

Aug. 27 Late Season Crop Management Diagnostic Clinic



Late Season Disease Diagnosis and Update

- Learn how to identify root and stem rot diseases of soybean
- Overview of common diseases observed this season
- Update on northern corn leaf blight

Loren Giesler and Tamra Jackson-Ziems, Nebraska Extension Plant Pathologists, John Wilson, Nebraska Extension Educator, and Sarah Schlund, Graduate Student, UNL

Double Duty Cover Crops: Improving the Soil and Producing Forage

- Effects of grazing cover crops on soil and subsequent crop yield
- Selection and establishment of species for grazing
- Value of forage produced: yield, quality, and cattle performance

Mary Drewnoski, UNL Beef Systems Specialist and Daren Redfeard, Forage and Crop Residue Systems Specialist

Applied Soybean Physiology: Why Soybeans Do What They Do!

- Capturing the synergies of G(ene)tic x M(angement) interactions
- Soybean Inputs: The Good, The Bad, The Costly

Shawn Conley, University of Wisconsin Soybean and Wheat Extension Specialist

The Future of Row Spacing and Corn Plant Populations

- 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.

Chris Zwiener, Technical Product Manager, DuPont Pioneer

Evaluating Hail Damage in Corn

- Hands on experience with hail damage at early and late stages of corn development
- Learn how to evaluate damage to corn ears
- Identification of diseases associated with late season hail
- Experience a simulated hail storm with a hail machine demonstration

Roger Elmore, UNL Extension Cropping Systems Agronomist and Justin McMechan, UNL Doctor of Plant Health Student

Crop Scene Investigation (CSI)

- 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

Speakers were very good, extremely informative and well worth my time and money. - 2014 Participant Comment

Registration begins at 7:15 a.m.
Clinics begin at 8:00 a.m.

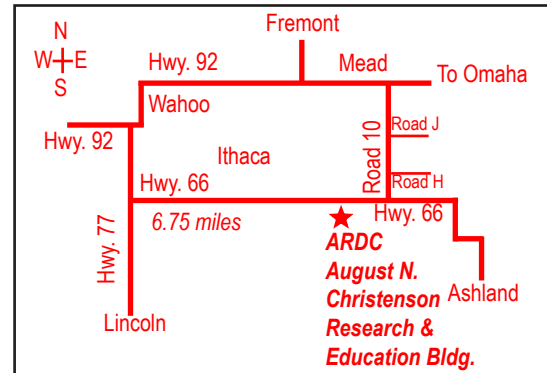
Pre-registration required. All registrants will be sent a confirmation letter, receipt and finalized schedule. Space is limited; your registration is not guaranteed unless payment is received. Cancellations received 1 week before the clinic will receive a full refund. In the event of program cancellation by the University, pre-registered participants will be contacted and will receive a full refund. The University of Nebraska is not responsible for any expenses incurred by registrants.

Fees: Fees include training, lunch and reference materials.

CCA Credits: We reserve the right to request change in CCA credits based on program needs. Participants must attend entire program to obtain full continuing education credits.

The Location: All clinics are held at the University of Nebraska-Lincoln Agricultural Research and Development Center near Mead, Nebraska. Participants meet at UNL Agricultural Research Center's August N. Christenson Research and Education Building - rain or shine (bring rain gear).

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



Map and directions online at:
<http://ardc.unl.edu/direct.shtml>



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**CROP MANAGEMENT
DIAGNOSTIC CLINICS**

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2015 CROP MANAGEMENT DIAGNOSTIC CLINICS

In-Field Training for Agribusiness Professionals

Precision Agriculture - July 14

Midsummer - July 15

Physical, Chemical and Biological
Properties of Soil - Aug. 26

Late Season - Aug. 27

University of Nebraska
Agricultural Research and Development Center
near Mead, Nebraska



University of Nebraska-Lincoln
Institute of Agriculture and Natural Resources

EXTENSION CROP MANAGEMENT DIAGNOSTIC CLINICS

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If paying by check or cash: (Make checks payable to UNL Extension.)

