

Burrus Buzz

Delivering more than just seed!

July 6, 2015



We are on high alert for Northern corn leaf blight and Gray leaf spot

by Stephanie Porter

When it comes to plant disease spread, we usually assume a rainy season, humidity, moisture, and even dew are favorable conditions for foliar corn diseases. The concern is that we are starting to see corn diseases such as Northern corn leaf blight and Goss's wilt earlier than normal this year. There have been no reports yet of gray leaf spot, most likely because of cooler temperatures, but you should be on the "look out" as we get closer to pollination time. Northern corn leaf blight symptoms will develop at lower temperatures (65 to 80°F), when compared to gray leaf spot; whereas, gray leaf spot requires warmer temperatures (75 to 85°F) for disease infection to occur and, if conditions stay conducive, symptoms will develop after several weeks.



(Gray leaf spot lesions on corn)



(Northern corn leaf spot lesion on corn)

Gray leaf spot symptoms typically appear first on lower leaves and can move up the plant, because this disease pathogen overwinters on residue. A wound is not needed for the infection of gray leaf spot or northern corn leaf blight disease. Northern corn leaf blight also overwinters within corn residue and in 2013 and last year, we saw a lot of Northern corn leaf blight in corn, so I fear there could be a build-up of inoculum. Northern corn leaf blight spores can blow into fields from very long distances, then infect susceptible hybrids. Be sure to scout the entire field and not just field edges, as spores and infection may be more prevalent where spores are entering a field. Northern corn leaf blight causes larger "cigar shaped" lesions, whereas gray leaf spot symptoms are small, tan and rectangular in shape. Depending on the hybrid susceptibility, Northern corn leaf blight can spread a bit quicker, when compared to gray leaf spot; therefore, we become a bit more concerned about this disease in growing seasons that are favorable for northern corn leaf blight spread and infection. Based on disease scouting during pollination, disease pressure, and forecasted wet weather, the grower can decide whether a fungicide application is needed.

If the disease is present, assess disease pressure and continue to monitor disease spread, especially if wet weather persists. If 50% of the corn plants in the field show signs of this disease on the third leaf below the ear or higher, for a period of time before and after corn tassel, you may want to consider a fungicide application.

When trying to decide if foliar fungicides are warranted, here are some questions you need to answer:

- 1.) **What growth stage is the corn plant?** Corn should be scouted for disease at pollination (2 weeks before and after tassel). Is your corn experiencing high disease pressure within this growth stage range? If so, yield loss could result.
- 2.) **Have you had issues with corn leaf disease in the past or is there a high amount of residue in the field (corn on corn/ no-till) that could harbor the gray leaf spot pathogen?** If so, you may be more at risk for gray leaf spot.
- 3.) **Are disease symptoms beginning to appear near the ear of the plant (1 to 3 leaves below the ear) during pollination?** This is a signal that disease could be a threat to corn yields.
- 4.) **How susceptible is your hybrid?** Every corn hybrid has a disease rating. Check the disease rating for your hybrid and if it is a low number, you may be more likely to use a fungicide if disease pressure is high.
- 5.) **What is the future weather outlook?** If wet weather is in the forecast, this may be another indicator that fungicides may be needed if your hybrid is susceptible and has high disease pressure appearing within at least half of the field.

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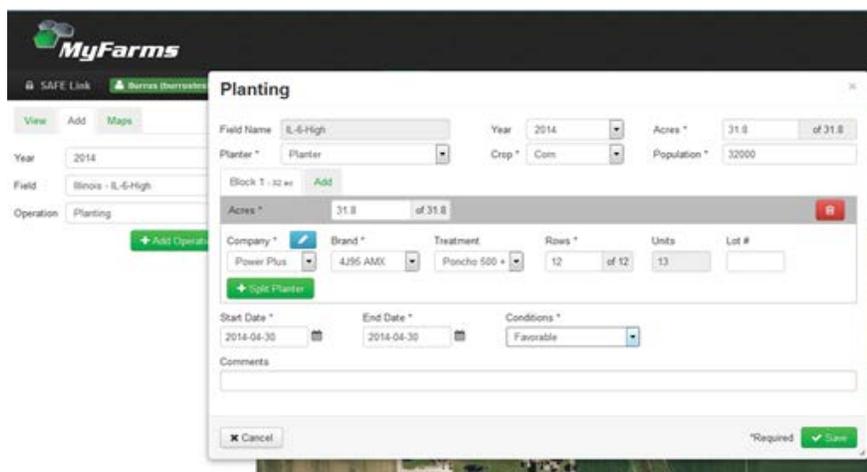


