

Partnership Matters



April 2006

RESEARCH BRIEF—

Testing corn and soybeans—since 1902!

The Iowa Crop Performance Tests are a product of the Iowa Crop Improvement Association, an affiliation of seed industry-related agencies. The test reports provide direct, unbiased comparisons among a large number of corn hybrids and soybean varieties in a number of different environments and have grown from the first efforts in 1902. Seed companies from Iowa and surrounding states are eligible to submit corn and soybean entries into the annual tests. Entries are evaluated at testing locations around the state for various agronomic traits—the most important, yield. Data are published and made freely available both in print and online.

What's new. Several testing procedures are new beginning in 2006:

- New, identical district lines for both corn and soybeans
- Early-season and full-season tests within each district
- Overlapping testing areas, giving four locations of data per district
- Show plots at Ames, Crawfordsville, Lewis, Nashua and Sutherland
- Increased focus on electronic access to data
- Publication of individual location data, usually within 48 hours of harvest

Our data are used by growers as a source of information when choosing which corn hybrids and soybean varieties to plant in the upcoming season. Seed companies use the data as a source of information for advertising and marketing decisions.

ISU research. Iowa Crop Improvement Association staff are examining various methods of selecting multiple corn hybrids or soybean varieties. The premise is that it's easy to select the top yielding

—continued



Soybean evaluation plots—early season.

RESEARCH BRIEF—

Speeding up soybean aphid scouting

What's new. The soybean aphid, *Aphis glycines*, is a relatively new pest to Iowa soybean fields. Since its discovery in 2000, Iowa has experienced yield reducing populations (> 660 per plant) in three of those six years. Anyone who has tried to count the entire number of aphids on a single plant when populations are high can appreciate the need for a more time-efficient method of estimating aphid densities. Matt O'Neal and his graduate student Kevin Johnson in ISU's soybean entomology lab are participating in an ongoing project funded by the North Central Soybean Research Program to develop an economic threshold for application of foliar insecticide for soybean aphid management.

ISU research. In 2005 experiments were established at three ISU farms to validate a new “speed scouting” technique for estimating if soybean aphid populations have reached an economic threshold. The experiments were conducted at the McNay (Lucas County), Northeast (Floyd County) and Central (Story County) Iowa Research and Demonstration Farms.

Four treatments were tested:

- an untreated treatment (no insecticide used),
- a “no aphid” treatment (an insecticide application whenever aphids were observed to prevent plant exposure to aphids),
- a “250 aphids per plant” treatment (an insecticide application when populations reached this average based on counting all the aphids on plants), and
- a “speed scouting” treatment (using an insecticide as determined by the speed scouting technique)—a description can be found at www.soybeanaphid.info.

What's next. The speed scouting technique was first tested under field conditions in 2005. Initial results suggest that this method compares favorably with a scouting program that estimates populations based on the total number of aphids on a plant. At all three experimental locations in 2005, the “250 aphids per plant” treatment and “speed scouting” treatment each received a single insecticide application and yields of the two treatments were not significantly different.

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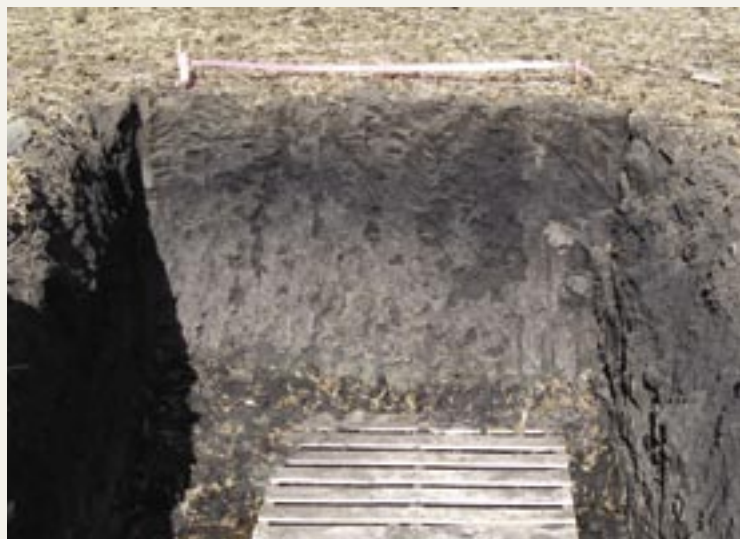
Mid-season soybean spraying.

