

## Delegate Program

### Sunday afternoon, August 9, 2009

1 - 5 pm Breeding and Genetics Workshop

### **Application of Genomic Resources to Potato Breeding**

### Monday morning, August 10, 2009

#### OPENING SESSION

Presiding: President Charles Brown

8:15 am WELCOME

Loretta Mikitzel, 2009 LAC Chair

The Honorable Brad Woodside, Mayor of Fredericton

Mr. James McKay, Deputy Minister of the New Brunswick Department of Agriculture and Aquaculture

#### Plant Protection SYMPOSIUM 2009

### **Alternative methods of controlling pests and diseases**

8:45 am Introduction to alternative pest control  
Leslie Wanner, USDA/ARS, Beltsville, MD, USA.

8:55 am **Managing soil-borne diseases of potatoes and other crops using ecologically based approaches**

(001) George Lazarovits, Agriculture & Agri-Food Canada, Southern Crop Protection & Food Research Center, London, ON, Canada.

9:30 am **Alternative methods insect pest control on potato**

(002) Gilles Boiteau, Agriculture & Agri-Food Canada, Potato Research Centre, Fredericton, NB, Canada.

10:05 am BREAK

10:35 am **Weed control without herbicides**

(003) Rick Boydston, USDA-ARS, Prosser, WA, USA.

11:15 am **Commercial potato production using alternative methods of pest and disease control**

(004) Peter vanderZaag, SunRISE Produce, Alliston, ON, Canada.

11:50 am **Discussion:** Future directions in alternative pest control: Where are we headed and how quickly?

George Lazarovits, Agriculture & Agri-Food Canada, Southern Crop Protection & Food Research Center, London, ON, Canada.

12:00 pm LUNCH

**Monday afternoon, August 10, 2009**

**CONCURRENT SESSION - Plant Protection I**

1:15 pm **Adequate and high nitrogen represses infection severity of *Colletotrichum coccodes* in Russet Burbank potato roots**

(005) Geary, B. Morton, J. Blaisdell, B. Johnson, D.A. Hopkins, B.G. and Jolley, V.D. Brigham Young University, Provo, UT, USA.

1:30 pm **Corky ringspot disease of potato control in Michigan**

(006) Bird, G., W. Kirk and L. Wernette, Departments of Entomology and Plant Pathology, Michigan State University, East Lansing, MI, USA.

1:45 pm **Determining a fast-reacting, sensitive and reliable indicator for potato tuber ringspot necrosis symptoms caused by PVY<sup>NTN</sup> isolates**

(007) Singh, Rudra P.<sup>1</sup>, Andrea Dilworth<sup>1</sup>, Mathuresh Singh<sup>2</sup>, Andrew Sullivan<sup>3</sup>  
<sup>1</sup>Agriculture and Agri-Food Canada, Potato Research Centre, Fredericton, NB, Canada; <sup>2</sup>Agricultural Certification Services, Fredericton, NB, Canada; <sup>3</sup>Department of Agriculture and Aquaculture, Plant Propagation Center, Fredericton, NB, Canada.

2:00 pm **Potato virus Y distribution in hairy nightshade and potato upon aphid inoculation**

(008) Alvarez, Juan Manuel and Felix Cervantes, Aberdeen R&E Center, University of Idaho, ID, USA.

2:15 pm **Resistance of the Colorado potato beetle to insecticides: recent results**

(009) Pelletier, Y. and J. Zhang. Potato Research Centre, Agriculture and Agri-Food Canada, Fredericton, NB, Canada.

2:30 pm **Leafhopper incidence in Alaska potatoes: Do we need management tactics?**

(010) Pantoja, Alberto<sup>1</sup>, Aaron M. Hagerty<sup>1</sup>, Susan Y. Emmert<sup>1</sup> and Joseph Munyaneza<sup>2</sup>. <sup>1</sup>United States Department of Agriculture, Agricultural Research Service, Fairbanks, AK, USA; <sup>2</sup>United States Department of Agriculture, Agricultural Research Service, Yakima Agricultural Research Laboratory, Wapato WA, USA.

2:45 pm **The characterization of *Solanum chomatophilum* resistance mechanism to aphid potato pests**

(011) Pompon, Julien<sup>1,2</sup>, Dan Quiring<sup>2</sup>, Philippe Giordanengo<sup>3</sup> & Yvan Pelletier<sup>1</sup>.  
<sup>1</sup>Potato Research Centre, AFFC, Fredericton, NB, Canada; <sup>2</sup>University of New Brunswick, Fredericton, NB, Canada; <sup>3</sup>Université d'Amiens, France.  
(*Frank L Haynes Graduate Student Research Competition*)

3:00 pm BREAK

**Monday afternoon, August 10, 2009**

## CONCURRENT SESSION – Breeding and Genetics I

- 1:15 pm **Total anthocyanins, total carotenoids, hydrophilic- and lipophilic-ORAC levels in diverse clones and breeding lines over six field environments**  
(012) Brown, C.R.<sup>1</sup>, B. Charlton<sup>2</sup>, S. James<sup>3</sup>, M. I. Vales<sup>4</sup> and Jeff Stark<sup>5</sup>.  
<sup>1</sup>USDA/ARS, Prosser, WA, USA; <sup>2</sup>Klamath Experiment Station; <sup>3</sup>Central Oregon Experiment Station; <sup>4</sup>Crop Science, Oregon State University, Corvallis, OR, USA; <sup>5</sup>Aberdeen Research and Extension Center, University of Idaho, Aberdeen, ID, USA.
- 1:30 pm **Developing thousands of SNP markers for cultivated potato**  
(013) De Jong, W.S., Douches, D.S., Francis, D., Van Deynze, A., Buell, R., Mueller, L. Cornell University, Department of Plant Breeding and Genetics, Ithaca, NY, USA (representing the SolCAP project; solcap.msu.edu).
- 1:45 pm **Elucidating the molecular determinants of broad-spectrum late blight resistance**  
(014) Halterman, Dennis, USDA/ARS, Dept. of Plant Pathology, University of Wisconsin-Madison, Madison, WI, USA.
- 2:00 pm **Evaluation of *CBF1* transgenic potatoes**  
(015) Nichol NL, K Zarka, J Coombs, DS Douches. Michigan State University, Department of Crop and Soil Science, East Lansing, MI, USA.  
(*Frank L Haynes Graduate Student Research Competition*)
- 2:15 pm **Characterization of an activation-tagged potato mutant with chocolate colored tubers and the potential role for a MYB transcription factor**  
(016) Duguay, J.L.<sup>1</sup>, Dorion, S.<sup>2</sup>, Auslender, E.<sup>2</sup>, Gustafson, V.<sup>3</sup>, Rivoal, J.<sup>2</sup>, Tai, H.<sup>4</sup>, Pelletier, Y.<sup>4</sup>, De Koeyer, D.<sup>4</sup>, and S. Regan<sup>1</sup>. <sup>1</sup>Biology Department, Queen's University, Kingston, ON, Canada; <sup>2</sup>IRBV, Université de Montréal, QC, Canada; <sup>3</sup>BioAtlantech, Fredericton, NB, Canada; <sup>4</sup>Potato Research Center, Fredericton, NB Canada.  
(*Frank L Haynes Graduate Student Research Competition*)
- 2:30 pm **Drought tolerance in potato clones selected under irrigation**  
(017) Bizimungu, B. Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, AB, Canada.
- 2:45 pm **Germplasm panel for SolCAP: Linking phenotypic and genotypic data for trait mapping**  
(018) Douches, D.S., W. De Jong, R. Novy, S. Jansky, C. Thill, C. Yenko, I. Vales, K. Haynes, D. Spooner, P. Bethke, J. Sowokinos. (Lead Institution)  
Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI, USA.
- 3:00 BREAK

