

43RD
BIENNIAL MEETING
& CONFERENCE



AMERICAN SOCIETY OF
SUGAR BEET
TECHNOLOGISTS

Hyatt Regency ▪ Long Beach, California
February 24 – 27, 2025

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SCHEDULE

Monday – February 24

- 7:00 A.M. – 5:00 P.M. **Registration** – Mezzanine
- 8:00 A.M. – 11:00 A.M. **USDA-ARS / Industry Meeting**
Regency Ballroom D/E/F – Fourth Floor
- 12:30 P.M. – 2:00 P.M. **USDA-ARS All Hands Meeting**
Seaview Ballroom A/B – First Floor,
Lower Level
- 1:00 P.M. – 3:00 P.M. **BSDF Board of Directors Meeting**
Harbor Room – First Floor, Lower Level
- 2:00 P.M. – 4:30 P.M. **Crop Germplasm Meeting** – Seaview
Ballroom C – First Floor, Lower Level
- 4:30 P.M. – 5:30 P.M. **ASSBT Program Committee Meeting**
Regency Ballroom – Fourth Floor
- 6:00 P.M. – 8:00 P.M. **President’s Reception – ASSBT
Meeting Kickoff** – Seaview Foyer &
Rotunda – First Floor, Lower Level

Tuesday – February 25

- 6:30 A.M. – 8:30 A.M. **Coffee** – *Hosted by Hydrite*
Beacon Rotunda, Fourth Floor
- 7:00 A.M. – 3:00 P.M. **Registration** – Mezzanine
- 8:30 A.M. – Noon **General Session**
Regency Ballroom – Fourth Floor
- 1:30 P.M. – 3:00 P.M. **General Session, continued**
Regency Ballroom – Fourth Floor
- 3:30 P.M. – 5:30 P.M. **Poster & Exhibitor Session & Social
(Green)** – Fourth Floor – Regency Foyer
& Beacon Ballroom

Wednesday – February 26

- 6:00 A.M. – 8:00 A.M. **Coffee** – *Hosted by Hydrite*
Beacon Rotunda, Fourth Floor
- 7:55 A.M. – 11:40 A.M. **Section A – Regency Ballroom A
Section B – Regency Ballroom B/C
Section C – Regency Ballroom D/E/F**
- 1:15 P.M. – 3:00 P.M. **Section A – Regency Ballroom A
Section B – Regency Ballroom B/C
Section C – Regency Ballroom D/E/F**
- 3:30 P.M. – 5:30 P.M. **Poster & Exhibitor Session & Social
(Brown)** – Fourth Floor – Regency Foyer
& Beacon Ballroom
- 5:30 P.M. – 8:00 P.M. **Industry Social & Entertainment**
Seaview Ballroom, Foyer & Rotunda

*Sponsored by Mitsui Chemicals
Crop & Life Solutions, Inc. (MCCLS)*

Thursday - February 27

- 6:00 A.M. - 8:00 A.M. **Coffee** - Hosted by Hydrite - Beacon Rotunda, Fourth Floor
- 7:55 A.M. - 12:40 P.M.** **Section A - Regency Ballroom A**
Section B - Regency Ballroom B/C
Section C - Regency Ballroom D/E/F
- Noon - 5:00 P.M. Free Afternoon
- 2:00 P.M. - 5:00 P.M. BSDF Cercospora Work Group (*invite only*) - Harbor - First Floor, Lower Level
- 6:00 P.M. - 7:00 P.M. **Reception** - Regency Foyer - Fourth Floor
- 7:00 P.M. - 9:00 P.M. **Banquet and Awards Program** - Regency Ballroom - Fourth Floor

End of ASSBT Biennial Meeting

Friday - February 28

- 7:30 A.M. - 10:30 A.M. **ASSBT Board of Directors Meeting** - Harbor - First Floor, Lower Level

**Section A will end at 11:20 A.M. Section B will end at 12:40 P.M.
Section C will end at 11:40 A.M.

TUESDAY MORNING

February 25, 2025

General Session

Regency Ballroom

- 8:30 **Call to Order:**
Dr. Mike Metzger
President - ASSBT
Minn-Dak Farmers Cooperative
- 8:35 **Welcome and Announcements:**
Dr. Thomas Peters
General Program Chairperson
North Dakota State University / University of Minnesota
- Invited Speakers***
- 8:45 **Speaker - Dr. Elisabeth Lacoste**
Director, International Confederation of European
Beet Growers (CIBE)
Challenges faced by EU growers.
- 9:30 **Speaker - Dr. Nick Storer**
VP of Science & Innovation, American Sugarbeet
Growers Association (ASGA)
*Drivers for innovation in protecting and improving
sugarbeet crops in the U.S.*
- 10:15 **Q & A**
Dr. Thomas Peters, Moderator
- 10:30 Break
- 10:45 **Speaker - Dr. Todd Pringle**
Manager - Advanced Engineering, John Deere
*The opportunities and challenges of sensor & compute
technology stacks for agriculture.*
- 11:30 **Q & A**
Dr. Thomas Peters, Moderator
- 11:40 **President's Address:**
Dr. Mike Metzger
- Noon Break for Lunch
- 1:30 General Session, *contd.*

**Speakers sponsored, in part, by the Corsberg, Grinde, Shemilt
(CGSM) Memorial Fund*

TUESDAY AFTERNOON

February 25, 2025

General Session

Regency Ballroom

- 1:30 **Speaker - Steve D. Gowan**
VP of Consulting Services, Marshall Institute
The Journey from Reactive to Proactive Maintenance
- 2:20 **Q & A**
Dr. Thomas Peters, Moderator
- 2:35 **In Memoriam**
Mr. Nick Klein, Immediate Past President - ASSBT
Michigan Sugar Company
- 2:45 **Reports**
Mrs. Anna Murphy, Executive Vice President - ASSBT
Committee Announcements
- 3:00 **Break**

***CGSM Memorial Fund**

Three Holly Sugar Corporation executives, Jack Corsberg (Operations), Harold Grinde (Environmental Affairs) and Gordon Shemilt (Commodity Supply) were killed in an airplane crash while enroute to inspect a coal mine which was supplying coal to one of its factories. A fund was set up with contributions from company staff, other industry members and associated industry suppliers to honor the memory of these three respected sugar industry members. The fund was created to provide funding to encourage guest speakers for selected Beet Sugar Development Foundation or American Society of Sugar Beet Technologists meetings or schools.

Thanks to ACH Seeds for sponsoring two drink tickets at both poster and exhibitor sessions & socials. Two drink tickets for each session (Green & Brown) are included in your registration packet. Thanks to Syngenta for sponsoring all poster awards and prizes.

POSTER AND EXHIBITOR SESSION AND SOCIAL

**Tuesday, February 25 &
Wednesday, February 26**

3:30 –

5:30 pm **Poster and Exhibitor Session and Social – Green**

Featuring odd numbered posters

Fourth Floor – Regency Foyer & Beacon Ballroom

Please join us this year for **two** Poster and Exhibitor Session and Socials, held on Tuesday, February 25 (“Green” Session) and Wednesday, February 26 (“Brown” Session). Scientists and representatives will be available for questions and discussion about their research. Representatives for all odd-numbered posters will be present on Tuesday, February 25, and representatives for all even-numbered posters will be present on Wednesday, February 26.

This year will include **two** poster competitions. Meeting attendees will vote on the best poster in each section, on each day. Please join us for both sessions and vote for your favorite “odd” or “even” presentations in each section. Winners will be announced at the awards banquet. Posters will remain in the Beacon Ballroom throughout the duration of the meeting. In addition, exhibitors will be present in the Regency Foyer. Please walk around and learn more about the exhibitor’s offerings. Exhibitor tables will remain through Thursday morning.

POSTER SESSION AGRONOMY

Chairperson: Emma Burt

1 Response of sugar beet to group 15 herbicides applied pre or delayed preemergence.

ADJESIWOR, ALBERT¹, CLARKE G. ALDER*² and JOEL FELIX³, ¹University of Idaho Kimberly Research and Extension Center, Kimberly, ID 83341, ²Amalgamated Sugar Company, Sugar Beet Research, Nyssa, OR 97913, ³Oregon State University, Malheur Experiment Station, Ontario, OR 97914.

2 Impact of herbicide carryover and drift on sugar beet yield and a decision-making guide for growers experiencing impact from non-target herbicide effects.

ALDER, CLARKE G.*¹, ALBERT ADJESIWOR², EMILY CORGATELLI¹ and TYLER MORRIS¹, ¹Amalgamated Sugar Company, Sugar Beet Research, Nyssa, OR 97913, ²University of Idaho Kimberly Research and Extension Center, Kimberly, ID 83341.

3 *Amaranthus palmeri* survey, confirmation, and resistance testing in Idaho and Oregon sugar beet growing regions.

ALDER, CLARKE G.*¹, ALBERT ADJESIWOR², JOEL FELIX³, SKYLEN HAWKES⁴ and EMILY CORGATELLI¹, ¹Amalgamated Sugar Company, Sugar Beet Research, Nyssa, OR 97913, ²University of Idaho Kimberly Research and Extension Center, Kimberly, ID 83341, ³Oregon State University, Malheur Experiment Station, Ontario, OR 97914, ⁴Amalgamated Sugar Company, Nampa District Ag Staff, Nampa, ID 83687.

