

# Research and Technology Breakout Sessions

*There are currently 20 breakout topics to be presented at the 2007 On-Farm Network Conference. From the list below, please indicate your top four preferences on the registration form.*

■ **Fundamentals of remote sensing** (Randy Pearson)

This presentation will explain the basics of remote sensing, covering films (color and infrared), digital imagery, and wavebands for use in identifying plant stress.

■ **Applied remote sensing for crop production** (Randy Pearson)

This session will focus on agricultural use of remote sensing technology, with specific aerial imagery examples from Iowa corn and soybeans.

■ **Understanding and managing soil pH and liming** (Natalia Rogovska)

This session will present the basics of soil pH, how it effects plant growth and how management practices and soil parent material influence soil acidity. A summary of trials in Iowa from the last 10 years will be presented.

■ **Routine fungicide use in Iowa row crops** (Pat Reeg)

Results of more than 200 replicated trials over a three-year period will be presented. Three years of soybean trials and one year of corn trials will be discussed.

■ **Install your AgLeader monitor in the tractor cab** (Pat Reeg)

Many people have AgLeader monitors in their combines, but do not know how to transfer them to their tractor or sprayer. Learn how install them in other equipment, and also the benefits of using them to track your on-farm treatments and collect other information, such as hybrid performance, varied plant population, and more.

■ **Incorporating evaluation results into farm planning** (Heath Ellison)

Many producers volunteer or are required to implement nutrient, manure, or pest management plans. This session focuses on incorporating On-Farm Network™ evaluation and testing results into these plans based on experiences of producers and consultants participating in the Iowa Soybean Association's Certified Environmental Management Systems for Agriculture (CEMSA) program.

■ **Government programs that pay for on-farm testing** (Steve Brinkman)

Government programs such as EQIP and CSP have provisions that allow cost-sharing and other payments for on-farm evaluations. Learn what they are and how you may participate.

■ **Sources and uses of elevation data** (John McGuire)

Elevation data is available from a variety of sources, or you can collect your own. Learn more about where and how to collect it as well as some of its applications.

■ **Sources and uses of soil conductivity information** (John McGuire) Conductivity can be used to measure soil differences on a much finer scale than a soil survey map. Examples of data from Iowa soils and how they relate to on-farm testing will be presented.

■ **The importance of calibrating a yield monitor correctly** (John McGuire)

Calibrating a yield monitor is an important step that is often done incorrectly or not at all. Learn how to properly calibrate a yield monitor, and why, along with examples of what can happen if you don't.

■ **How to calculate statistics from on-farm trials** (Brad Van De Woestyne)

For growers that want to use statistics with their on-farm research, this session will explain how to design studies and calculate least significant differences (LSDs).

■ **Sources of free data available for Iowa growers** (Gaylia Ostermeier)

Many data sources including aerial imagery, soil survey information and more are available On-line at no cost to growers. Find out where.

■ **Using RTK and auto-steer to enhance on-farm testing** (Speaker TBD)

The combination of RTK and auto-steer technology has increased the opportunities for on-farm research. Learn how the technology works and how to apply it to on-farm research.

■ **An in-depth look at how aerial imagery was collected this year** (John Oenick)

A John Deere engineer explains how their aerial camera works and what was done to collect this year's imagery.

■ **The ISA Crop Scouting Network** (Hal Tucker)

ISA has provided crop condition and pest and disease development reports free to Internet users for the past three years. Learn more about this program and how to use the data to manage pests and disease on your farm.

■ **The energy balance of crop production** (Speaker TBD)

With all the talk about energy production from crops, learn about the energy inputs for corn and soybean production and the impact of various management practices on the energy balance.

■ **How the On-Farm Network™ operates** (Tracy Blackmer)

This presentation will focus on the structure, partners, cooperators and logistics that make the On-Farm Network function to the benefit of Iowa's growers.

■ **How replicated strip trials are analyzed** (Gaylia Ostermeier)

How do we get from the yield files you submit from your yield monitor to the individual producer reports you receive and aggregate the data to present at this conference.

■ **How to use your data to guide policy** (Carol Balvanz)

Many growers have collected meaningful information on topics that relate to rules or regulations. Learn what is being done with your data and what more you can do to impact the legislative process.

■ **Three years of in-line ripping trials: What did we learn?** (Mark Glady)

More than one hundred replicated strip trials have been conducted and thoroughly analyzed. Learn where ripping might pay and how to conduct your own studies.

■ **Perspectives from a grower group** (Rhonda Birchmier)

Hear from an agronomy study group organizer what has been done and what participants learned from their trials, which included tillage, rootworm control, seed treatments and nitrogen.

■ **Basics of GPS and Raven controllers** (Micah Eidem)

This will cover GPS basics and the different correction systems (Beacon, WAAS, OmniStar, RTK) and explain how they are used in on-farm research (yield mapping, as applied mapping, guidance, steering etc.).

■ **Watershed Programming – Management System Evaluation** (Todd Sutphin)

ISA has developed programs that allow farmers within a watershed or local area to work together toward improvements in economic and environmental performance. Learn how ISA has taken a lead role in performance-based watershed management by combining watershed programming, the On-Farm Network and field scale evaluations, and environmental management system evaluation (CEMSA) into the Boone River watershed and other watersheds statewide.

■ **Capturing new opportunities for conservation in the next farm bill** (Roger Wolf)

Most farmers have already taken steps to improve quality of the soil and water resources. Many would do more if they did not have to bear the entire cost themselves. Learn about the public investment in Iowa's conservation infrastructure and emerging policy ideas for conservation in the next Farm Bill.