**Monday afternoon, August 10, 2009**

**CONCURRENT SESSION – Plant Protection II**

3:30 pm **Evaluation of potato clones for resistance to late blight (*Phytophthora infestans* (Mont) de Bary), in Chapingo, México**

(019) Lozoya-Saldaña H.<sup>1</sup>, J. Whitworth<sup>2</sup>, and C.R. Belmar-Díaz<sup>3</sup>. <sup>1</sup>Department of Plant Sciences (Fitotecnia), Autonomous University of Chapingo, Chapingo, México, 56230; <sup>2</sup>ARS-USDA, Aberdeen, ID, USA; <sup>3</sup>Autonomous University of the State of México, Toluca, México.

3:45 pm **Assessments on the rate of degradation of two late blight fungicides (chlorothalonil and mancozeb) on Russet Burbank potato leaves**

(020) Coffin R.<sup>1</sup>, W. Hardy<sup>1</sup>, S. Veenhuis-MacNeill<sup>1</sup>, T. Hamill<sup>1</sup>, G. Donald<sup>1</sup>, D. Dawson<sup>1</sup>, R. Peters<sup>2</sup>, H. Platt<sup>2</sup>, G. Wang-Pruski<sup>3</sup>, S. Lim<sup>3</sup>, K. Al-Mughrabi<sup>4</sup>, T. Smith<sup>5</sup> and K. Broad<sup>5</sup>. <sup>1</sup>Cavendish Farms, Summerside, PE, Canada; <sup>2</sup>AAFC, Charlottetown, PEI, Canada; <sup>3</sup>NSAC, Truro, NS, Canada; <sup>4</sup>NB Agr., Wicklow, NB, Canada; <sup>5</sup>RPC Labs, Fredericton, NB, Canada.

4:00 pm **Foliar application of phosphorous acid in conjunction with reduced rates of a protectant fungicide for control of potato late blight and pink rot**

(021) Peters, R.D.<sup>1</sup>, R.H. Coffin<sup>2</sup>, H.W. Platt<sup>1</sup>, G. Wang-Pruski<sup>3</sup>, K.I. Al-Mughrabi<sup>4</sup>, I. Macdonald<sup>1</sup>, K. Drake<sup>1</sup>, W. Hardy<sup>2</sup>, S. Veenhuis-MacNeill<sup>2</sup>, T. Hamill<sup>2</sup> and S. Lim<sup>3</sup>. <sup>1</sup>AAFC, Charlottetown, PE, Canada; <sup>2</sup>Cavendish Farms, Summerside, PE Canada; <sup>3</sup>NSAC, Truro, NS, Canada; <sup>4</sup>NB Dept. of Agriculture and Aquaculture, Wicklow, NB, Canada.

4:15 pm **Protein profiling of potato leaf tissues to determine mechanisms of disease suppression following applications of phosphorous acid for late blight control in potatoes**

(022) Lim, S.<sup>1</sup>, G. Wang-Pruski<sup>1</sup>, D. Pinto<sup>2</sup>, R.H. Coffin<sup>3</sup>, K.I. Al-Mughrabi<sup>4</sup>, R.D. Peters<sup>5</sup>, H.W. Platt<sup>5</sup>, I. Macdonald<sup>5</sup>, K. Drake<sup>5</sup>, W. Hardy<sup>3</sup>, S. Veenhuis-MacNeill<sup>3</sup>, T. Hamill<sup>3</sup>. <sup>1</sup>Nova Scotia Agricultural College, Truro, NS, Canada; <sup>2</sup>National Research Council-IMB, Halifax, NS, Canada; <sup>3</sup>Cavendish Farms, Summerside, PE, Canada; <sup>4</sup>New Brunswick Department of Agriculture and Aquaculture, Wicklow, NB, Canada; <sup>5</sup>Agriculture and Agri-Food Canada, Charlottetown, PE, Canada.

*(Frank L Haynes Graduate Student Research Competition)*

4:30 pm **Tolerance of potato mini-tubers to PRE and POST herbicide applications**

(023) Glaspie, C. F., W. J. Everman, C. Long and A. J. Chomas. Michigan State University Department of Crop and Soil Sciences, East Lansing, MI, USA.  
*(Frank L Haynes Graduate Student Research Competition)*

4:45 pm **Plant essential oils alone or in combination with aluminum starch octenylsuccinate suppress potato storage pathogens**

(024) Al-Mughrabi, Khalil I<sup>1</sup>, Appanna Vikram<sup>1</sup>, Warren K. Coleman<sup>2</sup>, and René Poirier<sup>1</sup>. <sup>1</sup>Potato Development Centre, Department of Agriculture and

Aquaculture, Wicklow, NB, Canada; <sup>2</sup>Potato Research Centre, Agriculture and Agri-Food Canada, Fredericton, NB, Canada.

**Monday afternoon, August 10, 2009**

**CONCURRENT SESSION – Production and Management I**

3:30 pm **Wood ash, a liming and nutrient source for potato production systems**  
(025) Porter, GA and PC Ocaya, Department of Plant, Soil & Environmental Sciences, University of Maine, Orono, ME, USA.

3:45 pm **Evaluation of alternative fertilizer programs and potato varieties for northeast Florida potato production**  
(026) Chen ZW and CM Hutchinson. University of Florida. Department of Horticultural Sciences, Gainesville, FL, USA.  
(*Frank L Haynes Graduate Student Research Competition*)

4:00 pm **Growth promotion and yield increase of potatoes by new stimulus control technology #3**  
(027) Hayashi, T<sup>1</sup>, M Thornton<sup>2</sup>, M Pavek<sup>3</sup>, P Nolte<sup>4</sup>, N Olsen<sup>5</sup>, T Suzuki<sup>1</sup>, H Mizushima<sup>1</sup>. <sup>1</sup>Kao Corporation, 1334 Minato Wakayama, JAPAN; <sup>2</sup>University of Idaho Parma, ID, USA; <sup>3</sup>Washington State University, Dept of Hort & LA, Pullman, WA, USA; <sup>4</sup>University of Idaho, Idaho Falls, ID, USA; <sup>5</sup>University of Idaho, Twin Falls, ID, USA.

4:15 pm **Seasonal bulking patterns of four potato cultivars in east Idaho**  
(028) Bohl, W.H.<sup>1</sup>, S.L. Love<sup>2</sup>, and T. Salaiz<sup>2</sup>. University of Idaho, <sup>1</sup>Blackfoot, ID, USA; <sup>2</sup>Aberdeen, ID, USA.

