

# Cereal crops need seed treatment, spraying

ROCK SPRINGS — Seed treatment and fungicide spraying are needed as vital management tools to combat the increasing threat of foliar diseases in Pennsylvania cereal crops, such as the mildew and Septoria prevalent this year in wheat.

This was one of the messages stressed by Penn State agronomy researchers at a Cereals Field Day held at the Rock Springs demonstration plots west of State College on Wednesday.

Herbert Cole Jr., Penn State plant pathologist, called on members of the audience who represent chemical companies to get more involved in seed treatment.

"Most companies are not really involved in seed treatment research," Cole said.

"Any efforts that result are usually spin-offs of other research."

"I'd like to issue a plea that companies start to get involved in

the development of seed treatments that are systemic.

"We need materials that not only treat the surfaces of seeds, but also help to eradicate the disease that may be beneath the epidermis. We need research on materials that can be safely absorbed into the tissue of the seed to attack these diseases."

Cole explained that the so-called humid mid-Atlantic climate that is conducive to mildew and Septoria moved as far west this year as Indiana and Illinois. He saw large fields in these states that were completely defoliated this year due to mildew and Septoria.

He explained that heavy planting rates contribute to the creation of a very humid micro-climate beneath the canopy of the crop that is ideal for the development of Septoria.

Also, there is a relationship between the date of wheat planting and powdery mildew.

"The planting date and amount

of fall growth can help dictate the severity of mildew that develops in the spring," Cole said.

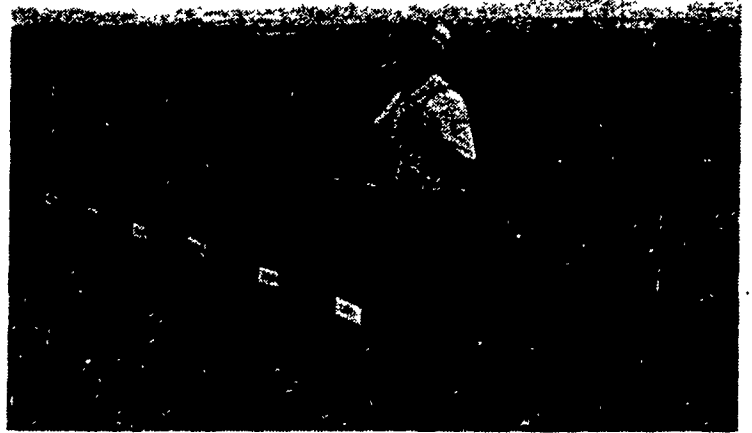
He explained that one plot of wheat that had been planted on Sept. 30 just before a shower that caused germination and the start of growth has a severe case of mildew.

And, a plot that was planted a week later and did not germinate as quickly due to drier weather had no mildew.

"Wheat production techniques will become more complicated," Cole said.

"They will include planting date, rate of planting, the rates of fall fertility and spring nitrogen and the variety. All will have an influence on the amount of mildew and Septoria.

"The application of fungicides will become an important part of wheat production. We need more study on the timing of spraying to



Harold Marshall, test advisor for the USDA's National Oat Program, outlines varieties in state tests at Penn State.



Across amber waves of grain, large audience attending Cereals Field Day at Rock Springs agronomy demonstration plots examine wheat varieties, which are involved in seed treatment and fungicide spraying studies

to control powdery mildew and Septoria. Researchers report progress in controlling these foliar diseases through the use of combination treatments and fall sprayings.

get the maximum disease control."

Cole also reported that no progress has been made on short rotation of wheat. He pointed to a plot in its second year of wheat in which soil-borne disease had cut substantially into yields.

"A third year of wheat in the same field in Pennsylvania is a disaster," he said.

James Frank, a USDA plant pathologist, also discussed seed treatment for wheat. He cited one three-way combination of a seed treatment that may hold some promise for mildew.

In other tests, fungicide spraying was evaluated and results showed significant reductions in mildew. In sprayed plots, mildew amounts were one-sixth of the disease found in the unsprayed control plots.

