

Vargas on gene injection, other modern advances

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After trying to convince them they were wasting their money, we conducted the experiment anyway. They were right. If we applied Peat Sorb within a half hour of the spill, plants didn't die. Peat Sorb is so effective in absorbing hydrocarbons, that if you apply it before the oil reaches the crown of the turfgrass plant, the plant will live. Recovery of the injured foliage occurs very quickly for the uninjured crown.

GCN: How is your GCSAA-funded research progressing on a cure for crown-rotting anthracnose?

JV: GCSAA has a new policy of matching funds donated by local chapters for practical research. Crown-rotting anthracnose (CRA) has become a major problem on U.S. putting greens. The increased incidence of CRA is probably related to close mowing heights, which puts stress on the plants, and the high-sand content greens causing wounds that allow pathogen entry into the plant. Control for many years was high rates of thiophanate-methyl drenched into turf. However, in the past couple of years, the CRA fungus has developed resistance to this chemistry. This research will hopefully lead to a better understanding of the disease and more practical ways of managing it.

GCN: What do you think of the way the USGA and GCSAA allocate their research dollars? Is there something they could do to improve the process?

JV: The USGA has done a great job of spreading the money around U.S. universities on worthwhile projects. Bringing Dr. Mike Kenna on board as research director turned the program around because you had a full-time academic person who understood research. [National Director] Jim Snow deserves credit for convincing the USGA's executive committee of the importance of continuing support for turfgrass research.

GCSAA is just back in the business of supporting research. They likewise have a former academic heading their research program, Dr. Jeff Nus, who was involved in university research before he went to GCSAA. Having input from local GCSAA chapters on their research needs helps money go to worthwhile projects.

GCN: Your book, *Management of Turfgrass Diseases*, is generally considered one of the best turfgrass science books on the market. Do you have plans for any additional books?

JV: I am writing a book dealing with pesticides and how they relate to human and animal health products, as well as how their toxicity compares to the food we consume and the everyday products

we use around the house.

GCN: In what areas will the major advances in turfgrass research come over the next 10 years?

JV: The major advances will come in the areas of turfgrass breeding and biological management of pests because of genetic engineering and our ability to move genes from one species to another. Several researchers have

creeping bentgrass plants that are resistant to Roundup and Finale. Imagine a creeping bentgrass cultivar resistant to either one of these. You can spray your creeping bentgrass once a month and not worry about annual bluegrass.

Eventually, we'll be able to put BT genes or endophytes into creeping bentgrass, which should eliminate cutworm and sod webworm problems. We have many good biological-control agents, and with technology like the Bioject, and others yet to come, biological-control agents will be delivered in a

timely and efficient manner.

As good as some of the biological control agents are, we should be able to genetically engineer even better ones. This does not mean all our problems are over. There are regulatory problems in getting these products released. Resistance by weeds, insects and fungi will inevitably occur to the genetically engineered plants and microbes. But there should be others coming on stream all the time to replace them. The next five to 10 years are going to be the most exciting we have ever seen in the turf industry.

USGA JOINS EPA GROUP

FAR HILLS, N.J. — The U.S. Golf Association is one of 10 companies and associations that are charter members of the Pesticide Environmental Stewardship Program, an initiative of the federal Environmental Protection Agency (EPA) to reduce the health and environmental risks of pesticide use. "I commend the organizations that have stepped up and made the commitment to reduce the potential risks of pesticides," said EPA Administrator Carol M. Browner.

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