2017 PAA Annual Meeting
DELEGATE PROGRAM

SUNDAY, July 23, 2017

9:00 a.m. – 12:00 p.m. Finance & Endowment Committee Meeting

11:00 a.m. – 5:30 p.m. Horse Racing

11:00 a.m. – 6:00 p.m. Registration Desk/Information

11:00 a.m. – 4:00 p.m. Graduate Student Networking Activity

12:30 p.m. – 4:30 p.m. Red Hawks Baseball Game

1:00 p.m. – 5:00 p.m. Executive Committee Meeting

1:00 p.m. – 6:00 p.m. Poster Set-up

6:00 p.m. – 8:00 p.m. President’s Reception – Taste of North Dakota

MONDAY, July 24, 2017

6:30 a.m. – 8:00 a.m. Breakfast

6:30 a.m. – 8:00 a.m. Editorial Board Breakfast

6:30 a.m. – 8:00 a.m. Physiology Section Breakfast

8:00 a.m. – 5:00 p.m. Registration Desk/Information

8:00 a.m. – 10:00 a.m. Breeding & Genetics Section Meeting

8:00 a.m. – 10:00 a.m. Plant Protection Section Meeting

8:00 a.m. – 10:00 a.m. Utilization & Marketing Section Meeting

10:00 a.m. – 10:30 a.m. Break

10:30 a.m. – 12:00 p.m. CONCURRENT SESSION I – Breeding and Genetics I

Moderator: Jeffery Endelman

10:30 a.m. Best Practices for Outreach among Potato Breeders and the Industry for the Evaluation of Advanced Selections

Gray, Caroline P., David G. Holm, and Katrina A. Zavislan
10:45 a.m.  Botanical Seed Technology at the US Potato Genebank
Bamberg, John B., Charles Fernandez, and Alfonso del Rio

11:00 a.m.  Genome Wide Association Mapping to Uncover the Genetic Architecture of Morphology in Peruvian Native Potatoes
Shannon, Laura M., René Gómez, Julian Soto, Oswaldo Chavez, Noelle Barkley, David Ellis, and Jeffery B. Endelman

11:15 a.m.  Diploid Potato Hybrids are Similar to Commercial Tetraploid Cultivars
ter Maat, Menno, Michiel de Vries, Hein Kruyt, and Pim Lindhout

11:30 a.m.  Dihaploid Potato Production at Michigan State University
McGlew, Kathleen, Chen Zhang, Norma C. Manrique-Carpintero, Daniel Zarka, Josph Coombs, and David Douches

11:45 a.m.  Genome-wide Selection Accuracy in Tetraploid Potato F1 Populations
Carley, Cari Schmitz and Jeffrey B. Endelman

10:30 a.m. – 12:00 p.m.  **CONCURRENT SESSION II – Plant Protection I**

**Embassy**

Moderator: Darrin Haagenson

10:30 a.m.  The Influence of Biopesticides on Verticillium Wilt in Potatoes
Vincent, Nick M., Michael Thornton, Phillip Wharton, and Amber Moore
*Frank L. Haynes Graduate Student Research Award Competition*

10:45 a.m.  Effect of Temperature and Variety on Pythium leak Susceptibility in Russet Cultivars
Andrew K. Hollingshead, Nora Olsen, and Jeff Miller
*Frank L. Haynes Graduate Student Research Award Competition*

11:00 a.m.  Determining in Vitro Baseline Sensitivity of Alternaria solani and Alternaria alternata to SDHI Fungicides
Budde, Sarah M. and Neil C. Gudmestad
*Frank L. Haynes Graduate Student Research Award Competition*

11:15 a.m.  Transcriptome-wide Mining of Potato Genes Targeted by Potato Virus Y-derived Virus Small Interfering RNAs of Three Biologically Distinct Strains
Moyo, Lindani, Shunmugiah V. Ramesh, Madhu Kappagantu, Vidyasagar Sathuvalli, Neena Mitter, and Hanu R. Pappu
*Frank L. Haynes Graduate Student Research Award Competition*

