PAA 2001
General Program Agenda

Monday Morning, April 23, 2001

8:00 am  Plenary Session  
Presiding: Oscar Gutbrod, PAA President

Welcome
Dr. Michael V. Martin, Vice President for Agricultural and Natural Resources, University of Florida, IFAS, Gainesville, FL and Dr. Pete Weingartner, Chair Florida LAC

Symposium:  
Impact of New and Emerging Diseases and Technologies on Potato Seed Certification  
Presiding: Dr. Pete Weingartner, UF, IFAS, Hastings REC, Hastings, FL

8:30am  Symposium Introduction (Sponsored by the Pathology and Certification Sections) - Pete Weingartner

8:40am  (S1) The Challenge to Produce High Quality Certified Seed Potatoes. Davidson, Robert D.*, Colorado State University, Department of Horticulture and Landscape Architecture, Fort Collins, CO 80523-1173.

9:10am  (S2) Tobacco Rattle (TRV) and Potato Mop-Top Viruses (PMTV) in Europe. Dale, M.F.B., Barker, H. & Brown, D.J.F.*, Scottish Crop Research Institute, Invergowrie, Dundee DD2 5DA, Scotland, U.K.

9:40am  (S31) Bacterial Wilt of Potato Caused by Ralstonia solanacearum: A Growing Threat to Seed and Ware Potato Production. Pradhanang, P.M.* and M.T. Momol, University of Florida, IFAS, NFREC, Quincy, FL 32351-9500

10:00am  Break

10:15am  (S3) The Impact of Soil (and Seed) Borne Diseases without Vectors on Seed Potato Certification. Secor, Gary, A.* and Neil C. Gudmestad, Department of Plant Pathology, North Dakota State University, Fargo, ND 58105.

10:45am  (S4) Statistical Sampling for Soil-Borne Pathogens in Seed Potatoes. Littell, Ramon C.*, Department of Statistics, Institute of Food and Agricultural Sciences, University of Florida, Box 110339, Gainesville, Florida 32100-0339.

11:15am  (S5) Emerging Technologies for Detection of Plant Pathogens: Advantages and Limitations. Mills, Dallice*, Department of Botany and Plant Pathology, Oregon State University, Corvallis, OR 97331-2902.

11:45am  Symposium Wrap-Up

12:00  Adjourn
Monday Afternoon, April 23, 2001

Breakout Symposium I: Ballroom C
New and Emerging Soil-Borne Diseases Caused by Fungi
Presiding: Dr. William Campbell, Alaska Plant Material Center, Palmer, AK

1:30pm  
(S6) Transmission of *Phytophthora infestans* from Potato Seed Tubers to Sprouts: Implications for Management and Certification. Inglis, D. A.* and M. L. Powelson, Washington State Univ. REU, Mount Vernon, WA 98273 and Oregon State Univ., Corvallis, OR 97331.

1:50pm  
(S7) Black Dot: A Recently Recognized Economically Important Disease of Potato. Johnson, Dennis A.*, Brad Geary, and L. Tsror (Lahkim), Washington State University, University of Idaho, and Gilat Experiment Station, respectively.

2:10pm  
(S8) Powdery Scab: An Emerging Disease on Potato. Christ, B. J.*, Department of Plant Pathology, Penn State University, University Park, PA 16802.

2:30pm  
(S9) Potato Wart Disease - Reality and Myth. Proudfoot, Kenneth G.*, Kenneth Proudfoot Consultants Ltd., Box 84, Goulds, NF A1S 1G3.

2:50pm  
(S10) *Verticillium dahliae* in North American Certified Seed Potatoes - How Important is it? Rowe, Randall C.*, Dept. of Plant Pathology, The Ohio State University/OARDC, Wooster OH 44691.

3:10pm  
Break

3:30pm  
(S11) Silver Scurf, an Emerging Potato Disease. Geary, Brad*, D. A. Johnson, P. B. Hamm, S. James and K. A. Rykbost. University of Idaho, 29603 U of I Ln, Parma, ID 83660, Washington State University, P.O. Box 646430, Pullman, WA 99164-6430, Hermiston Ag. Research & Extension Center P.O. Box 105, Oregon State University, Hermiston 97838, Powell Butte and Klamath Falls.

3:50pm  
(S12) The Contribution of Population Biology and Genetics for Developing Seed Certification Programs for *Rhizoctonia*. Cubeta, Marc A.*, Paulo C. Ceresini and H. David Shew, Department of Plant Pathology, North Carolina State University, Raleigh, NC 27695-7616.