- 4 Ethofumesate controls *amaranthus* spp. preemergence in sugarbeet.**
MILLER, JULIANNA I.*¹, THOMAS J. PETERS², ADAM D. ABERLE² and DAVID C. METTLER³, ¹North Dakota State University, Dept. 7670, PO Box 6050, Fargo, ND 58108-6050, ²North Dakota State University and the University of Minnesota, NDSU, Dept. 7670, PO Box 6050, Fargo, ND 58108-6050, ³Southern Minnesota Beet Sugar Cooperative, 83550 County Road 21, Renville, MN 56284.
- 5 Reevaluating common ragweed control in sugarbeet in Minnesota and North Dakota.**
PETERS, THOMAS J.* and ADAM D. ABERLE, North Dakota State University and the University of Minnesota, NDSU, Dept. 7670, PO Box 6050, Fargo, ND 58108-6050.
- 6 Weeds, catch crops and flower strips as potential risk for virus yellows transmission in sugar beet.**
BAENSCH, SVENJA*¹, TJARK P. PAULSEN², NILS KLINGEMANN¹ and WITON PURAHONG¹, ¹KWS SAAT SE & CO KGaA, Grimsehlstraße 31, 37574 Einbeck, Germany, ²Osnabrück University of Applied Sciences, Albrechtstraße 30, 49076 Osnabrück, Germany.
- 7 Do harvest-aids improve sugarbeet topping?**
WISHOWSKI, DAVID*¹ and CHRISTY L. SPRAGUE², ¹Michigan State University Extension and Sugarbeet Advancement, ²Department of Plant, Soil, and Microbial Sciences, Michigan State University, 1066 Bogue Street, East Lansing, MI 48824.
- 8 Impact of defoliation timing.**
BURT, EMMA L.*, MICHAEL S. METZGER, PAUL J. MOFFET and BRADLEY L. SCHMIDT, Minn-Dak Farmers Cooperative, 7525 Red River Rd, Wahpeton, ND 58075.
- 9 Quick tests for sugar beet respiration.**
EKELÖF, JOAKIM*¹ and ANDRE WAUTERS², ¹Nordic Beet Research Foundation, Borgeby Slottsväg 11, SE - 237 91 Bjärred, ²IRBAB, Molenstraat 45, B - 3300 Tienen.
- 10 Modelling the sugar beet storage environment.**
ENGLISH, WILLIAM and JOAKIM EKELÖF*, Nordic Beet Research, Borgeby Slottsväg 11, 23791 Bjärred, Sweden.
- 11 Evaluation of root firmness and cell wall components in sugarbeet lines for reducing sugar loss during post-harvest piling storage.**
ADDINGTON, JOLENE*¹, AHMET BARKAN BOSTAN¹, LISA PREISTER², KAREN FUGATE², NATHAN WYATT², MELVIN BOLTON², XUEHUI LI¹ and CHENGGUO CHU*², ¹North Dakota State University, Department of Plant Sciences, Fargo, ND 58102, ²USDA-ARS, Edward T. Schafer Agricultural Research Center, Sugarbeet Research Unit, Fargo, ND 58102.
- 12 Identification of genomic regions associated with root respiration rate during post-harvest cold storage.**
BOSTAN, AHMET BARKAN*¹, JOLENE ADDINGTON¹, LISA PREISTER², KAREN FUGATE², NATHAN WYATT², MELVIN BOLTON², XUEHUI LI¹ and CHENGGUO CHU*², ¹North Dakota State University, Department of Plant Sciences, Fargo, ND 58102, ²USDA-ARS, Edward T. Schafer Agricultural Research Center, Sugarbeet Research Unit, Fargo, ND 58102.
- 13 Post-harvest application of atmospheric air cold plasma improves storage quality of sugar beet roots through alteration of microbiome and sugar metabolism.**
MAJUMDAR, RAJTILAK*, CARL A. STRAUSBAUGH and PAIGE N. COX, USDA-ARS, Kimberly, ID 83341.
- 14 A remote sensing approach to measuring in-season canopy cover percentage of sugarbeets.**
FINDLAY, WALTER C.*, ARIANNA HEGE and DAVEY OLSEN, Amalgamated Sugar-SBR Research, 911 W 8th Street, Burley, ID 83318.

- 15 Innovative extension using epoxy resin displays and time lapse photography.**
FINDLAY, WALTER C.*, DAVEY OLSEN and ARIANNA HEGE, Amalgamated Sugar-SBR Research, 911 W 8th Street, Burley, ID 83318.
- 16 Integrating multi-source remote sensing data and machine learning for large-scale sugarbeet yield forecasting in the Western High Plains region.**
CABRERA, MARIA*, FELIU SERRA-BURRIEL, RAFAEL FORTES, ROCÍO GARCÍA, CARLOS FERRAZ, XAVIER SILVA, NICK MILHOUS, GIL SALA and PABLO MORAN, HEMAV Agritech Inc., 2655 N Le Jeune Rd, Suite 810, Miami, FL 33142.
- 17 Variations in stand counts affecting sugar beet yield and quality.**
SEARLE, AARON*, GREG DEAN, LANCE PITCHER, ZACH LUEKENG and SKYLEN HAWKENS, Amalgamated Sugar Company, Nampa, ID 83686.
- 18 Finding the “sweet” spot: Nitrogen strategies for variable sugarbeet harvest timings.**
FLEMING, SPENCER, ANDREW CHOMAS and KURT STEINKE*, Michigan State University, Department of Plant, Soil, and Microbial Sciences, Plant and Soil Sciences Building, 1066 Bogue Street, East Lansing, MI 48824.
- 19 Sugarbeet yield and recoverable sucrose response to intensive nutrient management.**
BEARSS, LANE S., ANDREW CHOMAS and KURT STEINKE*, Michigan State University, Department of Plant, Soil, and Microbial Sciences, Plant and Soil Sciences Building, 1066 Bogue Street, East Lansing, MI 48824.
- 20 Soil moisture sensor evaluation in Idaho sugarbeets.**
HEGE, ARIANNA*¹, DAVEY OLSEN¹, CRAIG FINDLAY¹, LINDA SCHOTT² and CLARENCE ROBISON³, ¹Amalgamated Sugar-SBR Research, 911 W 8th Street, Burley, ID 83318, ²University of Idaho, Twin Falls Research and Extension Center, 315 Falls Avenue, Evergreen Bldg, Twin Falls, ID 83301, ³University of Idaho, Kimberly Research and Extension Center, 3793 N 3600 E, Kimberly, ID 83341.
- 21 A comparison of different fertility programs.**
OLSEN, DAVEY*, ARIANNA HEGE and CRAIG FINDLAY, Amalgamated Sugar-SBR Research, 911 W 8th Street, Burley, ID 83318.
- 22 Phosphorus - Testing our adequacy thresholds.**
OLSEN, DAVEY*, ARIANNA HEGE and CRAIG FINDLAY, Amalgamated Sugar-SBR Research, 911 W 8th Street, Burley, ID 83318.
- 23 The case for static range nitrogen management in Northwest U.S. sugarbeet production.**
TARKALSON, DAVID D.*¹, DAVEY OLSEN², DAVID L. BJORNEBERG¹ and CHRISTOPHER W. ROGERS¹, ¹USDA-ARS Northwest Soils and Irrigation Research Laboratory, Kimberly, ID, ²The Amalgamated Sugar Company, Boise, ID.
- 24 Sugarbeet processing precipitated calcium carbonate lime effects on a crop rotation and soil properties: Sites 2 and 3.**
TARKALSON, DAVID D.*¹, DAVID L. BJORNEBERG¹, OLIVER T. NEHER², DAVEY OLSEN² and GREG DEAN², ¹USDA-ARS Northwest Soils and Irrigation Research Laboratory, Kimberly, ID, ²Amalgamated Sugar Company, Boise, ID.

PHYSIOLOGY, GENETICS, AND PLANT PESTS

- 25 Development of a rapid seedling assay for evaluating sugar beet *Fusarium* tolerance.**
ANFINRUD, MARK*¹, VIVIANA RIVERA², GARY A. SECOR², MELVIN D. BOLTON¹, CHENGGUO CHU¹ and NATHAN A. WYATT¹, ¹USDA-ARS, Edward T. Schafer Agricultural Research Center, Sugarbeet Research Unit, Fargo, ND 58102, ²North Dakota State University Department of Plant Pathology, Fargo, ND 58102.

