

# Scouting is important to control wheat diseases

LANCASTER — In the Northeast, wheat growers are learning how to diagnose early symptoms and treat for crop diseases before their fields can fall victim to infections of powdery mildew and rust diseases. And, in the process, are protecting themselves against potentially disastrous yield losses.

With the recent introduction of new fungicides, scientists have found that many wheat diseases can be quickly brought under control before serious crop injury results. However, early control is possible only if growers learn to recognize and identify symptoms of these diseases at the earliest stages of development.

### Scouting mildew

Powdery mildew is typically the first such disease to appear early in the season. The disease can overwinter on straw and stubble trash under moderate winter temperatures. While powdery

mildew does not thrive during rainy weather, mildew development is optimum at temperatures between 59 and 72 degrees F., and when relative humidity is between 85% and 100%.

The first symptoms of powdery mildew appear as a light yellow flecking or speckling on the lower leaves and stems of young wheat plants. Within a few days, these infection sites produce the more familiar patches of white, powdery or cottony strands on lower stems and foliage. As the disease progresses, these white pustules can spread to the upper plant leaves, and colonized leaves soon turn yellow and die.

Since the earliest indications of powdery mildew are not readily apparent, growers should closely 'scout' their fields when climatic conditions are most conducive to the disease. Ken Noegel, Fungicide Research Manager at Mobay

Chemical Corporation, suggests that once temperatures have risen above freezing, and the plants are actively growing, farmers should begin regularly scouting their crops, entering the fields at scattered locations to closely examine the lower leaves and stems for evidence of yellow specks or white mildew colonies.

During the active growth stage of the disease, powdery mildew can move up the plant to eventually infect the flag leaf and even the grain head. Powdery mildew cannot withstand hot weather, however, and will eventually begin to 'burn out' when temperatures exceed about 86 degrees F.

### 3 forms of rust

The major rust diseases in U.S. wheat fields are stem, leaf and stripe rust. While rusts can also overwinter under especially moderate winter temperatures, they tend to appear later in the season than powdery mildew. Rust infections are prompted by warm, rainy weather, when temperatures reach 60 degrees F. or higher.

A grower's best chance of identifying these diseases in the early stages of development is to go into the field and closely examine both the bottom and top surfaces of the lower plant leaves, leaf sheaths and stems. "For stem and leaf rust, the first symptom of infection is generally the appearance of orange or brown-colored pustules on the lower, older leaves," Noegel explains.

"Stripe rust, on the other hand, appears as conspicuous, narrow yellow stripes on the leaves, and occasionally on the grain heads."

### Fast spread

Left uncontrolled, serious in-

fections of powdery mildew or rust diseases can wreak havoc on a wheat field under ideal climatic conditions. Even in the early stages of development, powdery mildew can result in leaf and nutrient loss, rendering the plant vulnerable to weather extremes and delaying grain development. As the disease worsens, the fungus can girdle the wheat stems, weakening them until the plants lodge or lose their ability to transport nutrients from the root system to the leaves and grain head.

A rust pathogen quickly destroys those areas of plant tissue on which it grows. Leaf areas colonized by stripe rust begin to shrivel, turn brown, and produce lengthwise slits in the leaves. Stem and leaf rust move up the plant to reach the flag leaf, and can greatly reduce the wheat plant's ability to set and fill the grain head.

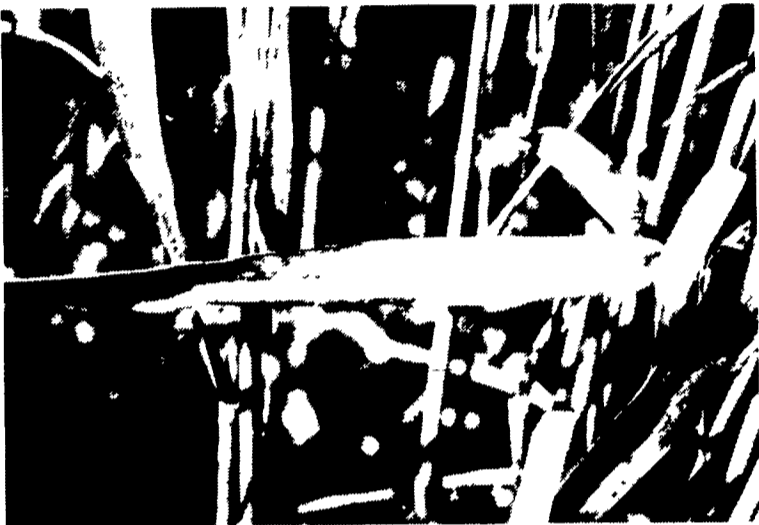
### New fungicides

Last year, wheat growers acquired a new fungicide with which they could control powdery mildew and rust diseases before they could inflict economic damage to their crops. Bayleton systemic fungicide, the first offspring of a new 'family' of fungicides called sterol inhibitors, demonstrated control of these diseases.