4:10pm  

4:30pm  
Discussion & Wrap up (both Breakout Symposiums together)

Presiding: Dr. Jeff Miller, Research and Ext.Center, University of Idaho, Aberdeen, ID and Dr. Hossein El-Nashaar, North Dakota State Seed Dept., Fargo, ND.
Monday Afternoon, April 23, 2001

**Breakout Symposium II:**

**New and Emerging Soil-Borne Diseases Caused by Nematodes and Viruses**

**Presiding:** Dr. Johnathan L. Whitworth, Idaho Crop Improvement Assoc., Inc. Idaho Falls, ID.

1:30pm  **(S14) Certification Issues Surrounding Columbia Root-knot Nematode (Meloidogyne chitwoodi).** Ingham, Russell E.*, and Philip B. Hamm, Department of Botany and Plant Pathology, Oregon State University, Corvallis, OR 97331 and Department of Botany and Plant Pathology, Oregon State University, Hermiston Agriculture Research and Extension Center, P.O. Box 105, Hermiston, OR 97838.

1:50pm **(S15) Distribution, Biology and Efficiency of the Vector of Tobacco Rattle Virus Causing Corky Ringspot Disease of Potato in the Pacific Northwest.** Mojtahedi, Hassan1*, G. S. Santo1, P. E. Thomas2, J. M. Crosslin1, and C. R. Brown2. 1Washington State University, Irrigated Agriculture Research and Extension Center, 24106 Bunn Rd. Prosser, WA, and 2USDA-ARS, Prosser, WA.


2:30pm **(S17) Control of Corky Ringspot in Oregon.** Ingham, Russell E., Philip B. Hamm* and Kenneth A. Rykbost, Department of Botany and Plant Pathology, Oregon State University, Corvallis, OR 97331, Department of Botany and Plant Pathology, Oregon State University, Hermiston Agriculture Research and Extension Center, P.O. Box 105, Hermiston, OR 97838 and Department of Crop Science, Oregon State University, Klamath Experiment Station, 6941 Washburn Way, Klamath Falls, OR 97603.


3:10pm **Break**


3:50pm  **(S20) Reduction and Elimination of Tobacco Rattle Virus from Soils in Alfalfa Cultures.** Thomas, P. E.1*, H. Mojtahedi2, J. M. Crosslin3, and G. S. Santo4, 1,3Agricultural Research Service, U.S. Department of Agriculture, 2,4Washington State University, 24106 N. Bunn Road, Prosser, WA 99350-9687.
4:10pm  (S21) Biology and Distribution of Potato Cyst Nematodes in North America and their Economic Impact on Potato Production.  Brodie, B. B.*, USDA, ARS, Dept. of Plant Pathology, Cornell University, Ithaca, NY 14853.

4:30pm  Discussion & Wrap up (both Breakout Symposiums together)  Ballroom C
Presiding: Dr. Jeff Miller, Research and Ext.Center, University of Idaho, Aberdeen, ID and Dr. Hossein El-Nashaar, North Dakota State Seed Dept., Fargo, ND.

Tuesday Morning, April 24, 2001

Concurrent Session I: -- Breeding  Ballroom C
Presiding: J. Creighton Miller Jr. Department of Horticultural Sciences, Texas A & M University, College Station, TX.


8:30am  (2) Resistance of Solanum andigenum Accessions Maintained at VIR and US Potato Genebanks to Golden Nematode.  Kiru, Stepan*1, Svetlana Makovskaya2 and John Bamberg3, 1N. Vavilov Res. Institute (VIR), B. Morskaya Str. 42, St. Petersburg, 190000, RUSSIA; 2All Russian Plant Protection Institute, Podbelskoe shosse 14, VIZR, Poushkine, St. Petersburg 199606, RUSSIA; 3USDA/ARS, US Potato Genebank, 4312 Hwy 42, Sturgeon Bay, WI 54235 USA.

8:45am  (3) Analyses of Scab Reaction Evaluation Data from Long Term Field Plots.  Murphy, Agnes*, Xing-Yao Xiong, George C.C. Tai, Potato Research Centre, Agriculture and Agri-Food Canada, 850 Lincoln Rd., Fredericton, NB, E3B 4Z7.