Harold Marshall, test advisor for the National Oat Program of the USDA, conducted the tours through the oat test areas. These included both national tests and state varieties.

A number of experimental varieties of short or semi-dwarf oats are being tested in the plots. And there are both early and mid-season variety tests.

Both lodging resistance and yield are being studied.

State varieties being studied in the state plots, which could be ready for commercial use in a year or two, include Noble, Lang, Garry, Mariner, Ogle and Larry.

Larry, Lang and Ogle were reported to be equally lodging resistant. Ogle yields about 115 bu.,

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## Lehigh seniors first in judging contest

NEW TRIPOLI — Lehigh County's senior 4-H Livestock judging team kept top honors at home as they took first place in the Lehigh County 4-H Livestock Judging Contest on Tuesday, here at the Snyder-Lehigh Farm.

The top placing senior team consisted of Diane Krause, Bonnie Wessner and Jane Sikorski, who held the first, second, and fourth high scores for individuals in the contest, respectively.

Diane Krause placed first in the senior division for beef and sheep judging and in presenting reasons on the classes. Bonnie Wessner held third place in placing beef

classes and in presenting reasons, ranked second in swine, and placed fourth in sheep judging. Jane Sikorski was the second ranking individual in judging beef.

Top individual in the senior swine judging was Keith Bryan of Chester County. Keith also placed fourth in presenting reasons and was third in judging sheep.

In the Junior competition, Berks County's team consisting of Glenn Heffner, Kenianne Rarick, and Greg Stricker took first place. Kenianne placed fifth in sheep judging and was fourth place individual overall. Teammate Greg Stricker placed third in beef



Taking the blue ribbons in the junior competition at Tuesday's Lehigh 4-H Livestock Judging Contest was the team from Berks County consisting of: from left, Glenn Heffner, 11, Fleetwood; Kenianne Rarick, 14, Blandon; and Greg Strickler, 13, Bernville.



The high scoring senior team was the team traveling the shortest distance to the contest — Lehigh County. Team members are Diane Krause, left, 18, Slatington; Bonnie Wessner, 14, New Tripoli; and Jane Sikorski (not pictured), 16, Emmaus.

judging and was seventh high individual, with Glenn Heffner following in eighth place.

Top individual in the junior contest was Diane Miller of Carbon County. Diane was the high scoring 4-H'er in both beef and swine judging, and placed third in sheep judging.

Chester County's Nancy McCauley topped the sheep judging in the junior competition.

In the adult classes, Gerald McMahon of Montgomery County took first place in the judging contest.

Official judges for the contest were: Keith Bard, swine, a Lewistown Spotted Swine producer; Pete Levan, sheep, herdsman at the Haller Research

Farm, Bellefonte; and Les Burdette, beef, Extension livestock specialist from Penn State.

A total of 32 seniors, 42 juniors, and 10 adults competed in Tuesday's judging contest from 9 counties, including Montgomery, Berks, Carbon, York, Lancaster, Cumberland, Chester, Lehigh, and Northampton.

The contest was sponsored by the Lehigh County Livestock Club. Livestock were provided by Greg and Gail Snyder, New Tripoli; Lehigh Beef Club; and Calvin Lazarus, Whitehall.

Class results follow:

### SENIORS

#### Beef

1. Diane Krause, Lehigh; 2. Jane Sikorski, Lehigh; 3. Bonnie

Wessner; 4. Willie Wilson, Lehigh; 5. Don Cairns, Chester.

#### Sheep

1. Diane Krause; 2. Lisa Dobrosky, York; 3. Keith Bryan, Chester; 4. Bonnie Wessner; 5. Michele Bankert, York.

#### Swine

1. Keith Bryan; 2. Bonnie Wessner; 3. Don Cairns; 4. Bill Wise, York; 5. Nelson Beam, Chester.

#### Individuals

1. Diane Krause; 2. Bonnie Wessner; 3. Keith Bryan; 4. Jane Sikorski; 5. Michele Bankert.

#### County Teams

1. Lehigh, Diane Krause, Bonnie Wessner, Jane Sikorski; 2.

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