Unlike the familiar contact fungicides, which growers had been required to apply in anticipation of a disease outbreak, Bayleton fungicide can be applied after the first disease symptoms appear, and still destroy the spores that have already developed.

Researchers are finding that this unique 'kickback' activity is particularly useful under intensive wheat production systems. That is,

(Turn to Page D12)



Rust disease in wheat often show up as orange or brown-colored pustules on lower, older crop foliage.



Powdery mildew first appears on wheat as a light yellow flecking on lower plant stems and leaves and later matures into patches of white, cottony strands.

**Simple economics.**



**That's why  
Deutz-Fahr hay tools  
treat your hay,  
and your money,  
gently.**

**"They save the quality." "They save the crop." "They save your time."**

Tedding, Turning, Spreading Windrows, Fluffing Windrows,  
Deutz Fahr Does It!

## See Fahr Hay Tools At The Following Dealers:

<b>ALEXANDRIA, PA</b> Max Isenburg	<b>GREENVILLE, PA</b> Larimer Ford Tractor	<b>MERCER, PA</b> Ralph Kyle	<b>ROME, PA</b> Rex Russell Farm Equip
<b>ANNVILLE, PA</b> BHM Farm Equipment	<b>GROVE CITY, PA</b> McDowell Farm Implement	<b>MIFFLINBURG, PA</b> Ray Hess	<b>ROXBURY, PA</b> Holtry Welding & Repair
<b>BROOKVILLE, PA</b> Gerald Mendenhall	<b>HONESDALE, PA</b> Marshall Machinery	<b>MILL HALL, PA</b> Dunkle & Grieb	<b>SAXONBURG, PA</b> Albert Vettori
<b>CARLISLE, PA</b> Ernest Shover Farm Equip	<b>HUGHSVILLE, PA</b> Farnsworth Farm Supplies	<b>MILLHEIM, PA</b> Square Deal Garage	<b>ST. MARY'S, PA</b> Grotzinger's Equip Co
<b>CENTRE MORELAND, PA</b> Ted Montross Farm Equip	<b>KITTANNING, PA</b> Tickle Equipment	<b>NEW BERLINVILLE, PA</b> Erb & Henry Equipment	<b>SILVERDALE, PA</b> I G'S Ag Sales
<b>CHESTERTOWN, MD</b> Bay Sales & Service	<b>KNOX, PA</b> Terry W Kahle	<b>NEW HOLLAND, PA</b> Stauffer Diesel Inc	<b>SUGAR GROVE, PA</b> Sugar Grove Farm Supply
<b>COCHRANTON, PA</b> W L Dunn Equipment	<b>LIBERTY, PA</b> Bohnert Sales & Service	<b>NEW RINGGOLD, PA</b> Eckroth, Bros	<b>TUNKHANNOCK, PA</b> Ace Jurista, Inc
<b>COLUMBIA CROSS ROADS, PA</b> Columbia Cross Roads Equip	<b>LOYSVILLE, PA</b> H R Gutshall & Son	<b>OAKLAND MILLS, PA</b> Peoples Sales & Service	<b>WAYNESBORO, PA</b> B Equipment Inc
<b>CURRYVILLE, PA</b> Shaffer Farm Equipment	<b>MAHAFFEY, PA</b> Hutton Farm Equipment	<b>PENN RUN, PA</b> Manor Motors	<b>WELLSBORO, PA</b> Montgomery Implement
<b>EDINBORO, PA</b> Sid Kuhn Farm Mach	<b>MANSFIELD, PA</b> Montgomery Implement Co	<b>PLEASANT GAP, PA</b> Brook's Ford Tractor	<b>WEST CLIFFORD, PA</b> William Lopatofsky
<b>GREENSBURG, PA</b> J & M Machine Co	<b>MARION CENTER PA</b> Dilts Farm Supply	<b>PULASKI, PA</b> McKnight Farm Supply	<b>WEST NEWTON, PA</b> Markle Farm Service
		<b>RISING SUN, MD</b> Biggs, Inc	<b>WILLIAMSBURG, PA</b> Longenecker's Inc

**SEE YOUR DEALER ABOUT EARLY ORDERS, MAKE YOUR BEST DEAL  
AND GET A REBATE CHECK OF UP TO \$100!  
HURRY, OFFER ENDS IN APRIL**

• Distributed by: •

# CUMMINGS & BRICKER, INC.

Distributors of Farm & Irrigation Equipment  
100 Stover Drive, Carlisle, PA 17013  
717-249-6720



**The economic solution.**