discovered the first bacterial disease in turf on Toronto creeping bentgrass; reported the first resistance by a turfgrass pathogen to a systemic fungicide and later reported the first resistance to DMU fungicide by the dollar spot organism; developed the first mathematical prediction model for a turfgrass disease; and developed a fungicide timing model for summer patch that is used worldwide.

**Dr. Joe Vargas**

**Golf Course News**: Can you tell us about your work on injecting disease-resistant genes into bentgrass?

Dr. Vargas: The USGA funded a project for this at MSU. Dr. Miriam Sticklein isolated a chitinase gene from an elm tree and is trying to incorporate it into creeping bentgrass. Since most fungi have chitin in their cell walls, theoretically, a chitinase gene in the turf plant should produce chitinase that could attack the cell wall or the fungus and de-stroy it. A year from now, we should know how successful we have been.

**GCN**: What is the nature of MSU's work on sand green construction?

**JY**: The USGA has funded a project to look at mixes for USGA-spec greens conducted by Drs. Cram, Paul Rickie and John Rugg. USGA greens are still the most popular. Hopefully this will lead to some minor refinements to make them even better.

**GCN**: What are you discovering about using peat moss to minimize damage from hydraulic oil leaks?

**JY**: Most researchers believe, for many years, that the heat of the hydraulic oil killed the turf when a mower hose ruptured. Attempts to remove the oil with soap or wetting agent failed. Zorbit Technologies approached us with a product called Post Sorb, a super dry peat moss.

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**New zoysiagrasses fulfilling prophecies of the past**

**By Mark Leslie**

BELTSVILLE, Md. — You could call it The Zoysiatain Prophecy. And in this case, it came true.

"Two years from now," Dr. Milt Engelke of Texas A&M University told Golf Course News in 1994, "more vegetative types will come on line, and they will use 20 to 30 percent of the water required by Meyer, which translates to 50- to 70-per cent less water than used for hybrid Bermudagrass. These also will have excellent cold hardiness and very low fertil-

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**Cheaper product forecast for zoysias**

**College Station, Texas**

Faster production cycles for the newer zoysiagrasses varieties should translate to lower prices and availability. Good new because availability has been a problem.

Concerning his grasses, Dr. Milt Engelke of Texas A&M University said in early August: "We're just now getting into production this year. We still have not cut sod for the first production, so it probably won't go into production until next year and it may not be available until 1998.

Future availability should be improved — at least for some varieties.

"The production cycles are much faster on the newer varieties," Engelke said. "With Palisades and Crown, which are El Toro types, we..."

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**PSU BESTOWS AWARDS OF MERIT**

STATE COLLEGE, Pa. — Three Pennsylvania State University graduate students have received Awards of Merit from the Pennsylvania Turfgrass Council. Quebec native Andrea-Ann Couillard received her bachelor's and master's degrees from Laval University in Quebec, her doctorate from Penn State and has accepted a post-doctoral position at Guam University. Kathy Kallisch of Erie, Pa., received her bachelor's and master's degrees at Penn State and has accepted for the doctoral program there. Douglas Lade of Coopersburg, Pa., completed his doctoral work this summer and hopes to become a professor.

**IF BY AIR**

DULUTH, Ga. — The Georgia Turfgrass Foundation Trust's Turfgrass Research Report demonstrates that many new bentgrass cultivars are performing better than traditional golf course bentgrasses. Results were gathered in the eight Southern states participating in the 1993 National Turfgrass Evaluation Program trials. For more information contact the Trust at 770-975-4123.

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**NY TURF SHOW NOV. 12-15**

ROCHESTER, N.Y. — The annual New York State Turfgrass Association Turf and Grounds Exposition will be held Nov. 12-15 at the Rochester Riv- erside Convention Center. This year's event will feature educational seminars, trade show and keynote speaker Paul Maguire, a former Buffalo Bill and commentator for NBC Sports football coverage. For more information contact 800-873-TURF.

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