11:30 a.m.  Development of an Immunocapture-reverse Transcription (RT)-PCR Methodology for Detection of Potato Mop-top Virus in Tuber and Leaf Tissue
Tran, Lisa T., Olga Nikolaeva, and Alexander Karasev
*Frank L. Haynes Graduate Student Research Award Competition*
11:45 a.m. **Investigating *Alternaria* Species Composition and the Population Dynamics in the Potato Early Blight Complex**

(12) Ding, Shunping, Kiana Meinholz, and Amanda J. Gevens

*Frank L. Haynes Graduate Student Research Award Competition*

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12:00 p.m. – 1:00 p.m. LUNCH

Sterling and Crowne

12:00 p.m. – 1:00 p.m. Finance & Endowment Committee Meeting

Conference Room

12:00 p.m. – 1:00 p.m. Site Selection Committee Lunch Meeting

Mezzanine IV

1:00 p.m. – 1:30 p.m. Travel to Symposium Location

Meet in the lobby (bus to Fargo Theatre)

1:30 p.m. – 1:50 p.m. **Welcome from 2017 LAC**

Fargo Theatre

1:30 p.m. – 4:05 p.m. **Extension, Production & Management SYMPOSIUM 2017**

*Decision Support Tools and Technologies for the Potato Industry*

1:50 p.m. – 2:00 p.m. **Symposium Introduction**

Carl Rosen, University of Minnesota

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2:00 p.m. **UAS and Remote Sensing of Insect Damage in Potatoes**

(13) MacRae, Ian V., Timothy M. Baker, and Robert Koch

2:20 p.m. **The North Dakota Agricultural Weather Network Usage as a Crop Management Support Tool**

(14) Ritchison, Daryl

2:40 p.m. BREAK

2:55 p.m. **Simple Tools for Rapid Diagnostics and Decision Making**

(15) Olsen, Nora, Lynn Woodell, and Mary Jo Frazier

3:15 p.m. **Decision Support for Potato Growers Using a Pest Monitoring Network**

(16) Wohleb, Carrie H., Tim D. Waters, and David W. Crowder

3:35 p.m. **Information Delivery Methods for Management Decisions**

(17) Robinson, Andrew P., and Steven B. Johnson

3:55 p.m. – 4:05 p.m. **Symposium Summary**

Carl Rosen, University of Minnesota

4:05 p.m. – 4:55 p.m. **Global Outreach Committee Invited Guest Speaker**

*A Perspective of Potato in India. Past, Present, and Future*

(18) Gangwal, Tarun
6:00 p.m. – 8:00 p.m. PAA Past President and Honorary Life Member Reception (Past Presidents and HLMs are invited to attend) Meet at the lobby

TUESDAY, July 25, 2017

6:30 a.m. – 8:30 a.m. Breakfast Sterling and Crowne
6:30 a.m. – 8:30 a.m. Extension, Production & Mgt. Section Breakfast Executive Room
6:30 a.m. – 8:30 a.m. Potato Crop Germplasm Committee Meeting Board Room
8:00 a.m. – 5:00 p.m. Registration Desk/Information Atrium
8:30 a.m. – 12:00 p.m. Executive Committee Meeting Conference Room
8:30 a.m. – 12:00 p.m. **CONCURRENT SESSION I – Breeding & Genetics II and Physiology I** Royale

Moderator: Sastry S. Jayanty

*Breeding & Genetics II*

8:30 a.m. **Targeted Mutagenesis Using CRISPR/Cas in Inbred Potatoes** (19)
Butler, Nathaniel M., Shelley Jansky, and Jiming Jiang

8:45 a.m. **Gene Editing in Diploid Potato for Herbicide Resistance via Homology Directed Repair Mechanism** (20)
Nadakuduti, Satya Swathi, Colby Starker, DaeKwan Ko, Nathaniel M. Butler, Dan Voytas, C. Robin Buell, and David Douches