- 26 Development of a greenhouse screening assay to evaluate sugar beet germplasm for resistance to Beet Curly Top virus (BCTV).**
VINCILL, ERIC D.*¹, LAURIE K. JACKSON and CARL A. STRAUSBAUGH, USDA-ARS, NWISR Sugar Beet Breeding and Research Laboratories, Kimberly, ID 83341.
- 27 Development of a mid-density AgriSeq genotyping chip for sugar beet and its relatives.**
NAEGELE, RACHEL P.*¹, EVAN LONG², KEVIN DORN³, PIERGIORGIO STEVANATO⁴ and IRWIN GOLDMAN⁵, ¹USDA-ARS, 1066 Bogue St., East Lansing, MI 48824, ²USDA-ARS, 3793 North 3600 East, Kimberly, ID 83341, ³USDA-ARS, 210 Centre Avenue, Ft. Collins, CO 80526, ⁴University of Padova, Viale Università 16 Legnaro, Italy, ⁵University of Wisconsin, 1575 Linden Drive, Madison, WI 53706.
- 28 Exploration of secondary metabolites as biocontrol agents against sugar beet disease.**
BACK, DANIEL C.*¹, MADISON CHRISTENSON², MARI NATWICK² and MELVIN D. BOLTON¹, ¹USDA-ARS, Edward T. Schafer Agricultural Research Center, Sugarbeet Research Unit, Fargo, ND 58102, ²North Dakota State University, Fargo, ND, 58102.
- 29 Development of a high-throughput computational pipeline to identify new chemical management strategies for sugar beet pathogens.**
CHAPPIE, JOSHUA S.*¹, NATHAN A. WYATT² and SAMUEL WYATT², ¹USDA-ARS Soil Management and Sugarbeet Research Unit, Crops Research Laboratory, 1701 Centre Ave, Fort Collins, CO 80526, ²USDA-ARS Edward T. Schafer Agricultural Research Center, Sugarbeet Research Unit, 1616 Albrecht Blvd. North, Fargo, ND 58102.
- 30 Evaluating the efficacy of essential oils and botanical extracts to manage sugarbeet storage pathogens.**
KANDEL, SHYAM L.¹, PRABIN TAMANG² and MALICK BILL*^{1,3}, ¹USDA-ARS, Edward T. Schafer Agricultural Research Center, Fargo, ND 58102, ²USDA-ARS, Natural Products Utilization Research, University, MS 38677, ³North Dakota State University Department of Plant Pathology, Fargo, ND 58102.
- 31 Exploring genetic structure and diversity of breeding material producing three-way hybrids in sugar beet: impacts on male-female differentiation, and genome-wide patterns.**
DESPREZ, AUGUSTIN*^{1,2}, MAUD TENAILLON², KARINE HENRY¹, ALAIN CHARCOSSET², BRUNO DESPREZ¹, PIERRE DEVAUX¹ and LAURENCE MOREAU², ¹Florimond Desprez Veuve & Fils SAS, BP 41, 59242, Cappelle-en-Pevele, France, ²INRAE, CNRS, AgroParisTech, GQE-Le Moulon, Université Paris-Saclay, 91190, Gif-Sur-Yvette, France.
- 32 Genomic insights into the evolution, diversity, and trait discovery in cultivated beets (Genus *Beta*).**
DHIMAN, AMAR S.*¹, DEMETRIS TALIADOROS², EVA H. STUKENBROCK³ and CHRISTIAN JUNG⁴, ¹KWS SAAT SE & Co. KGaA, 37574, Einbeck, Germany, ²Department of Medical Biochemistry and Microbiology, Genetics and Genomics, Matthew Webster, Uppsala University, BMC, Husargatan 3, 752 37 UPPSALA, Sweden, ³Botanical Institute, Christian-Albrechts-University of Kiel, Am Botanischen Garten 1-9 24118 Kiel, Germany, ⁴Plant Breeding Institute, Christian-Albrechts-University of Kiel, Olshausenstr. 40, D-24098 Kiel, Germany.
- 33 Mapping-by-sequencing identifies loci linked to Rhizoctonia Root and Crown Rot resistance.**
DORN, KEVIN M.*¹, NICHOLAS METZ, ANN FENWICK, AMY FALL and OLIVIA TODD, USDA-ARS, 1701 Centre Avenue, Fort Collins, CO 80526.
- 34 Screening root maggot lines/hybrids for genetic tolerance.**
HANSEN, ADAM*, DAN BJUR and TYLER RING, United Beet Seeds, 1020 Sugar Mill Road, Longmont, CO 80501.

- 35 Abiotic factors affecting accumulation of betaine in sugarbeet leaves and roots.**
EIDE, JOHN D.*¹, ABBAS LAFTA², FERNANDO FINGER³ and KAREN K. FUGATE¹, ¹USDA, Agricultural Research Service, ETSARC, 1616 Albrecht Blvd. N., Fargo, ND 58102, ²North Dakota State University, Dept. of Plant Pathology, Fargo, ND 58108, ³Federal University of Viçosa, Viçosa, MG, Brazil.
- 36 SBR and RTD - A new threat challenging breeding and agronomy in sugarbeet cultivation in Europe.**
CZARNECKI, OLAF, HENNING EBMEYER* and MARIO SCHUMANN, KWS SAAT SE & Co. KGaA, Grimsehlstrasse 31, 37574 Einbeck.
- 37 Characterization of pathogens causing leaf spot diseases of sugarbeet in Michigan.**
WEEDON, EMILY J.*¹, LINDA E. HANSON^{1,2}, ALEXANDRA P. HERNANDEZ¹, SARAH RUTH¹ and JAIME R. WILLBUR¹, ¹Michigan State University, 612 Wilson Road, 35 Plant Biology Lab, East Lansing, MI 48824, ²USDA-ARS, 612 Wilson Road, 37 Plant Biology Lab, East Lansing, MI 48824.
- 38 Always on the watch: supplementing networks with technology to monitor changing sugar beet pathogen and pest composition and distribution.**
PETERSON, JENNIFER J.*¹, HARALD KEUNECKE², and FRANCISCO E. MENDEZ CASTRO², ¹KWS SEEDS, LLC, 1325 Valley View Rd, Shakopee, MN 55379, U.S.A, ²KWS SAAT SE & Co. KGaA, Grimsehlstrasse 31, 37574 Einbeck, Germany.
- 39 Impact of fungicide application timing on *Cercospora beticola* latent infection, symptom development, and fungicide resistance profiles during the growing season.**
BRANCH, ERIC A.*¹, ANDREW W. FUCHS¹, SOPHIA TRUSCOTT² and NATHAN A. WYATT², ¹North Dakota State University and University of Minnesota, NDSU, Dept. 7660, PO Box 6050, Fargo, ND 58108-6050, ²USDA-ARS, Edward T. Schafer Agricultural Research Center, Sugarbeet Research Unit, Fargo, ND 58102.
- 40 Rotating DMI fungicides within spray programs to manage *Cercospora beticola* in sugar beet.**
DELEON, JAMES A.¹, AUSTIN K. LIEN^{1,2} and ASHOK K. CHANDA*^{1,2}, ¹University of Minnesota Northwest Research & Outreach Center, 2900 University Avenue, Crookston, MN, 56716, ²University of Minnesota, Dept. of Plant Pathology, 1991 Upper Buford Circle, St. Paul, MN, 55108.
- 41 Sugar beet defense responses are significantly modulated during a susceptible interaction with *Cercospora beticola*.**
EBINEZER, LEONARD BARNABAS*^{1,2}, MARI NATWICK^{1,2}, LORENA RANGEL¹, MELVIN BOLTON¹ and NATHAN WYATT¹, ¹USDA, Northern Crop Science Laboratory, 1307 18th Street North, Fargo, ND 58102, ²North Dakota State University, Department of Plant Pathology, Walster Hall 306, Fargo, ND 58102.
- 42 Evaluation of *Cercospora* leaf spot and post-harvest handling on sugarbeet storage.**
HENDERSHOT, CARLY*¹, CHRIS BLOOMINGDALE¹, HOLLY CORDER¹, TOM GOODWILL², SARAH RUTH¹, RANDY BEAUDRY¹, LINDA E. HANSON² and JAIME F. WILLBUR¹, ¹Michigan State University, Plant Biology Laboratory, 612 Wilson Road, Room 35, East Lansing, MI 48824, ²USDA-ARS, Plant Biology Laboratory, 612 Wilson Road, Room 37, East Lansing, MI 48824.
- 43 Simulated canopy loss due to *Cercospora* leaf spot.**
NEHER, OLIVER T.*¹, CLARKE ALDER, EMILY CORGATELLI and TYLER MORRIS, Amalgamated Sugar Company, PO Box 1766, Nyssa, OR 97913.
- 44 Using nanoparticles to enhance fungicide efficacy for management of *Cercospora* leaf spot of sugar beet.**
NEUBAUER, JONATHAN*¹, RAJ HAZRA², MOHI QUADIR², CHENGGUO CHU¹, MELVIN BOLTON¹ and LONG JIANG², ¹USDA-ARS, Edward T. Schafer Agricultural Research Center, Sugarbeet Research Unit, Fargo, ND 58102. ²North Dakota State University Department of Mechanical Engineering, Fargo, ND 58108.

- 45 Non-toxic CLS disease control of sugar beet using hot water.**
KIM, JAMES Y.* and NATHAN WYATT, USDA-ARS Edward T. Schafer Agricultural Research Center, Sugarbeet Research Unit, Fargo, ND, 58102.
- 46 The impact of sugarbeet variety mixtures on the epidemiology of *Cercospora* leaf spot.**
LIEN, AUSTIN K.*^{1,2}, NATHAN A. WYATT³ and ASHOK K. CHANDA^{1,2}, ¹University of Minnesota Dept. of Plant Pathology, 1991 Upper Buford Circle, St. Paul, MN, 55108, ²University of Minnesota Northwest Research & Outreach Center, 2900 University Avenue, Crookston, MN, 56716, ³ USDA-ARS, Edward T. Schafer Agricultural Research Center, Sugarbeet Research Unit, Fargo, ND 58102.
- 47 Chromosome One QTLs associated with response to bacterial leaf spot in *Beta vulgaris*.**
MORRISON, AUDREY K.* and IRWIN. L. GOLDMAN, University of Wisconsin, Department of Plant and Agroecosystem Sciences, 1575 Linden Drive, Madison, WI 53706.