9:00am  (4) Genetic Studies of Unilateral Incompatibility between Diploid (1EBN) Mexican Species Solanum pinnatisectum and S. cardiophyllum subsp. cardiophyllum.  Kuhl, J. C., M. J. Havey, and R. E. Hanneman, Jr.*, Vegetable Crops Research Unit, USDA, Agricultural Research Service, Department of Horticulture, University of Wisconsin, Madison, WI 53706.

9:15am  (5) Wild Potato Germplasm Collecting Expedition to Honduras and Panama.  Spooner, David M.1*, Alberto Salas2, and Robert Hijmans2, 1USDA, ARS; Department of Horticulture, University of Wisconsin, 1575 Linden Drive, Madison, WI, 53706-1590, and 2International Potato Center(CIP), Apartado 1558, La Molina, Lima 12, Peru.

9:30am  (6) Identification of Named Varieties, Advanced Selections, and Accessions with High Antioxidant Activity for use in Breeding Potatoes for Enhanced Human Health Benefits.  Hale, Anna L.*,1, Luis Cisneros-Zevallos1, John B. Bamberg2, and J. Creighton Miller, Jr1, 1Department of Horticultural Sciences, Texas A&M University, College Station, TX 77843-2133, 2USDA/Agriculture Research Service, Inter-Regional Potato Introduction Station, 4312 Hwy. 42, Sturgeon Bay, WI 54235. (GRADUATE STUDENT COMPETITION)

10:00am Break

(GRADUATE STUDENT COMPETITION)

10:45am (9) Identifying Resistance to Phytophthora infestans Earlier in Breeding. Posch, Danielle M.* and C.A. Thill, University of Minnesota, Department of Horticultural Science, 1970 Folwell Avenue, St. Paul, MN 55108.
(GRADUATE STUDENT COMPETITION)

11:00am (10) Marker Analysis of Monoploid Potato. Varrieur, John M.* and Richard E. Veilleux, Department of Horticulture, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061.
(GRADUATE STUDENT COMPETITION)

11:15am (11) Obtaining Sexual Hybrids Between Solanum pinnatisectum (1EBN) and Cultivated Potato Germplasm. Zlesak, David C.* and C.A. Thill, University of Minnesota, Department of Horticultural Science, 1970 Folwell Avenue, St. Paul, MN 55108.
(GRADUATE STUDENT COMPETITION)

11:30am (12) Taxonomy of Mexican Diploid Wild Potato (Solanum sect. Petota) Species: Morphological and Microsatellite Data. Lara-Cabrera, Sabina I.* and David M. Spooner, USDA, ARS; University of Wisconsin-Madison, 1575 Linden Drive, Madison, WI 53706.
(GRADUATE STUDENT COMPETITION)

(GRADUATE STUDENT COMPETITION)

12:00 Adjourn

Tuesday Afternoon, April 24, 2001

Concurrent Session I: -- Breeding
Presiding: Dr. G. Craig Yencho, Department of Horticultural Sciences, NCSU, Vernon James Research & Ext. Center. Plymouth, NC

1:30pm (14) Modified Conventional Breeding Methods to Efficiently Transfer Unique Late Blight Resistance from 2x(1EBN) Mexican Species to 2x(2EBN) and 4x(4EBN) Breeding Lines. Hamernik, A. J.*, M. Ramon, and R. E. Hanneman, Jr., Vegetable Crops Research Unit, USDA, Agricultural Research Service, Department of Horticulture, University of Wisconsin, Madison, WI 53706.

2:00pm  (16) Sucrose Esters Derived from Solanum berthaultii and Resistance to Potato Late Blight. Yencho, G. Craig*1, Mark Clough1, and Robert Goth2, 1Department of Horticultural Science, North Carolina State University, Vernon G. James Research and Extension Center, 207 Research Station Road, Plymouth, NC 27962, and 2USDA/ARS/Plant Science Institute, Vegetable Laboratory, Beltsville, MD 20705.

2:15pm  (17) Accelerating the Chromosome Walk Towards Late Blight Resistance with the Help of FISH. Naess, S. K *, J. M. Bradeen, J. Song, G. T. Haberlach, S. M. Wielgus, J. A. Davis J. Jiang and J. P. Helgeson, USDA/ARS Plant Disease Resistance Research Unit, Department of Plant Pathology, University of Wisconsin, 1630 Linden Drive, Madison, WI 53706 USA.

