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### **Committees:**

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| Cory Guza      | David Groom      |

## SCHEDULE

### **Monday – February 25**

9:00 A.M. – 6:00 P.M.

Registration – Disney Center Lounge

8:30 A.M. – 11:30 A.M.

USDA-ARS / Industry Meeting – Disneyland North Ballroom

1:00 P.M. – 3:00 P.M.

Crop Germplasm Committee – Safari Room

3:30 P.M. – 5:00 P.M.

USDA-ARS All-Hands Meeting – Safari Room

1:30 P.M. – 3:30 P.M.

BSDF Board Meeting – Adventure Room

3:30 P.M. – 4:30 P.M.

Program Committee – Adventure Room

6:00 P.M. – 8:00 P.M.

President's Reception – Magic Kingdom Lawn

### **Tuesday – February 26**

6:30 A.M. – 9:00 A.M.

Coffee – Amazon Room – Hosted by Hydrite

8:00 A.M. – 5:00 P.M.

Registration – Disney Center Lounge

9:00 A.M. – Noon

General Session – Disney Center Ballroom

1:30 P.M. – 3:30 P.M.

Joint Forums –

Disney Center Ballroom & Disney North Ballroom

4:00 P.M. – 6:00 P.M.

Poster Session Social – Disney Center Lounge

### **Wednesday – February 27**

6:00 A.M. – 8:00 A.M.

Coffee – Amazon Room – Hosted by Hydrite

8:00 A.M. – Noon

Section A – Disneyland South Ballroom

Section B – Disneyland Center Ballroom

Section C – Disneyland North Ballroom

1:15 P.M. – 3:00 P.M.

Section A – Disneyland South Ballroom

Section B – Disneyland Center Ballroom

Section C – Disneyland North Ballroom

3:30 P.M. – 5:00 P.M.

Section A – Disneyland South Ballroom

Section B – Disneyland Center Ballroom

Section C – Disneyland North Ballroom

6:00 P.M. – 9:00 P.M.

Reception – Magic Kingdom Lawn - Hosted by MCAG

### **Thursday – February 28**

6:00 A.M. – 8:00 A.M.

Coffee – Amazon Room – Hosted by Hydrite

8:00 A.M. – Noon

Section A – Disneyland South Ballroom

Section B – Disneyland Center Ballroom

Section C – Disneyland North Ballroom

1:15 P.M. – 5:00 P.M.

Free Afternoon

6:00 P.M. – 7:00 P.M.

Reception – Disney Center Lounge

7:00 P.M. – 9:00 P.M.

Banquet and Awards Program – Disneyland Center Ballroom

**TUESDAY MORNING  
February 26, 2019**

**General Session  
Disneyland Center Ballroom**

9:00 **Call to Order:**  
Tom Knudsen  
President - ASSBT  
Minn-Dak Farmers Cooperative

9:05 **Welcome and Announcements:**  
David Groom  
General Program Chairman  
American Crystal Sugar Company

**INVITED SPEAKERS**

9:15 *Speaker – Dr. Courtney Gaine*  
President, The Sugar Association  
***“Everything Has Changed for Sugar... Except the Science”***

10:00 *Speaker Dr. Chavonda Jacobs-Young –*  
USDA-ARS Administrator  
***“Partnership & Innovation: the Keys to our Future ”***

11:00 **Questions and Answers for Panel:**  
David Groom, Moderator

**Panel sponsored, in part, by the Corsberg, Grinde,  
Shemilt 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.

11:15 **President’s Address:** Mr. Tom Knudsen

11:45 **Reports:** Paul Pfenninger, Executive Vice President  
Committees Announcements

**TUESDAY AFTERNOON**  
**February 26, 2019**

**Joint Forums**

**1:30 pm – 3:30 pm**

*Staring into The Abyss-Cercospora Leafspot*

Moderator - Todd Geselius

Disney Center Ballroom

*Waste streams to by-products: converting trash into treasure*

Moderator – Rebecca Larson

Disney North Ballroom

**Poster Session**

**4:00 pm – 6:00 pm**

Disney Center Lounge

Please join us for our first Poster Session Social. Scientists will be available for questions and discussion about their research. Posters will remain available in the South Lounge for you to view throughout the duration of the meeting.

*Thanks to ACH Seeds for sponsoring the poster session (two drink tickets for the Poster Session Social will be included with your registration packet).*

## POSTER SESSION

### Agronomy

- 1 **What Plant Populations Do Varieties Need in the Imperial Valley?**  
Santiago, Israel\*<sup>1</sup>, Mark Bloomquist<sup>2</sup> and John Lamb<sup>3</sup>,  
<sup>1</sup>Spreckels Sugar Company, <sup>2</sup>Southern Minnesota Beet Sugar Cooperative, <sup>3</sup>University of Minnesota, <sup>1</sup>95 West Keystone Rd. Brawley, CA 92227, <sup>2</sup>83550 County Road 21, Renville, MN 56284. MN 56201, <sup>3</sup>439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108
- 2 **Effects of the timing and quality of weed control on yield and sucrose content of sugarbeet.**  
Alder, Clarke\*<sup>1</sup>, Nancy Cutler<sup>2</sup> and <sup>2</sup>, <sup>1</sup>The Amalgamated Sugar Company, <sup>2</sup>, <sup>1</sup>138 West Karcher Road, Nampa, ID 83687, <sup>2</sup>
- 3 **Sugarbeet roots – a deeper look.**  
Alder, Clarke and Evan Sonderegger. The Amalgamated Sugar Company, 138 West Karcher Road Nampa, ID 83687
- 4 **Sugarbeet response to partial season water availability.**  
Alder, Clarke\*<sup>1</sup>, Oliver Neher<sup>2</sup> and Greg Dean<sup>2</sup>, <sup>1</sup>The Amalgamated Sugar Company, <sup>2</sup>, <sup>1</sup>138 West Karcher Road, Nampa, ID 83687, <sup>2</sup>
- 5 **Yield Production Functions of Irrigated Sugarbeet in an Arid Climate.**  
Tarkalson, David D.\*, BRADLEY A. KING and DAVE L. BJORNEBERG, USDA-ARS, 3793 NORTH 3600 EAST Kimberly, ID 83341-5076
- 6 **Plant Population, Nitrogen Rate, Row Spacing, and Subsurface Banded Nitrogen Interactions on Sugarbeet.**  
Chomas, Andrew\*<sup>1</sup>, Seth Purucker<sup>1</sup>, Brian J. Groulx<sup>2</sup> and Kurt Steinke<sup>1</sup>, <sup>1</sup>Michigan State University, <sup>2</sup>Michigan Sugar Company, <sup>1</sup>Department of Plant, Soil, and Microbial Sciences, Plant and Soil Sciences Building, 1066 Bogue Street, East Lansing, MI 48824, <sup>2</sup>Agricultural Research Center, 1459 S. Valley Center Dr., Bay City, MI 48706
- 7 **KWS BEETROMETERF400 TM, a mobile device for measuring sugar beet quality.**  
Bernhardson, Duane\*<sup>1</sup>, Elke Hilscher<sup>2</sup>, Heiko Narten<sup>2</sup> and Stefan Meldau<sup>2</sup>, <sup>1</sup>KWS SAAT, <sup>2</sup>KWS SAAT SE, <sup>1</sup>1500 South 40th Str., Grand Forks, ND 58201, <sup>2</sup>Grimsehlstr 31, Einbeck, Germany 37555
- 8 **Direct-Seeded Sugarbeet in Two Crop Rotations.**  
Stevens, W. Bart \*, Jay. D. Jabro, William M. Iversen, Upendra M. Sainju and Brett L. Allen, USDA-ARS, 1500 N. Central Ave., Sidney, MT, 59270

