

A New Breakthrough For Farmers

Promising Research In Rice Disease Control

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Dr. Don Groth, rice pathologist, and Dr. Brooks Blanch, rice breeder, at the Louisiana State University (LSU) AgCenter's Rice Research Station in Crowley, Louisiana are trying to establish some diversity in rice to add stability.

"The study that we have been conducting is trying to re-establish some diversity into the crop so that there are resistance and susceptible plants in a field that will hopefully break up some of the more common disease cycles," said Groth.

"Typically in agriculture, every plant in a field is uniform, therefore if a pathogen can infect one plant, it can infect all plants and move rapidly through the field under favorable environmental conditions," said Groth, "our idea is to use mixtures to set up barriers to stop fungi from being able to move easily through the whole crop so that we do not have an epidemic."

"The concept is to mix a susceptible with a resistant variety. The benefit is the susceptible might have more agronomic value than the resistant one or the resistant might not have the yield potential of the susceptible variety," stated Groth, "the goal is to mix the varieties to maintain yields and quality while fending off problems."

"In our first year, the results were not as good as we hoped. In sheath blight tests, susceptible plants allowed the disease to establish higher on resistant plants causing more disease than expected. However, in blast trials, we saw some positive results and had less disease than anticipated in certain mixtures," said Groth.

"We are still at the early stages of these studies, it's going to take a lot of work to come up with the right varieties and combination ratios to provide good disease control," said Groth.

According to Groth, they are using different ratios of Jupiter and Bengal. "Jupiter is resis-

ant and Bengal is susceptible to sheath blight and blast," said Groth, "those are just some of the different combinations that we have been trying. We have had different levels of resistance with several combinations. With only one year of data, we just have to wait and see what happens this year"

"I think that there will be an additional bene-

Dr. Don Groth, Rice Pathologist at the Louisiana State University (LSU) AgCenter's Rice Research Station in Crowley, explaining the study to bring diversity to rice crops so fungi cannot easily spread from plant to plant in a field.

Photo on John LaRose



fit to mixing varieties besides the stability. There might even be some yield advantages," said Groth, "these mixtures may also eliminate the need for a fungicide application or more likely they will make your fungicide more effective because of lighter disease pressure."

"We are still a couple of years away from completely figuring it out, but I see a lot of promise," said Groth. △