PROCESSING

- 48 Helping sugar companies understand incoming sugarbeet quality.**
DAHLEN, CHAD*, DUANE BERNHARDSON and STANLEY NWADE, KWS Seeds LLC, 1500 S 40th ST, Grand Forks, ND 58201.
- 49 Recovery of acetoin, a chemical pre-cursor and produced via fermentation of sugar beet extract, using solvents.**
KLASSON, THOMAS K.* and EVAN TERRELL, USDA-ARS Southern Regional Research Center, 1100 Allen Toussaint Blvd., New Orleans, LA 70124.
- 50 Importance of gassing slot sizing on carbonation gas absorption: A computational approach.**
ROTAROV, DAMIAN N.*, SEAN R. RICHARDS and MADELINE M. LANGLEY, Michigan Sugar Company, 2600 S. Euclid Ave. Bay City, MI 48706.
- 51 Energy savings through fine filtration of high brix standard liquor.**
SCHÖPF, STEFAN*, Lenzing Filtration – Division of Lenzing AG, Werkstrasse 2, 4860 Lenzing, Austria.
- 52 Centrifuge control ensures operational safety: state of the art.**
SPANGENBERG, DIRK¹, ANDREAS LEHNBERGER^{*1}, EDUARDO LIMA¹ and AREND WITTENBERG¹, ¹BMA Braunschweigische Maschinenbauanstalt GmbH, Am Alten Bahnhof 5, 38122 Braunschweig, Germany.
- 53 Minimizing volume-weighted mean of seed crystal fondant by optimizing operation of Sweco Ball Mill.**
McKEWAN, WILLIAM, HUDI KOBRINSKY, NICK MORITZ*, RAY DOBRATZ and DAVID GROOM, American Crystal Sugar Company, 1700 North 11th Street, Moorhead, MN 56560.
- 54 Biodegradable and sustainable antifoam based on modified cellulose.**
GUEZEL, CEM¹, MARCUS JANSCHER¹, VESNA ALEKSANDROVIC-BONDZIC¹, VALERI WERNER², LARS HERWAEGER² and IGOR SEDOV^{*2}, ¹Fraunhofer-Institut für Angewandte Polymerforschung IAP, Grindelallee 117, 20146 Hamburg, ²Schill+Seilacher "Struktol" GmbH, Moorfleeter Strasse 28, 22113 Hamburg.
- 55 Sensors in beet processing.**
BURKHARDT, MARK O.* and WOLFGANG KLOSTERHALFEN, Pfeifer & Langen GmbH & Co KG, 50858 Köln, Germany.

WEDNESDAY MORNING

February 26, 2025

Section A: Agronomy

Regency Ballroom A

Session Leader:

Justin Krieg, American Crystal Sugar Company

- 7:55 **Announcements**
- 8:00 **Potassium and nitrogen applications for sugarbeet yield and quality in Southern Minnesota and Imperial Valley of California.**
LAMB, JOHN A.*¹, DAVID C. METTLER², and MARK W. BLOOMQUIST², ¹Univ. of Minnesota, 2182 Woodbridge Way, Woodbury, MN 55125, ²Southern Minnesota Beet Sugar Cooperative, 83550 County Road 21, Renville, MN 56284.
- 8:20 **Nitrogen fertilizer management for *Beta vulgaris* in southern Minnesota.**
METTLER, DAVID C.*¹, MARK W. BLOOMQUIST¹, and JOHN A. LAMB¹. ¹Southern Minnesota Beet Sugar Cooperative, 83550 County Road 21, Renville, MN 56284.
- 8:40 **High nitrogen and variety performance.**
OLSEN, DAVEY*¹, ARIANNA HEGE¹ and CRAIG FINDLAY¹, ¹Amalgamated Sugar-SBR Research, 911 W 8th Street Burley, Idaho 83318.
- 9:00 **Early season UAN applications in sugar beets.**
REGITNIG, PETER J.*¹ and JAY F. ANDERSON¹, ¹Lantic Inc., 5405 64th Street, Taber, Alberta, T1G 2C4.
- 9:20 **Adjusting fertilizer strategies to address new challenges in sugarbeet production including early harvest, varietal differences, and sugar quality.**
STEINKE, KURT*, STORM SOAT, and ANDREW CHOMAS, Michigan State University, Department of Plant, Soil, and Microbial Sciences, Plant and Soil Sciences Building, 1066 Bogue Street, East Lansing, MI 48824.
- 9:40 **Manure legacy effects on sugarbeet production and quality.**
TARKALSON, DAVID D.*¹, DAVID L. BJORNEBERG¹, CHRISTOPHER W. ROGERS¹, and ROBERT S. DUNGAN¹, ¹USDA-ARS, Northwest Irrigation and Soils Research Laboratory, Kimberly, ID 83341.
- 10:00 **Break**
- 10:20 **Forty years of kochia (*Bassia scoparia*) control with herbicides in sugar beet.**
KNISS, ANDREW R.*¹, University of Wyoming, Plant Sciences, Dept. 3354, 1000 E. University Ave, Laramie, WY 82071.
- 10:40 **Stale seedbed for weed management in sugar beet.**
TEYE-DOKU, NEWMAN B.*¹, NEVIN LAWRENCE², JENNA MEEKS¹, RAMAWATAR YADAV¹, and ANDREW

R. KNISS¹, ¹University of Wyoming, Plant Sciences, Dept. 3354, 1000 E. University Ave, Laramie, WY 82071, ²University of Nebraska-Lincoln, Panhandle Research & Extension Center, 4502 Ave I, Scottsbluff, NE 69361.

- 11:00 **Effect of cover crop presence on herbicide efficacy**
WRIGHT, MADISON L.*¹, RAM YADAV¹, and ANDREW R. KNISS¹, ¹University of Wyoming, Plant Sciences, Dept. 3354, 1000 E. University Ave, Laramie, WY 82071.
- 11:20 **Kochia control with Phenmedipham in sugarbeet.**
ABERLE, ADAM D.*¹ and THOMAS J. PETERS¹, ¹North Dakota State University and University of Minnesota, NDSU, Dept. 7670, PO Box 6050, Fargo, ND 58108-6050.
- 11:40 **Lunch**

WEDNESDAY MORNING

February 26, 2025

Section B: Physiology, Genetics, & Plant Pests

Regency Ballroom B/C

Session Leaders:

*Ashok Chanda, University of Minnesota Crookston &
Evan Long, USDA-ARS*

- 7:55 **Announcements**
- 8:00 **Genomic regions responsible for rhizomania resistance in a mutagenic sugar beet line identified through graded-pool sequencing and transcriptome analysis.**
LONG, EVAN M.*¹, RAJTILAK MAJUMDAR¹, CARL A. STRAUSBAUGH¹, ERIC D. VINCILL¹, and IMAD A. EUJAYL¹, ¹USDA-ARS, Kimberly, ID 83341.
- 8:20 **Characterization of the resistance protein Rz2 and its interaction with the avirulence protein triple gene block I from beet necrotic yellow vein virus.**
BENJES, KRISTIN¹, MARK VARRELMANN*¹, and SEBASTIAN LIEBE¹, ¹Institute of Sugar Beet Research, Department of Phytopathology, Holtenser Landstraße 77, 37079 Göttingen, Germany.
- 8:40 **Identification and characterization of beet necrotic yellow vein virus-derived small RNAs from sugarbeet by high-throughput sequencing.**
RAMACHANDRAN, VANITHARANI*¹, CHINNARAJA CHINNADURAI², ALYSSA FLOBINUS², NATHAN WYATT¹, JOHN WEILAND¹, and MELVIN BOLTON¹, ¹USDA-ARS, Edward T. Schafer Agricultural Research Center, 1616 Albrecht Blvd N, Fargo, ND 58102, ²North Dakota State University, Fargo, ND 58102.
- 9:00 **Identification of genomic regions associated with Beet curly top virus resistance in the sugar beet double haploid line, KDH4-9.**
MAJUMDAR, RAJTILAK*¹, EVAN M. LONG¹, CARL A. STRAUSBAUGH¹, and IMAD A. EUJAYL¹, ¹USDA-ARS, Kimberly, ID 83341.
- 9:20 **Exploring gene sources for sustainable improvement of sugarbeet.**
CHU, CHENGGEN*¹, MUHAMMAD MASSUM TEHSEEN², LISA PREISTER¹, AHMET BARKAN BOSTAN², JOLENE ADDINGTON², HEE KYUNG LEE¹, NATHAN WYATT¹, MELVIN BOLTON¹, KAREN FUGATE¹, VANITHARANI RAMACHANDRAN¹, MARK BOETEL³, ERIC BRANCH⁴, and XUEHUI LI², ¹USDA-ARS, Edward T. Schafer Agricultural Research Center, 1616 Albrecht Blvd N, Fargo, ND 58102, ²North Dakota State University, Department of Plant Sciences, Fargo, ND 58102, ³North Dakota State University, Department of Entomology, Fargo, ND 58102, ⁴North Dakota State University, Department of Plant Pathology, Fargo, ND 58102.