9:00 a.m. **The New Infinium 22K V3 Potato SNP Array and Polyploid Clustering in GenomeStudio 2.0** (21)
Coombs, Joseph, Alicia N. Massa, Norma C. Manrique-Carpintero, Daniel Zarka, and David Douches

*Physiology I*

9:15 a.m. **Screening Potato Cultivars and Breeding Lines for Phytonutrients** (22)
Navarre, Roy A., Margaret J. Holden, Chuck Brown, Richard Novy, Mark J. Pavek, Michael Thornton, Brian A. Charlton, and Vidyasagar Sathuvalli

9:30 a.m. **Environmental Impact on Anthocyanin Accumulation in Fortress Russet** (23)
Jayanty, Sastry S., Diganta Kalita, and Vidyasagar Sathuvalli
9:45 a.m.  Gene Responses to the Sprout Inhibitor 1,4-Dimethynaphthalene Change with Tuber Age in Storage
(24) Campbell, Michael A.

10:00 a.m.  BREAK  Dakota Hall

10:30 a.m.  Increased Selection Efficiency for Cold-induced Sweetening (CIS) Resistance in Potato Breeding through Biomarkers
(25) Gupta, Sanjay K. and James Crants

10:45 a.m.  Using Image Analysis to Quantify Skin Set and Color in Red Potatoes
(26) Caraza Salas, Maria V. and Jeffrey B. Endelman
Frank L. Haynes Graduate Student Research Award Competition

11:00 a.m.  Effects of Edible Coatings on the Quality of Potato Tubers under Cold and Room Temperature Storage
(27) Emragi, Esam F., Diganta Kalita, and Sastry S. Jayanty
Frank L. Haynes Graduate Student Research Award Competition

11:15 a.m.  Determination of Pasteur Point in Minimally Processed Potato
(28) Ellis, Graham D., Lisa O. Knowles, and N. Richard Knowles
Frank L. Haynes Graduate Student Research Award Competition

11:30 a.m.  Manipulating Apical Dominance, Tuber Size, and Shape to Enhance Yield of Raw Product for Frozen-Processing
(29) Dean, Cody J., Lisa O. Knowles, and N. Richard Knowles
Frank L. Haynes Graduate Student Research Award Competition

11:45 a.m.  Effect of the Phytophthora infestans Infection on Solanum tuberosum Metabolic Profile
(30) Fageria, Samarth, Jamuna R. Paudel, Larry Calhoun, Max Itkin, Asaph Aharoni, and Helen Tai
Frank L. Haynes Graduate Student Research Award Competition

8:30 a.m. – 12:00 p.m.  CONCURRENT SESSION II – Extension, Production & Management I and Plant Protection II  Embassy

Moderator: Harlene Hatterman-Valenti

Extension, Production & Management I

8:30 a.m.  Adaptive Nitrogen and Irrigation Management Strategies to Reduce Nitrate Leaching from Potato Production
(31) Bohman, Brian J., Carl J. Rosen, and David J. Mulla
Frank L. Haynes Graduate Student Research Award Competition
8:45 a.m.  **Plant Back of Russet Burbank Seed Treated with Glyphosate and Dicamba**  
(32) Geary, Nelson, Andrew P. Robinson, and Harlene M. Hatterman-Valenti  
*Frank L. Haynes Graduate Student Research Award Competition*

9:00 a.m.  **Predicting Potato Yield Loss due to Metribuzin Sensitivity in North Dakota**  
(33) Ibrahim, Razi, Harlene M. Hatterman-Valenti, and Asunta (Susie) L. Thompson  
*Frank L. Haynes Graduate Student Research Award Competition*

9:15 a.m.  **The Effects of Potato Virus Y Strains on Quality of Four Potato Varieties in Storage**  
(34) Andros, Marcus, Nora Olsen, Alexander Karasev, Kenneth Frost, and Cassandra N. Funke  
*Frank L. Haynes Graduate Student Research Award Competition*

