Learn skills in how to diagnose field problems. This hands-on session will engage clinic participants in diagnosing problems associated with the growth and development of crops in relation to management of pest management, soil and water management, nutrient management, and crop management.

Keith Glewen, Todd Whitney, and Tyler Williams, Nebraska Extension Educators.

• Experience a simulated hail storm with a hail machine demonstration.
• Evaluate the synergies of Genetics x Management interactions.
• Soybean inputs: The Good, The Bad, The Ugly.
• Evaluating Hail Damage in Corn.
• Early results from DuPont Pioneer research on hybrid selection for narrow rows.

Chris Zwiener, Technical Product Manager, DuPont Pioneer.

• Are narrow rows the answer to higher corn yields?
• Is there a maximum population in 30” row spacing?
• Are narrow rows the answer to higher corn yields?
• Early results from DuPont Pioneer research on hybrid selection for narrow rows.

The Location: All clinics are held at the University of Nebraska-Lincoln Agricultural Research and Development Center near Mead, Nebraska.

Lodging: Arrange directly with the motel of your choice in Lincoln, Omaha, Fremont, or Wahoo (Heritage Inn).

Speakers were very good, extremely informative and well worth my time and money. - 2014 Participant Comment
Thermal infrared imaging for high spatial and temporal resolution of crop water stress monitoring of corn
• The greenhouse thermal imaging system could accurately measure canopy temperatures with ±0.62°C (<0.05) measurement accuracy
• Stressed and unстressed canopy temperatures followed closely to characteristic crop water use
• 82% of soil moisture variation was explained by CWSI values and a 0.6.

Ajay Sharda, Assistant Professor, Kansas State University

Mobile Apps for Crop Production
• Utilize CropWater and SoilWeb apps with Watermark sensors for irrigation scheduling
• Setup on-farm trials and record observations using the Nebraska On-Farm Research app
• Speed up scouting for soybean aphids with an app
• Trimble Agriculture’s Connected Farm Scout app and the Connected Farm website

Nathan Miller, Nebraska 4-H Education Specialist

Project SENSE, demonstrating In-Season Crop Canopy Sensor Based N Application
• Background of crop canopy sensor performance and usage
• Overview of Project SENSE
• Future research into crop canopy based sensors

Tim Mundorf, Project Leader, University of Nebraska-Lincoln and Lisa Thompson, Nebraska Extension Educator

Pesticide Spray Application Considerations
• Understanding the role of nozzle type in droplet size
• Choosing the appropriate nozzles for the application
• Preparing for applications in a dischamber and 2,4-D, 175 PINT world

Greg Koger, Nebraska Extension Water Science and Application Technology Specialist

Technologies for Improving In-Season Applications
• Raven HawkEye System
• Automatic Section Control Boundary Mapping

Dylan Spieker, Precision Ag Specialist, Rogers Ag Equipment

Technologies for In-season Crop Spraying
• Mobile devices for field scouting
• Trimble Connected Farm

Kathryn Kahl, Technology Sales Specialist and Clark Miller, Technology Sales Specialist, Trimble

Closing Session - Future Agricultural Data Collection, Management, and Usage

Randy Huss, Director of Engineering, Farmable

July 14 Precision Agriculture Session

July 15 Mid Summer Crop Management Diagnostic Clinic

Weed Control
• Application technology tools for improving my weed control
• Role of adjuvants in applications
• Combining nozzles and adjuvants: what we know and what we don’t

Robert Wright, Nebraska Extension Entomology and Wayne Olsen, Nebraska Extension Educator

Insect Scouting in Trained and Untrained Corn
• Understand insect control traits in different Bt corn hybrids
• Use quick test strips to detect Bt proteins
• Identify insect injury symptoms

Lenora Gardner and Tamra Joekes, Jones, Nebraska Extension Entomologist, John Wittman, Nebraska Extension Entomology Educator, and Sarah Schrad, Graduate Student, UNL