- 9:40 **The *de novo* sequencing, assembly, annotation, gene expression, and public database housing genomic dataset sequences for the sugar beet root maggot *Tetanops myopaeformis*, TmSBRM_v1.0.**
 KLINK, VINCENT*¹, SUDHA ACHARYA², MUHAMMAD MASSUB TEHSEEN^{3,4}, CHENGGEN CHU³, and NADIM W. ALKHAROUF², ¹USDA-ARS-NEA-BARC, Molecular Plant Pathology Laboratory, Building 004, Room 122, BARC-West, 10300 Baltimore Ave., Beltsville, MD 20705, ²Towson University, Department of Computer and Information Sciences, Towson, MD, 21252, USA, ³USDA-ARS-NA- Northern Great Plains Research Laboratory, 1307 N 18TH ST Northern Crop Science Laboratory, Fargo, ND 58102, USA, ⁴North Dakota State University, Department of Plant Sciences, Fargo, ND 58102, USA.
- 10:00 **Break**
- 10:20 **Finding solutions against viral yellows in Europe without phytosanitary products.**
 LAUDINAT, VINCENT*¹ and FABIENNE MAUPAS*¹, ¹Institut Technique de la Betterave ITB -France, 45 rue de Naples 75008 Paris.
- 10:40 **Virus Yellows disease in sugar beet - a resistance mechanism for the future.**
 ROLLWAGE, LUKAS*¹, HILDE VAN HOUTTE², ROXANA HOSSAIN¹, NIELS WYNANT², GLENDA WILLEMS², and MARK VARRELMANN¹, ¹Institute of Sugar Beet Research, Holtenser Landstraße 77, D-37079 Goettingen, Germany, ²SESVanderHave NV, Industriepark 15, BE-3300 Tienen, Belgium.
- 11:00 **Speed breeding practices in sugar beet: An application to Yellowing disease resistant breeding.**
 KURODA, YOSUKE*¹, HIROAKI MATSUHIRA¹, TSUBASA NARIHIRO¹, KAZUYOSHI KITAZAKI², and TOMOHIKO KUBO², ¹Hokkaido Agricultural Research Center, National Agriculture and Food Research Organization, 9-4 Shinseiminami, Memuro, Kasai, Hokkaido 082-0081, Japan, ²Laboratory of Genetic Engineering, Research Faculty of Agriculture, Hokkaido University, Sapporo 060-8589, Japan.
- 11:20 **Virus Yellows resistant/tolerant varieties for sustainable sugar beet production, when seed treatments are banned.**
 LENNEFORS, BRITT-LOUISE*¹, EMMA THORELL¹, KARINE HENRY², TYLER RING³, and HENDRIK TSCHOEP¹, ¹United Beet Seeds, Industriepark 15, 3300 Tienen, Belgium, ²United Beet Seeds, 3 rue Florimond Desprez, Cappelle-en-Pévèle, France, ³United Beet Seeds, 1020 Sugar Mill Road, Longmont, CO 80501, USA.
- 11:40 **Lunch**

WEDNESDAY MORNING

February 26, 2025

Section C: Processing***

Regency Ballroom D/E/F

Session Leader:

Khris Alvarez, Michigan Sugar Company

- 7:55 **Announcements**
- 8:00 **Identification of bacterial isolates from North American sugar beet factories and determination of optimal lab-scale antimicrobial dosing.**
BRUNI, GILLIAN O.*¹, USDA-Agricultural Research Service, Southern Regional Research Center, 1100 Allen Toussaint Blvd, New Orleans, LA 70124.
- 8:20 **Maximizing operational efficiency - A study into proper valve technology selection for critical sugar processing applications.**
BAKER, MAX H.*¹, ¹Bray International, Inc., 13333 Westland East Blvd., Houston, Texas.
- 8:40 **A study for the chemical markers of *Pseudomonas punonensis*.**
BUSCHETTE, LYNN*, ELLA MULDER, CONNOR LIUDAHL, STEPHANIE HEIDEN, and DAVID GROOM. American Crystal Sugar Company, 1700 North 11th Street, Moorhead, MN 56560.
- 9:00 **Reduction in Energy consumption by maximizing the dry substance of the beet pulp leaving your Beet pulp press - Long term case history from Süd Zucker.**
SCHOFIELD, PHILIP and MARKUS WEINGARTNER, ANDRITZ Fiedler, Weidener Str. 9, 93057 Regensburg, Germany.
- 9:20 **Non-sugar driven, automated milk of lime flow control.**
DEBRULER, CAMDEN R.*¹, SCOTT W. HYER¹, SIGRID BAETH¹, ADAM M. MCMAHON¹, ¹Amalgamated Sugar Company, 1951 S. Saturn Way, Suite 100 Boise, Idaho 83709
- 9:40 **Refractory lining - A key component for lime kilns.**
HUENERLAGE, MICHAEL*¹, HARALD MERKER¹ and JEREMY TERRY², ¹Refratechnik GmbH, Rudolf-Winkel Strasse 1, 37079 Göttingen, Germany, ²Refratechnik North America Inc., 530 Maryville Centre Drive, Suite 420, St. Louis, MO 63141, U.S.A.
- 10:00 **Break**
- 10:20 **Pond odor control 101: Practical solutions for retention pond odor management in sugar beet processing.**
NELSON, MICHAEL L.*¹, BRENDA E. BLAKE*¹, BRADY G. OVERTON¹, ¹USP Technologies, 5640 Cox Rd, Glen Allen, VA 23060.

- 10:40 **Sustainability and energy efficiency in United States beet sugar processing.**
RING, TANNER K.*, EAPC Industrial Services, 3100 Demers Ave, Grand Forks, ND 58201.
- 11:00 **Experiences with the installation of new gas boiler and turbine/generator at Western Sugar Cooperative, Scottsbluff location.**
RUGRODEN, PAUL R.*, Western Sugar Cooperative, 7555 East Hampden Avenue Suite 520 Denver, CO 80231.
- 11:20 **Membrane-based No-waste Extract Decolorization Process.**
PEACOCK, STEVE*¹ and CY GAUDET¹, ¹Amalgamated Research LLC, 2531 Orchard Drive East, Twin Falls, Idaho 83301, USA.
- 11:40 **Lunch**

****Prizes for the most innovative presentation(s) are sponsored by the Robert Hatch Innovation in Science Award.*

Robert Hatch Innovation in Science Award

***Robert ("Bob") O. Hatch, owner of KABO Chemicals, Organic Defoamer Group, and American Charcoal Company, passed away in 2024. Bob's passion was the sugar beet industry, and he especially enjoyed attending and presenting at the ASSBT Biennial Conferences. He began attending ASSBT in 1983 and served as President of the Society from 2015-2017. In 2021, he was presented with the Honorary Membership award for his contributions to the industry. Donations have been made to create a fund for the ROBERT HATCH INNOVATION IN SCIENCE AWARD to encourage innovation in Beet Sugar Processing and to remember Bob's legacy in the sugar industry. Winners of the "most innovative" processing presentation will be voted on by those attending the Processing presentations. Winners will receive a cash prize.

WEDNESDAY AFTERNOON

February 26, 2025

Section A, Agronomy

Regency Ballroom A

Session Leader:

Cody Bakker, Southern Minnesota Beet Sugar Cooperative

1:15 **Announcements**

1:20 **United Beet Seeds (UBS): A joint venture that forms a strong and reliable player in the sugar beet industry.**

ESCALON, LILIAN*¹, NIKLAS ANDERSSON¹, and HENDRIK TSCHOEP¹, ¹United Beet Seeds, Industriepark 15, 3300 Tienen, Belgium.

1:40 **Evaluation of metamitron safety and weed control based on 2024 Emergency Use Label.**

AKUOKO, ABRAHAM*¹, ANDREW R. KNISS², and NEVIN C. LAWRENCE³, ¹University of Nebraska, 1400 R St, Lincoln, NE 68588, ²University of Wyoming, Dept. 3354, 1000 E University Ave. Laramie, WY 82071, ³University of Nebraska, 4502 Ave I, Scottsbluff, NE 69361.

2:00 **Evaluation of EcoRobotix green-on-green herbicide sprayer in sugarbeet.**

LAWRENCE, NEVIN C.*¹ and ANDREW R. KNISS², ¹University of Nebraska, 4502 Ave I, Scottsbluff, NE 69361, ²University of Wyoming, Dept. 3354, 1000 E University Ave. Laramie, WY 82071.

2:20 **Artificial intelligence-based insect traps for monitoring sugarbeet root maggot fly activity.**

BOETEL, MARK*, JACOB RIKHUS, and REED THOMA, North Dakota State University, School of Natural Resource Sciences Dept. 7650, P.O. Box 6050, Fargo, ND 58108-6050.

2:40 **Mass trapping of adult sugar beet root maggot flies using pheromone-lure-baited bucket traps.**

WENNINGER, ERIK J.* and BECK AKHIWU, University of Idaho, Kimberly Research & Extension Center, 3806 N 3600 E, Kimberly, ID 83341.

3:00 **Conclude**

3:30 -

5:30 pm **Poster and Exhibitor Session and Social - Brown**
Featuring even numbered posters

Fourth Floor - Regency Foyer & Beacon Ballroom

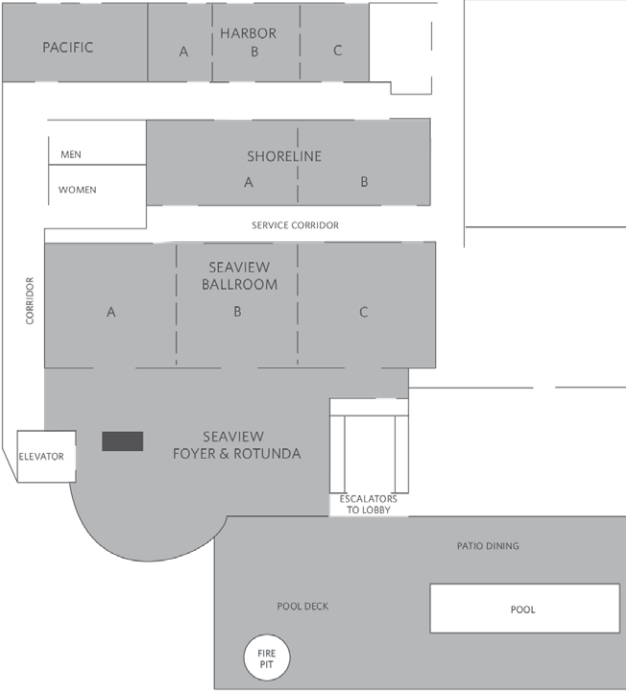
5:30 -

8:00 pm **Industry Social** - Seaview Ballroom, Foyer & Rotunda
Sponsored by Mitsui Chemicals Crop & Life Solutions, Inc. (MCCLS)