4:30 pm **Interactive effects of compost tea, fungicide application, and nitrogen rate on the performance of two potato cultivars**  
(029) Essah, S.Y.C., R.D. Davidson, A. Houser and D.G. Holm. Colorado State Univ., San Luis Valley Research Center, CO, USA.

4:45 pm **Application of polymer-coated urea (ESN) in potato production in southern Alberta**  
(030) Konschuh, Michele, Ross McKenzie and Francis Zvomuya. Alberta Agriculture and Rural Development, Crop Diversification Centre South, Brooks, AB, Canada.

**Tuesday morning, August 11, 2009**

**CONCURRENT SESSION – Breeding and Genetics II**

8:00 am **Tomato translation initiation factor 4E (eIF4E) over-expression to obtain resistance to PVY in susceptible potato varieties**  
(031) D. Zarka<sup>1</sup>, K. Zarka<sup>1</sup>, D. Douches<sup>1</sup> and J. Whitworth<sup>2</sup>. <sup>1</sup>Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI, USA; <sup>2</sup>USDA, ARS, Aberdeen, ID, USA.

- 8:15 am **Characterization of UDP-Glucose pyrophosphorylase isozymes and acid invertase activity in potato and their relationship to cold-induced-sweetening within potato market classes**
- (032) Novy, R.G.<sup>1</sup>, S. K. Gupta<sup>2</sup>, M. Glynn<sup>3</sup>, and J.R. Sowokinos<sup>4</sup>. <sup>1</sup>USDA-ARS, Small Grains and Potato Germplasm Research Unit, Aberdeen, ID, USA; <sup>2</sup>Department of Plant, Soil, and Entomological Sciences, University of Idaho, Kimberly ID, USA; <sup>3</sup>USDA-ARS Potato Research Worksite, East Grand Forks, MN, USA; <sup>4</sup>Department of Horticultural Science, University of Minnesota, St. Paul, MN, USA.
- 8:30 am **Impact of seedling transplant selection on the genetic diversity of genebank populations of outcrossing potato species**
- (033) del Rio, A. H.<sup>1</sup> and J.B. Bamberg<sup>2</sup> <sup>1</sup>University of Wisconsin-Madison, Dept. of Horticulture, Madison, WI, USA; <sup>2</sup>US Potato Genebank, Sturgeon Bay, WI, USA.
- 8:45 am **Premier Russet: A source of strain-specific resistance to potato virus Y (PVY)**
- (034) Ortega, J., S Yilma and MI Vales. Oregon State University, Dept. of Crop and Soil Science, Corvallis, OR, USA.  
(*Frank L Haynes Graduate Student Research Competition*)
- 9:00 am **Cloning and characterization of a late blight resistance gene (*Rpi-bt1*) and other resistance gene analogs from *Solanum bulbocastanum***
- (035) McCue, K.F.<sup>1</sup>, T. Oosumi<sup>2</sup>, D.R. Rockhold<sup>1</sup>, K.L. Deahl<sup>3</sup> and W.R. Belknap<sup>1</sup>. <sup>1</sup>USDA-ARS, Crop Improvement and Utilization Research Unit, Albany, CA, USA; <sup>2</sup>J.R. Simplot Company, Simplot Plant Sciences, Boise, ID, USA; <sup>3</sup>USDA-ARS, PSI Vegetable Laboratory, Beltsville, MD, USA.
- 9:15 am **Discussion on somagenetic and epigenetic aspects of potato cultivar conservation and propagation**
- (036) Li, X.Q. Potato Research Centre, Agriculture and Agri-Food Canada, Fredericton, NB, Canada.
- 9:30 am **Marker-assisted selection for potato lines with golden nematode resistance using a high-resolution DNA melting assay**
- (037) Murphy<sup>1</sup>, A., D. De Koeyer<sup>1</sup>, S.Wood<sup>2</sup>, K.Douglass<sup>1</sup>, T.Dalton<sup>1</sup>, D.Wilson<sup>1</sup>, and G. Bélair<sup>3</sup>. <sup>1</sup>AAFC, Fredericton, NB, Canada, <sup>2</sup>CFIA, St. John's, NL, Canada; <sup>3</sup>AAFC, Saint-Jean-sur-Richelieu, QC, Canada.
- 9:45 am **Molecular breeding for potato leafroll virus (PLRV) resistance will be facilitated by a PCR-based marker closely linked to high levels of resistance in *S. tuberosum* ssp. *andigena***
- (038) Mihovilovich E., A Velásquez , M Aponte, and M. Bonierbale. International Potato Center (CIP), Lima 12, Perú.

10:00 am BREAK

**Tuesday morning, August 11, 2009**

**CONCURRENT SESSION – Utilization and Marketing**

8:15 am **The BioPotato Network – A new network for research on potato-based bioproducts**

(039) Tai, H. and Pelletier, Y. Agriculture and Agri-Food Canada, Potato Research Centre, Fredericton, NB, Canada.

8:30 am **Forecasting organic potato demand**

(040) Greenway, Gina,<sup>1</sup> Guenther, Joe,<sup>1</sup> Makus, Larry,<sup>1</sup> and Pavek, Mark,<sup>2</sup>  
<sup>1</sup>Department of Agricultural Economics & Rural Sociology, University of Idaho, Moscow ID, USA, <sup>2</sup>Department of Horticulture, Washington State University, Pullman, WA, USA.  
*(Frank L Haynes Graduate Student Research Competition)*

8:45 am **What's happening with PVMI?**

(041) Debons, J., PVMI Bend, OR.

**Tuesday morning, August 11, 2009**

**CONCURRENT SESSION – Physiology**

9:00 am **Comparative effects of triazole and suicide substrate inhibitors on ABA-8'-hydroxylase enzyme activity and endogenous ABA content of potato tubers**

(042) Suttle, JC<sup>1</sup> and SR Abrams<sup>2</sup>.<sup>1</sup>USDA-ARS Northern Crop Science Lab, Fargo, ND, USA; <sup>2</sup>Plant Biotechnology Institute, NRC Canada, Saskatoon, SK, Canada.

9:15 am **The effect of vine kill and harvest date on tuber skin set, respiration rate and tuber sugars**

(043) Bethke Paul C. and James S. Busse, USDA ARS and University of Wisconsin, Madison, WI, USA.

9:30 am **Dehydroascorbate reductase and its function in ascorbate synthesis and recycling in potato tubers**

(044) Sivaramakrishnan, V.P<sup>1</sup>, G. Wang-Pruski<sup>1</sup>, and D.M. Hodges<sup>2</sup>. <sup>1</sup>Nova Scotia Agricultural College, Truro, NS, Canada; <sup>2</sup>Agriculture and Agri-Food Canada, Kentville, NS, Canada.  
*(Frank L Haynes Graduate Student Research Competition)*

9:45 am **Darkening of fry colour in response to CO<sub>2</sub> + ethylene is dose-related**

(045) Daniels-Lake, B.J. and R.K.Prange, Agriculture and Agri-Food Canada, Atlantic Food and Horticulture Research Centre, Kentville, NS, Canada.