2:30pm  (18) Analysis of Segregation for Late Blight Resistance in Potato Families Screened at Toluca Valley, Mexico. Novy, Richard*1, Dennis Corsini1, Joe Pavek1, Hector Lozoya-Saldana2, and Alejandro Hernandez-Vilchis2, 1USDA-ARS, Aberdeen, ID 83210 and 2PICTIPAPA, Metepec, Mexico.

2:45pm  (19) Variety Selection for Resistance to Abiotic Stresses, A Summary of Ohio’s Involvement in the North-Central and Northeast Regional Genetics and Breeding Projects. Kleinhenz, Matthew D.*, E.C. Wittmeyer, Mark A. Bennett, and Richard L. Hassell, The Ohio State University, Ohio Agricultural Research and Development Center and Department of Horticulture and Crop Science, 1680 Madison Avenue, Wooster, OH 44691-4096, 2001 Fyffe Court, Columbus, OH 43210-1086, 2021 Coffey Road, Columbus, OH 43210-1086, Clemson University, Coastal Research Station, 2865 Savannah Highway, Charleston, S.C. 29414-5332.

3:00pm  Adjourn

Tuesday Morning, April 24, 2001

Concurrent Session II: --Physiology

Presiding: Dr Chad Hutchinson, University of Florida, IFAS, Hastings REC,Hastings, FL.

8:15am  (20) A Potentially Important Role for Anaerobic Carbohydrate Metabolism in Determining Chip Quality of Cold-Stored Potato Tubers. Blenkinsop, Robert W.*, Leslie J. Copp, Alejandro G. Marangoni and Rickey Y. Yada, Department of Food Science, University of Guelph, Guelph, Ontario, N1G 2W1. (GRADUATE STUDENT COMPETITION)

8:30am  (21) Impact of Calcium and Nitrogen Applications on 'Burbank' Potato Tuber Size and Tuber Number. Ozgen, Senay*, and Jiwan P. Palta, Department of Horticulture, University of Wisconsin, Madison, WI 53706. (GRADUATE STUDENT COMPETITION)

8:45am  (22) Influence of Supplemental Calcium and Nitrogen Improves Potato Tuber Calcium Concentrations and Internal Quality of 'Russet Burbank' Potatoes. Ozgen, Senay*, Christopher Gunter, Björn Karlsson and Jiwan Palta, Department of Horticulture, University of Wisconsin, Madison, WI 53706.

9:00am  (23) Reduction of Potato Tuber Bruising and Internal Defects by Supplemental Calcium Field Applications. Karlsson, Björn*, Jiwan Palta and Senay Özgen, The University of Wisconsin-Madison, Department of Horticulture, 1575 Linden Dr., Madison, WI 53706.
9:15am  (24) Supplemental Calcium Application During Seed Tuber Production: Impact on Plant Quality and Yield the Following Year. Gunter, Christopher C.* and Jiwan P. Palta, Purdue University - Southwest Purdue Agricultural Program, 4369 North Purdue Road, Vincennes, IN 47591 and University of Wisconsin-Madison, Madison, WI 53706.

9:30am  (25) Some Secondary Plant Hormones Isolated from 'Katahdin' Potato Plant Tissues Whose Levels were Influenced by Induction. Malkawi, AA., B.L. Jensen and Alan R. Langille*, Department of Chemistry, Department of Biosystems Science and Engineering, University of Maine, Orono, ME 04469.

9:45am  (26) Potato EST Sequencing and Analysis: Which Genes Involved in Carbohydrate Metabolism are most Active in Immature Potatoes? Li, Xiu-Qing*, Potato Research Centre, Agriculture and Agri-Food Canada, P.O. Box 20280, 850 Lincoln Road, Fredericton, N.B., E3B 4Z7, CANADA.

10:00am Break

10:30am  (27) Aminocyclopropane Carboxylate Oxidase Genes are Cis-Regulated by Abiotic and Biotic Stresses in Potato. Nie, Xianzhou*, Rudra P. Singh, and George C. C. Tai, Potato Research Centre, Agriculture and Agri-Food Canada, P.O. Box 20280, Fredericton, New Brunswick, Canada E3B 4Z7.


11:00am  (29) A New Post-harvest Chemical, 1-Methylcyclopropene, Delays Fry Colour Darkening. Prange, Robert K.*, Jin-Cheol Jeong^1, and Barbara J. Daniels-Lake^1, Agriculture and Agri-Food Canada, Atlantic Food and Horticulture Research Centre, 32 Main St., Kentville, NS B4N 1J5, Canada, ^2National Alpine Agricultural Experiment Station, RDA, Pyoungchang, Kangwon 232-950, Korea.