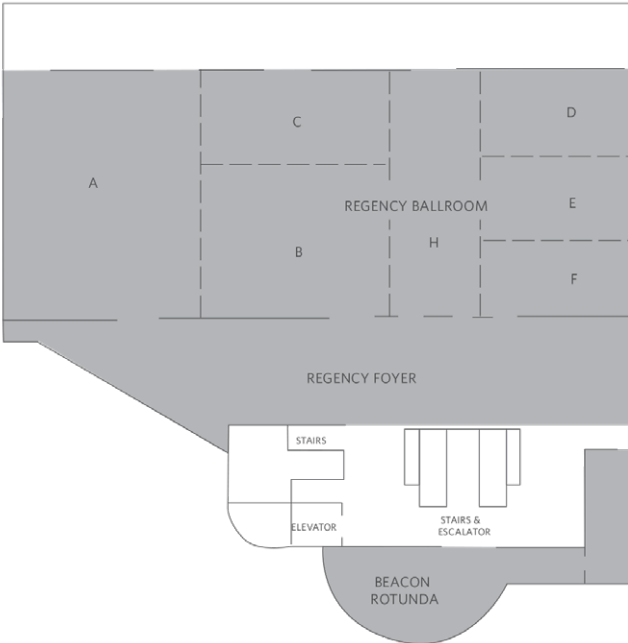
Please join us for a casual evening of fellowship and entertainment.

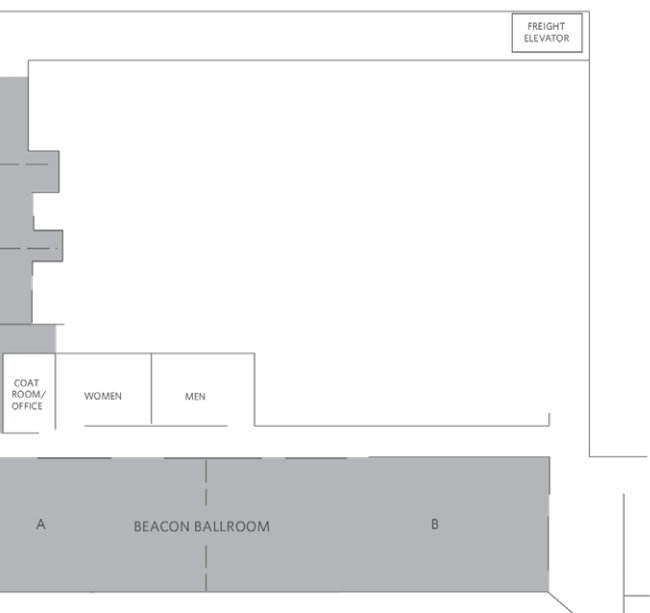
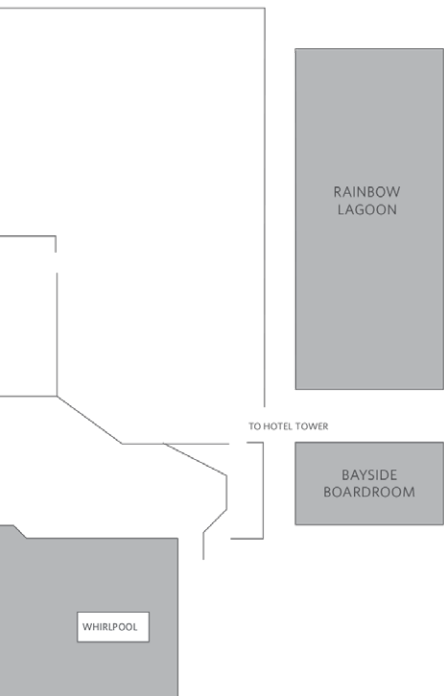
FLOOR PLANS

Lower Level (First Floor)



Upper Level (Fourth Floor)





WEDNESDAY AFTERNOON

February 26, 2025

Section B: Physiology, Genetics, & Plant Pests

Regency Ballroom B/C

Session Leader:

Jaime Willbur, Michigan State University

- 1:15 **Announcements**
- 1:20 **Several faces of *Colletotrichum* on sugar beet.**
HANSON, LINDA E.*¹, JAN BYRNE², DOUGLAS H. MINIER³, and JAIME F. WILLBUR³, ¹USDA-ARS, 612 Wilson Road, East Lansing, MI 48824, ²Michigan State University, Plant & Pest Diagnostics, 578 Wilson Road, East Lansing, MI 48824, ³Michigan State University, Dept. of Plant, Soil and Microbial Sciences, 612 Wilson Road, East Lansing, MI 48824.
- 1:40 **Breeding for genetic tolerances against leaf diseases based on a unique, combined gene pool.**
TSCHOEP, HENDRIK*¹, JUAN VEGAS¹, BRITT-LOUISE LENNEFORS¹, and TYLER RING², ¹United Beet Seeds, Industriepark 15, 3300 Tienen, Belgium, ²United Beet Seeds, 1020 Sugar Mill Road, Longmont, CO 80501, USA.
- 2:00 **Extreme-phenotype GWAS identified genomic variation associated with resistance to *Aphanomyces* root rot in sugar beet.**
RUDE, SAMANTHA C.*¹, OLIVIA E. TODD², KEVIN M. DORN², CORY D. HIRSCH¹, and ASHOK K. CHANDA^{1,3}, ¹University of Minnesota, Dept. of Plant Pathology, 1991 Upper Buford Circle, St. Paul, MN, 55108, ²USDA-ARS, Center for Agricultural Resources Research, 2150 Center Ave., Bldg. D, Fort Collins, CO, 80526, ³University of Minnesota, Northwest Research & Outreach Center, 2900 University Avenue, Crookston, MN, 56716.
- 2:20 **Leaf shape and size are highly heritable in sugar beet breeding populations and may be a valuable source of diversity for improving resiliency in changing climates.**
DENEEN, AIDAN¹, DAN CHITWOOD¹, PRANIT AHUJA¹, and RACHEL P. NAEGELE*², ¹Michigan State University, East Lansing, MI 48824, ²USDA-ARS 1066 Bogue St. East Lansing, MI 48824.
- 2:40 **Unmanned aerial vehicle-based high-throughput phenotyping in sugar beet fields.**
KIM, JAMES Y.*¹ and CHENGGEN CHU¹, ¹USDA-ARS Edward T. Schafer Agricultural Research Center, Sugarbeet Research Unit, Fargo, ND, 58102.
- 3:00 **Conclude**
- 3:30 -
5:30 pm **Poster and Exhibitor Session and Social - Brown**
Featuring even numbered posters
Fourth Floor - Regency Foyer & Beacon Ballroom
- 5:30 -
8:00 pm **Industry Social** - Seaview Ballroom, Foyer & Rotunda
Sponsored by Mitsui Chemicals Crop & Life Solutions, Inc. (MCCLS)

Please join us for a casual evening of fellowship and entertainment.

WEDNESDAY AFTERNOON

February 26, 2025

Section C: Processing***

Regency Ballroom D/E/F

Session Leader:

*Sagar Sunkavalli, Southern Minnesota Beet
Sugar Cooperative*

- 1:15 **Announcements**
- 1:20 **Assessment of sucrose solubility in American Crystal Sugar Company's Technical Sucrose Solutions.**
KOBROVSKY, HUDI S.*, NICK MORITZ, DAVID R GROOM, and BILL MCKEWAN, American Crystal Sugar Company, 1700 North 11th Street, Moorhead, MN 56560.
- 1:40 **Experiences from automated centrifuge wash water control.**
MUIR, BARBARA M¹ and BJARNE C. NIELSEN*²,
¹Tereos Corporate Technology Centre, Burchstraat 10, Aalst 9300, Belgium, ²Neltec Denmark A/S, Vestergade 35, 6500 Vojens, Denmark.
- 2:00 **Split & dual continuous pans - Design aspects for maximizing the benefit to sugar mills.**
PANDURANGA RAO MEESALA*, Shirijee Process Engineering Works Ltd, A 504 Dynasty Business Park, Andheri - Kurla Road, Andheri East, Mumbai 400059, India.
- 2:20 **Improved energy usage of continuous crystallization with vapor compression.**
POPOV, WJATSCHESLAW*¹, NILS TRÄBER¹, DEIKE LAUE¹ and ANDREAS LEHNBERGER¹, ¹BMA Braunschweigische Maschinenbauanstalt GmbH, Am Alten Bahnhof 5, 38122 Braunschweig, Germany.
- 2:40 **Dimple tube technology - An innovation to improve vacuum pan throughput and factory efficiency.**
BEZUIDENHOUDT, DARIUS*¹, MEETHAN GOKOOL¹ and MURRAY STEVENS¹, ¹Bosch Holdings, 23A Flanders Drive, Mount Edgecombe, Durban, 4302, South Africa.
- 3:00 **Conclude**
- 3:30 -
5:30 pm **Poster and Exhibitor Session and Social - Brown**
Featuring even numbered posters
Fourth Floor - Regency Foyer & Beacon Ballroom
- 5:30 -
8:00 pm **Industry Social** - Seaview Ballroom, Foyer & Rotunda
Sponsored by Mitsui Chemicals Crop & Life Solutions, Inc. (MCCLS)
Please join us for a casual evening of fellowship and entertainment.