10:00 am BREAK

**Tuesday morning, August 11, 2009**

**CONCURRENT SESSION –Plant Protection III**

10:30 am **Development of early and late blight under different cropping systems and irrigation management**

- (046) Olanya, O.M.<sup>1</sup>, C.W. Honeycutt<sup>1</sup>, R.P. Larkin<sup>1</sup>, T.S. Griffin<sup>2</sup>, Z. He<sup>1</sup> and J. Halloran<sup>1</sup>. <sup>1</sup>U.S. Department of Agriculture, Agricultural Research Service; New England Plant, Soil and Water Laboratory; Orono, ME, USA; <sup>2</sup>Tufts University; Boston, MA, USA.

10:45 am **Low pH and calcium levels increase infection severity of *Phytophthora erythroseptica* in Russet Norkotah potato roots**

- (047) Geary, B., Benson, J. Hopkins, B.G. Jolley, V.D. Miller, J.S. and Stevens, M.R. Brigham Young University, Provo, UT, USA.

11:00 am **Development of a detection method for potato wart fungus, *Synchytrium endobioticum*, using surface plasmon resonance and molecular probes**

- (048) Bratcher, A.R. and Connell, L.B. University of Maine, Orono, ME, USA.  
(*Frank L Haynes Graduate Student Research Competition*)

11:15 am **Development of a field-deployable bioassay based on gold nanoparticle aggregation for the detection of potato wart fungus, *Synchytrium endobioticum***

- (049) Duy, J. and Connell, L.B. University of Maine, Orono, ME, USA.  
(*Frank L Haynes Graduate Student Research Competition*)

11:30 am **Comparison of two evaluation techniques for assessing susceptibility of potato genotypes to *Phytophthora erythroseptica***

- (050) Fitzpatrick Peabody, E.<sup>1</sup> and D.H. Lambert<sup>2</sup>. <sup>1</sup>McCain Foods USA, Inc., Easton, ME, USA; <sup>2</sup>University of Maine, Department of Plant, Soil, and Environmental Sciences, Orono, ME, USA.

11:45 am **Local and regional diversity in *Streptomyces* species causing common scab in North America**

- (051) Wanner, LA, USDA/ARS Genetic Improvement of Fruit and Vegetables Laboratory, Beltsville, MD, USA.

12:00 pm LUNCH

**Tuesday morning, August 11, 2009**

**CONCURRENT SESSION –Production and Management II**

10:30 am **Maximizing greenhouse-grown minituber yields using controlled release fertilizers**

- (052) Hughes, Becky R. and Candy N. F. Keith, New Liskeard Agricultural Research Station, University of Guelph, New Liskeard, ON Canada.

10:45 am **Effects of rate and timing of maleic hydrazide on sprout development of Russet Burbank in storage**

(053) Olsen, N., L. Woodell and M.J. Frazier, University of Idaho, Twin Falls, ID, USA.

11:00 am **Canada-Brazil: Export/import evaluation of sprouts for seed-potato minituber production**

(054) Souza-Dias, J.A.C de<sup>1</sup>, B. Daniels-Lake<sup>2</sup>, L.J. Mikitze<sup>3</sup>, C.M. Meo<sup>4</sup>, S.Bley<sup>5</sup>, K. Schoemaker<sup>6</sup>, S.M.Borges<sup>7</sup>. <sup>1</sup>APTA/IAC/ CPDFitossanidade, 13020-902 – Campinas, SP (Brazil), <sup>2</sup> Agriculture Canada, Kentville, NS, Canda; <sup>3</sup>- NB Agric&Aquac. Wicklow NB, Canada; <sup>4</sup>NPiccin M&S, SP; <sup>5</sup>Werhmann Agr., GO ; <sup>6</sup>Terra Viva Agr., MG ; <sup>7</sup>S.Soczek Agr., PR.

11:15 am **Response of a Russet potato cultivar to phosphorus and seed spacing management**

(055) Essah, S.Y.C., R.D. Davidson, and D.G. Holm. Colorado State Univ., San Luis Valley Res. Center, CO, USA.

11:30 am **The role of disease-suppressive rotation crops in the management of soilborne potato diseases**

(056) Larkin, R., W. Honeycutt, M Olanya, R. Lynch, and T. Griffin. USDA-ARS New England Plant, Soil, and Water Laboratory; Orono, ME, USA.

11:45 am **Effect of the preceding crop on nitrous oxide emissions during the potato year in two-year potato rotations**

(057) Snowdon, Emily<sup>1</sup>, Bernie Zebarth<sup>2</sup>, David Burton<sup>1</sup>, Jack Trevors<sup>3</sup> and Claudia Goyer<sup>2</sup>. <sup>1</sup>Nova Scotia Agricultural College, Truro, NS, Canada; <sup>2</sup>Potato Research Centre, Agriculture and Agri-Food Canada, Fredericton, NB, Canada; <sup>3</sup>University of Guelph, Guelph, ON, Canada.

12:00 pm LUNCH

**Tuesday afternoon, August 11, 2009**

**INTERNATIONAL PVY SYMPOSIUM**

Moderators: Mathuresh Singh, Agricultural Certification Services, Fredericton, NB  
James Crosslin, USDA-ARS, Prosser, WA

1:00 pm **PVY: An old enemy and a continuing challenge**

(058) James M. Crosslin, USDA-ARS, Prosser, WA, USA.

1:25 pm **Historical aspects of the potato virus Y nomenclature**

(059) Rudra P. Singh, Agriculture and Agri-Food Canada, Fredericton, NB, Canada.

1:50 pm **Recent research progresses on potato virus Y in Canada**

(060) Xianzhou Nie, Potato Research Centre, Agriculture and Agri-Food Canada, Fredericton, NB, Canada.

- 2:15 pm **The seed potato inspection and virus research in China**  
 (061) Yanju Bai, Supervision and Testing Center for Virus-free Seed Potatoes  
 Quality of Ministry of Agriculture, Harbin, P. R. China.
- 2:40 pm BREAK
- 3:10 pm **Sequencing the North American collection of potato virus Y isolates:  
 Applications to identification of disease determinants and strain  
 differentiation**  
 (062) Alexander V. Karasev, University of Idaho, Moscow, Idaho, USA.
- 3:35 pm **Sources and effectiveness of PVY resistance in IHAR's breeding research**  
 (063) Ewa Zimnoch-Guzowska, Plant Breeding and Acclimatization Institute  
 (IHAR), 05-831 Mlochów, Platanowa 19, Poland.
- 4:00 pm **Overexpression of pepper eIF4E allele pvr1<sup>2</sup> confers broad spectrum  
 resistance to potato virus Y in potato**  
 (064) Kari W. Perez, Department of Plant Breeding and Genetics, College of  
 Agriculture and Life Sciences, Cornell University, Ithaca, NY, USA.
- 4: 25 pm **Controlling PVY in seed: What works and what doesn't**  
 (065) Rob D. Davidson, San Luis Valley Research Center, Colorado State  
 University, Center, Colorado, USA.