9:30 a.m.  **Can Enhanced Efficiency Fertilizers Reduce N Losses and Maintain Yield in Late-sown Potatoes?**  
(35) Ghosh, Upsana, Harlene M. Hatterman-Valenti, Amitava Chatterjee, and Asunta (Susie) L. Thompson  
*Frank L. Haynes Graduate Student Research Award Competition*

9:45 a.m.  **Influence of Mineral Oil on the Spectral Reflectance of Potato Leaves**  
(36) Falde, Steffen A., Asunta (Susie) L. Thompson, and Ian V. MacRae  
*Frank L. Haynes Graduate Student Research Award Competition*

10:00 a.m.  BREAK  
Dakota Hall

**Plant Protection II**

10:30 a.m.  **Potato Production in Bali-Indonesia and its Virus Problem**  
(37) Astarini, Ida A., Deborah Margareth, Wina Andriani, Martin Joni, Made Ria Defiani, and I. Gede Rai Maya Temaja

10:45 a.m.  **Strain-specific Resistance to Potato virus Y (PVY) in Potato and its Effect on Prevalence of PVY Strains in the Field**  
(38) Funke, Cassandra N., Kenneth Frost, Nora Olsen, and Alexander Karasev

11:00 a.m.  **Development and Validation of High Resolution DNA Melting Markers Linked to Extreme Resistance to PVY**  
(39) Nie, Xianzhou, Virginia Dickison, Agnes Murphy, Mathuresh Singh, and David De Koeyer

11:15 a.m.  **Evidence of PVY Spread through Field Management Activities**  
(40) MacKenzie, Tyler D.B., Angela Gallagher, Irin Arju, Manphool Fageria, and Mathuresh Singh

11:30 a.m.  **Weed Management in Litchi Tomato - A Trap Crop for Pale Cyst Nematode**  
(41) Hutchinson, Pamela J.S., Brent R. Beutler, Tina Miera, Brenda Kendall, and Tenika Trevino

11:45 a.m.  **Potential Yield Reduction from Simulated Drift of Dicamba and Glyphosate**
12:00 p.m. – 1:30 p.m. LUNCH
Sterling and Crowne

Lunch Speaker: Pat Kole, Potato Research Advisory Committee

1:30 p.m. – 3:00 p.m. CONCURRENT SESSION I – Breeding & Genetics III Royale

Moderator: Asunta Thompson

1:30 p.m. Characterizing Late Blight Resistance in North Dakota State University Potato Germplasm
Bjerke, James, Gary A. Secor, and Asunta (Susie) L. Thompson
Frank L. Haynes Graduate Student Research Award Competition

1:45 p.m. Oral Presentation Withdrawn

2:00 p.m. Identifying Late Blight Resistance QTL in a Diploid Mapping Population of Solanum microdontum
Pawa, Emily W., Saltanat Mambetova, Ray Hammerschmidt, and David Douches
Frank L. Haynes Graduate Student Research Award Competition

2:15 p.m. Differential Gene Expression Analysis of Meloidogynae chitwoodi Resistance in Potato
Bali, Sapinder, Kelly Vining, Chuck Brown, and Vidyasagar Sathuvalli
Frank L. Haynes Graduate Student Research Award Competition

2:30 p.m. Mapping Resistance in Tetraploid Potato for Resistance to Globodera rostochiensis Pathotype Ro2
Park, Jaebum
Frank L. Haynes Graduate Student Research Award Competition

2:45 p.m. Investigating Resistance Mechanisms to Colorado Potato Beetle in Diploid Potato
Kirkwyland, Natalie, Joseph Coombs, David Douches, and Christina Difonzo
Frank L. Haynes Graduate Student Research Award Competition

1:30 p.m. – 3:00 p.m. CONCURRENT SESSION II – Plant Protection III Embassy

Moderator: Willem Schrage

1:30 p.m. The Weed Link in Zebra Chip Epidemiology: Annual and Perennial Weeds as Sources of the Zebra Chip Pathogen
Cooper, William R., David R. Horton, and Jenita Thinakaran

