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## Controlling leaf diseases in seed corn in 2001

Gary P. Munkvold

Iowa State University, [munkvold@iastate.edu](mailto:munkvold@iastate.edu)

Charlie A. Martinson

Iowa State University

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# Controlling leaf diseases in seed corn in 2001

## **Abstract**

The wet spring has been very favorable for pathogens and we can already see leaf diseases developing on corn. Fortunately, the most common leaf disease at this point seems to be holcus spot, which rarely, if ever, causes economic damage. Fungal leaf diseases are also beginning to appear, with anthracnose and eyespot especially evident.

## **Keywords**

Plant Pathology

## **Disciplines**

Agricultural Science | Agriculture | Plant Pathology

# INTEGRATED CROP MANAGEMENT

## Controlling leaf diseases in seed corn in 2001

The wet spring has been very favorable for pathogens and we can already see leaf diseases developing on corn. Fortunately, the most common leaf disease at this point seems to be holcus spot, which rarely, if ever, causes economic damage. Fungal leaf diseases are also beginning to appear, with anthracnose and eyespot especially evident.

Now is the time to be looking for these early symptoms of leaf diseases in seed corn. Eyespot (*Aureobasidium zeae*), common rust (*Puccinia sorghi*), gray leaf spot (*Cercospora zeae-maydis*), and northern leaf spot (*Bipolaris zeicola*, also known as *Helminthosporium carbonum*) are diseases that can cause losses in seed corn production and sometimes need to be controlled with a fungicide application. Seed corn presents different challenges (and opportunities) when it comes to disease management.



**Common maize rust.**

[Enlarge](#) [1]



**Corn eyespot.**

[Enlarge](#) [2]

The benefits of foliar fungicides on seed corn have been researched for a number of years at Iowa State University. Protecting susceptible inbreds with a fungicide has proven to be very profitable. Fungicide options have been changing, and this year is the first year that Quadris (Syngenta Crop Protection) is labeled for corn. Quadris offers some advantages over the standard product, Tilt. Generally, Quadris provides superior disease control compared with Tilt and yield increases that are similar or better than those we have seen with Tilt. Three other fungicides may be used on seed corn; they differ in their type of activity (contact versus systemic), spectrum of disease control, and application requirements. See the table for comparisons of the fungicides most commonly used on seed corn.

For now, guidelines for foliar disease control are based on scouting, relative susceptibility of the seed parent inbred, and weather considerations. We are currently researching methods to predict gray leaf spot so that fungicide application decision-making can be improved. In general, the most profitable results occur when sprays are initiated prior to detasseling. Attempts to stop an epidemic will likely be unprofitable if the first fungicide application is

made after detasseling.

The following guidelines should be followed for the control of leaf diseases in seed corn:

1. Do not plant seed corn in a field where corn was the previous crop, unless absolutely necessary.
2. Know the susceptibility of the inbreds you are growing. This point is crucial because the more resistant inbreds rarely need a fungicide. The more susceptible the inbred, the more likely fungicide use will be profitable.
3. Scout fields early, when plants are approximately V6-V8. Observe at least 100 plants throughout the field. Record the average number of pustules or lesions per plant, disregarding the bottom three leaves.
4. Scout every 1-2 weeks depending on weather and susceptibility. The interval should be shorter in wet, cool weather and on the most susceptible inbreds; it should be longer in hot, dry weather and on more resistant inbreds.
5. When there is an average of 1-2 pustules or lesions per plant, and weather is favorable for disease (moderate temperatures and frequent rains or dews), begin spraying susceptible inbreds. Remember that fungicides are most effective when sprayed before infection takes place, so you must consider the weather forecast as well as previous weather.
6. Leave an unsprayed area for comparison. There is always a temptation to protect everything, but an unsprayed check provides valuable information on the effects of spraying.
7. Follow label instructions for rates and spray intervals. Because symptoms of infection do not appear for 10-20 days, infections that occurred before you sprayed continue to appear after you spray. So your decision to spray again should be based on the label instructions, weather, and disease development in unsprayed areas.
8. Continue spraying until proper preharvest interval or if weather turns hot and dry.
9. If diseases have not appeared before tasseling, spraying is probably unnecessary.

Always check the label of any pesticide to confirm that it is registered for the intended use and to be sure that all label requirements are fulfilled.

	<b>Quadris</b>	<b>Tilt</b>	<b>Penncozeb</b>	<b>Bravo</b>	
<b>Active ingredient</b>	Azoxystrobin	Propiconazole	Mancozeb	Chlorothalonil	
<b>Activity</b>	Systemic	Systemic	Contact	Contact	
<b>Spectrum</b>	Rust	Rust	Rust	Rust	
	Gray leaf spot	Gray leaf spot	Gray leaf spot	Northern leaf blight	
	Northern leaf blight	Eyespot	Northern leaf blight	Northern leaf spot	
	Northern leaf spot	Northern leaf blight	Northern leaf spot		
		Northern leaf			

		spot		
<b>Spray interval</b>	7-14 days	7-14 days	4-7 days	4-7 days
<b>Preharvest interval</b>	7 days	30 days <sup>a</sup>	40 days	14 days
<b>Feeding</b>	Yes	Yes <sup>a</sup>	Yes	No

<sup>a</sup>If Tilt is applied after silking, crop residue cannot be fed to livestock.

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