Bacterial *Panicle* Blight

Wamishe Focuses On Genetic Resistance For Panicle Blight In Rice

BETTY VALLE GEGG-NAEGER
MidAmerica Farmer Grower

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Bacteria panicle blight is a topic under research by Dr. Yeshi Wamishe, assistant professor of plant pathology at Arkansas University Division of Agriculture in Stuttgart, Ark.

"This has been an increasing problem since 1995, and it got worse in 2010 and 2011," she said. "Actually it was considered as a different fungal disease before that, but later it became known to be bacterial. So far we don't have practical management options for this disease. There are so many unknowns in this disease, so I'll be working more toward looking for the source of genetic resistance. I believe the new resistance that I may find will be incorporated into new high yielding varieties. This way rice breeders can produce newer varieties with resistance to this disease."

Presently, bacteria panicle blight is increasing in most of the current cultivars, particularly in Clearfield cultivars such as CL111, CL151, CL181, and the conventional cultivars like Chenere and Francis. The disease can cause up to 50 percent grain yield loss.

"Since I started my job, I have been looking at the varieties, trying to learn more about the disease and the varieties, particularly their resistance levels," Wamishe said. "That will give us enough ground to start looking for solutions.

"I'm hoping and I believe that we may come up with some management options," she said. "Fungicide chemical option is out of the question because the disease is caused by bacteria, but through observation and investigation we should have some cultivar management options; although in most cases, with bacterial diseases it is genetic resistance which is the most favored type of management option.

"I'm excited to work on this important crop and disease," she added.

Wamishe has experience with several crops, mostly cereals and their diseases.

"One of my crops was wheat, with emphasis on genetic resistance to leaf rust, and I have identified some resistant genes in soft red winter wheat in Arkansas," Wamishe noted. "I have worked on sheath blight and rice blast while I was in Stuttgart from 2003 to 2005. I also have been involved in diseases of ornamental crops in South Carolina.

"I believe my educational background and experience will help me find ways to combat bacterial panicle blight of rice. Δ

BETTY VALLE GEGG-NAEGER: Senior Staff Writer, MidAmerica Farmer Grower

Dr. Yeshi Wamishe, assistant professor of plant pathology at Arkansas University Division of Agriculture, discusses an increasing problem, bacterial panicle blight. Photo by John LaRose, Jr.