

RESEARCH

Bermuda first over bentgrass in South

ORLANDO, Fla. — The stresses faced by creeping bentgrass in the deep South are simply too overwhelming to make it the turf of choice there, according to Dr. James Beard of Texas A&M University.

"I think you can have some success initially," says Beard of southern creeping bentgrass greens, "but really the bottom line is what happens in that fourth, fifth, and sixth year. I think it's an awfully, awfully difficult thing to accomplish."

Beard says, "We must keep in mind that one is a warm-season species and one is a cool-season species, and that is a big difference in many, many different ways."

Florida is about as far away from the traditional adaptation zone for bentgrass as one can go, notes Beard. "And that's a big distance to overcome in terms of all the changes in environments and differences that exist in that distance." These include different metabolism, root systems, tolerances, cultural, irrigation and temperature requirements.

The farther you go away from the adaptation zone, says Beard, the more difficult it is to grow bentgrass. As a result, additional pressure exists for cultural practices to be successful.

"So, in a given situation, depending on environmental stresses or whatever stresses you have relative to temperature, this can affect the potential success you may have, because of the great disparity in stress tolerance between these two grasses."

Beard says the extension of bentgrass into the deep South so far is "really amazing, considering its normal range of application," but concluded, "I never want to say it can't be done or won't be done in the future...but

at this date and time and level of technology, I wonder whether it's really a wise way to go.

"I know there are great pressures out there to get away (from bermuda), but sometimes some people need to have some common sense talked into them."

Beard made his comments at the 61st annual Golf Course Superintendents Association of America meeting recently. □

RESEARCH

Support for bio-controls is meeting resistance in Europe

LONDON, England — Reuters News Service recently reported hostility toward biological research in the United Kingdom and West Germany. According to the report, genetic engineering firms are moving overseas to escape the red tape and hostility.

The regulatory environment in Europe is hindering bio research, and companies are going where they can proceed with minimal interference.

"Research will follow wherever the manufacturing and market is, and in-

creasingly the manufacturing and markets are overseas," says Nigel Poole, manager of bio-technology and regulatory affairs for Britain's Imperial Chemical Industries.

In West Germany, opposition is based on fear of the unknown, long-term implications of genetically altering a cell, fearing that organisms which have been tampered with in labs could run rampant when released into the environment.

Bayer AG and BASF AG, two large West German chemical companies, have

moved their bio-technology research operations to the U.S.

Hoechst AG is reported to be following close behind in the migration to friendly shores. A West German court recently blocked it from making genetically engineered human insulin.

The court decision means that no bio-engineered products can be produced in West Germany. But sources say moving operations to foreign soil will not automatically make it easier to sell biological products back home. □

CREEPING BENTGRASS BERMUDAGRASS

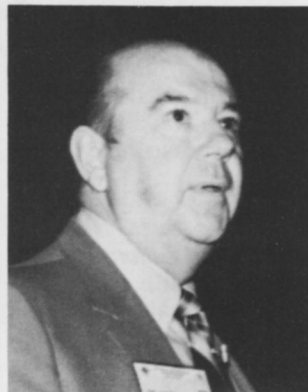
Heat tolerance	Fair	Superior
Summer rooting	Fair	Good
Wilt-stress tolerance	Poor	Superior
Drought Resistance	Fair	Superior
Wear tolerance	Fair	Excellent

TEMPERATURE DIFFERENCES:

Optimum temp.	60° to 70°	80° to 95°
Sub-optimal growth at	45° to 60°	65° to 70°
Root growth	50° to 60°	75° to 85°
Shoot growth	60° to 75°	80° to 95°
Shoot restriction	75° to 90°	95° to 100°
Root growth cessation	80°	105°
Death	105°	120°

RESEARCH

Pesticides pose no threat to groundwater



Dr. Harry Niemczyk: people need confidence in lawn care operators.

WOOSTER, Ohio — Scientists at The Ohio State University have found that there is little or no downward movement of pesticides applied to lawns and golf courses.

Dr. Harry Niemczyk and Adam A. Krause say the findings could help allay concern that lawn care chemicals are leaching into the soil and contaminating groundwater.

"Whether on 'Geraldo' or on '60 Minutes,' people have been saying that pesticides applied to

turfgrasses are getting into the groundwater," says Niemczyk. "Our data says that's just not true."

Niemczyk and Krause applied six herbicides and nine insecticides to turfgrasses in separate, one-year experiments. He says that almost all pesticide residues remained in thatch, and that there was little or no leaching of pesticides in their field studies. (Runoff or homeowner exposure to lawn care chemicals were *continued on page 12*)

GCSAA show attendance soars to a record 17,500

LAWRENCE, Kan. — Attendance at the GCSAA International Golf Course Conference and Show reached a record high of 17,500, a 20 percent increase over 1989 attendance.

GCSAA director of communications Pat Jones cited the increased popularity of golf and the show's Orlando, Fla., location as two keys to the high attendance figures.

"There's so much interest in the business because it's crucial to the Florida economy," says Jones. "There was also increased interest from golf course owners, operators and architects. That doesn't represent a huge number, but we're glad to see it."



The GCSAA estimates attendance from 25 European, Canadian and Pacific rim countries at 1500. Ideally, says Jones, foreign interest will increase each year. "We're certainly hoping," says Jones, "that with continued developments in Eastern and Western Europe through 1992 that golf is going to find a bigger place in Europe."

Jones reports that the

show's 552 exhibitors were thrilled with the higher traffic on the show floor, and superintendents expressed delight with the Orlando area and the way the show was set up.

"We were more specific in the educational programs," he notes. "In the past we've offered the op-

portunity to go from very general turfgrass maintenance classes to more specific classes. This year, with the addition of some of the environmental topics that we discussed and some of the very technical and specific regulatory issues they face, we were able to offer them some very detailed information that wasn't available in the past."

Jones says improvements and changes in next year's Las Vegas conference will be based on member surveys.

"We will continue to offer as many duplicate sessions as we can," Jones promises. □

GOLF

Very possible to 'max out' on green speeds, super says

PALM DESERT, Calif. — The extra maintenance required to maintain the fastest putting green speed possible has narrowed the margin between green survival and failure, says Bob Stuczynski, superintendent at Ironwood Country Club here.

As Stuczynski says—and as most supers would concur—closer mowing causes shorter roots and increased summer soil temperatures. The thinner turfgrass stand also encourages more weed problems, which lead to more herbicide use.

NIEMCZYK from page 11 not examined.)

"I hope that people will have confidence that what they're doing to lawns is not contributing to groundwater contamination," concludes Niemczyk. □

Stuczynski finds that some superintendents are inclined to omit the green's minimal nitrogen needs rather than anger golfers. "The major problems with low nitrogen," explains Stuczynski, "are more weeds and moss and more blemishes which heal slowly. Without new growth that can be mowed into a smooth surface, the demand for closer cut increases."

Stuczynski thinks the key is that players must realize what can and cannot be done.

"The golf course superintendent is willing to provide whatever the golfer likes," says Stuczynski, "if it is feasible without excessive failures. Extremely close mowing will increase problems. Needless to say, no one suffers more than the golf course superintendent when turf fails." □

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