Eastern Agricultural Research Center

Field Day
July 16, 2019
Welcome to the 39th Annual Field Day at your MSU Eastern Agricultural Research Center (EARC). The day will begin with a welcome and field tour of the MSU-EARC valley research site with a sponsored luncheon to follow.

We appreciate your attendance and participation in the EARC Field Day activities and welcome your questions and comments during and after the tour. The MSU Eastern Agricultural Research Center extends thanks to its staff members, the guest speakers, and everyone who contributed and participated in the Field Day activities.

SINCERE THANKS TO OUR SPONSORS:

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<td>Yellowstone Bank</td>
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A special thanks to: Tim Fine, Richland County Extension Agent, for his cooperative efforts in planning the Field Day activities; LeRoy’s Catering for the luncheon; and the USDA-ARS NPARL for all the benches & a trailer.

The MSU Montana Agricultural Experiment Station and Research Centers will provide accommodations for any known disability that may interfere with a person’s participation in any service, program or activity. If you require reasonable accommodations to participate in this event, we request 48 hours notice of the requested accommodations directly to Chengci Chen at (406) 433-2208 or cchen@montana.edu.
MSU-EARC/EXTENSION
39TH Annual Field Day
Schedule of Events

July 16, 2019

8:00 am – 8:30 am Refreshments and Registration
8:30 am – 8:40 am Welcome – Dr. Chengci Chen, MSU-EARC Superintendent

Tour Begins
8:45 am – 9:00 am Dr. Frankie Crutcher Seed Treatment and Foliar Application of Fungicides for Pea and Chickpea Disease Management

Dr. Frankie Crutcher is a Plant Pathologist at MSU-EARC, who is studying disease management in pulse, cereal, and sugarbeet crops. At this stop, Dr. Crutcher will present information on fungicide seed treatment and foliar applications to control diseases in pea, lentil, and chickpea. Rotations of active ingredients to prevent the development of fungicide resistance and proper timings of applications will also be discussed.

9:00 am – 9:15 am Drs. Bill Franck and Fatemeh Etemadi Improving Pea Protein Content Through Rhizobium Inoculants, Plant Growth Regulators, and Variety Selection

Dr. Bill Franck is a Research Scientist at MSU-EARC, who has a Ph.D. degree in Microbiology and Dr. Fatemeh Etemadi is a Postdoctoral Research Associate, who has a Ph.D. degree in Agronomy. Drs. Franck and Etemadi will present their studies that are aiming at enhancing the pea protein concentrations through various agronomic practices, such as using different Rhizobium inoculants and application method, applying micronutrients and plant growth promotion regulators, as well as selecting superior pea varieties.

9:15 am – 9:30 am Drs. Fatemeh Etemadi and Chengci Chen Herbicide, Fertility, and Seeding Date and Rate Studies for Mung Bean and Adzuki Bean

Dr. Chengci Chen is an Agronomist and Superintendent at MSU-EARC. Drs. Chen and Etemadi are currently evaluating mung bean and adzuki bean as potential new pulse crops in eastern Montana. At this stop, Dr. Chen and Etemadi will present the studies that evaluate different pre-emergence herbicides for weed control in mung bean and adzuki bean. They also present the seeding date and rate, and fertility/inoculant studies to evaluate the fertility needs of these beans.

9:30 am – 9:45 am Mr. Keith Horton Specialty Canola to Produce High Omega-3 Oil for Fish Farming

Mr. Keith Horton is the Site Leader and Senior Trial Agronomist for Cargill Specialty Seed and Oils in Great Falls. Cargill has developed specialty canola hybrids that produce omega-3 fatty acids. Keith will present the potential of these canola hybrids in Montana and utilization of the omega-3 canola oil for fish farming. He will discuss the history of this project and how it can benefit growers in Montana while reducing pressures on wild fish populations.

9:45 am – 10:00 am Drs. Apurba Sutradhar and Chengci Chen Fall- and Spring-Nitrogen Application and Foliar Application and Seed Treatment of Micronutrients to Improve Sugarbeet Yield and Sugar Content in No-Till and Conventional Tilled Sugarbeet.
Dr. Apurba Sutradhar is a Postdoctoral Research Associate at MSU-EARC, who has a Ph.D. degree in Soil Science (Soil Fertility). Drs. Sutradhar and Chen are currently studying nutrient management (including micronutrients) to improve sugar beet yield and sucrose concentration. At this stop, Drs. Sutradhar and Chen will present a study that compares fall-applied to spring-applied nitrogen, as well as foliar application of micronutrients on sugar beet grown under no-till and conventional tilled conditions. Weed control under no-till sugar beet will also be discussed.

10:00 am – 10:15 am  Dr. Frankie Crutcher  Fungicide Seed Treatment and Foliar Application to Control Sugarbeet Root Diseases

Root and foliar diseases can severally affect sugar beet root yield and quality. At this stop, Dr. Crutcher will present a study that uses various seed treatments and foliar fungicides to control Rhizoctonia root and crown rot. A demonstration will present examples of diseased sugar beet and discuss when farmers should and should not apply foliar fungicides for disease control.

