

## Delaware Program Seeks GLS-Resistant Corn

NEWARK, DE. — A major objective of the University of Delaware Agricultural Experiment Station's corn breeding program is the identification and development of disease resistance. In 1984, plant geneticist Dr. James A. Hawk, plant pathologist Dr. Robert B. Carroll and master's degree candidate Jose Ureta evaluated 770 plant introductions and 573 inbreds for their resistance to the fungus that causes gray leaf

spot (GLS), a leaf blight on corn.

With the assistance of graduate students, the researchers continue to seek improved corn varieties. Under the direction of Professors Hawk and Carroll, master's degree candidate Michael Graham is participating in the ongoing field studies to develop corn that is genetically resistant to GLS. He presented the results of his research at the annual meetings of

the American Society of Agronomy, the Crop Science Society of America and the Soil Science Society of America last month in Las Vegas, Nev.

GLS is a disease of corn caused by the fungus *Cercospora zeae-maydis*. It is generally associated with corn production in areas west of the Blue Ridge Mountains in Virginia. It is commonly found in fields along creeks or river bottoms after tasseling.

Recently, GLS has been on the rise as a result of modern farming practices. Graham, who is working on a master's degree in plant breeding, says, "The increased prevalence and severity of GLS have been associated with continuous corn production and reduced tillage practices that favor overwintering of the fungus."

According to Graham, "Genetic resistance appears to be the best

control measure of gray leaf spot since both moldboard tillage and the application of fungicides have adverse economic and ecological consequences. However, to date, few commercially available hybrids exist that exhibit resistance to this organism."

Graham's goal is to find hybrid corn varieties that will be resistant to GLS, eliminating the need for fungicides while maintaining corn yields.

"Identification of various sources of GLS resistance will facilitate the production of resistant elite hybrids," explains Graham. "Information on the inheritance of GLS resistance will be useful for determining the best breeding strategies for incorporating resistance genes into elite hybrids."

Resistance to GLS is only one of the traits the corn breeding program looks for in its constant search for promising genetic material which commercial seed companies could use to produce the hybrids planted in Delmarva cornfields. Hawk routinely develops and screens more than 100 new corn lines each year.

## Conservation Tillage Event Highlights "Right To Farm"

TIMONIUM, MD. — Local and national issues affecting farmers will be addressed by most of the speakers at this year's Mid-Atlantic Conservation Tillage Conference. Other topics will deal with efficient use of nitrogen and agrichemicals.

The sixteenth annual event is scheduled December 13 at the Maryland state fairground in Timonium. Prior to last year, it was known as the Mid-Atlantic No-Till Conference. Crop farmers from Delaware, Maryland, New Jersey, Pennsylvania, Virginia and West Virginia are invited to attend.

Sponsoring organizations include the Cooperative Extension at land-grant universities in the participating states, with assistance from interested agribusiness representatives. More than 800 persons are expected to attend.

Activities will begin at 8 a.m. with free coffee and doughnuts, plus an opportunity to visit industry displays in Exhibition Hall at the state fairground. The educational program will run from 9:15 a.m. to 3:30 p.m. in the same building, with 1-1/2 hours off for lunch in the Home Arts/4-H

Building and another chance to visit industry displays in Exhibition Hall.

Tickets for the noon lunch will be available soon at \$4 from local county offices of the Cooperative Extension Service throughout the Mid-Atlantic area. They must be purchased in advance--not later than December 1st. These are not available at the door.

Speakers and topics for the morning program are:

"Environmental Issues Facing

Today's Farmer"-- James Porterfield, associate director, Natural & Environmental Resources Division, American Farm Bureau Federation. Porterfield also is a member of the executive committee, Conservation Technology Information Center, W. Lafayette, Inc.

"Nitrogen Management Based on Soil Testing" (A new method for efficient use of nitrogen)-- Douglas B. Beegle, Extension agronomist, Penn State.

"How Much Chemical Do You

Really Need?"-- Betty H. Marose, Extension IPM coordinator, University of Maryland.

"Local Issues Affecting Your Farm"-- Panel discussion by farmers and local government officials from Lancaster County, PA, and Baltimore County, MD.

The afternoon program will include "Handling Problems With Neighbors" and "National Policy and Your Farm."

For information contact: your local extension office.

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