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Were last year's soybean rust warnings warranted?

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URBANA, Ill. - Government and industry spent millions of dollars last winter to prepare farmers for the scourge of soybean rust, a yield-robbing fungus that could cost them thousands of extra dollars to control. Yet, while the disease was found in the southern states for the second straight year, it never reached the major soybean-growing states in the Midwest.

Were all the Web sites and brochures and seminars a waste of time and money?

Soybean experts say the answer is definitely "No," and farmers should be wary again this summer.

"Just because we didn't have soybean rust all the way up into the central part of the United States doesn't mean that it won't eventually get here," Suzanne Bissonnette, a soybean rust expert with University of Illinois Extension, told farmers and chemical applicators gathered for the university's annual Crop Technology Conference Jan. 5. "We're in the early stages and I urge you to continue to pay attention to rust."

Asian soybean rust disease, or *Phakospora pachyrhizi*, has been spreading around the world for decades. But it didn't reach the continental United States until late 2004.

The disease is caused by spores that grow after they land on soybean leaves or other host plants, such as kudzu, a leafy vine that is prevalent in the South. Unless plants are sprayed with fungicide soon after infection, the disease will take over quickly and cause leaves to drop off, which leads to fewer bean pods and fewer beans per pod.

The fungicides that can control rust could cost farmers \$20-\$35 per acre. But what happened in a single research field in Alabama, where rust was found in 33 counties last summer, shows what can happen if they aren't used.

The field, which was intentionally left untreated, was fully infected within two weeks of detection and was completely defoliated within seven weeks, said Edward J. Sikora, a plant scientist from Auburn University.

"If the disease is at mid-canopy in your field and you haven't sprayed yet, you might not bother spraying because there's not going to be any benefit," he said.

Crop scouts found soybean rust in Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina and Texas last year. The northernmost discovery was in Caldwell County, Ky., where rust was found in November on kudzu that has since been killed by frost, according to the USDA's soybean rust Web site.

Because it cannot survive winter's cold and wasn't found in Kentucky until November, some farmers have questioned whether soybean rust can migrate to the major soybean-producing states soon enough each year to severely affect crop yield. Bissonnette thinks it can.

"Considering we just had the initial infection of soybean rust in November 2004, we had pretty significant movement of the pathogen in this season," she said. "I don't think we're crying wolf given the implications of what could happen when the disease gets here."

Neither does Dale Atkins, who grows about 400 acres of soybeans on his farm near Chenoa in central Illinois.

"I feel like we're lucky that we didn't have the exponential fast explosion of it that they've talked about," he said. "We've had a chance to get some development and get organized."

The blitz of publicity last winter was important even if soybean rust didn't appear because it likely spurred farmers to pay more attention to the potential problem, Atkins said.

But are farmers paying attention this winter?

"It wasn't a problem, so we might be underestimating what's going to happen this year," said UI agriculture economics professor Gary Schnitkey. "We came into 2005 really being prepared. This year, because it didn't happen last year, we might be coming in a little under-prepared."

Facts about Asian soybean rust

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Some facts and figures about Asian soybean rust:

NAME: *Phakospora pachyrhizi*, commonly known as Asian soybean rust.

DISCOVERED: Rust is believed to have originated in Australia. It was first spotted in the United States in 1994, when it was found in Hawaii. The first discovery in the continental U.S. mainland was late in 2004 in Louisiana and the disease was found in 138 counties in nine states in 2005.

SYMPTOMS: First appears as small, irregularly shaped spots on the leaves of soybean plants. The spots gradually increase in size and turn brown or reddish as the disease

progresses. Soybean rust causes premature leaf loss, leading to a smaller number of bean pods, fewer seeds per pod, and early maturity, all of which adds up to lost crop yield.

TREATMENT: The disease usually infects lower leaves first and moves up the plant, so scouting involves reaching to the lower leaves and using a magnifying glass to search for signs of the rust spores. Several plant fungicides have proved effective in counteracting soybean rust, but they must be applied immediately after the disease is detected and at its early stages of infection.

Sources: U.S. Department of Agriculture, National Soybean Research Laboratory, University of Illinois Extension.

ON THE NET

USDA's soybean rust site: <http://www.sbrusa.net>

University of Illinois Extension: <http://www.extension.uiuc.edu>