1:45 p.m. Use of Lycium by Potato Pylid in the Pacific Northwest: Lessons from the Desert Southwest?
Thinakaran, Jenita, David R. Horton, William R. Cooper, and Alexander Karasev
2:00 p.m.  
*Symptom Expression of Mainstream and Specialty Potato Varieties to Bacterial Ring Rot (Clavibacter michiganensis subsp. sepedonicus) and Evaluation of In-field Detection*
(51)  

2:15 p.m.  
*Epidemiology, Prediction and Management of Soil-Borne Diseases of Potato*
(52)  
Lees, Alison K. and Jennie L. Brierley

2:30 p.m.  
*Integrated Pest Management (IPM) for Blackleg Disease*
(53)  
Humphris, Sonia N., Leighton Pritchard, Gerry Saddler, Stuart Wale, John Elphinstone, Simon Gibson-Poole, Peter Skelsey, Emma Campbell, Lauren Watts, and Ian Toth

2:45 p.m.  
*Responses of Dickeya dianthicola to Chemical Treatment*
(54)  
Hao, Jianjun, Tongling Ge, Yang Song, Nayara Marangoni, He Jiang, and Steven B. Johnson

3:00 p.m. – 3:30 p.m.  
BREAK  
Dakota Hall

3:30 p.m. – 4:30 p.m.  
POSTER SESSION (authors present)  
Dakota Hall

**Breeding & Genetics**

*A New Potato Cultivar, “Mangang” with Resistance to Late Blight and Good Chipping Quality*
(55)  
Park, Youngeun, Jihong Cho, Kwangsoo Cho, Janggyu Choi, Hyunmook Cho, Younggyu Lee, Dongchil Chang, Hongsub Yoo, and Yongik Jin

*Biotechnology Potato Partnership: Late Blight Resistant Potatoes for Bangladesh and Indonesia*
(56)  
Douches, David, Kelly Zarka, John Medendorp, Karen Hokanson, Phillip Wharton, Craig Richael, Marc Ghislain, Cholani Weebadde, Karim Maredia, Jayne Payumo, and Hashini Galhena

*Measurement of Transgene Copy Number in Potatoes Using Droplet Digital PCR*
(57)  
McCue, Kent F., Ray Collier, Ethan Gardner, and Roger Thilmony

*New Double Cropping Potato Variety 'Gangsun' with Short Dormancy and High Resistance to Late Blight*
(58)  
Cho, Ji Hong, Janggyu Choi, Ju Sung Im, Kwangsoo Cho, Yongik Jin, Dongchil Chang, Youngeun Park, Hongsub Yoo, and Hyunmook Cho

*Genome Wide Association Analysis for Late Blight and Scab Resistance in Tetraploid Potato*
(44)  
Enciso, Felix E., Joseph Coombs, David Douches, and Gustavo de los Campos
Extension Production & Management

Nitrogen Strategies for Improved Yield, Quality and Profitability of Russet Burbank Potatoes in Alberta
Konschuh, Michele
(59)

Sustainability is Not Just a Buzzword
Woodell, Lynn, Nora Olsen, Tim D. Waters, and Carrie H. Wohleb
(60)

Utility of Variable-Sized Whole Tubers to Improve Quality and Yield Parameters in Seed Potato Production
Kinzer, Kasia M. Duellman, Melissa C. Bertram, Melinda A. Lent, Jill C. Randall, and Sarah A. Clark
(61)

Physiology

Effects of Stored Volume on Processing Potato Quality
Fishler, Troy D., Amber M. Gotch, and Paul C. Bethke
(62)

Stem End Chip Defect Symptoms are Reduced in an RNAi Megachip Line with Decreased Invertase Gene Expression
Busse, James S., and Paul C. Bethke
(63)

Plant Protection

Assessing Latent Infection of Seed Potato Tubers with Dickeya dianthicola
Rivera-Varas, Viviana V., Jianjun Hao, Steven B. Johnson, and Gary A. Secor
(64)

elf4E-Mediated Potato Resistance Against Potato Virus Y in Susceptible Potato Varieties
Zhang, Chen, Kelly Zarka, Daniel Zarka, Jonathan Whitworth, and David Douches
(65)