- 9 **Research experiences with managing herbicide-resistant weeds in Michigan.**  
Sprague, Christy L.\*, Department of Plant, Soil, and Microbial Sciences, Michigan State University, 1066 Bogue Street, East Lansing, MI 48824.
- 10 **Response of sugarbeet to low level tank-contaminations of 2,4-D and dicamba.**  
Powell, Gary E.\* Michael A. Probst, Christy L. Sprague, Department of Plant, Soil, and Microbial Sciences, Michigan State University, 1066 Bogue Street, East Lansing, MI 48824.
- 11 **Comparison of surface furrow and subsurface drip irrigation systems in the Imperial Valley for root yield and quality, water use and susceptibility to late-season root rots.**  
Kaffka, Stephen<sup>1\*</sup>, Kahled Bali<sup>2</sup>, Oli Bachie<sup>3</sup> and Ali Montizar<sup>3</sup>  
<sup>1</sup>Department of Plant Sciences, University of California, Davis; <sup>2</sup>University of California Division of Agriculture and Natural Resources- Kearney Agricultural Research Center, Parlier, CA; <sup>3</sup>University of California Cooperative Extension, Imperial Valley, California.
- 12 **Evaluation of azoxystrobin alternatives and *Rhizoctonia solani* sensitivity screening in Michigan sugar beets**  
Willbur, Jaime F.\*<sup>1</sup>, Bloomingdale, Chris<sup>1</sup>, Minier, Douglas H.<sup>1</sup> And Hanson, Linda E.<sup>2</sup>, <sup>1</sup>Michigan State University, Department of Plant, Soil and Microbial Sciences, 612 Wilson Rd, East Lansing MI 48824; <sup>2</sup>United States Department of Agriculture – Agricultural Research Service, 612 Wilson Rd, East Lansing MI 48824

### **Physiology, Genetics and Plant Pests**

- 13 **Managing *Rhizoctonia solani* root rot in sugarbeets in Michigan with registered and experimental fungicide applications.**  
Groulx, Brian J\*, James Stewart, Corey Guza and Dennis Bischer, Michigan Sugar Company, 1459 S. Valley Center Drive, Bay City, MI 48706
- 14 **Winter Sugarbeet: Identification of a mutant parental line resistant to post-winter bolting.**  
Eujayl, Imad\*<sup>1</sup>, Faler, Joyce<sup>2</sup> and Strausbaugh, Carl<sup>1</sup>, <sup>1</sup>USDA-ARS-NWISRL, <sup>2</sup>The Amalgamated Sugar Co., 13793 N. 3600 E. Kimberly, ID 83341, <sup>2</sup>1951 S. Saturn Way, Suite 100, Boise, ID 83709

- 15 **Optimizing Techniques for Evaluating Cercospora Leaf Spot in a Michigan Field Nursery.**  
Goodwill, Thomas R.\*<sup>1</sup>, Holly J. Corder<sup>2</sup> and Linda E. Hanson<sup>1</sup>, <sup>1</sup>USDA-ARS-SBRU, <sup>2</sup>Michigan State University, <sup>1</sup>612 Wilson Rd, Plant Biology, Rm 37, East Lansing, MI 48824, <sup>2</sup>3775 South Reese Rd, Frankenmuth, MI 48734
- 16 **Management of Curly Top in Sugar Beet with Foliar Insecticides.**  
Strausbaugh, Carl\*<sup>1</sup> And Erik Wenninger<sup>2</sup>, <sup>1</sup>USDA-ARS NWISRL, <sup>2</sup>Univ. of Idaho, <sup>1</sup>3793 North 3600 East, Kimberly, ID 83341, <sup>2</sup>Kimberly R&E Center, 3806 North 3600 East, Kimberly, ID 83341
- 17 **Beet anthracnose from sugar beet in Michigan.**  
Hanson, Linda E.\*<sup>1</sup>, Jaime F. Willbur<sup>2</sup> and Jan Byrne<sup>2</sup>, <sup>1</sup>USDA-ARS, <sup>2</sup>Michigan State University, <sup>1</sup>612 Wilson Road, 37 Plant Biology, East Lansing, MI 48824, <sup>2</sup>612 Wilson Road, 35 Plant Biology, East Lansing, MI 48824
- 18 **Drought stress increases sugarbeet root respiration rate and susceptibility to storage rots.**  
Lafta, Abbas M.\*<sup>1</sup>, Karen K. Fugate<sup>2</sup>, John D. Eide<sup>2</sup> and Mohamed F.R. Khan<sup>1</sup>, <sup>1</sup>Department of Plant Pathology, <sup>2</sup>USDA, Agricultural Research Service, <sup>1</sup>North Dakota State University, Fargo, ND 58108, <sup>2</sup>ETSARC, 1605 Albrecht Blvd. N., Fargo, ND 58102
- 19 **Bidirectional sucrose transporters are upregulated during sugar beet root storage.**  
Fugate, Karen K.\*<sup>1</sup>, Abbas M. Lafta<sup>2</sup>, John D. Eide<sup>1</sup>, Mohamed F.R. Khan<sup>2</sup> and Fernando L. Finger<sup>3</sup>, <sup>1</sup>USDA, Agricultural Research Service, <sup>2</sup>Department of Plant Pathology, <sup>3</sup>Dept. de Fitotecnia, <sup>1</sup>ETSARC, 1605 Albrecht Blvd. N., Fargo, ND 58102, <sup>2</sup>North Dakota State University, Fargo, ND 58108, <sup>3</sup>Fed. Univ. de Viçosa, 365712-000, Viçosa, MG, Brazil
- 20 **Commercial sugar beet in Minnesota possessing the Rz2 gene and testing positive for BNYVV.**  
Weiland, John\*, Jonathan Neubauer and Melvin D. Bolton, USDA - ARS, 1616 Albrecht Blvd N. Fargo, ND 58102
- 21 **A novel satellite virus discovered during a bait assay for soilborne viruses of sugar beet.**  
Weiland, John J.\*<sup>1</sup>, Roshan Sharmapoudel<sup>2</sup>, Gary A. Secor<sup>2</sup> and Melvin D. Bolton<sup>1</sup>, <sup>1</sup>USDA - ARS, <sup>2</sup>NDSU, <sup>1</sup>1616 Albrecht Blvd N. Fargo, ND 58102, <sup>2</sup>NDSU Dept. 7660, PO Box 6050, Fargo, ND 58108