**Tuesday afternoon, August 11, 2009**

**POSTER SESSION**

5:30-7:30 pm

BREEDING AND GENETICS

- (091) **Results of the 2007 national common scab trials of potato varieties and  
 advanced selections**  
Haynes, K.G.<sup>1</sup>, L.A. Wanner<sup>1</sup>, C.A. Thill<sup>2a</sup>, J.M. Bradeen<sup>2b</sup>, J. Miller<sup>2a</sup>, R.G.  
 Novy<sup>3</sup>, and J.L. Whitworth<sup>3</sup>. <sup>1</sup>USDA/ARS, Genetic Improvement of Fruits and  
 Vegetables Laboratory, Beltsville, MD, USA; <sup>2</sup> Univ. of Minnesota, <sup>a</sup>Dept. of  
 Horticultural Science, <sup>b</sup>Dept. of Plant Pathology, St. Paul, MN, USA;  
<sup>3</sup>USDA/ARS, Aberdeen Research and Extension Center, Aberdeen, ID, USA.
- (092) **Agreement between selectors at seven eastern U.S. locations in the second  
 field generation**  
Haynes, K.G.<sup>1</sup>, C.M. Hutchinson<sup>2</sup>, R.L. Hassell<sup>3</sup>, G.C. Yencho<sup>4</sup>, M.E. Clough<sup>4</sup>,  
 M.R. Henninger<sup>5</sup>, D.E. Halseth<sup>6</sup>, E.R. Sandsted<sup>6</sup>, G.A. Porter<sup>7</sup>, and P.C.  
 Ocaya<sup>7</sup>. <sup>1</sup>USDA/ARS, Beltsville, MD, USA; <sup>2</sup>University of Florida,  
 Gainesville, FL, USA; <sup>3</sup>Clemson University, Charleston, S, USA; <sup>4</sup>North  
 Carolina State University, Raleigh NC, USA; <sup>5</sup>Rutgers University, New

Brunswick, NJ, USA; <sup>6</sup>Cornell University, Ithaca, NY, USA; <sup>7</sup>University of Maine, Orono, ME, USA.

- (093) **Resistance to late blight in potato clones evaluated at five U.S. locations in 2008**  
Haynes, K.G.<sup>1</sup>, C.A. Thill<sup>2</sup>, J.M. Bradeen<sup>2</sup>, G.A. Secor<sup>3</sup>, M.I. Vales<sup>4</sup>, B.J. Christ<sup>5</sup>, and D.S. Douches<sup>6</sup>. <sup>1</sup>USDA/ARS, Beltsville, MD, USA; <sup>2</sup>University of Minnesota, St. Paul, MN, USA; <sup>3</sup>North Dakota State University, Fargo, ND, USA; <sup>4</sup>Oregon State University, Corvallis, OR, USA; <sup>5</sup>The Pennsylvania State University, University Park, PA, USA; <sup>6</sup>Michigan State University, East Lansing, MI, USA.
- (094) **Translating Solanaceae sequence diversity and trait variation into applied outcomes through integrative research, education, and extension**  
Douches, D.S., C. R. Buell, W. de Jong, D. Francis, L. Mueller, A. Stone, A. Van Deynze. (Lead Institution) Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI, USA.
- (095) **Selfing potato species produce robust spontaneous field seed increases under floating mesh**  
Bamberg, J.B. and A.H. del Rio. US Potato Genebank, Sturgeon Bay, WI, USA.
- (096) **Genetic diversity of potato varieties and advanced clones from the Pacific NW Tri-State program**  
Karaagac E., S. Yilma and M.I. Vales. Oregon State University, Dept. of Crop and Soil Science, Corvallis, OR, USA.
- (097) **Starch granule size, cooking texture quality and chip color of potato cultivars**  
Li, X.Q.<sup>1</sup>, A. Murphy<sup>1</sup>, J.C. Zhang<sup>1,2</sup>, M. Haroon<sup>1</sup>, D. LeBlanc<sup>1</sup>, S.N. Luo<sup>1,3</sup>, Q. Liu<sup>4</sup>, B. Bizimungu<sup>5</sup>, X.Y. Xiong<sup>3</sup>, G.S. Liu<sup>2</sup>, and Y. Leclerc<sup>6</sup>. <sup>1</sup>Potato Research Centre, Agriculture and Agri-Food Canada, Fredericton, NB, Canada; <sup>2</sup>Institute of Botany, Chinese Academy of Sciences, 100093 Beijing, P. R. China; <sup>3</sup>Horticulture Department, Hunan Agriculture University, Changsha, China; <sup>4</sup>Guelph Food Research Centre, Guelph, ON, Canada; <sup>5</sup>Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada; <sup>6</sup>McCain Foods Canada Ltd., Florenceville, NB, Canada.

#### PRODUCTION AND MANAGEMENT

- (098) **Effect of potato rotations on soil quality in Manitoba**  
Alan Moulin<sup>1</sup>, Ramona Mohr<sup>1</sup>, Debbie McLaren<sup>1</sup>, Dale Tomasiewicz<sup>2</sup>, Karl Volkmar<sup>3</sup>, Byron Irvine<sup>1</sup>, Mohammad Khakbazan<sup>1</sup>, Marcia Monreal<sup>1</sup>, Curtis Cavers<sup>2</sup>. <sup>1</sup>Agriculture and Agri-Food Canada, Brandon Research Centre, Brandon, MB, Canada; <sup>2</sup>Canada-Manitoba Crop Diversification Centre,

Carberry, MB, Canada; <sup>3</sup>Agriculture and Agri-Food Canada, Southern Crop Protection and Food Research Centre, London, ON, Canada.

(099) **Impact of crop rotation in irrigated potato systems on diseases of potato in Manitoba**

McLaren, D.<sup>1</sup>, R. Mohr<sup>1</sup>, D. Tomaszewicz<sup>2</sup>, K. Volkmar<sup>3</sup>, D. Derksen<sup>1</sup>, B. Irvine<sup>1</sup>, M. Khakbazan<sup>1</sup>, M. Monreal<sup>1</sup>, A. Moulin<sup>1</sup> and C. Cavers<sup>2</sup>. <sup>1</sup>Agriculture and Agri-Food Canada, Brandon Research Centre, Brandon, MB, Canada; <sup>2</sup>Canada-Manitoba Crop Diversification Centre, Carberry, MB, Canada; <sup>3</sup>Agriculture and Agri-Food Canada, Southern Crop Protection and Food Research Centre, London, ON, Canada.

(100) **Effect of crop rotation on the yield of irrigated Russet Burbank potato in Manitoba, Canada**

Mohr, R.<sup>1</sup>, K. Volkmar<sup>2</sup>, D. Tomaszewicz<sup>3</sup>, D. Derksen<sup>1</sup>, B. Irvine<sup>1</sup>, M. Khakbazan<sup>1</sup>, D. McLaren<sup>1</sup>, M. Monreal<sup>1</sup>, A. Moulin<sup>1</sup> and C. Cavers<sup>3</sup>. <sup>1</sup>Agriculture and Agri-Food Canada – Brandon Research Centre, Brandon, MB Canada; <sup>2</sup>Agriculture and Agri-Food Canada – Southern Crop Protection and Food Research Centre, London, ON, Canada; <sup>3</sup>Canada-Manitoba Crop Diversification Centre, Carberry, MB, Canada.