We are on high alert for Northern corn leaf blight and Gray leaf spot (continue)

by Stephanie Porter

For more information on fungicide efficiency for control of corn diseases, check out this chart from Purdue University:
<https://www.extension.purdue.edu/extmedia/BP/BP-160-W.pdf>

Burrus is pleased to offer our customers the addition of the "Grey Leaf Spot Alert System" within the MyFarms®. This new feature will only be available to those who have converted planting plans to planting records within MyFarms®. Customers who have done this can enable this new feature by clicking on the "Data" tab, which is located on the top of the MyFarms® screen. Once you click on the "Data" tab, you will see the year, field, and operation tabs on the left hand side of the screen. Be sure to select the correct year and field that you wish to enable monitoring for grey leaf spot. Lastly, choose "planting" within the operation tab, then click on "add an operation," and then choose "record." Within the "record," you will input your planting data for this particular field, and click save.



The screenshot shows the MyFarms web interface. On the left, there are navigation tabs for 'View', 'Add', and 'Maps'. Below these are filters for 'Year' (2014), 'Field' (Binosa - S, 6-High), and 'Operation' (Planting). The main area is a 'Planting' form with the following fields: Field Name (S, 6-High), Year (2014), Acres (31.8 of 31.8), Planter (Planter), Crop (Corn), and Population (32000). There is a table for 'Block 1 - 32 wt' with columns for Acres, Company (Power Plus), Brand (4295 AMX), Treatment (Poncho 500), Rows (12 of 12), Units (13), and Lot #. Below the table are fields for Start Date (2014-04-30), End Date (2014-04-30), and Conditions (Favorable). A 'Comments' field is at the bottom, along with 'Cancel' and 'Save' buttons.

Another disease of corn that has made an appearance is Goss's wilt. It is a leaf blight caused by a bacteria that infects after corn silking; however, it is starting to show up on susceptible hybrids now. Goss's wilt favors temperatures from 70 to 80 degrees and in order for bacterial infection to occur, there must be wounds made by hail, blowing debris, or other mechanical injury. On rare occasions, this bacterial pathogen can also cause a systemic wilt. This bacterial pathogen can survive in corn residue from 10 months to 2 years. Many think that it is becoming more widespread because of susceptible hybrids, corn after corn rotations, conservation tillage, and favorable weather. Most of Burrus/Hughes hybrids have fairly good Goss's wilt ratings, but keep in mind, no hybrid is immune from this disease. Since Goss's wilt is a bacterial disease, fungicides are useless. The main way to help manage this disease is to plant resistant corn hybrids.



(Goss's wilt lesions - Picture courtesy of Dr. Carl Bradley, University of Illinois)

Probability of Fungicide Application

Probability of Yield Response to Fungicide Application by Brand				
High	Moderate		Low	
Catalyst® 4685 ³¹¹¹	Catalyst® 7893 ³¹¹¹	Power Plus® 2N82 AMX™*	Burrus 750	Power Plus® 4V43 S™*
Power Plus® 1M45 AMRW™*	Burrus 5D30	4Y27 AMX™*	5Z41 GT	4V45 AM™*
2V56 AMX™*	6T51 GT	5C17 AMXT™*	5Z44 ³¹²²	6C41 S™*
4G46 AMX™*	6T54 ^{3000GT}	6P75 AMX™*		6C40™*
4J93 AM™*		6N83 AM™*		6F74AMX™*
4J95 AMX™*		7A18AM1™*		6F71 R™*
4P11 R™*	Hughes 1296 ^{3000GT}	7H20™*	Hughes 5124 GT	6G64
5N48™*	2428 GTA	7H23 S™*	5456 ^{3000GT}	
	2450 GT	7U15 AM-R™*		
	2987 ^{3011A}			
	3442			
	3953 ^{3000GT}			

Burrus has ranked various products, noting their potential responsiveness to fungicide. Should a blind application of fungicide be required, this chart should allow the grower to apply fungicide to those products more likely to provide a return (high probability ranking). However, Burrus reminds growers that a fungicide return on investment is best assured by scouting fields for economically significant levels of disease (widespread lesions within proximity of or above the ear leaf). Repeatedly applying fungicides with the same class can increase the likelihood of resistance development and regulation.

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