

Fungicides

Commanding New Attention

Fungicides are getting more buzz this year thanks to Asian soybean rust and yield boost reports in both beans and corn using strobilurins.

BY LISA HEACOX

lheacox@meistermedia.com

A FUNNY thing's happened on the way to a possible Asian soybean rust epidemic in the U.S. Researchers at both chemical companies and universities are discovering more benefits of fungicide use on both soybeans and corn.

"Danger of rust has brought the awareness of fungicides to the fore," says Randy Myers, fungicide product

manager with Bayer. "There's been a lot of testing of them on soybeans to see what they do in the absence of rust — then that's moved on to corn."

Don't Rest On Rust

While the past two seasons have been relatively dry — literally and figuratively — for rust in the Midwest, companies and researchers *CropLife*® talked with continue to sound the alarm. "If the conditions are right, it's the most aggressive disease I've experienced in my agricultural career over 30 years," says Mats Edh, vice president, marketing with Cheminova.

"We've gone through two of the hottest, driest seasons on record in the South and even though rust got established fairly early in 2006, it doesn't like that weather, so it didn't spread much at all," says Dr. Gary Fellows, technical marketing manager at BASF. "If we have a cool, wet spring, and the rust does get established, it can move quickly like it demonstrated in 2006," says Jamie Nielson, Domark brand manager with Valent.

Later in the 2006 season, the disease was found in Mexico and Texas, and if discoveries of the spore are made earlier this year, there's greater danger for Midwest soybeans. Myers explains that prevailing wind directions in the U.S. more easily carry inoculum from those areas than from the Southeast — from where the spores need to play hopscotch to travel north. "A lot of weather patterns from



Nielson
Valent

Dalton

AG PRODUCTS, INC.
Manufacturers of Fertilizer Application Equipment

DW SERIES TOOLBARS



27 1/2 FT. - 42 1/2 FT.
60" Rank front to back. Tandem axle walkers. Can build to individual needs

6 TON ROW CROP



Adjustable single axle - 72" to 120". 200 cubic ft. & 42" lug tire. Ground clearance 40" under spinners & 47" under frame

NH3 DUAL TANK RUNNING GEARS



Holds (2) 1000 Gallon Tanks OR
Holds (2) 1450 Gallon Tanks

DLQHD LIQUID APPLICATOR



21 FT. - 40 FT.
500, 750 & 1000 Gallon Tanks

1-800-342-7498
Lenox, IA. 50851
www.daltonagproducts.com
daltonag@frontiernet.net

RECONDITIONED SPREADERS AVAILABLE

Service Parts for Tote, Mobility, JTI Equipment & Model 10 Viton Pumps

Fungicides

the Southwest can move it right up the Mississippi River and into the major soybean growing areas," he explains.

A number of company reps believe our industry still doesn't have a really good handle on what the disease will do under U.S. environmental conditions — the climate in Brazil where rust first hit hard is just too different to make too many projections for this continent.

"Soybean rust isn't hard to fight, there are a lot of tools out there shown to be effective," says Bayer's Myers, whose company offers Folicur (tebuconazole), a top seller in Brazil. "But timing is critical. Each product needs to be applied within its proper application window, and some products have a narrower window than others. Retailers and growers need to understand the strengths and weaknesses of each of their chemical options to get the best disease activity." (For a list of Section 18 and Section 3 products, check out Feb. 2007 *CropLife*, p. 42.)

At the National Soybean Rust Symposium, the triazole class was touted as the best for soybean rust control,

Nielson reports. "Last year, even at the university level, it was not clear what to use. This year, they've got more exposure with rust in the U.S." He notes that there are currently seven or eight triazoles "out there," all waiting for Section 3 clearance, including Valent's Domark (tetraconazole).

"The triazoles have both curative and preventative activity. The curative part is important, since it's difficult to know if you have the disease in the field when you spray," says Edh. His firm Cheminova makes TOPGUARD (flutriafol). Even better can be a premix of a triazole with a strobilurin, as in Syngenta's Quilt, says Jamie Eichorn, fungicide product manager — who cites field trials by numerous university researchers.

Myers notes that Southwest growers have become accustomed to using fungicides on soybeans for the past five to seven years because they've been going after other diseases such as *Cercospora* and aerial blight. "That mentality will



Eichorn
Syngenta

serve as a template for growers farther north that really haven't had a need for applying fungicides."

Retailers will play a key role in helping farmers determine whether to spray for rust, says Nielson. He says his company receives grower

e-mails forwarded from USDA's rust Web site. "We'll then forward them to our sales force and they send them on to the retailers. We really rely on the retailers to be the vocal point. We focus on educating them, to make sure they're more aware of rust and its movement."

Valent offers Domark 230ME, a micro-emulsion formulation specifically designed for soybeans that's awaiting Section 3 approval. The company says the formulation pours very nicely, has no odor — and helps spread across the plant, then be actively absorbed by the leaf.