- 22 **Genomic characterization of Beet oak leaf virus: a putative member of the family Rhabdoviridae.**  
Wintermantel, William M.\*<sup>1</sup>, Laura L. Jenkins Hladky<sup>1</sup> And Dimitre Mollov<sup>2</sup>, <sup>1</sup>USDA-ARS Crop Improvement and Protection Research Unit, <sup>2</sup>USDA-ARS National Germplasm Resources Laboratory, <sup>1</sup>1636 East Alisal Street, Salinas, CA 93905, <sup>2</sup>Bldg 004 BARC-West, Beltsville, MD 20705
- 23 **Impact of Late-season Fungicide Application on Cercospora leaf spot development in Subsequent Growing Seasons.**  
Nielsen, Jeff\*<sup>1</sup>, Hal Mickelson<sup>1</sup> and Ashok Chanda<sup>2</sup>, <sup>1</sup>University of Minnesota, Northwest Research and Outreach Center, <sup>2</sup>University of Minnesota, Department of Plant Pathology & Northwest Research and Outreach Center, <sup>1</sup>Crookston, MN 56716, <sup>1</sup>Crookston, MN 56716
- 24 **Synergies of Triazole Fungicides with Five Tank-mix Partners for Controlling Cercospora Leaf Spot on Sugarbeet.**  
Mickelson, Hal\*<sup>1</sup>, Jeff Nielsen<sup>1</sup> And Ashok Chanda<sup>2</sup>, <sup>1</sup>University of Minnesota, Northwest Research and Outreach Center, <sup>2</sup>University of Minnesota, Department of Plant Pathology & Northwest Research and Outreach Center, <sup>1</sup>Crookston, MN 56716, <sup>2</sup>CROOKSTON, MN 56716
- 25 **Original Genetic Diversity Discovery Comparing A Sugar Beet Elite Panel with A Progeny From (Sugar Beet Elite X Exotic) Cross.**  
Pegot-Espagnet, Prune <sup>1</sup>, Desprez B.\*<sup>2</sup>, Devaux B.<sup>2</sup>, Devaux P.<sup>2</sup>, Henry K.<sup>2</sup>, Henry N.<sup>2</sup>, Willems G.<sup>3</sup>, Goudemand E.<sup>2</sup> And Mangin B.<sup>1</sup>, <sup>1</sup>Inra, <sup>2</sup>Florimond Desprez Veuve & Fils SAS, <sup>3</sup>SESVanderHave, <sup>1</sup>INRA, LIPM, équipe GGT, 24 Chemin de Borde Rouge - Auzeville, CS 52627 31326 Castanet-Tolosan, France. Phone: +33 5 61 28 57 27, <sup>2</sup>3, Rue Florimond Desprez, BP 41, F-59242 Cappelle-en-Pévèle, France, <sup>3</sup>SESVanderHave, Industriepark Soldatenplein Zone 2 / Nr 15, 3300 Tienen, Belgium
- 26 **A pictorial scale for rating damage and loss to Beet vascular necrosis occurring in California.**  
Kaffka, Stephen<sup>1</sup>, William Wintermantel<sup>2</sup> and Robert Lewellen<sup>2</sup>; <sup>1</sup>Department of Plant Science, University of California, Davis, CA 95616, <sup>2</sup>USDA-ARS, Salinas, CA, and USDA-ARS, Salinas, CA, (retired)



## Processing

- 27 **Application of beet juice as a fermentation substrate for acetoin production.**  
Wright, Maureen\*<sup>1</sup>, Thomas Klasson<sup>1</sup> and Keitarou Kimura<sup>2</sup>, <sup>1</sup>USDA-ARS-SRRC, <sup>2</sup>NFRI-NARO, <sup>1</sup>1100 Robert E Lee Blvd, New Orleans, LA 70124 USA, <sup>2</sup>2-1-12 Kannondai, Tsukuba, Ibaraki 305-8642, Japan
- 28 **Assessment of dust explosions in the sugar industry with regard to screening technology.**  
Eickhorn, Manuel. RHEWUM GmbH, Rosentalstrasse 24, Remscheid, 42899 Remscheid - Germany
- 29 **The use of on-line HD cameras to optimize the crystallization process.**  
Bouché, Catherine, ITECA SOCADEI, 445 Rue Denis Papin, 13592 Aix-en-Provence, FRANCE
- 30 **Versatile filtration systems for many applications in the sugar mill.**  
Schöpf, Stefan, LenzingTechnik GmbH, Werkstrasse 2 4860 Lenzing Austria
- 31 **Sugar beet pulp as feedstock for biochar production**  
Lima, Isabel, M. USDA-ARS-SRRC, 1100 Robert E. Lee Blvd, New Orleans, LA 70124

**WEDNESDAY MORNING  
February 27, 2019**

**Section A, Agronomy  
Disney South Ballroom**

*Session Leader:* Bryan Avison, Lantic, Inc.