(101) **The economics of irrigated potato crop rotation in Manitoba**

Khakbazan, M<sup>1</sup>, R. Mohr<sup>1</sup>, K. Volkmar<sup>2</sup>, D. Tomaszewicz<sup>3</sup>, D. Derksen<sup>1</sup>, B. Irvine<sup>1</sup>, D. McLaren<sup>1</sup>, M. Monreal<sup>1</sup>, A. Moulin<sup>1</sup> and C. Cavers<sup>3</sup>. <sup>1</sup>Agriculture and Agri-Food Canada (AAFC) – Brandon Research Centre, Brandon, MB, Canada; <sup>2</sup>AAFC – Southern Crop Protection and Food Research Centre, London, ON, Canada; <sup>3</sup>Canada-Manitoba Crop Diversification Centre, Carberry, MB, Canada

(102) **Soil microbial communities in a potato rotation study**

Monreal, Marcia<sup>1</sup>, Ramona Mohr<sup>1</sup>, Debbie McLaren<sup>1</sup>, Dale Tomaszewicz<sup>2</sup>, Karl Volkmar<sup>3</sup>, Byron Irvine<sup>1</sup>, Mohammad Khakbazan<sup>1</sup>, Alan Moulin<sup>1</sup>, Curtis Cavers<sup>2</sup>. <sup>1</sup>Agriculture and Agri-Food Canada, Brandon Research Centre, Brandon, MB, Canada; <sup>2</sup>Canada-Manitoba Crop Diversification Centre, Carberry, MB, Canada; <sup>3</sup>AAFC Southern Crop Protection and Food Research Centre, London, ON, Canada.

(103) **Novel use of the standard bioindicator *Folsomia candida* to monitor agricultural soil health**

K. L. Nelson<sup>1</sup>, G. Boiteau<sup>2</sup>, D. H. Lynch<sup>1</sup>, R. D. Peters<sup>3</sup> and S. Fillmore<sup>4</sup>  
<sup>1</sup>Nova Scotia Agricultural College, Truro NS, Canada; <sup>2</sup>Agriculture and Agri-Food Canada, Potato Research Center, Fredericton, NB, Canada; <sup>3</sup>Agriculture and Agri-Food Canada, Charlottetown, PE, Canada; <sup>4</sup>Agriculture and Agri-Food Canada, Kentville NS, Canada.

(104) **Identifying constraints to potato productivity in the northeastern U.S.**

Honeycutt, C.W.<sup>1</sup>, T. Griffin<sup>2</sup>, R. Larkin<sup>1</sup>, M. Olanya<sup>1</sup>, Z. He<sup>1</sup>, and J. Halloran<sup>1</sup>. <sup>1</sup>U.S. Department of Agriculture, Agricultural Research Service; New England Plant, Soil, & Water Laboratory; Orono, ME, USA; <sup>2</sup>Tufts University; Boston, MA, USA.

- (105) **Earth Renew OM Plus as a source of nutrients for processing potato production**  
Konschuh, Michele and Simone Dalpe. Alberta Agriculture and Rural Development, Crop Diversification Centre South, Brooks, AB, Canada.
- (106) **Economic and environmental impacts of developmental timing of irrigation initiation in potato**  
Landry, C. and C. Boivin. IRDA, Québec, QC, Canada.
- (107) **Field and greenhouse performance of potato sprouts in Alaska**  
Kuhl, J.C.<sup>1</sup>, A.J. Pantoja<sup>1</sup>, J. Smeenk<sup>2</sup>, and W.L. Campbell<sup>3</sup>. <sup>1</sup>USDA-ARS, Fairbanks, AK, USA; <sup>2</sup>University of Alaska Fairbanks, Palmer, AK, USA; <sup>3</sup>Alaska Plant Materials Center, Palmer, AK, USA.
- (108) **Economic comparison of compost vs. irrigation in Maine potato production systems**  
Halloran, J.M.<sup>1</sup>, Honeycutt, C.W.<sup>1</sup>, T. Griffin<sup>2</sup>, R. Larkin<sup>1</sup>, M. Olanya<sup>1</sup>, and Z. He<sup>1</sup>. <sup>1</sup>U.S. Department of Agriculture, Agricultural Research Service; New England Plant, Soil, & Water Laboratory; Orono, ME, USA; <sup>2</sup>Tufts University; Boston, MA, USA.

#### PLANT PROTECTION

- (109) **Production of *Phytophthora infestans* oospores *in vivo* in callus cultures**  
Deahl, K. Vegetable Laboratory, USDA, ARS, Beltsville, M, USA.
- (110) **The status of the A2 mating type of *Phytophthora infestans* in Ireland**  
Cooke, L.R.<sup>1</sup>, S. Kildea<sup>2</sup>, D. Griffin<sup>2</sup>, L.J. Dowley<sup>2</sup> and K.L. Deahl<sup>3</sup>. <sup>1</sup>Agri-Food & Biosciences Institute, Newforge Lane, Belfast, UK; <sup>2</sup>Teagasc Crops Research Centre, Oak Park, Carlow, Ireland; <sup>3</sup>USDA, ARS, Vegetable Laboratory, Beltsville, MD, USA.
- (111) ***In vitro* and *in vivo* responses of Atlantic and Norchip potatoes to simultaneous exposure to various heat stress regimes and *Erwinia carotovora* mutants**  
Aziz, A. N., S. Kebe, C. K. Dumenyo and M. Jabar-Muhammad. Department of Agricultural Sciences, Tennessee State University, Nashville, TN, USA.
- (112) **Molecular characterization and detection of recombinant isolates of potato virus Y from China**

Xinxi Hu<sup>1,2</sup>, Changzheng He<sup>1</sup>, Ya Xiao<sup>1</sup>, Xingyao Xiong<sup>1</sup> and Xianzhou Nie<sup>2</sup>,  
<sup>1</sup>College of Horticulture and Landscape, Hunan Agricultural University,  
Changsha, Hunan, China 410128; <sup>2</sup>Potato Research Centre, Agriculture and  
Agri-Food Canada, Fredericton, New Brunswick, Canada.