Testing corn and soybeans, *continued*—

entry, but it's more difficult to select several entries of varying maturities and other varying qualities, all with high yield potential. This is extremely important, though, as a means for growers to spread risk. Ultimately, the results from these trials should be used by all Corn and Soybean Initiative partners and crop consultants when discussing variety selection with growers.

What's next. The Iowa Crop Performance Tests will continue evaluating germplasm for the economic benefit of Iowa's agricultural industries.

Learn more. Research results are published annually in *Iowa Crop Performance Test—Corn* and *Iowa Crop Performance Test—Soybeans*. All data are currently available online at <http://extension.agron.iastate.edu/varietytesting/>. Contact Jim Rouse, program coordinator, at croptesting@iastate.edu.



Soil pit used in understanding soils, one key to farm management.

Speeding up soybean aphid scouting, *continued*—

Further research is needed to determine if the speed scouting technique is too conservative an estimate of soybean aphid populations, triggering potentially unnecessary insecticide treatments.

Learn more. The latest information will be provided this summer in the *ICM Newsletter* and at www.soybeanaphid.info.

ISU PROFILE —

Mark Honeyman

- Coordinator, ISU Research and Demonstration Farms, College of Agriculture
- Professor, Department of Animal Science and Department of Agricultural Education and Studies



Origin

Raised on a diversified family farm in Mills and Montgomery counties in southwest Iowa, producing pasture, hay, corn, soybeans, oats, beef cows and hogs

Training

- B.S., M.S. and Ph.D., Animal Science, Iowa State University

At ISU

- ISU Research and Demonstration Farms coordinator, 1985–present
- Assistant/associate/full professor, Department of Animal Science, 1991–present
- Coordinator, professional agriculture off-campus graduate and undergraduate programs, 1990–1993
- Instructor, farm operation curriculum, Iowa State University, including Ag 450 Farm, 1980–1984

Notable achievements

- Involved with ISU farms since 1980 and interact with research farm associations across Iowa
- Assisted in opening new research farms in SE, SW, and NW Iowa
- Instructed more than 1,000 students in swine management at ISU since 1993
- ISU College of Agriculture Team Award—Hoop Group, 2002
- Practical Farmers of Iowa Sustainable Agriculture Award, 2000

Personal

- Live in Ames with family
- Enjoy family activities and Cyclone sports
- Cultivated a passion for pigs and agriculture
- Interested in history, particularly Iowa history

Quotable quote

"It's all about partnering. Building and maintaining partnerships is key to creating advantages for Iowa agriculture."

... and justice for all

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ISU BY THE NUMBERS —

Iowa Cooperative Soil Survey

Year the Iowa Cooperative Soil Survey was established.....	1966
Number of soil mapping units in use in Iowa	2,915
Iowa counties with modern soil surveys available.....	99
Least number of map sheets in a county soil survey (Emmet).....	60
Greatest number of map sheets in a county soil survey (Kossuth and Pottawattamie)	144
Lowest county average Corn Suitability Rating (Decatur).....	35.1
Highest county average Corn Suitability Rating (Grundy).....	84.7
Number of recognized soil orders mapped in Iowa	6
Date of the first published soil survey in Iowa (Dubuque area)	1902
Date of most recently published soil survey in Iowa (Humboldt).....	2005

For more information, visit <http://icss.agron.iastate.edu>.

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