2022 Western Society of Crop Science Annual Meeting
Fort Collins, CO
June 21-22, 2022

Tuesday, June 21, 2022

Field Tour

7:30 am – 7:45 am Gather at the Z-Lot (#440) parking area which is at the corner of University Avenue and College Avenue on the CSU campus. From the Best Western University Inn Motel, cross the street at the crosswalk light and follow the sidewalk diagonally up the hill. The parking lot entrance will be directly across the street (look for the white vans).

7:45 am – 8:00 am Welcome from Anowar Islam, President of WSCS, and welcome and logistics from Joe Brummer, Local Host, CSU Soil and Crop Sciences Department

8:00 am – 8:30 am Travel north of Fort Collins to start tour (drinks/snacks provided)
8:30 am – 11:30 am Tour stops:
- Anheuser-Busch Barley Breeding Program – Austin Case
- CSU ARDEC Faculty/Graduate Student Research Plots
  o Conservation Tillage under Furrow Irrigation/Water Quality
    ▪ Erik Wardle, Manny Deleon, and AJ Brown
  o Transition to Dryland Agroecosystems
    ▪ Violeta Mendoza Martinez
  o Wheat Breeding for Semi-arid Regions
    ▪ Esten Mason
  o Sorghum Breeding for Drought Tolerance
    ▪ Gina Cerimele and Rubi Raymundo
  o Robotic Crop Scanner
    ▪ Alex Kena and Rubi Raymundo
  o Kernza/Perennial Wheat and Soil Quality
    ▪ Siwook Hwang
  o Seed Testing Laboratory
    ▪ Randy Crowl

11:30 am – 12:30 pm Box Lunch at CSU’s Agricultural Research, Demonstration and Education Center (ARDEC)

12:30 pm – 1:00 pm Travel from ARDEC to the main CSU Campus
1:00 pm – 2:30 pm Tour USDA’s National Laboratory for Genetic Resources Preservation
  - Jennifer Kendall

2:30 pm – 3:00 pm Tour of newly remodeled Nutrien Ag Sciences Building
  - Garret Fong
3:00 pm – 3:15 pm  Move to Smith Alumni Center
3:15 pm – 3:30 pm  Break (drinks/snacks provided)

**Professional Presentation Section I** (Smith Alumni Center, Seminar Room 2)
**Moderator:** Anowar Islam, University of Wyoming, Laramie, WY

3:30 pm – 3:50 pm  Influence of Planting Date and Variety on Winter Canola Production in Northwest Montana, **Clint Beiermann** and Jessica A. Torrion, Montana State University, Kalispell, MT.
3:50 pm – 4:30 pm  History of Dryland Agricultural Research in Eastern Colorado, **Dr. Gary Peterson** (invited speaker), Emeritus Professor, Soil and Crop Sciences, Colorado State University, Fort Collins, CO.
4:30 pm – 4:45 pm  Questions for Dr. Peterson
4:45 pm  Adjourn (Dinner on your own)

**Wednesday, June 22, 2022**

7:00 am – 8:00 am  **Poster Set up**, Smith Alumni Center, Seminar Room 1 (Coffee/donuts)
8:00 am – 8:05 am  Introduction and Logistics, **Joe Brummer**
8:05 am – 8:15 am  CSU Welcome and College Updates, **Troy Bauder**
8:15 am – 8:35 am  Remarks from CSSA President, **Marilyn Warburton** (via Zoom)
8:35 am – 8:50 am  Overview of Grant Programs, Deputy Regional Coordinator of Western SARE, **Irene Grimberg** (via Zoom)
8:50 am – 9:00 am  Short break to prepare for student presentations/competition

**Student Competition: Oral Presentations Section I** (Smith Alumni Center, Seminar Room 2)
**Moderator:** Mark Marsalis, New Mexico State University, Agricultural Science Center, Los Lunas, NM

**12 minutes per talk and 3 minutes for questions**

9:00 am – 9:15 am  Glyphosate-Resistant Transgene Persistence in Feral Alfalfa Populations, **Selena Burke**, University of California, Riverside, CA, Sandya Rani Kesoju, Columbia Basin College, Pasco, WA, and Norman Ellstrand, University of California, Riverside, CA.
9:20 am – 9:35 am  Effect of Plant Density and Cultivar on Growth and Yield of Sweet Bell Pepper, **Selina Oronia**, Polet Torres, Araceli Martinez, and Sandya Rani Kesoju, Columbia Basin College, Pasco, WA.
9:40 am – 9:55 am  Yield and Quality Response of Potato Cultivar ‘Rocky Mountain Russet’ to Nitrogen Application Rate, **Salah M. Abdelsalam**, Colorado State University, Fort Collins, CO, Samuel YC Essah, CSU, Center, CO, Jessica G. Davis, CSU, Fort Collins, CO, Dave G Holm, CSU, Center, CO, and Mary E. Stromberger, CSU, Fort Collins, CO.

10:00 am – 10:20 am  Break (drinks/snacks provided)
10:20 am – 10:35 am  Productivity and Profitability of Alfalfa in Response to Potassium, Cultivar and Harvest Time, **Michael M. Baidoo** and Anowarul Islam, University of Wyoming, Laramie, WY.