- (113) **Herbicide damage symptomology on potatoes...Don't shoot the messenger!**  
Hutchinson, P.J.S. University of Idaho Aberdeen Research and Extension Center, Aberdeen, ID, USA.
- (114) **Screening of potato clones and cultivars for resistance to *Globodera rostochiensis* and *G. pallida* in Canada**  
Bélair, G.<sup>1</sup>, Simard, L.<sup>1</sup>, Turcotte, P.<sup>2</sup>, Murphy, A.<sup>3</sup> and Wood, S.<sup>4</sup>  
<sup>1</sup>Horticulture Research and Development Centre, Agriculture and Agri-Food Canada, St-Jean-sur-Richelieu, QC Canada; <sup>2</sup>Centre de recherche Les Buissons inc., Pointe-aux-Outardes, QC, Canada; <sup>3</sup>Potato Research Centre, Agriculture and Agri-Food Canada, Fredericton, NB, Canada; <sup>4</sup>Northwest Atlantic Fisheries Centre, Canadian Food Inspection Agency, St-John's, NL Canada.
- (115) **Characterization of feruloyltyramine trimers from potato common scab lesions**  
King, R.R.<sup>1</sup> and Calhoun, L.A.<sup>2</sup>. <sup>1</sup> Potato Research Centre, Agriculture and Agri-Food Canada, Fredericton, NB, Canada; <sup>2</sup>University of New Brunswick, Fredericton, NB, Canada.
- (116) **Host resistance to pink rot of potatoes caused by *Phytophthora erythroseptica***  
Platt, H.W. (Bud)<sup>1</sup>, A. Murphy<sup>2</sup> and V. MacLean<sup>2</sup>. Agriculture and Agri-Food Canada, <sup>1</sup>Crops and Livestock Research Centre, Charlottetown, PE, Canada; <sup>2</sup>Potato Research Centre, Fredericton, NB, Canada.
- (117) **Efficacy of insecticidal *Bacillus thuringiensis*  $\delta$ -endotoxins against potato tuber moth, *Phthorimaea operculella* Zeller (Lepidoptera: Gelechiidae)**  
Kashyap, Sonu<sup>1</sup>, S. K. Chakrabarti<sup>1</sup>, Prakash S. Naik<sup>1</sup> and D. C. Gautam<sup>2</sup>.  
<sup>1</sup>Central Potato Research Institute, Shimla 171 001 India; <sup>2</sup>Department of Biosciences, Himachal Pradesh University, Shimla 171 005 India.
- (118) **Analysis of complete genome and study of transmissibility of an Andean isolate of potato virus S (PVS) detected in Brazil**  
Figueira, A. R.; Geraldino, P. S; Galvino, S. B.; Camargos, V. N. Department of Plant Pathology, Federal University of Lavras, 37200-000- Lavras-MG- Brazil.
- (119) **Late blight forecasting as a test case for multi-regional, multi-scale forecasting cyberinfrastructure**  
Baker<sup>1</sup>, K.M., P.S. Wharton<sup>2\*</sup>, W.W. Kirk<sup>3</sup>, B. Plale<sup>4</sup>, I. Zaslavsky<sup>5</sup>. <sup>1</sup>Western

Michigan University, Kalamazoo, MI, USA; <sup>2</sup>University of Idaho, Aberdeen, ID, USA; <sup>3</sup>Michigan State University, East Lansing, MI, USA; <sup>4</sup>Indiana University, Bloomington, IN, USA; <sup>5</sup>University of California - San Diego, Supercomputer Center, San Diego, CA, USA.

(120) ***Streptomyces* species and pathotypes causing common scab in North America**

Wanner, L.A., USDA/ARS Genetic Improvement of Fruit and Vegetables Laboratory, Beltsville, MD, USA.

PHYSIOLOGY

(121) **From Salt Stress Resistance to Disease and Sprout Suppression Using Essential Oils-A Summary of Research Work**

Tanino, K.K., J. Shaterian, M. Etehadnia, X. Song, J. Pond, B. Nash, C. Neeser, D.R. Waterer, M. Bandara, J.Schoenau, J. Thomson, F. Georges, J. Wahab and H. De Jong. Department of Plant Sciences, University of Saskatchewan, Saskatoon, SK Canada.

**Thursday morning, August 13, 2009**

**CONCURRENT SESSION – Plant Protection IV**

8:15 am **Disease management in organic production of certified seed potatoes**

(066) Genger, R.K., Rouse, D.I., and A.O. Charkowski. Department of Plant Pathology, University of Wisconsin-Madison, Madison WI, USA.

8:30 am **Seed transmissible pospiviroids from ornamental plants potentially threatening seed potato production**

(067) Singh, Rudra P.<sup>1</sup>, Andrea Dilworth<sup>1</sup>, Mathuresh Singh<sup>2</sup>. <sup>1</sup>Agriculture and Agri-Food Canada, Potato Research Centre, Fredericton, NB, Canada; <sup>2</sup>Agricultural Certification Services, Fredericton, NB, Canada

8:45 am **Interception of two unknown potato viruses at the USDA-APHIS Plant Germplasm Quarantine Program**

(068) Abad, J. A., C. Loschinkohl, M. Smither, J. Pack, USDA APHIS PPQ PHP RIPPS, Plant Germplasm Quarantine Program, Beltsville, MD, USA.

9:00 am **Relationship among *Bactericera cockerelli* Sulc population, abnormal tuber sprouting, internal tuber discoloration and the presence of *Candidatus Liberibacter psyllae* in potato fields grown in Toluca, Mexico**

(069) Rubio-Covarrubias, Oswaldo A.<sup>1</sup>, I. H. Almeyda-León, R. Lobato-Sánchez and M. A. Cadena-Hinojosa. <sup>1</sup>National Institute for Forestry Agricultural and livestock Research (INIFAP), Conjunto SEDAGRO, Metepec Estado de Mexico.

9:15 am **Zebra chip, an emerging potato disease in North and Central America, is associated with the potato psyllid and *Candidatus Liberibacter***

(070) Munyaneza, J.E.<sup>1</sup> and J.M. Crosslin<sup>2</sup>. <sup>1</sup>USDA-ARS, Yakima Agricultural Research Laboratory, Wapato, WA, USA; <sup>2</sup>USDA-ARS, Vegetable and Forage Crops Research Unit, Prosser, WA, USA.

9:30 am **The effect of potato virus Y (PVY<sup>0</sup>) infection on yield and plant disease symptoms in five varieties of potatoes**

(071) Hardy, W.<sup>1</sup>, R. Coffin<sup>1</sup>, M. Crane<sup>1</sup>, M. Webber<sup>1</sup>, M. Singh<sup>2</sup> and R. Singh<sup>3</sup>. <sup>1</sup>Cavendish Farms, Summerside, PE, Canada; <sup>2</sup>Agr. Certification Services, Fredericton, NB, Canada, <sup>3</sup>AAFC, Fredericton, NB, Canada.

9:45 am **Presence of PVY<sup>N-Wi</sup> and NE-11 isolates of potato virus Y (PVY) in Brazil**

(072) Figueira, A.R., S. B.F Galvino, P. S. Geraldino, F. A. C Rabelo Filho, V. N. Camargos. Department of Plant Pathology, Federal University of Lavras, 37200-000-Lavras-MG-Brazil.

10:00 am BREAK

**Thursday morning, August 13, 2009**

**CONCURRENT SESSION – Breeding and Genetics III**

8:15 am **Characterization and mapping of the potato leafroll virus (PLRV) resistance gene, *Rlr<sub>etb</sub>*, derived from *Solanum etuberosum***

(073) Novy, R.G.<sup>1</sup>, J.L. Whitworth<sup>1</sup>, and K. Kelley<sup>2</sup>. <sup>1</sup>ARS, Small Grains and Potato Germplasm Research Unit, Aberdeen, ID, USA; <sup>2</sup>AgraServ, Inc., American Falls, ID, USA.

8:30 am **Chlorogenic acid in potatoes: Its functions for total antioxidant capacity and tuber quality**

(074) Wang-Pruski, G. Nova Scotia Agricultural College, Truro, NS, Canada.

8:45 am **Identification of quantitative trait loci for after-cooking darkening**

(075) De Koeper, D.<sup>1</sup>, K. Douglass<sup>1</sup>, A. Murphy<sup>1</sup>, L. Nolan<sup>2</sup>, and G. Wang-Pruski<sup>3</sup>. <sup>1</sup>Potato Research Centre, Agriculture and Agri-Food Canada, Fredericton, NB, Canada; <sup>2</sup>Faculty of Forestry and Environmental Management, University of New Brunswick, Fredericton, NB, Canada; <sup>3</sup>Department of Plant & Animal Sciences, Nova Scotia Agricultural College, Truro, NS, Canada.