7:55        Announcements

8:00        **Phosphorus fertilization in sugar beets.**  
Regitnig, Peter J.\* And Bryan R. Avison, Lantic Inc.,  
5405 - 64th Street, Taber, Alberta, T1G 2C4

8:20        **Spring nitrogen application strategies in sugar beets  
in Alberta.**  
Anderson, Jay F.\*, Peter J. Regitnig and Bryan R.  
Avison, Lantic Inc., 5405 - 64 Street, Taber, Alberta,  
T1G2C4

8:40        **Evidence for Static Nitrogen Management in  
Northwest U.S. Sugarbeet Production.**  
Tarkalson, David D.\*<sup>1</sup>, David L. Bjorneberg<sup>1</sup> and Greg  
Dean<sup>2</sup>, <sup>1</sup>USDA-ARS, <sup>2</sup>Amalgamated Sugar Company,  
<sup>1</sup>3793 NORTH 3600 EAST Kimberly, ID 83341-5076,  
<sup>2</sup>1951 S. Saturn Way, Suite 100 Boise, Idaho 83709

9:00        **Modern or Conventional: Comparing Nitrogen  
Application Strategies for Sugarbeet.**  
Steinke, Kurt\* and Andrew Chomas, Michigan State  
University, Dept. of Plant, Soil, and Microbial  
Sciences, Plant and Soil Sciences Building, 1066  
Bogue Street, East Lansing, MI 48824

9:20        **Impact of Irrigation and Nitrogen Management  
Strategies on Sugarbeet Yield, Evapotranspiration,  
and Crop Water productivity.**  
Sharma, Vivek, University of Wyoming, 747 Road 9,  
Powell WY 82435

9:40        **Fall seeded cover crop species and establishment  
timing following Beta vulgaris in southern  
Minnesota.**  
Mettler, David, Southern Minnesota Beet Sugar  
Cooperative, 83550 County Rd 21

10:00       **Break**

\*Presenter

- 10:20      **A replanting guide for sugar beet production in southern Minnesota.**  
Bloomquist, Mark W.\*<sup>1</sup> and Andrew W. Lenssen<sup>2</sup>,  
<sup>1</sup>Southern Minnesota Beet Sugar Cooperative, <sup>2</sup>Dept. of  
Agronomy, Iowa State University, <sup>1</sup>83550 County  
Road 21, Renville, MN 56284, <sup>2</sup>Ames, IA 50011
- 10:40      **Glyphosate-resistant Palmer amaranth: what can we do for control in sugar beet?**  
Lawrence, Nevin, C., Clint W. Beiermann. University  
of Nebraska-Lincoln, 4502 Avenue I, Scottsbluff, NE  
69361
- 11:00      **Sugarbeet tolerance and rotational crop safety from ethofumesate 4SC applied postemergence.**  
Lystad, Alexa\*<sup>1</sup>, Peters, Thomas<sup>1</sup> and Sprague,  
Christy<sup>2</sup>, <sup>1</sup>North Dakota State University, <sup>2</sup>Michigan  
State University, <sup>1</sup>Plant Sciences Dept. 7670, PO Box  
6050, Fargo, ND 58108-6050, <sup>2</sup>Dept. of Plant, Soil, and  
Microbial Sciences, 1066 Bogue St., Room 466, East  
Lansing, MI 48824-1325
- 11:20      **Sugarbeet tolerance and weed suppression with acifluorfen.**  
Peters, Thomas, North Dakota State University, Dept  
7670, PO Box 6050, Fargo, ND 58108-6050
- 11:40      **Evaluating the potential hormetic effect of herbicides on sugar beet.**  
Morishita, Don W \*<sup>1</sup>, JOEL FELIX<sup>2</sup>, ALEXIS  
THOMPSON<sup>1</sup>, REBECCA HENDRICKS<sup>1</sup> and JOEY  
ISHIDA<sup>2</sup>, <sup>1</sup>University of Idaho, <sup>2</sup>Oregon State  
University, <sup>1</sup>Kimberly R&E Center, 3808 N. 3600 E.,  
Kimberly, ID 83341, <sup>2</sup>Malheur Experiment Station, 595  
Onion Ave., Ontario, OR 97914

\*Presenter

**WEDNESDAY MORNING**  
**February 27, 2019**

**Section B, Physiology, Genetics, and Plant Pests**  
**Disney Center Ballroom**

*Session Leader:* Dr. Ashok Chanda, University of Minnesota  
7:55      Announcements

8:00      **Cercospora leaf spot management under high disease pressure in Beta vulgaris in southern Minnesota.**  
Groen, Cody, J. \* David C. Mettler, and Mark W. Bloomquist, Southern Minnesota Beet Sugar Cooperative, 83550 County Road 21, Renville, MN 56284.

8:20      **Sugar Beet Breeding Progress Of Cercospora Resistant Varieties In North America.**  
Miller, Jay\*, Patrick O'boyle and Margaret Rekoske, Betaseed, Inc., 1325 Valley View Road, Shakopee, MN 55379

8:40      **An Integrated Breeding Approach Towards Cercospora beticola Resistant Varieties – A Perspective from SESVanderHave.**  
Vanderstukken, Maarten\*, Olivier Amand, Hendrik Tschoep, David Boehm and Gerhard Steinruecken, SESVanderHave, Soldatenplein Z2, 15. 3300 Tienen, Belgium

9:00      **Control of Cercospora beticola and Alternaria alternata leaf spot diseases in sugarbeets with tank mix fungicide treatments.**  
Stewart, James F\*, Brian J. Groulx, Corey J. Guza and Dennis Bischer, Michigan Sugar Company, 1459 South Valley Center Drive, Bay City, MI 48706

9:20      **Use of genome-wide association to identify mutations involved with DMI-resistance in Cercospora beticola.**  
Bolton, Melvin\*<sup>1</sup>, Rebecca Spanner<sup>2</sup> and Gary A. Secor<sup>2</sup>, <sup>1</sup>USDA - ARS, <sup>2</sup>North Dakota State University, <sup>1</sup>1616 Albrecht Blvd N, Fargo, ND 58102, <sup>2</sup>NDSU Dept. 7660, PO Box 6050, Fargo, ND 58108