THURSDAY MORNING

February 27, 2025

Section A, Agronomy

Regency Ballroom A

Session Leader:

Adam Aberle, North Dakota State University

- 7:55 **Announcements**
- 8:00 **Effects of post-harvest cold storage in bolting and disease susceptibility (*Botrytis cinerea* and *Fusarium graminearum*) in sugar beet roots.**
BUIRAGO-ACOSTA, MARIA C.*¹ and RACHEL P. NAEGELE^{1,2}, ¹Michigan State University, Department of Plant, Soil, and Microbial Sciences, 1066 Bogue St, East Lansing, MI 48824, USA, ²USDA-ARS Sugarbeet and Bean Research Unit, Michigan State University, 1066 Bogue St., East Lansing, MI 48824, USA.
- 8:20 **Advances in sugar beet storage systems in Nordic countries: A decade of research and development.**
EKELÖF, JOAKIM*¹, ¹Nordic Beet Research Foundation, Borgeby Slottsväg 11, SE – 237 91 Bjärred.
- 8:40 **Storage conditions and plant genetics affect sugar transporter gene expression with likely effects on postharvest sucrose losses.**
FUGATE, KAREN K.*¹, JOHN D. EIDE¹, and FERNANDO L. FINGER², ¹USDA-ARS, Edward T. Schafer Agricultural Research Center, Fargo, ND 58102; ²Universidade Federal de Viçosa, Departamento de Agronomia, Viçosa, Brazil.
- 9:00 **Low concentration of chlorine dioxide gas reduced invert sugars and raffinose accumulation in postharvest sugarbeet roots.**
KANDEL, SHYAM L.*¹, SANDESH DANGI^{1,2}, GRANT HERGES¹, and DAVID J. SMITH¹, ¹USDA-ARS, Edward T. Schafer Agricultural Research Center, Fargo, ND 58102, ²North Dakota State University, Department of Plant Pathology, Fargo, ND, 58102.
- 9:20 **Identification of volatile organic compounds as biomarkers for early detection of storage rots in sugar beets.**
NKANPIRA, KELLY*¹, MALICK BILL², SHYAM L. KANDEL², and EWUMBUA MONONO¹, ¹North Dakota State University, Department of Agriculture and Biosystems Engineering, Fargo, North Dakota, USA, ²USDA-ARS, Edward T. Schafer Agricultural Research Center, Fargo, North Dakota, USA.
- 9:40 **Methods of collecting temperature of sugar beet storage piles at Southern Minnesota Beet Sugar Cooperative for research purposes.**
GROEN, CODY J.*, Southern Minnesota Beet Sugar Cooperative, 83550 County Road 21, Renville, MN 56284.
- 10:00 **Break**

- 10:20 **How does simulated hail damage timing affect sugar beet root yield and quality?**
ANDERSON, JAY F.* and PETER J. REGITNIG, Lantic Inc., 5405 64th Street, Taber, Alberta, T1G 2C4.
- 10:40 **Simulated hail timing and severity on sugarbeet root yield and sucrose content.**
PETERS, THOMAS J.*¹, ALEXA L. LYSTAD² and MARK E. ZARNSTORFF³, ¹North Dakota State University and the University of Minnesota, Fargo 58102, ²KayJay Ag Services, Inc., Horace, ND 58047, ³National Crop Insurance Services, Overland Park, KS 66210.
- 11:00 **Reducing late rot in Imperial Valley sugar beet production using variety tolerance and irrigation.**
BLOOMQUIST MARK W.*¹, JOAQUIN SANTIAGO², and JOHN LAMB³. ¹Southern Minnesota Beet Sugar Cooperative, 83550 County Road 21, Renville, MN 56284, and ²Spreckels Sugar, 395 West Keystone Road, Brawley, CA 92227, ³University of Minnesota, 2182 Woodbridge Way, Woodbury, MN 55125.
- 11:20 **Conclude**

THURSDAY MORNING

February 27, 2025

Section B: Physiology, Genetics, & Plant Pests

Regency Ballroom B/C

Session Leaders:

David Mettler, Southern Minnesota Beet Sugar Cooperative & Nathan Wyatt, USDA-ARS

- 7:55 Announcements
- 8:00 **Seasonal spore production, germination and fungicide resistance shifts of *Cercospora beticola* in commercial sugar beet fields.**
SECOR, GARY*¹, VIVIANA RIVERA¹, and NATHAN WYATT², ¹North Dakota State University, NDSU Dept. 7660, PO Box 6050, Fargo, ND 58108, ²USDA ARS, Schafer Agricultural Research Center, 1616 Albrecht Blvd., Fargo, ND 58102.
- 8:20 **Incorporating disease onset indicators for *Cercospora* leaf spot risk modeling and fungicide application management.**
WYATT, NATHAN A.*^{1,2}, VIVIANA RIVERA², GARY A. SECOR², and MELVIN D. BOLTON¹, ¹United States Department of Agriculture, Sugarbeet Research Unit, Fargo, North Dakota, USA, ²North Dakota State University, Department of Plant Pathology, Fargo, North Dakota, USA.
- 8:40 **Strategies for successful management of *Cercospora* leaf spot and emerging foliar diseases in sugar beet.**
CHANDA, ASHOK K.*^{1,2} and AUSTIN K. LIEN^{1,2}, ¹University of Minnesota, Dept. of Plant Pathology, 1991 Upper Buford Circle, St. Paul, Minnesota, 55108, ²University of Minnesota Northwest Research & Outreach Center, 2900 University Avenue, Crookston, Minnesota, 56716.
- 9:00 **Evaluating BEETcast™, a disease forecasting model, for timing fungicide sprays with CR+™ varieties.**
GUZA, COREY J.*¹ and ZACHARY YOUNG¹, ¹Michigan Sugar Company, 122 Uptown Dr., Suite 300, Bay City, MI 48708.
- 9:20 **Characterization of *Cercospora beticola* populations to support integrated *Cercospora* leaf spot management approaches in Michigan.**
WILLBUR, JAIME F.*¹, ALEXANDRA P. HERNANDEZ¹, SARAH RUTH¹, CHRIS BLOOMINGDALE¹, and LINDA E. HANSON², ¹Michigan State University, 612 Wilson Road, 35, Plant Biology Lab, East Lansing, MI 48824, ²USDA-ARS, 612 Wilson Road, 37, Plant Biology Lab, East Lansing, MI 48824.
- 9:40 **Management of *Cercospora* leaf spot on CLS improved sugarbeet varieties.**
BHANDARI, SUNIL*¹, SUSHMITA KALIKA-SINGH¹, ERIC BRANCH¹, LUIS DEL RIO¹, and MOHAMED F.R. KHAN¹, ¹North Dakota State University, Dept. 7660, PO Box 6050, Fargo, ND, 58108-6050.

- 10:00 **Break**
- 10:20 **Effects of synonymous and nonsynonymous Cyp51 mutations on DMI resistance in *Cercospora beticola*.**
 COURNEYA, ISAAC*¹, NATHAN WYATT^{1,2}, GARY A. SECOR², VIVIANA V. RIVERA-VARAS², and MELVIN D. BOLTON^{1,2}, ¹USDA-ARS ETSARC, 1307 18th St N, Fargo ND, ²North Dakota State University, Dept. of Plant Pathology, 355 Walster Hall, Fargo ND.
- 10:40 **The sugarbeet phyllosphere harbors bacteria capable of inhibiting *Cercospora beticola*, the causal agent of *Cercospora* leaf spot.**
 CHRISTENSON, MADISON J.*^{1,2}, DANIEL BACK², MARI B. NATWICK^{1,2}, LORENA I, RANGEL², GARY A. SECOR¹, and MELVIN D. BOLTON^{1,2}, ¹North Dakota State University, Department of Plant Pathology, Fargo, ND, USA, ² United States Department of Agriculture, Edward T. Schafer Agricultural Research Center, Northern Crop Science Laboratory, Fargo, North Dakota, USA.
- 11:00 **Decoding the biotrophic phase of *Cercospora beticola* through functional characterization of effectors.**
 JASWAL, RAJDEEP*^{1,2}, LEONARD BARNABAS EBINEZER^{1,2}, GARY SECOR², MELVIN BOLTON^{1,2}, and NATHAN WYATT^{1,2}, ¹United States Department of Agriculture - Agricultural Research Service, Sugarbeet and Potato Research Unit, Edward T. Schaffer Agricultural Research Center, 1307 18th Street North, Fargo, ND 58102, ²North Dakota State University, Department of Plant Pathology, Walster Hall 306, Fargo, ND 58102.
- 11:20 **Whole genome sequencing reveals population structure of *Cercospora beticola* to resistant sugar beet cultivars in Germany.**
 YANG, YIXUAN¹, NATHAN WYATT², MARK VARRELMANN*¹, SEBASTIAN LIEBE¹, and MELVIN D. BOLTON², ¹Institute of Sugar Beet Research, Dpt. Phytopathology and Dpt. Coordination, Holtenser Landstraße 77, D-37079 Göttingen, Germany, ²USDA-ARS, Sugarbeet Research Unit, Fargo, ND.
- 11:40 **Identification and characterization of *Cercospora beticola* effector candidates associated with adaptation to the sugarbeet resistance gene BvCr4.**
 NATWICK, MARI B.*^{1,2}, NATHAN A. WYATT¹, GARY A. SECOR², and MELVIN D. BOLTON¹, ¹United States Department of Agriculture, Northern Crop Science Laboratory, Fargo, North Dakota, USA, ²North Dakota State University, Department of Plant Pathology, Fargo, North Dakota, USA.