Influence of Fungicide Seed Treatment and Seed Potato Tuber Type on Components of Russet Burbank
Kinzer, Kasia M. Duellman, Melissa C. Bertram, Melinda A. Lent, and Phillip Nolte
(66)

Screening of the Solanacea Species Mini-core Collection for Psyllid and ‘Candidatus Liberibacter solanacearum’ Resistance
(67)

Utilization & Marketing

Effect of Sucrose on Hibernate Chip Color
Chhabra, Guneet, Mathew McDonald, Leonardo Lorta, and Mario Avila
(68)
Wednesday, July 26, 2017

6:00 pm - 8:30 pm  BBQ
Meet at the lobby

8:00 am. - 12:00 p.m.  Registration Desk/Information
Atrium

8:30 am - 12:00 p.m.  CONCURRENT SESSION I – Breeding & Genetics IV
Royale

Moderator: Richard Novy

8:30 a.m.  Improving Self-compatibility and Maintaining Genetic Diversity in Diploid Potato through Recurrent Selection Cycles
(69) Alsahlany, Maher, Joseph Coombs, Daniel Zarka, and David Douches
Frank L. Haynes Graduate Student Research Award Competition

8:45 a.m.  Examination of Ploidy in 2x × 2x S. tuberosum Dihaploids by Self-compatible Donors
(70) Otieno, Susan A., Norma C. Manrique-Carpintero, Maher Alsahlany, Joseph Coombs, and David Douches
Frank L. Haynes Graduate Student Research Award Competition

9:00 a.m.  The Development and Phenotyping of Diploid Recombinant Inbred Lines of Potato
(71) Alpers, Ryan and Shelley Jansky
Frank L. Haynes Graduate Student Research Award Competition

9:15 a.m.  Introgression of Resistance to Tuber Greening from Solanum microdontum into Cultivated Potato
(72) Novy, Richard, Brian Schneider, Mark Fristad, Lura Schroeder, Jeff Stark, and Joseph Kuhl

9:30 a.m.  Solanum bulbocastanum Genome Assembly Improvement with Long Read Sequencing
(73) Vining, Kelly, Chuck Brown, and Vidyasagar Sathuvalli

9:45 a.m.  The Genomic Consequences of Haploid Induction Crosses in Potato
(74) Amundson, Kirk, Benny Ordonez, Monica Santayana, Merideth Bonierbale, Luca Comai, and Ek Han Tan

10:00 a.m.  BREAK
Dakota Hall

10:30 p.m.  Strategy and Progress in Developing Agile Potato Varieties for SE Asia
(75) VanderZaag, Peter

10:45 p.m.  Verticillium dahliae Disease Resistance and the Regulatory Pathway for Tuberization in Potato
(76) Tai, Helen, David De Koeyer, Mads Sondaerkaer, Martin Lague, Claudia Goyer, Lana Nolan, Charlotte Davidson, Kyle Gardner, Jonathan Neilson, Jamuna Paudel, Agnes Murphy, Benoit Bizimungu, Dennis Halterman, and Lehmann Nielson Kare
11:00 p.m.  Molecular Determinants of Resistance to *Verticillium dahliae*
(77)  Kumar, Arun, Shelley Jansky, Jeffrey B. Endelman, and Dennis Halterman

11:15 p.m.  Analysis of QTL for Resistance to Potato Wart Disease in the Canadian Potato Germplasm
(78)  Bizimungu, Benoit, Jiazheng Yuan, Agnes Murphy, and Umesh Rosyara

11:30 p.m.  Identification of Factors Involved in Foliar Resistance to Bacteria in Potato
(79)  Halterman, Dennis, Pramita Basnal, and Shelley Jansky

11:45 p.m.  Concurrent Session I Adjourns

8:15 a.m. – 12:00 p.m.  CONCURRENT SESSION II – Extension, Production, and Management II and Physiology II

