THE BREEDER

In the last 50 years, plant geneticists have brought us from virtual ignorance to space age radioactive mutation techniques. The research, once lagging , is now ahead of the consumer in many respects.

The pioneers in turfgrass breeding had little to go on. Today, students have the opportunity to train under the originators of the science.

For example, Dr. Richard Skogley at Rhode Island, worked and trained under Jesse DeFrance, one of the original specialists in bentgrasses. Skogley's students include Richard Hurley, vice president of research and development at Lofts Pedigreed Seed Co.; Jim Wilkinson, director of research for Chemlawn Corp.; Victor Gibeault, extension agronomist for the University of California; Tom Cook, extension turf specialist at Oregon State University; and Bob Mazer, turf specialist at Clemson University.

Another example is Henry Indyk of Rutgers had considerable influence on Reed Funk's decision to be the first full-time turf geneticist at Rutgers. Indyk came from Nebraska where Fred Grau had helped establish a turf program. Today, Jerry Pepin Kevin McVeigh, and other Funk students are making substantial contributions to turf breeding.

The future presents significant challenges to turf breeders. Rising costs for water, fertilizer, insecticides, fungicides and herbicides will force development of hardier species for climatic regions. Joe Duich of Penn State points out, "There is still no satisfactory turfgrass for fairways in the North. Fairway grasses must stand up to low cutting, heavy irrigation, and *Poa annua*. In the future, overuse of water and chemicals will be discouraged and the grass on the fairway will have to get by on less. We have been working on a strongly rhizomatous colonial bentgrass. We must adapt to reduced levels of maintenance by developing turfgrasses that match this lower level of maintenance."

For the transition zone tall fescues and other deep rooting grasses are needed to survive without extreme dependence upon irrigation.

In the South, insect resistance must be added to the traits of improved grasses. Work with centipede may eventually obtain this goal.

Reclamation grasses are bringing us back to the grasses indigenous to North America, such as buffalograss, gama grass, and reed canarygrass. We are rediscovering our prepioneer ecology. These grasses survived years of natural selection and have potential for low or no maintenance areas such as highway roadsides, large parks, and reclamation.

The progress in the next 20 years will match and exceed that of the last 50 years. To be part of this progress, one must know what happened in the first 50, to appreciate the next 20.