Corn Gets A Dose

While rust often grabs the spotlight, experts agreed that gray leaf

Fungicides

spot infestations were on the rise last year in corn, due in part to the move to reduced tillage — which provides a cozy place for inoculum numbers to grow. "With the potential for increased acres and more corn on corn rotations, the potential for gray leaf spot could increase in '07 due to overwintering of the inoculum on residue," says Syngenta's Eichorn. He reports growers using Quilt saw an average increase of 15.5 bushels/acre more than an untreated check.

Bayer's Myers notes that gray leaf spot is a real problem for growers in the Plains states where irrigation keeps moisture levels high. "The activity of Stratego, on the disease is excellent, so growers saw a very nice yield bump," says Myers. The product, a triazole/strobilurin combination, has been a top performer in rice — even credited with improving milling quality as well as yield — but it wasn't until last season that the product impacted corn.

The tricky part for fungicide application on corn is how. Timing to apply is around tassel/silk initiation when plants

are huge. "A lot more airplanes will be spraying fungicides on corn than what we've had historically," says Myers.

Perhaps even more dicey: convincing Midwest growers they even need a late-season fungicide, especially considering there hasn't been a massive disease infestation since Southern corn leaf blight back in the '70s. "It's going to take a shift in their paradigm to suddenly think there are inputs and concerns later in the season. These are new tools that can help increase yields," says Myers, whose family has farmed for generations without late-season applications. Typically growers have relied on breeding programs to build resistance into hybrids so that diseases have only caused a small yield drag. Newer, much more effective classes of chemistries in recent years are debunking old ideas that fungicides can't help.

Troy Bettner, senior product/marketing manager for fungicides with Makhteshim Agan of North America, says that 18 trials with Bumper (propi-conazole) logged an average yield in-

crease of 10 bushels/acre of corn. The fungicide — as well as the company's Orius formulations (tebuconazole) — have Section 18 labels.

BASF reports 12 to 15 bushel/acre yield increases with Headline (pyraclostrobin) applications. Why the gain? "Besides gray leaf spot, we know there are diseases out there, but they're not always evident to growers," says Gary Fellows, product manager with BASF.

Plant Health Means Higher Yields

But the enhanced productivity of strobilurin-treated crops can no longer just be attributed to good disease control. In both soybeans and corn, better plant performance because of fungicide applications became more evident in 2006. Fellows says Headline makes plants healthier, more efficient in plant growth, and more resistant to stress. "We've had reports out of Texas and Mississippi, where there was a lot of drought stress. Once they did get a rain, Headline-treated corn came out of the drought very rapidly with less damage. Hail damaged fields also

came out quicker and out-yielded untreated crops," he says. Growers said combining was easier and more efficient because plants weren't lodged — stalks were stronger.

"In soybeans we're seeing a very similar thing," he adds. Indeed, Kip Cullers, the Missouri grower who logged the 2006 World Record soybean yield at 139 bushels/acre, credits a part of success to Headline. (Fellows also points out that Headline is providing "one of the highest levels of rust control" as well as controlling other yield-robbing soybean diseases such as frogeye and *septoria*.)

"We've found that Quadris inhibits the release of ethylene in the plant, delaying senescence, and resulting in longer retention of plant leaves. It also decreases transpiration, which makes the plant more tolerant

SOYBEAN TIDBITS TO WATCH

Soybean fungicide discussions wouldn't be complete without a look at a trio of topics raised by experts.

CROP PRICES. Protecting yields could really pay off this year. While soybean prices may not be seeing the huge gains that corn are, decreased acres in the U.S. as well as in Brazil — due to the financial situation growers face there — make for lower planted acres and higher price opportunities globally.

GREEN STEM. The problem of "green stem disease" has been reported in Brazil. At harvest time, plants are still too green and vigorous. Many growers turned to some sort of dessicant to kill the plant so it dried down more uniformly.

SUPPLIES. With two years of limited rust infestation in the Midwest, fungicide supplies are ample, should they be needed for the coming season. However, it takes a lot of product to treat the disease, and should more quantities be needed, manufacturers feel they could formulate product quickly.

to water loss and water stress," explains Syngenta's Eichorn. Carbon dioxide "assimilation" is improved, allowing the plant to use the sun's energy more efficiently (photosynthesis) to create better canopy growth and healthier plants, he explains.

Our experts encouraged dealers to use the Web to find other information showing yield advantages from fungicide applications under various conditions. Says Myers: "Retailers need to be looking for information germane to their geography so they can communicate to the growers that there's a real benefit out there. The biggest challenge I think retailers will be facing is convincing growers there's something else that can bump up those yields.

"It's a change in the way growers approach things. We'll see this coming season just how widely accepted it becomes." ▸