10:15 am – 10:25 am  Travel to east side of the farm

10:25 am – 10:40 am  Drs. Chengci Chen and Apurba Sutradhar  Industrial Hemp as a Potential Crop for Eastern Montana?

Industrial hemp has been approved by 2018 Farm Bill as an alternative crop, but there is little information on the suitable varieties and agronomic practices for growing this crop. Drs. Chen and Sutradhar are currently testing industrial hemp varieties. At this stop, they will discuss with growers on potential hemp varieties for eastern Montana and agronomic practices, such as seeding date and rate, fertility, harvesting, and etc.

10:40 am – 10:55 am  Mr. Tim Fine  Update on Palmer Amaranth and Other Herbicide Resistant Weeds

Herbicide resistant weeds have become a concern to both dryland and irrigated growers. Mr. Tim Fine is the Extension Agent at the Richland County Extension Office. He will update the audience on the spread of Palmer Amaranth and other herbicide resistant weeds and management strategies.

10:55 am – 11:10 am  Dr. Jamie Sherman  Improving Barley for Montana

Dr. Jamie Sherman is the Barley Breeder at MSU-Bozeman. She will discuss the newly released malting barley "Buzz", named for grower Buzz Mattelin. She will also share developments of food and forage barley, as well as the newly instituted winter barley breeding program.

11:10 am – 11:25 am  Dr. Luther Talbert  Spring Wheat Breeding and New Varieties

Dr. Luther Talbert is the Spring Wheat Breeder at MSU-Bozeman. He will update the audience about the spring wheat breeding program in Bozeman and newly released spring wheat varieties.

11:25 am – 11:40 am  Dr. Gautam Pradhan and Mr. Shuang Zhou  Using Hand- Held and UAV Mounted Multi-Spectrum Camera to Characterize Spring Wheat Genotypes

Dr. Gautam Pradhan is a Research Agronomist at NDSU-Williston Research and Extension Center and Mr. Shuang Zhou is a Research Associate at MSU-EARC. They are currently studying spring wheat genotypes for different yield, protein, and drought tolerance traits. They will demonstrate the hand-held device and drone that is equipped with a multi-spectrum camera to scan spring wheat nurseries for those traits.

11:40 am – 11:55 am  Mr. Duane Peters  Update of sugarbeet production and Sidney Sugars

Mr. Duane Peters is the Agriculture Manager at Sidney Sugars. He will update with the audience on current sugarbeet production and introduce new agriculturists with Sidney Sugars.
11:55 am – 12:10 pm  Dr. Bart Stevens  Cropping Systems Studies

Bart Stevens is a Research Agronomist with USDA-ARS Northern Plain Agricultural Research Laboratory. He will present to the audience the studies which the USDA-ARS conducts at the EARC-irrigated farm.

12:10 pm – 1:10 pm  Lunch  Dr. Darrin Boss, Department Head of MSU Research Centers  Update of the Research Centers Department  and  Tracy Dougher, Assoc. Dean for Academic Programs & Professor of Horticulture  Update from VP/Dean’s Office

1:10 pm  Field Day Program Adjourned

2019 WEATHER SUMMARY

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<tr>
<th>Month</th>
<th>Precipitation – Inches</th>
<th>Temperature</th>
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<tr>
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<tr>
<td>February</td>
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<tr>
<td>March</td>
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<tr>
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<tr>
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<tr>
<td>June</td>
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<td>July 1-12</td>
<td>2.67</td>
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TOTAL

EASTERN AGRICULTURAL RESEARCH CENTER STAFF

Chengci Chen  Supt./Cropping Systems/Agronomist
Frankie Crutcher  Plant Pathologist
Ron Brown  Farm Manager/Mechanic
Fatemeh Etemadi  Postdoctoral Research Assoc.
Amber Ferda  Research Associate
Bill Franck  Research Scientist
Becky Garza  Research Assistant
Cherie' Gatzke  Administrative Assistant
Thomas Gross  Research Assistant
Samantha Hoesel  Research Assistant
Calla Kowatch-Carlson  Research Assistant
Tanner Stevens  Ag Field Technician
Apurba Sutrathar  Postdoctoral Research Assoc.
Shuang “Andy” Zhou  Research Associate

SEASONAL ASSISTANTS:

Miriam Backhaus  Holly Bouchard
Charles Flynn  Red Lovec
Chuck Lowman  Abbey Ries
Lexie Seling  Michael Stevens
Zava Zupan

MSU EXTENSION-RICHLAND COUNTY STAFF

Tim Fine  Agriculture Agent
Patti Fjelstad  Administrative Assistant
Josie Evenson  4-H County Agent
Carrie Krug  FCS Agent