9:40      **Metabolomic profiling reveals insights into the sugar beet defense response to Beet necrotic yellow vein virus.**  
Webb, Kimberly M.\*<sup>1</sup>, Wintermantel, William M.<sup>2</sup> and Broeckling, Corey D.<sup>3</sup>, <sup>1</sup>USDA-ARS, SMSBRU, <sup>2</sup>USDA-ARS, CIPRU, <sup>3</sup>Colorado State University, <sup>1</sup>1701 Centre Ave., Fort Collins, CO, <sup>2</sup>1636 E. Alisal St., Salinas, CA, <sup>3</sup>Proteomics and Metabolomics Facility, C130 Microbiology, 2021 Campus Delivery, Fort Collins, CO

10:00      **Break**

- 10:20 **Application of a reverse genetic system for Beet necrotic yellow vein virus and Beet soil-borne mosaic virus in sugar beet.**  
Liebe, Sebastian\*<sup>1</sup>, Edgar Maiss<sup>2</sup> and Mark Varrelmann<sup>1</sup>,  
<sup>1</sup>Institute of sugar beet research, <sup>2</sup>Institute of Horticultural Production Systems, <sup>1</sup>Holtenser Landtr. 77, 37077 Göttingen, Germany, <sup>2</sup>Herrenhäuser Str.2, 30419 Hannover, Germany
- 10:40 **Identification of beet necrotic yellow vein virus (BNYVV) in the USA that compromises Rz2-based resistance to Rhizomania disease.**  
Wintermantel, William M.\*<sup>1</sup>, John Weiland<sup>2</sup>, Oliver Neher<sup>3</sup> and Melvin Bolton<sup>2</sup>, <sup>1</sup>USDA-ARS, Crop Improvement and Protection Research Unit, <sup>2</sup>USDA-ARS, Red River Valley Agricultural Research Center, <sup>3</sup>The Amalgamated Sugar Company LLC, <sup>1</sup>1636 East Alisal Street, Salinas, CA 93905, <sup>2</sup>1605 Albrecht Blvd. North, Fargo, ND 58102, <sup>3</sup>1951 S Saturn Way, Ste 100, Boise, ID 83709
- 11:00 **Phylogenetic groups in Rhizoctonia solani AG 2-2 from sugar beet and related host range.**  
Hanson, Linda E.\*<sup>1</sup>, Douglas H. Minier<sup>2</sup> and Frank N. Martin<sup>3</sup>, <sup>1</sup>USDA-ARS, <sup>2</sup>Michigan State University, <sup>1</sup>612 Wilson Road, 37 Plant Biology, East Lansing, MI 48824, <sup>2</sup>612 Wilson Road, 37 Plant Biology, East Lansing, MI 48824<sup>3</sup>1636 E. Alisal St., Salinas, CA 93905
- 11:20 **Molecular studies of the interaction between Rhizoctonia solani and sugar beet.**  
Holmquist, Louise\* and Thomas Kraft, MariboHilleshög Research, Säbyholmsvägen 24, S-261 91 Landskrona, Sweden
- 11:40 **Soil DNA-based detection of Rhizoctonia solani AG 2-2 for determining Rhizoctonia risk.**  
Chanda, Ashok K.\* and Jason R. Brantner, University of Minnesota, Northwest Research and Outreach Center, Crookston, MN 56716

12:00 Lunch

\*Presenters

**WEDNESDAY MORNING**  
**February 27, 2019**

**Sections C, Processing**  
**Disney North Ballroom**

*Session Leader:* Robert Hatch, Hydrite

8:00 Announcements

8:20 **Experiences with Wash Water Clarifier Performance at Southern Minnesota Beet Sugar Cooperative.**

Carlson, Jeffrey L., Southern Minnesota Beets Sugar Cooperative, County Road 21, Renville, MN 56284

8:40 **Alkalization pretreatment of thin juice supplied to weak acid cation thin juice softening.**

Rhoten, Christopher D.\*<sup>1</sup> and Dr. Bernd-Christoph Schulze<sup>2</sup>, <sup>1</sup>ESCON America, <sup>2</sup>ESCON GmbH, <sup>1</sup>PO Box 1308, Black Mountain, NC 28711, <sup>2</sup>Schlossstrasse 48A,12165 Berlin, Germany

9:00 **Lime Kiln – possibilities for capacity increase.**

Huenerlage, Michael\* and Arndt, Oliver, Eberhardt Schwab GmbH, Am Bauhof 21, 32657 Lemgo, Germany

9:20 **Utilization of Peracetic Acid as an Antimicrobial Agent in Sugar Beet Processing.**

Mayer, Mike\* and Schoenfelder, Carl, Hydrite Chemical Company, 300 N. Patrick Blvd., Brookfield, WI 53045

9:40 **Benefits and Methodology of Utilizing Strong Oxidizers for Clean In Place.**

Thummel, Micheal T.\*, Schoenfelder, Carl J., Hydrite Chemical Company, 300 N. Patrick Blvd, Brookfield, WI 53045