Nematodes and Diseases of Corn and Soybean
• Update and demonstration of seed treatments for Soybean Cyst Nematode
• Overview of SCN management options
• Update on Cossi’s Will and Leaf Blight of Corn
• Results from management trials

Loren Gardner and Tamra Joekes, Jones, Nebraska Extension Entomologist and John Wittman, Nebraska Extension Entomology Educator, and Sarah Schrad, Graduate Student, UNL

How Water Quality Issues Could Change The Nebraska Landscape (via Matthew Conard)
• Overview of water quality challenges
• Iowa Nutrient Reduction Strategy
• Implementation of water quality improvement practices
• Partnerships for improved water quality

Julie Berning, Water Quality Program Manager, Iowa State University

The Herbicide Mode of Action Challenge
• Cost of pre-mixes versus individual products
• Herbicide resistance management

Jeff Miller, doctoral student, UNL CPW and Plant Pathology and Rodrigo Werle, Doctoral Student, UNL Med Science

Early Season Hail Damage in Corn
• Hands-on experience with hail damage at early stages of corn development
• Learn how to evaluate early season hail damage
• Learn about the interactions between hail and disease development
• Experience a simulated hail storm with a hail machine

Roger Emmer, Nebraska Extension Crop Scaping Systems Agronomist and Justin McKelvie, UNL Doctor of Plant Health Science

Choose from 4 great training opportunities
7/14 Precision Ag + 7/15 Mid-summer
8/20 Soil & Water + 8/27 Late Season

Aug. 26 Physical, Chemical and Biological Properties of Soil

Management Considerations to improve the Physical, Chemical and Biological Properties of Soil
• How I measure soil quality and health on my farm
• How my farm’s soil health changed over the years
• Soil health benefits on my farm
• Management practices that provide positive and negative impact to soil health

Rick Berle, Farmer, Trail City, South Dakota

Measuring Bulk Density, Porosity and Infiltration
• Small ring infiltration test (initial and secondary test when soil is at field capacity)
• Demonstrate methods for collecting and processing bulk density samples
• Use bulk density data to determine water content, porosity and water filled pore space

Comry Brabson, DSW SSRS State Conservation Agronomist and Brian Krenske, Nebraska Soil Extension Educator

Physical Soil Properties
• Hands-on field assessment/soil samples of physical properties (soil structure, compaction, resistance, movement, porosity, soil organic matter, etc.)
• Management impacts on compaction, structure, organic matter and such as tillage and nitrogen fertilizer
• Relationship to key soil functions such as water cycling, nutrient cycling, carbon cycling, soil food web, soil structure to physical properties
• Relationship of physical to chemical and biological properties of soil

Chat Biring, Soil Science; Kansas State University

Crop Management Considerations for Physical Properties of Soil
• Hands-on field assessment and soil samples of physical properties (soil structure, compaction, resistance, movement, porosity, soil organic matter, etc.)
• Management impacts on compaction, structure, organic matter and such as tillage and nitrogen fertilizer
• Relationship to key soil functions such as water cycling, nutrient cycling, carbon cycling, soil food web, soil structure to physical properties
• Relationship of physical to chemical and biological properties of soil

Chat Biring, Soil Science; Kansas State University

What is Soil Biology?
• What conditions are important to improving soil ecology?
• Is increasing soil biology diversity important to improving crop yields and reducing input costs?
• How can soil biology and soil health be measured?
• Soil test interpretation and discussion

Ned Chesnav, USD-NSIS State Soil Scientist and Keith Gwinn, Nebraska Soil Extension Educator

Chemical Soil Properties
• Hands-on assessment of Soil Temp, EC, pH, P and P conditions
• Relationship of chemical properties to soil functions (nutrient cycling)
• Onsite assessment and impact of different management systems
• Relationship of physical, chemical and biological properties and soil health

Michael Kucera, USDA-NRCS Agronomist, Nebraska Soil Ecology Team & Tim Meador, Precision Ag Specialist, Midwest Laboratories