11:15am  (30) Long-term Exposure to Ethylene Affects Polyamine Levels and Sprout Development in ‘Russet Burbank’ and ‘Shepody’ Potatoes. Jin-Cheol, Jeong^1, Robert K. Prange^2 and Barbara J. Daniels-Lake^1, ^1National Alpine Agricultural Experiment Station, RDA, Pyoungchang, Kangwon 232-950, Korea, ^2Agriculture and Agri-Food Canada, Atlantic Food and Horticulture Research Centre, 32 Main St., Kentville, NS B4N 1J5, Canada.

11:30am  (31) Effect of Chlorpropham (CIPC) upon Carbohydrate Metabolism During Storage of Chipping Potatoes. Copp, Leslie J.*, Robert W. Blenkinsop, Rickey Y. Yada and Alejandro G. Marangoni, Department of Food Science, University of Guelph, Guelph, ON N1G 2W1.

11:45am  (32) Biological Agents for Dual Control of Dry Rot Disease and Sprouting of Potatoes in Storage. Slininger, P.J.*, D.A. Schisler, L.P. Meagher, K. D. Burkhead, and R.J. Bothast, NCAUR, USDA-ARS, Peoria, IL.

12:00 Adjourn
Tuesday Afternoon, April 24, 2001

Concurrent Session II: -- Pathology  
**Presiding:** Dr. Steve B. Johnson, UMaine Cooperative Extension, Presque Isle, ME.

1:30pm  
**33) Potato Seed Treatment for Controlling *Rhizoctonia solani* Infection.** Naranjo, Patrick*¹, Greta Schuster¹, David Bender², Ron Thomas¹, Jeff Koym², ¹West Texas A&M University, Canyon, TX, ²Texas Agricultural Experiment Station, Lubbock, TX.  
(Graduate Student Competition)

1:45pm  
**34) Relative Sensitivity of ELISA and RT-PCR Methods for Early Detection of Potato Leaf Roll Virus (PLRV) in Russet Burbank Potatoes under PEI Conditions.** Singh, R.¹, X. Nie¹, Robert Coffin², D. Huestis³, M. Burns², W. Burns², J. Zeng¹, A. Dilworth¹, D. Munn⁴, ¹AAFC, Fredericton, NB, E3B 4Z7, ²Cavendish Farms, New Annan, PE, C1N 5J5, ³PEI Produce, Summerside, PE.

2:00pm  
**35) Determination of a Threshold Absorbance Value of PVY Detection in Sprouts and Leaves by ELISA and Comparison with Visual Field Readings.** Singh, Mathuresh*¹, George Tai², Lynn Moore³ and Sandy Perley³, ¹International Certification Services, 385 Wilsey Rd, Fredericton, N.B., Canada E3B 5N6, ²Agriculture and Agri-Food Canada, Potato Research Centre, PO Box 20280, Fredericton, N.B., Canada E3B 4Z7, ³NB Agriculture, Fisheries & Aquaculture, PO Box 6000, Fredericton, N.B. Canada E3B 5H1.

2:15pm  
**36) Viral Mixed Infections in International Potato Clones in the Toluca Valley, Mexico.** Roman-Vázquez, Reynaldo¹, Héctor Lozoya-Saldaña*¹,², and Alejandro Hernández-Vilchis², ¹Depts. of Parasitology and Plant Sciences, Autonomous University of Chapingo, Chapingo, México 56230, and ²International Cooperative Program for Potato Late Blight, Metepec, México 52176.

2:30pm  
**37) Is the Resistance of the Potato Cultivar Shepody to Potato Virus A a Hypersensitive Response?** Nie, Xianzhou* and Rudra P. Singh, Potato Research Centre, Agriculture and Agri-Food Canada, P.O. Box 20280, Fredericton, NB, Canada E3B 4Z7.

2:45pm  
**38) Sodium Sulphite Mediated Attenuation of Polyphenolics in Nucleic Acid Extraction for RT-PCR.** Singh, Rudra P.*,¹, Xianzhou Nie¹, Mathuresh Singh², Robert Coffin³ and Patricia Duplessis⁴, ¹Potato Research Centre, Agriculture and Agri-Food Canada, P.O. Box 20280, Fredericton, NB, Canada E3B 4Z7, ²Agricultural Certification Services, NB Potato Agency, 245 Hilton Road, Unit 25, Fredericton, NB, Canada E3B 5N6; ³Cavendish Farms, P.O. Box 3500, Summerside, PEI, Canada C1N 5J5, ⁴Crop Diversification Centre North, RR6, 17507 Fort Road, Edmonton, Alberta, Canada T5B 4K3.