10:00 **Break**

- 10:20 **Utilization of a Process/Pond Sulfur Mass Balance to Identify Controllable Sulfur Sources in Wastewater and Process Ponds at Southern Minnesota Beet Sugar Cooperative.**  
Carlson, Jeffrey L.\*<sup>1</sup> and Donald C. Hartman<sup>2</sup>, <sup>1</sup>Southern Minnesota Beet Sugar Cooperative, <sup>2</sup>Garratt-Callahan, <sup>1</sup>83550 County Road 21, Renville, MN 56284, <sup>2</sup>50 Ingold Rd, Burlingame, CA 94010
- 10:40 **Lessons learned from hydrogen peroxide dosing into high-strength holding ponds at Amalgamated Sugar's Mini-Cassia plant.**  
Nelson, Michael\*<sup>1</sup>, Karen Cummings<sup>2</sup> and Ryan Vargas<sup>1</sup>, <sup>1</sup>USP Technologies, <sup>2</sup>The Amalgamated Sugar Company, <sup>1</sup>1375 Peachtree Street NE, Suite 300N, Atlanta, GA 30309, <sup>2</sup>50 South 500 West, Paul, ID 83347
- 11:00 **Feasibility of Biomass Storage and Implications for Operation of Anaerobic Digesters.**  
Sunkavalli, Sagar\*<sup>1</sup>, Gantzer, Charles<sup>2</sup>, Hadnott, Bailey<sup>2</sup>, Menken, Kevin<sup>2</sup>, Andrews, Lisa<sup>2</sup>, Finnesgaard, Dale<sup>2</sup> and Ling, Alison<sup>2</sup>, <sup>1</sup>Southern Minnesota Beet Sugar Cooperative, <sup>2</sup>Barr Engineering Company, <sup>1</sup>83550 County Road 21, Renville, MN 56284, <sup>2</sup>4300 MarketPointe Dr, Suite 200, Minneapolis, MN 55435
- 11:20 **Seasonal supplementation of aeration within high-strength water holding ponds using hydrogen peroxide at Amalgamated Sugar's Nampa plant.**  
Nelson, Michael\*<sup>1</sup>, Kyle Bair<sup>2</sup> and Ryan Vargas<sup>1</sup>, <sup>1</sup>USP Technologies, <sup>2</sup>The Amalgamated Sugar Company, <sup>1</sup>1375 Peachtree Street NE, Suite 300 N, Atlanta, GA 30309, <sup>2</sup>138 W Karcher Road, Nampa, ID 83687
- 11:40 **Impacts of Recent Federal Air Quality Regulatory Changes on Sugar Beet Factories.**  
Sunkavalli, Vidyasagar\*<sup>1</sup> and Tony Widboom<sup>2</sup>, <sup>1</sup>Southern Minnesota Beet Sugar Cooperative, <sup>2</sup>Barr Engineering Co., <sup>1</sup>83550 County Road 21, Renville, MN 56284, <sup>2</sup>4300 MarketPointe Drive Suite 200, Minneapolis, MN 55435
- 12:00 Lunch

\*Presenter

**WEDNESDAY AFTERNOON  
February 27, 2019**

**Section A, Agronomy  
Disney South Ballroom**

*Session Leader:* Cody Groen,  
Southern Minnesota Beet Sugar Cooperative

- 1:15        Announcements
- 1:20        **Sugarbeet Sensitivity To Dicamba At Low Dose.**  
Larson, Emma L.\*<sup>1</sup>, Michael S. Metzger<sup>1</sup>, Thomas J. Peters<sup>2</sup> and Alexa L. Lystad<sup>2</sup>, <sup>1</sup>Minn-Dak Farmers Cooperative, <sup>2</sup>North Dakota State University and the University of Minnesota, <sup>1</sup>7525 Red River Road, Wahpeton, ND 58075, <sup>2</sup>NDSU, Dept 7670, PO Box 6050, Fargo, ND 58108-6050
- 1:40        **HerbDiv – A Web Application to Quantify Herbicide Program Diversity for Herbicide Resistance Management.**  
Kniss, Andrew R.\*<sup>1</sup>, Lawrence, Nevin C.<sup>2</sup> and Adjesiwor, Albert T.<sup>1</sup>, <sup>1</sup>University of Wyoming, <sup>2</sup>University of Nebraska, <sup>1</sup>, <sup>1</sup>
- 2:00        **Utilization of Plant Growth Regulators for Suppression of Sugarbeet Root Yield.**  
Metzger, Michael S.\*<sup>1</sup>, Emma L. Larson and Bradley L. Schmidt, Minn-Dak Farmers Cooperative, 7525 Red River Road, Wahpeton, ND 58075
- 2:20        **Effect of in-furrow applications of AZteroid FC with starter fertilizer on plant stand and yield.**  
Poon, Gary, Vive Crop Protection, 6275 Northam Drive, Suite 1, Mississauga, ON, Canada, L4V 1Y8
- 2:40        **Evaluating Sticker Spreaders for Leafspot Control.**  
Guza, Corey and James Stewart, Michigan Sugar Company, 133 Uptown Dr., Suite 300, Bay City, Mi 48708
- 3:00        **Break**
- 3:20        **Alternaria Leafspot, Control Measures and Fungicides.**  
Bischer, Dennis, Michigan Sugar Co., 122 Uptown Drive, Suite 300, Bay City, MI 48708
- 3:40        **Forum – Weed Control in Sugarbeet without Herbicides’ – Tom Peters (Moderator) - NDSU & University of Minnesota Sugarbeet Weed Specialist**
- 5:00        Conclude
- \*Presenter



**WEDNESDAY AFTERNOON**  
**February 27, 2019**

**Section B, Physiology, Genetics, and Plant Pests**  
**Disney Center Ballroom**

*Session Leader:* Jay Anderson, Lantic Inc.

1:15 Announcements

1:20 **Accurate diagnosis of sugarbeet root diseases is critical for driving disease management decisions.**

Brantner, Jason R.\* And Ashok K. Chanda, University of Minnesota, Northwest Research and Outreach Center, Crookston, MN 56716

1:40 **Comparative genomics and phylogenetic relationships of the *Fusarium* population from sugar beet suggests a new look at species designations.**

Webb, Kimberly M.\*<sup>1</sup>, Shrestha, Subidhya<sup>2</sup>, Trippe Iii, Richard<sup>1</sup>, Rivera-Varas, Viviana<sup>3</sup>, De Jonge, Ronnie<sup>4</sup>; Secor, Gary A.<sup>2</sup> And Bolton, Melvin<sup>5</sup>, <sup>1</sup>USDA-ARS, SMSBRU, <sup>2</sup>North Dakota State University, <sup>3</sup>North Dakota State University, <sup>4</sup>Utrecht University, <sup>5</sup>USDA-ARS, <sup>1</sup>1701 Centre Ave., Fort Collins, CO 80526, <sup>2</sup>Department of Plant Pathology, Fargo, ND 58108, <sup>2</sup>Department of Plant Pathology, Fargo, ND 58108<sup>4</sup> Plant-Microbe Interactions, Department of Biology, Science4Life, 3584 CH, Utrecht, The Netherlands, <sup>5</sup>;Red River Valley Agricultural Research Center, Fargo, ND 58108

2:00 **Resistance to sugarbeet root maggot as an alternative to complete dependence on insecticides.**

Campbell, Larry\*<sup>1</sup>, Margaret Rekoske<sup>2</sup>, And Jay Miller<sup>2</sup>. <sup>1</sup>USDA-ARS, Northern Crop Science Lab., 1605 Albrecht Blvd. N., Fargo, ND 58102-2765. and 2Betaseed, Inc., 1325 Valley View Road, Shakopee, MN 55379. Resistance to sugarbeet root maggot as an alternative to complete dependence on insecticides.