9:00 am **The effects of overexpression of a calcium-binding peptide on yield, calcium content, and internal heat necrosis of ‘Atlantic’ potato**

(076) <sup>1</sup>McCord, P.H., G.C. Yench<sup>1</sup>, B.R. Sosinski<sup>1</sup>, and D. Robertson<sup>2</sup>. <sup>1</sup>North Carolina State University Department of Horticultural Science, Raleigh, NC, USA; <sup>2</sup>North Carolina State University Department of Plant Biology, Raleigh, NC, USA.

9:15 am **Gene activity profile and pathway selection for starch-sugar inter-conversion in cold stored and reconditioned potatoes**

(077) Li X.Q.<sup>1</sup>, C.A. Xu<sup>1</sup>, A. Haroon<sup>1</sup>, X. Liu<sup>1,2</sup>, R. Griffiths<sup>1,3</sup>, J.Z. Yuan<sup>1</sup>, A. Gaudin<sup>4</sup>, D. De Koeyer<sup>1</sup>, C. Rothwell<sup>3</sup>, V. Gustafson<sup>3</sup>, S. Regan<sup>5</sup>, B. Flinn<sup>3,6</sup>, R. Schafleitner<sup>4</sup>, M. Bonierbale<sup>4</sup>, B.T. Song<sup>2</sup>, J. Liu<sup>2</sup>, C.H. Xie<sup>2</sup>, and F.M. Meng<sup>7</sup>. <sup>1</sup>Potato Research Center, Agriculture and Agri-Food Canada, Fredericton, NB, Canada; <sup>2</sup>Huazhong Agricultural University, Wuhan 430070, China; <sup>3</sup>Solanum Genomics/BioAtlantech, Fredericton, NB, Canada; <sup>4</sup>International Potato Center (CIP), La Molina, Lima 12, Peru; <sup>5</sup>Department of Biology, Queen's University, Kingston, ON, Canada; <sup>6</sup>Institute for Advanced Learning and Research, Danville, VA, USA; <sup>7</sup>Faculty of Forestry and Environmental Management, University of New Brunswick, Fredericton, NB, Canada.

9:30 am **Comparative transcriptome profiling of diploid potato clones with variation in maturation timing**

(078) Tai, H., De Koeyer, D., Goyer, C., and Murphy, A. Agriculture and Agri-Food Canada Potato Research Centre, Fredericton, NB, Canada.

9:45 am **Genetic variations for tolerance to salinity stress and for the mitigation of salinity-induced injury by calcium in potato cultivars**

(079) Badran, Ayman E. and Jiwan P. Palta. Department of Horticulture, University of Wisconsin, Madison, Madison WI, USA.

10:00 am BREAK

**Thursday morning, August 13, 2009**

**CONCURRENT SESSION – Plant Protection V**

10:30 am **The importance of the behaviour of the vector in PVY transmission**

(080) Pelletier, Y. and X. Nie. Potato Research Centre, Agriculture and Agri-Food Canada, Fredericton, NB, Canada.

10:45 am **Comparison of TaqMan real-time RT-PCR with conventional RT-PCR and ELISA for detection of potato virus Y from dormant tubers**

(081) Singh, M.<sup>1</sup>, R. Coffin<sup>2</sup> and G. Hawkins<sup>3</sup>. <sup>1</sup>Agricultural Certification Services Inc., Fredericton, NB, Canada; <sup>2</sup>Cavendish Farms, Summerside, PEI; <sup>3</sup>McCain Produce Inc., Florenceville, NB, Canada.

11:00 am **Control of common scab using phages infecting *Streptomyces scabiei***

(082) Goyer, C., Ramirez, M. and J. Zeng. Potato Research Center, Agriculture and Agri-Food Canada, Fredericton, NB, Canada.

11:15 am **Studying the root gall development in russet and smooth skin potato cultivars and its effect on powdery scab inoculum load in the soil**

(083) Jayanty, Sastry, Robert Davidson, Andrew Houser. San Luis Valley Research Center, Department of Horticulture and LA, Colorado State University, Center, CO, USA.

11:30 am **Molecular and biological characterization of a severe strain of tomato chlorotic dwarf viroid containing a novel terminal right domain sequence**  
(084) Singh, Rudra P.<sup>1</sup>, Andrea D. Dilworth<sup>1</sup>, Mathuresh Singh<sup>2</sup>. <sup>1</sup>Potato Research Centre, Agriculture and Agri-Food Canada, Fredericton, NB, Canada; <sup>2</sup>Agricultural Certification Services, Fredericton, NB, Canada

11:45 am **Long-term effects of organic matter amendments on soil-borne diseases of potatoes**  
(085) D.H. Lambert, G.A. Porter and M.S. Erich. Department of Plant, Soil and Environmental Sciences, University of Maine, Orono, ME, USA.

**Thursday morning, August 13, 2009**

**CONCURRENT SESSION – Production and Management III**

10:30 am **Detection of nitrogen deficiency in potato using gene expression**  
(086) Zebarth, B.J.<sup>1</sup>, Li, X.Q.<sup>1</sup>, Sveshnikov, D.<sup>2</sup>, Tai, H.<sup>1</sup>, De Koeyer, D.<sup>1</sup>, Millard, P.<sup>3</sup>, Haroon, M.<sup>1</sup> and Singh, M.<sup>4</sup> <sup>1</sup>Potato Research Centre, Agriculture and Agri-Food Canada, Fredericton, NB, Canada; <sup>2</sup>BioAtlantech, Fredericton, NB, Canada; <sup>3</sup>Macaulay Institute, Aberdeen, Scotland; <sup>4</sup>Agricultural Certification Services, Fredericton, NB, Canada.

10:45 am **Economic and environmental effects of different nitrogen fertilizer regimes**  
(087) Veenhuis-MacNeill, S., R. Coffin<sup>1</sup>, W. Hardy<sup>1</sup>, Y. Jiang<sup>2</sup>, B. Thompson<sup>3</sup>. <sup>1</sup>Cavendish Farms, Summerside, PE, Canada, <sup>2</sup>PEI Dept. Environment, Energy & Forestry, <sup>3</sup>PEI Dept. Agriculture, Fisheries & Aquaculture.

11:00 am **Microtubers, an underutilized commodity in seed potato systems**  
(088) Pruski K. Nova Scotia Agricultural College, Truro, NS, Canada.

11:15 am **Commercial storage evaluation of new chipping and processing varieties in Wisconsin**  
(089) Bussan, Alvin J., Michael E. Copas, William G. Schmitt, Michael J. Drilias, Mary T. LeMere, Doug Nelson, and Charles Higgins. Department of Horticulture, University of Wisconsin-Madison, Madison, WI, USA.

11:30 am **Effects of simulated hail damage on Russet Norkotah yield**  
(090) Woodell, Lynn K., and N. Olsen, University of Idaho, Twin Falls, ID, USA.