Texas Cooperative EXTENSION
The Texas A&M University System

TEXAS IPM
Partners with Nature

MID-COAST IPM NEWS

Calhoun Refugio Victoria

Stephen Biles
Extension Agent-IPM
186 CR 101 • P.O. Box 86
Port Lavaca, TX 77979

Office: 361-552-3324 • Mobil: 361-920-1138
E-mail: biles-sp@tamu.edu
Website: http://ipm.tamu.edu
or http://calhoun-tx.tamu.edu

Volume 3, No. 3 May 7, 2007

Spraying Fungicides on Corn: Pay Now…and Pay Later

By

Tom Isakeit, Professor and Extension Plant Pathologist, Texas A&M University

In the past week, I've become aware of fungicide applications made to field corn throughout south Texas. These applications have been made in response to detection of northern leaf blight, a minor disease in south Texas, or even in the absence of any disease. There are circumstances where it is advisable and prudent to make preventative fungicide applications to corn. Southern leaf blight and southern rust are potentially damaging diseases that might warrant a fungicide application, but epidemics occur infrequently. Northern leaf blight is commonly seen, but as the season progresses, the warm weather naturally controls it and it is not a disease of concern in this part of the United States.

Typically, fungicides are applied to high-value corn, such as sweet corn, pop corn, or corn for seed, not field corn. We do not usually have any disease problems on field corn in south Texas that would justify a fungicide application.

At best, the fungicide application will be an extra cost that provides no benefit, while it lowers the profit. I am more concerned about a worst-case scenario: the excessive, unwarranted use of a fungicide selecting for fungicide-resistant pathogens. There would be no problem in normal seasons, but in that one-in-ten year where the weather favors a disease epidemic, the fungicide of choice would no longer work and so, the disease is not controllable. I've seen this happen in the Lower Rio Grande Valley with cantaloupe production. For many years, growers routinely applied the fungicide, benomyl, to young plants to control a fungus disease, gummy stem blight. However, it was dubious whether the fungicide did any good, since warm, dry weather in the spring naturally controlled the disease. But in 1997, there were unusually frequent rain showers during the spring. Gummy stem blight flared up and growers could not control it with benomyl. The disease caused a 70% loss of the cantaloupe crop, a monetary loss of $15,000,000. Our study showed that 92% of the pathogen isolates that we obtained from diseased plants were highly resistant to benomyl.

Since this disease occurrence, I've been especially concerned with resistance management of fungicides. In 1997, Quadris, a new systemic fungicide came on the market. This was the first of many members of the strobilurin class, which also includes Flint and Headline. These fungicides have a single-site mode of action, which make them vulnerable to pathogen resistance. Zeneca, the company that introduced Quadris, felt that with careful use, their fungicide would last many years, if not indefinitely. Resistance to cucurbit powdery mildew and gummy stem blight came within just a few years, because of overuse and inappropriate use. And the pathogens were not only resistant to Quadris, but to other strobilurin fungicides as well. With more intensive use of strobilurin fungicides on field corn,

there is the risk of promoting fungicide-resistant pathogens that could come back and bite hard some time in the future.

What qualifies as an inappropriate use of a fungicide? That would be using it for something other than disease prevention. I am concerned specifically about a claim that BASF has made about Headline on its website, that this fungicide directly “improves the metabolic efficiency of the plant, increasing the available reserves of carbon and nitrogen”. I have not been able to verify whether this activity has been determined in laboratory experiments, or whether it is something that is measurable in commercial production, but it would imply that even if there was no disease risk, there would be a benefit to using it. It reminded me of research that showed that feeding antibiotics to healthy animals improved their productivity. It was a great idea, until they started tracing antibiotic-resistant human pathogens to this practice.

It is essential that we preserve the effectiveness of fungicides by careful management. Sometimes the best management strategy is not using a fungicide to control a disease.

Corn

I have detected no reason to spray fields with fungicides! The corn is growing well and ranges near tasseling to silking.

In higher value corn such as food corn, I suggest scouting for sugarcane borer eggs. **Insecticide should be applied when 20 to 25 percent of the plants are infested with eggs or newly hatched larvae.** Insecticides applied for control of sugarcane borers should target the generation which will cause kernel damage leading to discolored kernels. I suspect that this egg lay should begin within this current week.

Sugarcane borer life cycle. The sugarcane borer (SCB) lays its cream-colored eggs, similar in appearance to a patch of fish scales, on green leaf blades. The eggs are flat, oval and laid in flat clusters of about 25. In 4 to 9 days, the eggs hatch into larvae, which grow to about 1 inch long. Larvae are yellowish-white with brown spots, although spots are often absent in winter. Spring and summer larvae possess dark brown head capsules, with brown spots called dorsal plates, on a cream-colored body. The larvae undergo six or seven instars and tunnel vertically within stalks, producing a hollow cavity that may be invaded by red rot fungus. After 20 to 30 days of feeding, the larvae pupate. The pupae are about 0.7 inches long and have numerous projections or hairs in the abdominal area, resulting in a characteristic "sandpaper" appearance. The adult emerges after about 9 days. The adult sugarcane borer is a straw-colored moth with wings marked by black dots arranged in a V pattern. In the field, the life cycle is completed in 30 to 45 days during the summer. Four to five generations are produced per year.

Cotton

Younger cotton continues to have moderate to high thrips populations (2-10 per plant). Treatment for thrips should be made when the number of thrips exceeds the total number of true leaves (not counting the cotyledons). I have not yet seen squares on the cotton so cotton fields have not yet reached the damage window of the cotton fleahopper.

Soybeans

Soybean fields that are blooming should be scouted for stink bugs. Don't wait until pod fill to look for stink bugs, especially in soybeans planted after March.

Publications on Stink Bug Identification and Asian Soybean Rust ID are available at:
http://calhoun-tx.tamu.edu/Publications.cfm

Some supporters of YOUR IPM Program are:

Hlavinka Equipment Company
South Texas Cotton & Grain
Vanderbilt Farmer's Coop, Inc.
Helena Chemical Company
Moreman Community Gin
Farmer's Coop of El Campo
Danevang Farmer's Coop, Inc.
Sorghum Partners

Please show your appreciation to these great organizations.

Important Dates Coming Up

Row Crop Tours:
Times & Places TBA

Refugio County Row Crop Tours
June 13, 2007
361-854-4112
Morning Session in Tivoli
Afternoon Session in Bonnieview Park

Calhoun County Row Crop Tour
June 19, 2007
361-552-9747

Victoria County Row Crop Tour
June 21, 2007
361-575-4581

Pesticide Applicator Testing
Lavaca County
May 9th - call the office for more information.
361-798-3469
361-798-2221

Worker Protection Standard Training
Calhoun County Bauer Exhibit Building
June 5, 2007, 9 a.m.
361-552-9747

If you would like to receive your Mid Coast IPM Newsletter via e-mail, contact me and we will add you to our e-mail list. Or if you know of someone who would like to receive the newsletter my e-mail address is biles-sp@tamu.edu.

TPMA Texas Pest Management Association

Visit us on the web at:
http://www.tpma.org/