2:20 **Strategic management of *C. beticola* with known resistance to multiple fungicides on sugar beet.**

Khan, Mohamed F. R.\*<sup>1</sup>and Peter Hakk<sup>2</sup>, <sup>1</sup>Plant Pathology Department, North Dakota State University and University of Minnesota, Fargo, ND 58108, <sup>2</sup>Plant Pathology Department, North Dakota State University, Fargo, ND 58108.

2:40 **Options for Managing *Rhizoctonia solani* in Sugar Beet**

Khan, Mohamed F. R.\*<sup>1</sup>, Peter Hakk<sup>2</sup>, Md. Ehsanul Haque<sup>2</sup>, Md. Ziaur Bhuiyan<sup>2</sup>, And Yangxi Liu<sup>2</sup>. <sup>1</sup>Plant Pathology Department, North Dakota State University and University of Minnesota, Fargo, ND 58108, <sup>2</sup>Plant Pathology Department, North Dakota State University, Fargo, ND 58108.

3:00 **Break**

**WEDNESDAY AFTERNOON**  
**February 27, 2019**

**Sections C, Processing**  
**Disney North Ballroom**

*Session Leader:* Ron Kawlewski, Spreckels

1:15 Announcements

1:20 **Towards CO2 neutral beet sugar production.**  
Larsen, Kasper Gehl\* and Jensen, Arne Sloth, EnerDry  
A/S, Kongevejen 157, 2830 Virum, Denmark

1:40 **Powdered Activated Carbon to Adsorb Colorants  
from Sugar Beet Syrup: A Pilot Plant Study.**  
Isabel M. Lima\*<sup>1</sup>, Charles Clayton<sup>1</sup>, Annie Tir<sup>1</sup>, Craig  
Parker<sup>2</sup> and Emmanuel Sarir<sup>3</sup>, <sup>1</sup>USDA-ARS-SRRC,  
<sup>2</sup>British Sugar, <sup>3</sup>Carbo Solutions International, <sup>1</sup>1100  
Robert E Lee Blvd, New Orleans, LA 70124,  
<sup>2</sup>Peterborough, UK, <sup>3</sup>Los Angeles, CA

2:00 **Application of near-infrared spectroscopy (NIRS) for  
the detection of sucrose and betaine in streams  
surrounding the molasses desugaring by  
chromatographic process (MDC).**  
Wambolt, Carol L.\*, Doris C. Fleming and Larson H.  
Caldwell III, Amalgamated Research, LLC., 2531  
Orchard Drive East, Twin Falls, ID 83301

2:20 **Molasses Desugarization in the US Beet Sugar  
Industry: Recent Update.**  
Kochergin, V. \*, E. Johnson and S. Peacock,  
Amalgamated Research LLC, 2531 Orchard Dr. E., Twin  
Falls, ID 83301

2:40 **Studies on the storage stability of white beet sugar  
depending on its quality.**  
Bruhns, Philipp\*, Timo Koch, and Lothar Kroh,  
Technische Universität Berlin, Gustav-Meyer-Allee 25

3:00 Break

3:20 **Forum** - Infections in the process-  
Moderator A. Jayasooriya

5:00 Conclude

6:00 P.M. – 9:00 P.M.  
Magic Kingdom Lawn

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

*Thanks to Mitsui Chemicals Agro (MCAG) for hosting the Evening  
Social Reception.*

**THURSDAY MORNING**  
**February 28, 2019**

**Section A, Agronomy**  
**Disney South Ballroom**

Session Leader: Mike Otto, Western Sugar Cooperative

7:55 Announcements

8:20 **Syppe project: design cropping systems to meet European agricultural challenges by 2025.**

Laudinat, Vincent, ITB (Institut technique de la betterave), 45 rue de Naples 75008 Paris (France)

8:40 **Will climate change affect sugar beet crop emergence of the 21st century? Insight from a simulation study.**

Lamichhane, Jay-Ram\*, Julie Constantin, Jean-Noel Aubertot and Carolyne Dürr, Inra, UMR 1248 AGIR, F-31326 Castanet-Tolosan, France

9:00 **Heterogeneity of sugarbeets – challenge for recoverable sugar analysis of grower’s field samples.**

Bernhardson, Duane\*, Elke Hilscher, Heiko Narten and Stefan Meldau, Kws Saat, 1500 South 40th Str. Grand Forks, ND 58201

9:20 **Coal Combustion Residue from a Sugar Factory: A Potential Soil Amendment.**

Maharjan, Bijesh\*, Hergert, Gary And Panday, Dinesh, University of Nebraska-Lincoln, 4502 Avenue I, Scottsbluff, NE 69361

9:40 **Yield Progress, Yield Gaps and Resource Use in Sugarbeet Production in the Imperial Valley of California.**

Kaffka, Stephen\*<sup>1</sup> and Ron Tharp<sup>2</sup>. <sup>1</sup>Department of Plant Sciences, University of California, Davis, CA 95616; <sup>2</sup>Spreckels Sugar, Brawley, CA.

10:00 **Break**

10:20 **Forum: Drones – Moderator Mike Metzger**

12:00 **Lunch**

**THURSDAY MORNING**  
**February 28, 2019**

**Section B, Physiology, Genetics, and Plant Pests**  
**Disney Center Ballroom**

*Session Leader:* Jason Brantner, University of Minnesota,

7:55        Announcements

8:00        **Breeding gain for Curly Top hybrids and lines in Idaho, Montana and Wyoming over the last ten years.**

Koeps, Thomas\*<sup>1</sup>, Tiffany McKay-Williams<sup>1</sup> and Hans-Henning Voss<sup>2</sup>, <sup>1</sup>Betaseed, Inc., <sup>2</sup>KWS SAAT SE, <sup>1</sup>898 Center St W, Kimberly, ID 83341, <sup>2</sup>Grimsehlstrasse 31, 37555 Einbeck, Germany

8:20        **Intercellular localization of sucrose-degrading enzymes in sugar beet taproots provides clues to the role of sucrose catabolism in sucrose accumulation.**