Moderator:  Brad Geary

*Extension, Production & Management II*

8:15 a.m.  Potato Soil Microbial Community Analysis Pre and Post-Fumigation
(92)  Geary, Brad, Trevor Smart, Noah Rosenzweig, Brenda Schroeder, Jeff Miller, Andrew P. Robinson, Neil C. Gudmestad, Kenneth Frost, and Dennis Johnson

8:30 a.m.  Response of Three Colorado Potato Cultivars to Deficit Irrigation
(80)  Essah, Samuel Y., Allan Andales, Troy Bauder, and David G. Holm

8:45 a.m.  Effective In-Season Nutrient Management of Potato

9:00 a.m.  Yield and Storage Quality of Russet Burbank Potatoes following Manure Applications in Several Long-term Rotations
(82)  Frazier, Mary Jo., Nora Olsen, Amber Moore, and Megan Satterwhite

9:15 a.m.  Stopping a Freight Train: Alternative Vine Management Strategies for Early Fresh Market Potatoes
(83)  Lemke, Matthew, Jed Colquhoun, Daniel Heider, and Richard Rittmeyer

9:30 a.m.  The Effect of Harvest Timing on French Fry Textural Quality of Three Processing Potato Varieties
(84)  Waxman, Addie M., Jeff Stark, Nora Olsen, Joe Guenthner, Michael Thornton, and Richard Novy

9:45 a.m.  Storage Management of Hibernate by Innate®
(85)  Rasmussen, Jolyn R., Andrew Bell, and Sharianne Hart

10:00 a.m.  BREAK

Dakota Hall
10:30 a.m. Economic Impact of Zebra Chip in the Pacific Northwest
(86) Greenway, Gina A.

Physiology II

10:45 a.m. Occurrence of Spindle Tuber Like Malformation, in Seed-Potato Lots Associated with a Somatic Mutation in Tissue Culture
(87) Souza-Dias, José Alberto C., Marcelo Eiras, Claudio Roberto F. Fernandes, Carmelo Beloni, and Amy Charkowski

11:00 a.m. Effect of Different Ventilation Conditions on Tuber Weight Loss in Rio Grande Russet
(88) Emragi, Esam F., Michael P. Gray, and Sastry S. Jayanty

11:15 a.m. Some Physiological Alterations in Potato under CO2 Enrichment
(89) Lozoya-Saldaña, Hector and Deneb S. Medina

11:30 a.m. Suppression of the Vacuolar Invertase Gene Delays Senescent Sweetening in Chipping Potatoes
(90) Wiberley-Bradford, Amy E. and Paul C. Bethke

11:45 a.m. Wound Healing: Some of What We Have Discovered About this Critical and Complex Process
(91) Lulai, Ed C.

12:00 p.m. Concurrent Session II Adjourns

12:00 p.m. – 1:00 p.m. LUNCH Sterling and Crowne

12:00 p.m. – 1:00 p.m. Graduate Student Awards Committee Lunch Mezzanine I and II

12:00 p.m. – 5:00 p.m. Brewery Tour Meet at the lobby

1:30 p.m. – 4:00 p.m. PAA Business Meeting Embassy

6:00 p.m. – 7:00 p.m. PAA Awards Banquet Reception Sterling and Crowne

7:00 p.m. – 9:30 p.m. PAA Awards Banquet (Included in full and student registration) Sterling and Crowne

THURSDAY, July 27, 2017

Breakfast (On Your Own)

5:00 a.m. – 4:00 p.m. Fishing in Devil’s Lake Meet at the lobby
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<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tr>
<td>8:00 a.m. – 12:00 p.m.</td>
<td>NFPT Meeting</td>
<td>Mezzanine I and II</td>
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<tr>
<td>8:00 a.m. – 12:00 p.m.</td>
<td>Fargo Agricultural Tour</td>
<td>Meet at the lobby</td>
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<tr>
<td>8:00 a.m. – 4:00 p.m.</td>
<td>Headwaters Mississippi Tour</td>
<td>Meet at the lobby</td>
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