

Angular Leaf Spot Found In NE Arkansas Cotton

LEACHVILLE, ARK.

Angular leaf spot, a bacterial disease of cotton that made a comeback in Arkansas last year, has been spotted again in the northeastern part of the state.

"Until last year, we hadn't seen it in 30 years," said Terry Kirkpatrick, extension plant pathologist with the University of Arkansas System Division of Agriculture. "This is the second year in a row we've seen it."

Last year, cotton growers "had severe boll rot in a few fields that was associated with bacterial blight, so there's some concern about it," he said.

Unless it defoliates the plant, bacterial blight, also known as angular leaf spot when it occurs on cotton leaves, is not much of an issue. However if the pathogen infects the bolls, it can rot the bolls, or make the bolls vulnerable to attack by other boll rot organisms.

The disease gets its name from the angular lesions it forms on leaves between leaf veins. Fungal pathogens often form rounded lesions or pustules. Angular leaf spot can also cause water-soaked lesions that run along leaf veins.

Thanks to resistant cotton varieties and the process of acid de-linting seed for planting, Arkansas growers had been able to keep the bacterium at bay and the disease had not been reported since 1983 until last year.

"The jury is still out on why angular leaf spot has returned," Kirkpatrick said. The bacterium does not survive well in soil, but can survive a few months in crop debris.

"Bacterial blight has always been an issue in places like west Texas, where it's really hot and dry and when it rains, there are horizontally

blowing rains," he said. "Last year, that was the description of northeast Arkansas weather – but this has not been the case this year."

"There are 20 known races of this bacteria," Kirkpatrick said. "Just because you have a variety that's resistant to certain races, it is still likely susceptible to others. No cultivar is resistant to all races. We're still trying to determine if our races are different from those in other areas."

Angular leaf spot symptoms are being reported on several cotton cultivars this year," he said. "County agents, crop consultants and extension personnel are working with the Arkansas Disease Diagnostic Clinic to document the cultivars that are being affected, and where it is found."

"A complicating factor in disease diagnosis has been that there are no molecular techniques available to quickly and accurately detect and diagnose the pathogen," Kirkpatrick said. "While the organism, *Xanthomonas axonopodis* can be detected, but the pathovar, or race, as related to its ability to attack cotton cannot be detected without a grow-out in the lab."

Some producers believe center pivot irrigation can exacerbate the problem and Kirkpatrick cautions against this line of thought.

"The worst cases of bacterial blight of the 1950s and 1960s caused only about a 1 percent loss," he said. "In a year like this, we know for sure that if you don't water your crop you may not have a crop at all."

Arkansas farmers were expected to plant to 590,000 acres of cotton in 2012. Δ