- 12:00 **Exploring the origin and phylogeny of *Cercospora beticola* resistance gene *BvCR4* in geographically diverse populations of wild sea beet (*Beta vulgaris* subsp. *maritima*).**
MARTINEZ, ANA L.*^{1,2}, GARY SECOR², CHENGGUO CHU¹, MELVIN D. BOLTON¹, and NATHAN A. WYATT¹,
¹USDA-ARS-PA, Edward T. Schafer Agri Research Center, 1616 Albrecht Blvd. North, Sugarbeet Research, Fargo, ND 58102. ²North Dakota State University, Plant Pathology, 1340 Administration Ave., Fargo, ND 58102.
- 12:20 **Battling *Cercospora* leaf spot in an ever-changing world.**
REKOSKE, M. M.*¹, H. KEUNECKE², H. EBMEYER², and J.C. LEIN², ¹KWS Seeds, LLC. 1325 Valley View Road, Shakopee, MN 55379, ²KWS SAAT SE & Co. KGaA, Grimsehlstrasse 31, 37574 Einbeck, Germany.
- 12:40 **Conclude**

THURSDAY MORNING

February 27, 2025

Section C: Processing***

Regency Ballroom D/E/F

Session Leader:

Andy McKay, Minn-Dak Farmers Cooperative

- 7:55 **Announcements**
- 8:00 **Efficient operations management at sugar factories with a focus on industrial separators.**
GAUDET, CY*¹, IRMA ARRIETA¹, and STEVE PEACOCK¹, ¹Amalgamated Research LLC, 2531 Orchard Drive East, Twin Falls, ID 83301.
- 8:20 **Advancing industrial processes with innovative chromatography solutions.**
CHARBONNEAU, ANTOINE*¹, ALEXANDRA GIMBERNAT² and CYRIL LEENHARDT¹; ¹Process Solutions Americas LLC, dba ""APPLEXION"", 560 Peoples Plaza, Suite 281 – Newark, DE 19702, USA, ²APPLEXION SAS, 5 chemin du Pilon, 01700 Saint Maurice de Beynost, France.
- 8:40 **Functional equivalent of a direct discharge - Do discharges to groundwater at your facility require an NPDES Permit?**
SINNER, KATE*, Barr Engineering Co., 325 South Lake Avenue, Suite 700, Duluth, MN 55802.
- 9:00 **The ability for realtime measurement of sugarbeet quality on the cossette belt.**
BERNHARDSON, DUANE*¹, CHAD DAHLEN¹ and STANLEY NWADE¹, ¹KWS Seeds LLC, 1500 S 40th ST, Grand Forks ND 58201.
- 9:20 **First results in online NIR technology for the beet processing at Pfeifer & Langen.**
BURKHARDT, MARK OLIVER*¹ and WOLFGANG KLOSTERHALFEN², ¹Pfeifer & Langen IP GmbH Germany, Köln, ²Wolfgang Germany, 50858 Köln, Aachener Strasse 1042 a Pfeifer & Langen GmbH & Co KG.
- 9:40 **Quantitative analysis of sucrose, raffinose, and moisture content in sugar beets utilizing hyperspectral imaging and advanced machine learning techniques.**
MOJOKO, IVANNA¹, NALOVA LISINGE*¹, BILLY G. RAM², EWUMBUA MONONO², ZHAO JIN³, XIN SUN² and SHYAM L. KANDEL⁴, ¹North Dakota State University, School of Natural Resources Sciences, Fargo, ND 58108, ²North Dakota State University, Department of Agricultural and Biosystems Engineering, Fargo, ND 58108, ³North Dakota State University, Department of Plant Sciences, Fargo, ND 58102, ⁴USDA-ARS, Edward T. Schafer Agricultural Research Center, Fargo, ND, 58102.

- 10:00 Break
- 10:20 **Integration of Sugars™ Process Simulation Data into dataPARC visualization and analytics.**
 KAHRE, SCOTT*¹, SIGRID BAETH² and SCOTT HYER², ¹Capstone Technology, 1700 Main St., Suite 222, Washougal, WA 98671 and Sugars International LLC, 305 Inverness Way S, Unit 204, Englewood, CO 80112, ²Amalgamated Sugar Company, 138 W Karcher Road, Nampa, ID 83687.
- 10:40 **Decarbonizing sugar production through advancements in heat exchange technology.**
 CASKEY, K. JILL*, 4720 106 Ave SE #250, Calgary, AB T2C 3G5.
- 11:00 **Process development of beet sugar factories: Masterplan for the reduction of fossil energies based on technology improvements.**
 BAGHERZADEH, ARASH and QUIDO SMEJKAL*, EnProCo Berlin GmbH Volmerstr. 7A 124 89 Berlin, Germany.
- 11:20 **Minimizing the carbon footprint of the Billings factory.**
 ZIMMERMAN, ROBERT*¹, LUKE P. MCLAUGHLIN², JEREMY SMENT², JEFFREY GIFFORD³, BRANDON KRUSE⁴, ¹The Western Sugar Cooperative, 1221 8th Ave, Suite E, Greeley, CO 80631, ²Sandia National Laboratories, 1515 Eubank Blvd SE, Albuquerque, NM 87123, ³National Renewable Energy Laboratory, 15013 Denver West Parkway, Golden, CO 80401, ⁴Magaldi Technologies, LLC, 30000 Milcreek Avenue, Suite 385, Alpharetta, GA 30022.
- 11:40 **Measurement and mitigation strategies for elevated viscosities resulting from microbes present in sugar beet processing.**
 TERRELL, EVAN*¹ and GILLIAN O. BRUNI, ¹USDA, Agricultural Research Service, Southern Regional Research Center, 1100 Allen Toussaint Blvd., New Orleans, LA 70124.
- 12:00 **Conclude**

THURSDAY AFTERNOON

February 27, 2025

Free Afternoon

THURSDAY EVENING

February 27, 2025

6:00 P.M. **Awards Banquet Reception** – Regency Foyer,
Fourth Floor (*Tickets Required*)

7:00 P.M. **Awards Banquet** – Regency Ballroom,
Fourth Floor (*Tickets Required*)

End of Biennial Meeting

FRIDAY

February 28, 2025

7:30 –

10:30

**ASSBT Past and New Board of Directors
Board Meeting**

Harbor – First Floor, Lower Level

NOTES

SUSTAINING MEMBERS

Alberta Sugar Beet Growers (ASBG)
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As we gather for the 43rd ASSBT Biennial Meeting, we are reminded of the devastating California fires. In the spirit of support and solidarity with our host state, we invite you to donate to the American Red Cross to aid in California fire recovery efforts. Your support reflects the compassion of our community.



**Every donation
makes a difference!**

ASSBT BIENNIAL MEETINGS THROUGH 2027

	Location	Dates
1	Salt Lake City, UT	January 11-13, 1938
2	Denver, CO	January 4-6, 1940
3	Salt Lake City, UT	January 5-7, 1942
4	Denver, CO	February 12-14, 1946
5	San Francisco, CA	January 12-15, 1948
6	Detroit, MI	February 6-9, 1950
7	Salt Lake City, UT	February 5-8, 1952
8	Denver, CO	February 2-5, 1954
9	San Francisco, CA	January 31-February 3, 1956
10	Detroit, MI	February 4-6, 1958
11	Salt Lake City, UT	February 2-5, 1960
12	Denver, CO	February 5-8, 1962
13	San Francisco, CA	February 3-6, 1964
14	Minneapolis, MN	February 21-24, 1966
15	Phoenix, AZ	February 19-23, 1968
16	Denver, CO	February 22-26, 1970
17	Phoenix, AZ	February 27-March 2, 1972
18	San Diego, CA	February 24-28, 1974
19	Phoenix, AZ	February 22-26, 1976
20	San Diego, CA	February 26-March 2, 1978
21	San Diego, CA	February 22-26, 1981
22	Phoenix, AZ	February 20-24, 1983
23	San Diego, CA	February 24-28, 1985
24	Phoenix, AZ	March 1-5, 1987
25	New Orleans, LA	February 26-March 2, 1989
26	Monterey, CA	February 24-27, 1991
27	Anaheim, CA	March 3-6, 1993
28	New Orleans, LA	March 8-11, 1995
29	Phoenix, AZ	March 2-5, 1997
30	Orlando, FL	February 10-13, 1999
31	Vancouver, BC	February 28-March 3, 2001
32	San Antonio, TX	February 26-March 1, 2003
33	Palm Springs, CA	March 2-5, 2005
34	Salt Lake City, UT	February 28-March 3, 2007
35	Orlando, FL	February 25-28, 2009
36	Albuquerque, NM	March 2-5, 2011
37	Anaheim, CA	February 27-March 2, 2013
38	Clearwater, FL	February 23-26, 2015
39	Greenville, SC	February 27-March 2, 2017
40	Anaheim, CA	February 25-February 28, 2019
41	Fargo, ND (Virtual)	March 1-March 4, 2021
42	Savannah, GA	February 27-March 2, 2023
43	Long Beach, CA	February 24-28, 2025
44	Austin, TX	February 22-25, 2027

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**Dessert Table at
President's Reception**



**Two Drinks at
President's Reception**



**General Session
Refreshments**



**Two Drink Tickets
at each Poster & Exhibitor
Session & Social**



**Poster Awards
and Prizes**



**Wednesday
Evening Reception**



**Morning
Refreshment Breaks**



**Afternoon
Refreshment Breaks**



**Drinks at
Awards Reception**



**Wine at
Awards Banquet**