July 14 Precision Ag Session \$170

July 15 Mid-Summer Diagnostic Clinic \$170

Aug. 26: Physical, Chemical and Biological Properties of Soil

Before 8/19 \$170; \$220 after

Aug. 27 Late Season Diagnostic Clinic Before 8/20 \$170; \$220 after

SAVE \$50
When you register
at least 1-Week
in advance on
August Clinics

July 14 Precision Agriculture Session



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 $\pm 0.62^{\circ}\text{C}$ (≈ 0.05) measurement accuracy
- Stressed and unstressed canopy temperatures followed closely to characteristic crop water use
- 82% of soil moisture variation was explained by CWSI values above 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 Mueller, Nebraska Extension Educator

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

Joe Luck, Assistant Professor, University of Nebraska-Lincoln and Laura 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 dicamba and 2,4-D POST world

Greg Kruger, Nebraska Extension Weed Science and Application Technology Specialist

Technologies for Improving In-Season Applications

- Raven Hawkeye System
- Automatic Section Control Boundary Mapping

Dylan Spatz, Precision Ag Specialist, Riggins Ag Equipment

Technologies for In-Season Crop Scouting

- Mobile devices for field scouting
- Trimble Connected Farm

Nate Karl, Technology Sales Specialist and Scott Miller, Technology Sales Specialist, STTech

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

Randy Nuss, Director of Engineering, Farmobile

July 15 Mid-Summer Crop Management Diagnostic Clinic



Weed Control

- Application technology tools for improving my weed control
 - Role of adjuvants in applications
 - Combing nozzles and adjuvants: what we know and what we don't
- Greg Kruger, Nebraska Extension Weed Science and Application Technology Specialist

Insect Scouting in Traited and Untraited Corn

- Understand insect control traits in different Bt corn hybrids
- Use quick test strips to detect Bt proteins
- Identify insect injury symptoms

Robert Wright, Nebraska Extension Entomologist and Wayne Ohnesorg, Nebraska Extension Educator

Nematodes and Diseases of Corn and Soybean

- Update and demonstration of seed treatments for Soybean Cyst Nematode
- Overview of SCN management options
- Update on Goss's Wilt and Leaf Blight of Corn
- Results from management trials

Loren Giesler and Tamra Jackson-Ziems, Nebraska Extension Plant Pathologists, John Wilson, Nebraska Extension Educator, and Sarah Schlund, Graduate Student, UNL

How Water Quality Issues Could Change The Nebraska Landscape

(via Adobe Connect)

- Overview of water quality challenges
- Iowa Nutrient Reduction Strategy
- Implementation of water quality improvement practices
- Partnerships for improved water quality

Jamie Benning, Water Quality Program Manager, Iowa State University

The Herbicide Mode of Action Challenge

- Cost of pre-mixes versus individual products
- Herbicide resistance management

Josh Miller, Doctoral Student, UNL DPH and Plant Pathology and Rodrigo Werle, Doctoral Student, UNL Weed 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 demonstration

Roger Elmore, Nebraska Extension Cropping Systems Agronomist and Justin McMechan, UNL Doctor of Plant Health Student

Choose from 4 great training opportunities

- * 7/14 Precision Ag
- * 7/15 Mid-summer
- * 8/26 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 Bieber, 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

Corey Brubaker, USDA NRCS State Conservation Agronomist and Brian Krienke, Nebraska Soils Extension Educator

Physical Soil Properties

- Hands-on in field assessment/soil samples of physical properties (soil structure, compaction, resistance, root 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

Chad Remley, State Soil Scientist- Kansas and Patrick Cowser, USDA-NRCS Resource Soil Scientist

Cover Crops for Improving the Soil

- See various cover crop mixes growing in wheat residue
- Gain knowledge about selection and management
- Discuss growth patterns, water use, and production
- Understand nutrient cycling and nitrogen fixing potential
- Learn about the long-term benefits to the soil system

Keith Berns, Co-Founder/Co-Owner, Green Cover Seed & Providence Farms and Paul Jasa, Nebraska Extension Engineer

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?
 - Ray and Rick will spend time in the pit illustrating differences in soil biology
- Ray Ward, President, Ward Laboratories and Rick Bieber, Farmer, Trail City, South Dakota

Soil Characteristics, Productivity and Landscape Position

- Effective use of field maps, soil interpretation, soil survey information, management history, in-field characterization and on-site investigation
- Sampling for agronomic soil tests
- Soil pit evaluation and discussion

Neil Dominy, USDA-NRCS Nebraska State Soil Scientist and Keith Glewen, Nebraska Extension Educator

Chemical Soil Properties

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

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

Appreciation is expressed to the USDA-NRCS, private industry professionals and UNL staff and faculty for their efforts in these educational programs.