Fugate, Karen K.\*<sup>1</sup>, John D. Eide<sup>1</sup>, Daniel N. Martins<sup>2</sup>, Michael A. Grusak<sup>1</sup> and Fernando L. Finger<sup>3</sup>, <sup>1</sup>USDA, Agricultural Research Service, <sup>2</sup>Dept. de Biologia Vegetal, <sup>3</sup>Dept. de Fitotecnia, <sup>1</sup>ETSARC, 1605 Albrecht Blvd. N., Fargo, ND 58102, <sup>2</sup>Fed. Univ. de Viçosa, 365712-000, Viçosa, MG, Brazil, <sup>2</sup>Fed. Univ. de Viçosa, 365712-000, Viçosa, MG, Brazil

8:40        **NUEST™ beets: More sugar with lower inputs.**

Turano, Frank\*<sup>1</sup>, Thoguru, John<sup>1</sup>, Cheepineeti, Sulochana<sup>1</sup>, Shipp, Jeffrey<sup>1</sup>, Libsack, Steve<sup>2</sup> And Turano, Kathleen<sup>1</sup>, <sup>1</sup>Plant Sensory Systems, LLC, <sup>2</sup>All Beets, LLC, <sup>1</sup>1450 South Rolling Road, Baltimore, MD 21227, <sup>1</sup>1450 South Rolling Road, Baltimore, MD 21227

9:00        **How Big Data Will Change Breeding Strategies in Sugar Beet – A Perspective from SESVanderHave.**

Tschoep, Hendrik\*, Juan Vegas, David Boehm and Gerhard Steinruecken, SESVanderHave, Soldatenplein Z2, 15. 3300 Tienen, Belgium

9:20        **Tales from the sugar beet genome.**

McGrath, Mitch, USDA-ARS, 1066 Bogue St, 360 PSSB, Michigan State University, East Lansing, MI 48824

9:40 **AKER a French Research Initiative for a competitive Innovation for Sugar Beet.**  
Huyghe, Christian <sup>1</sup>, F. Maupas<sup>2</sup>, K. Henry<sup>3</sup>, V. Laudinat<sup>2</sup> and B. Desprez\* <sup>3</sup>, <sup>1</sup>INRA, <sup>2</sup>ITB, <sup>3</sup>Florimond Desprez Veuve & Fils SAS, <sup>1</sup>Institut National de la Recherche Agronomique, 147, Rue de l'Université, F-75338 Paris, France, <sup>2</sup>ITB, 45, rue de Naples, F-75008 Paris, France, <sup>3</sup>Florimond Desprez Veuve & Fils SAS, BP41, 3, Rue Florimond Desprez, F-59242 Cappelle-en-Pévèle, France

10:00 **Break**

10:40 **Forum: EU Efforts** - Moderator: Rebecca Larson

12:00 Lunch

\*Presenter

**THURSDAY MORNING**  
**February 28, 2019**

**Sections C, Processing**  
**Disney North Ballroom**

*Session Leader:* Vidyasagar Sunkavall, Southern Minnesota Beet Sugar Cooperative

7:55      **Announcements**

8:00      **A new approach to control spray water addition and spinning time in batch centrifuges.**

Bjarne Christian Nielsen\* And Tim Diring, Neltec Denmark A/S, Vestergade 35, 6500 Vojens, Denmark

8:20      **Detection of non-magnetic foreign objects in sugar at production-grade speed using hyperspectral imaging and machine learning technology.**

Ramanan, Abilasha\*, CEO and Joakim Nyman; ImpactVision, Impact Hub San Francisco, 1885 Mission Street, San Francisco, California, United States 94103

8:40      **An Update: The US National Committee on Sugar Analysis and International Commission on Uniform Methods of Sugar Analysis.**

Richard, Charley\*<sup>1</sup>, Darrell Gerdes<sup>2</sup>, Carlos Chapa<sup>3</sup> and Kevin Ramsey<sup>4</sup>;; <sup>1</sup>Sugar Processing Research Institute, <sup>2</sup>Imperial Sugar, Louis Dreyfus Company , <sup>3</sup>The Coca-Cola Company, &sup4;ASR Group, <sup>1</sup>1100 Robert E. Lee Blvd, New Orleans, LA 70124, <sup>2</sup>Sugar Land, TX, <sup>3</sup>Atlanta, GA, &sup4;Yonkers, NY

9:00      **Sugar Beet Pulp Fiber.**

Hotchkiss, Arland, U.S. Department of Agriculture, 600 E. Mermaid Lane

9:20      **Development of Factory Performance Curves Using Sugars™ for Windows.**

Kahre, Scott M., Sugars International LLC, 305 Inverness Way South Unit 204, Denver, CO 80112

9:40      **Exploiting lignocellulosic feedstocks for lignin and chemicals.**  
Chudasama, Arvind, Int Sugar Journal, Informa Business Intelligence, Christchurch Court, 10-15 Newgate Street, London, EC1A 7AZ, UK

10:00      **Break**

10:20      **Pay back of process control (A supplier's point of view).**

Diring, Tim\* And Bjarne Christian Nielsen, Neltec Denmark A/S, Vestergade 35, 6500 Vojens, Denmark

10:40      **Forum: Emerging Technologies – Moderator: I. Kihara**

**THURSDAY AFTERNOON**  
**February 28, 2019**

Free afternoon

**THURSDAY EVENING**

- 6:00 Awards Banquet Reception – Disney Center Lounge  
**(Tickets Required)**
- 7:00 Awards Banquet – Disney Center Ballroom  
**(Tickets Required)**

**FRIDAY MORNING**  
**March 1, 2019**

**Board of Directors Meeting**  
**Adventure Room**

- 8:00 ASSBT - Past and New Board of Directors  
Breakfast Meeting - Adventure Room
- 12:00 Conclude

*Thank you to the following companies for their Sponsorship*

***Hilleshög*** – Dessert Table at President’s Reception

***Bayer Crop Science*** – Two Drinks for President’s Reception

***SESVanderHave*** – Refreshment Breaks

***Hydrite*** – Morning Coffee Hospitality Room

***MCAG*** – Wednesday Evening Reception

***ACH Seeds*** - Two Drinks at the Poster Session Social

***Betaseed, Inc.*** – Wine at the Awards Banquet