10:40 am – 10:55 am Stacking and Intersecting Nutrient 4R’s in Winter Wheat, **Ms. Emmanuella Owusu Ansah**, Olga S. Walsh, Eva Nambi, Ritika Lamichhane, and Jordan McClintick-Chess, University of Idaho, Parma, ID.


11:20 am – 11:35 am Using Imaging and Machine Learning for High-Throughput Phenotyping in Winter Wheat, **Mik Hammers**, Colorado State University, Fort Collins, CO.

11:40 am – 11:55 am  Coal Char Treated with Nitric Acid (HNO3) Response to Corn Plant Growth and Soil Health in a Loamy Sand Soil of Wyoming, **Resham Thapa**, University of Wyoming, Laramie, WY.

12:00 pm – 1:00 pm Lunch (Catered by CSU Meat Judging Team)

**Student Competition: Oral Presentations Section II** (Smith Alumni Center, Seminar Room 2)
**Moderator:** Sandya Kesoju, Columbia Basin College, Pasco, CO

12 minutes per talk and 3 minutes for questions

1:00 pm – 1:15 pm  Cover Crops for Improving Forage Sorghum Yield and Nutritive Value in Water-Limited Environments, **Pramod Acharya**, New Mexico State University, Clovis, NM, Rajan Ghimire, NMSU, Clovis, NM, Mark A. Marsalis, NMSU, Los Lunas, NM, and Erik Lehnhoff, NMSU, Las Cruces, NM.

1:20 pm – 1:35 pm  Productivity of Alfalfa-Grass Mixtures Under Full and Deficit Irrigations, **Mohammed Munkaila** and Anowarul Islam, University of Wyoming, Laramie, WY.

1:40 pm – 1:55 pm Role of Species Mixture on Forage Productivity, Quality, and Soil Microbial Community, **Chandan Shilpakar** and Anowarul Islam, University of Wyoming, Laramie, WY.

2:00 pm – 2:15 pm Intercropping Alfalfa with Select Grass Species to Increase Yield and Quality Under Full and Deficit Irrigation, **Hunter Doyle**, Colorado State University, Fort Collins, CO, Joe E. Brummer, CSU, Fort Collins, CO, and Reza Keshavarz Afshar, Rodale Institute, Kutztown, PA.

2:20 pm – 2:50 pm Break (drinks/snacks provided)
**Student Competition: Poster Presentations – 5 minutes per poster** (Smith Alumni Center, Seminar Room 1)

**Moderator:** Joe Brummer, Colorado State University, Fort Collins, CO

3 minutes to explain poster and 2 minutes for questions

2:50 pm – 4:20 pm

1. Yield of Alfalfa-Grass Mixtures in Response to Different Alfalfa-Grass Planting Configurations and Irrigation Regimes, *Luana Quirino Souza Dayoub Zagato*, University of Idaho, Idaho Falls, ID.


7. Growing Food Security: Supporting and Educating the CSU Community through Agriculture, *Sean C. Stokes* and Thomas Hickey, Colorado State University, Fort Collins, CO.

8. Mapping Soil Carbon Content of Reclaimed Grassland at Different Depth Using Empirical Bayesian Kriging, *Chandan Shilpakar*, University of Wyoming, Laramie, WY, David Holbrook, RSI Entech, Grand Junction, CO, Di Yang, UW, Laramie, WY, and Anowarul Islam, UW, Laramie, WY.


**Professional Poster Presentations** (Smith Alumni Center, Seminar Room 1)

**Moderator:** Rajan Ghimire, New Mexico State University, Agricultural Science Center, Clovis, NM

**4:30 pm – 5:00 pm**

3 minutes to explain poster and 2 minutes for questions

1. The Relationship between 11 Pin Genes and Stay Green, a Drought Adaptive Trait, in Sorghum, Ami Oh and Geoffrey Morris, Colorado State University, Fort Collins, CO.
3. Crop Modeling Suggests Limited Transpiration Would Increase Yield of Sorghum in Drought-Prone Environments of the United States, Rubi Raymundo, Colorado State University, Fort Collins, CO, Gregory McLean, Queensland Department of Agriculture, Forestry and Fisheries, Towomba, QLD, Australia, Sarah Sexton, Kansas State University, Manhattan, KS, and Geoffrey Morris, CSU, Fort Collins, CO.
5. Flywheel Genomics Leads to Rapid Trait Architecture Dissection and Efficient Transfer of Knowledge to Plant Breeders, Brian R. Rice, Colorado State University, Fort Collins, CO, Carl VanGessel, CSU, Fort Collins, CO, Gael Pressoir, Université Quisqueya, Port-au-Prince, Haiti, and Geoffrey Morris, CSU, Fort Collins, CO.

**5:00 pm – 5:20 pm**

Student Presentation Judging

**5:20 pm – 6:00 pm**

Business Meeting (Smith Alumni Center, Seminar Room 2)

**6:00 pm**

Adjourn

**6:15 – 8:30 pm**

**Catered Dinner and Student Awards** (Smith Alumni Center, Seminar Room 1)

**Moderator:** Anowar Islam, WSCS President, University of Wyoming, Laramie, WY