Asian Soybean Rust

Getting Foothold in Area

Asian soybean rust appeared earlier and seemed to be spreading farther this year – giving experts reasons to suspect the disease could get a foothold if it goes unchecked.

Since the disease was first discovered in South Louisiana in 2004, LSU AgCenter experts have been cautiously watching it and working on ways to prevent it from devastating the state's soybean crop.

Until this year, most appearances of the disease had come later in the season, but it showed up in sentinel plots of soybeans in June and was discovered in production fields in central Louisiana in mid-July. Discoveries in additional areas were continuing in early August.

"This is the first time we've seen a significant infestation in a commercial field with the surrounding areas also infested," Dr. David Boethel, vice chancellor for research in the LSU AgCenter, said of the July discoveries. "The good news, however, is that our scientists have been on top of the situation – watching sentinel fields, communicating with farmers and consultants, conducting research and doing much more to combat this problem. I think the soybean producers in the state have been warned and have been poised to take action."

Among the potential actions are the use of fungicides to try to stem the effects of the disease, which has proven to be devastating to soybean crops in areas of South America. LSU AgCenter researchers are pursuing a variety of avenues to try to prevent such damage here. They also are staying in touch with other experts across the country who are monitoring the situation.

"There seems to be a marked increase in the commercial fields that are positive now," LSU AgCenter plant pathologist Dr. Clayton Hollier said in early August. "It would seem to say that the fungus has built up enough that it is starting to spread and move more easily."

Asian soybean rust was first discovered in the United States in 2004, when its windborne spores are thought to have come in on storm winds that summer. Although it's been known to exist since the early part of the 20th century, it was largely confined to Asia until recently – when it spread to Africa and then on to South America around 2000.

Since the initial U.S. discovery in South Louisiana, it has been seen in kudzu, another host plant, and on soybeans in a variety of Southern states, including Florida, Georgia, Alabama, Mississippi, Texas and Arkansas.

"Environmental conditions this year have been conducive to promoting this and other soybean diseases," Hollier said. "There are areas of Texas where there had never been rust before that are now showing up with rust as a result of the storms they've had go through there this summer."

The July discoveries in Louisiana came when much of the state's soybean crops were in the latter parts of the plants' reproductive cycles, known as R4, R5 and R6, where the soybean pods are formed and begin to fill.

"What the findings in these fields and the sentinel plots really give us and the farmers is a warning to be looking at commercial fields very carefully," LSU AgCenter soybean specialist Dr. David Lanclos said. "The whole point is to really get out and scout for signs of disease."

The LSU AgCenter experts said growers need to look carefully at plants and to be sure to examine areas well within the canopies of the plants for signs of disease – rather than taking a look at just the tops. They also said to look carefully around tree lines where shade may keep plants cooler and allow moisture to stay on them a little longer.

In addition to rust, soybean producers also can face other plant diseases such as aerial blight, Cercospora, pod and stem blight and anthracnose.

"Our parish agents, state specialists and research scientists have been working very hard monitoring soybean fields throughout the state," said Dr. Paul Coreil, vice chancellor of extension for the LSU AgCenter. "This excellent teamwork has resulted in the best possible notice to growers on rust identification in fields and management options. We hope that will limit the economic impact of this new crop disease." Tom Merrill

Photo by John Chaney

LSU AgCenter research associate Rose Berggren, at right, explains the basics of using a hand lens to check for signs of Asian soybean rust. The explanation about viewing soybean leaves for county agents Matt Martin, at left, and Hubert Wilkerson, center (with lens), came during an August workshop and field tour organized by LSU AgCenter experts. County agents, crop consultants, agribusiness representatives and others from across Louisiana and Mississippi participated in the event, which was designed to boost surveillance for the plant disease.