

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*)