

The grass is always greener

OSU develops seed-propagated bermudagrass

This spring when the Cowboys take the baseball field, it just won't be the same. The field in Allie P. Reynolds Stadium received a face lift with the newly planted Riviera bermudagrass.

"OSU is the only NCAA baseball field in the country with Riviera on the field," said Bryan White, Oklahoma State University turf and field supervisor. "Some football fields have it, but we are the only baseball field."

Riviera is currently planted on the infield and wings of the baseball field. Johnston Seed Co. of Enid, Okla., donated the sod to OSU for the fields. The ground work began July 29, 2003. Approximately a week later the Riviera sod was put down.

"Riviera is an aggressive, tough grass that heals fast," said White. "It is just outstanding. It is a great grass to have on a field where there is so much activity."

Riviera bermudagrass is one of the many products developed through the largest bermudagrass breeding program in a public university. That university is Oklahoma State.

Riviera seeded bermudagrass was developed by the OSU turf grass

development team. The U.S. Golf Association and the Oklahoma Agricultural Experiment Station provided financial support for the development.

"Riviera is a product of many years of turfgrass breeding," said Charles Taliaferro, OSU forage breeding and genetics specialist. "It is seed-propagated instead of sprigs or vegetative. This is the first seed-propagated bermudagrass combining high turf quality and wide adaptation throughout the southern U.S. where bermudagrass is the principal turfgrass."

Riviera is produced by intercrossing three clonal parent plants. The parent plants were selected on the basis of turf quality and transition zone adaptation from parent plants that had undergone several cycles of breeding selection. It takes a minimum of four years to do one breeding cycle.

The turfgrass development team is led by Taliaferro, Dennis Martin, and Jeff Anderson, as well as molecular biologists Mike Anderson and Arron Guenzi.

Taliaferro collects parent plants and begins the breeding process. Martin evaluates experimental varieties from the breed-

ing for overall performance. Jeff Anderson, Mike Anderson and Arron Guenzi conduct research on the bermudagrass for traits such as cold tolerance and disease resistance.

Jeff Anderson's job is to take the plant after it grows in the research field and put it into a freezer to simulate fall temperatures. The plants surviving the cold temperatures are then given back to Taliaferro for more research and development.

Riviera is more cold tolerant than other varieties and can be found as far north as Kansas City or St. Louis, Mo.

"Riviera will open the market for the transition zone between the deep south and the north," said John Lamle, research and production agronomist at Johnston Seed Co. "It is a better-quality turfgrass. It took approximately nine years to develop this particular grass."

Riviera is being marketed by Johnston Seed Co. As a part of the licensing agreement with OSU, Johnston was allowed to rename it for marketing purposes. Riviera's original name was OKS 95-1. Lamle said all employees participate in naming seeds.

"We make a list of names that sound



good; Riviera was one of those,” said Lamle. “We thought it was a flashy, classy name. It also reflects the seed quality and potential.”

Riviera has been tested by the National Turfgrass Evaluation Program. NTEP is a private nonprofit organization developed in the 1980s. NTEP tests take approximately four years to perform. From 1997-2001 testing, Riviera is at the top of the list. In fact, Riviera ranks first overall for winter kill resistance and drought tolerance. It also ranks first for color, spring greenup and percent of living ground cover in spring.

The NTEP performs tests for both seed and sod bermuda. National companies and plant breeders pay a fee to have their varieties of turfgrass tested. Data for this research is collected from the United States.

Information such as turfgrass quality, color, density, and resistance to diseases and insects, as well as tolerance to heat, cold, drought and traffic, is collected and summarized by the NTEP annually. Plant breeders, turfgrass researchers and extension personnel use NTEP data to identify improved, environmentally sound turfgrasses.

Local and state government entities,

such as parks and highway departments, use NTEP for locating resource-efficient varieties. Most importantly, growers and consumers use NTEP extensively to purchase drought-tolerant, pest-resistant, attractive and durable seed or sod.

“The spring of 2003 was the first year for Riviera to be on the market,” said Lamle. “I think spring 2004 will be even better with more of a seed crop.”

Riviera is suitable for planting on high-quality lawns, sports fields, parks and golf course fairways.

“Riviera should be planted in areas of full sunlight when soil temperatures reach a consistent 65 degrees Fahrenheit and are on the rise,” said Martin. “One should plant two pounds per 1,000 square feet.” ♦ *By Mitzi Hartin, Madill, Okla.*

For more information call Johnston Seed Co. at (800) 375-4613 or Dennis Martin at (405) 744-5419. Test results on all varieties tested at NTEP can be viewed at <http://www.ntep.org>.

Bryan White, OSU turf and field supervisor, maintains the Riviera bermudagrass at Allie P. Reynolds Stadium. (Photos by Mitzi Hartin)

