



RICE VARIETY

By Robert H. Wells

British poet William Blake wrote of seeing the world in a grain of sand, and one Mississippi State University researcher is seeing Delta towns in kernels of rice.

When Dwight Kanter, a rice breeder at MSU's Delta Research and Extension Center, chose the name of his newest rice variety, he looked no further than the small Delta town where the variety impressed him the most.

"One of our test locations is near Pace, Miss.," he explained. "The variety has consistently performed well at the Pace location despite the presence of sheath blight. It has stood out under those conditions."

Kanter, a rice breeder with the Mississippi Agricultural and Forestry Experiment Station, has named other rice varieties, including Priscilla and Litton, both after Delta towns.

"A lot of small towns are fading away or disappearing," Kanter said. "I think it would be good if we could some way keep alive the names of these small towns of the Delta. In times past they were very important."

Kanter has developed Pace to be a rice variety that addresses the specific needs of Delta producers. It is unique in that it possesses some field tolerance to sheath blight, a dreaded disease that can be devastating to the current most popular rice varieties, Cocodrie and Cheneire.

"Pace is a long-grain, high-yielding, semi-dwarf variety with good straw strength and field tolerance to sheath blight and blast diseases," he said. "In fields that tend to be problematic in terms of sheath blight, I think it will have an advantage over Cocodrie and Cheneire."

Keeps Delta History Alive

These are the characteristics one particular rice farmer, Travis Satterfield of Benoit, said he and others want in a rice variety.

"Most all farmers are looking for a high yield and something that stands up well," Satterfield said.

The rice farmer also cited a strong disease package and good milling characteristics as being important.

Pace has a whole grain milling yield average of between 53 and 60 percent, depending on conditions during the grain ripening process as well as harvest timing factors. Its cooking and processing qualities are characteristic of U.S. Southern long-grain rice, and its whole grain kernel length averages 7.5 millimeters, the rice breeder said.

"Some segments of the European market have expressed a preference for milled rice with a minimum length of 7.2 millimeters," Kanter said. "Consequently, the Pace variety should be a product of interest for that market also."

Randy Vaughan, manager of MAFES Foundation Seed Stocks, said seed dealers and farmers will be able to purchase Pace in the spring as foundation seed.

"The first field multiplication from breeder seed has just been completed," Vaughan said. "The seed is currently in bulk storage awaiting conditioning."

The foundation seed was harvested from a 10-acre field in Attala County and after conditioning will be treated, bagged, tested, and sold to interested registered seed producers, Vaughan said.

Already, there is strong interest in the variety's capabilities.





Photos by Bob Ratliff

“This past summer there were inquiries by phone and personal visit concerning the plant characteristics and overall progress of Pace,” Vaughan said.

The MAFES Foundation Seed Stocks program oversees the multiplication of breeder seed, such as Pace, to commercial quantities while maintaining high genetic integrity and physiological seed quality.

Foundation seed is the first generation of seed multiplied from breeder seed and is the first of three classes of commercial seed produced as part of the Certified Seed Program, which also includes registered and then certified seed.

Before arriving at Foundation Seed Stocks, Pace was vigorously tested in a series of preliminary, advanced stage and then on-farm trials around the Delta to make sure it performed well under the area’s rice production conditions.

The combined trials equaled at least five years of testing data for the variety before Kanter finally began head-row seed production.

During head-row production, the breeder isolated plants from the variety and screened them for any unwanted characteristics. The seeds of the remaining plants were collected and represent the purest form of the variety. These seeds were then given to Vaughan to be planted as foundation seeds.

Kanter said he tends to develop an attachment to varieties after years of working with them.

“You work with the variety so long you develop a mental image of what the plant looks like,” said Kanter, who first began work with Pace in 1988.

The rice breeder’s vision, however, will not cease upon the arrival of Pace this spring.

“We are working with hundreds of breeding lines in various stages of development,” Kanter said. “We are always striving to have the next variety following a year or two behind the most recent.”

Other research into rice production is occurring at the Delta station alongside Kanter’s.

Agronomist Tim Walker has defined nitrogen recommendations for newly released varieties and hybrids across different soil types. He also is working on refining soil test methods for determining phosphorous needs in rice, evaluating precision agricultural tools for use in rice production, and investigating seeding rates for rice.

Entomologist Jim Robbins is researching new chemistries and timing for control of rice stinkbugs, the rice water weevil and the colaspis beetle, as well as investigating the interaction of insecticides with fertilization and seeding rates.

Plant pathologist Gabe Sciombato is screening for resistance and tolerance to blast and sheath blight. He also is testing new fungicides for control of rice diseases.

Extension rice specialist Nathan Buehring is preparing for the second year of the R.I.T.E. program, or rice improvement through technology and education, which helps rice farmers make the best management and economic decisions for successful production.

More information on this research is available at the Web site www.msstate.edu/dept/drec/.