3:00pm  
**Break**

Pathology Section Mini-Symposium:  
**Late Blight is a Global Problem**  
**Presiding:** Dr. Wanda Collins, International Potato Center, Lima, Peru.

3:30pm  
**S22) The Global Initiative on Late Blight (GILB).** Collins, Wanda*, Deputy Director General for Research and GILB Coordinator, International Potato Center, Apartado 1558, Lima 12, Peru.
3:45pm  (S23) Global Initiative on Late Blight (GILB) Linkage Groups. Lizárraga, Charlotte*, Assistant GILB Coordinator, International Potato Center, Apartado 1558, Lima 12, Peru.

4:00pm  (S24) Significance of Sexual Reproduction in Phytophthora infestans Epidemiology. Miller J. S.*, University of Idaho, PO Box 870, Aberdeen, ID 83210.

4:15pm  (S25) Late Blight in the United States and Canada. Deahl, Kenneth L.* and Richard W. Jones, USDA, ARS, PSI, Vegetable Laboratory, Beltsville, MD 20705.

4:30pm(S26) Late Blight in Latin America, Africa and Asia. Forbes, Greg*, International Potato Center, P.O. 17-21-1977, Quito, Ecuador.

4:45pm  (S27) Potato Late Blight in Ireland and Europe. Cooke, Louise R.*, Applied Plant Science Dept., Queen’s University Belfast, Newforge Lane, Belfast, BT9 5PX, UK.

5:00pm  Adjourn

Tuesday Morning, April 24, 2001

Concurrent Session III: -- Entomology/Production  Ballroom G
Presiding: Dr. Stephen K. Ohair, University of Florida, IFAS, Tropical REC, Homestead, FL.

8:30am  (39) Comparative Efficacy of Fosthiozate Formulations for the Management of Meloidogyne chitwoodi in Idaho Potatoes. Hafez, S.L.* and Sundararaj P., University of Idaho, Parma Research and Extension Center, 29603 U of I Lane, Parma, Idaho 83660.

8:45am  (40) Area-Wide Colorado Potato Beetle Management. Sexson, Deana L.* and Jeff Wyman, University of Wisconsin, Madison, 1575 Linden Dr., Madison, WI 53706.

9:00am  (41) The Influence of Seed Growing and Storage Temperatures on the Performance of Five Seed Potato Cultivars. Hornbacher, Andy*, Nora Olsen, Phil Nolte, and Lynn Woodell, University of Idaho, 3793 N. 3600 E., Kimberly, ID 83341 and University of Idaho, 1776 Science Center, Idaho Falls, ID 83402. (GRADUATE STUDENT COMPETITION)

9:15am  (42) Relationship Between Calcium and Disease. Sanchez, Elsa S.* and Larry K. Hiller, Washington State University, Department of Horticulture and Landscape Architecture, Pullman, WA 99163. (GRADUATE STUDENT COMPETITION)

9:30am  (43) High Quality Minituber Production by Planting Sprouts Detached from Imported Basic Seed Tubers under Aphid-Proof Screenhouse in a Brazilian Citrus Region. de Souza-Dias, J.A.C*; C.M. de Meo2; A. Greve3; L.J. Paes4, 1Plant Health Center, Agronomic Institute (IAC), 13001-970 Campinas, S.P., Brazil; 2SAI-Limeira, SP; 3CATI, Campinas, SP. 4Limeira Agriculture Secretary. 1 CNPJ fellow.

9:45am  (44) The Effects of the Addition of Slow Release Fertilizer on the Yield and Size Distribution of Greenhouse-Grown Minitubers. Hughes, Becky R.* and Candy N. F. Keith, New Liskeard Agricultural Research Station, University of Guelph, Box 6007, New Liskeard ON P0J 1P0 Canada.
10:00am  Break

10:30am  (45) **Metribuzin Sensitivity and Model Evaluation.** Thompson, Asunta* and Scott Nissen, San Luis Valley Research Center, Colorado State University, 0249 East Road 9 North, Center CO 81125, Department of Bioagricultural Sciences and Pest Management, Colorado State University, Fort Collins, CO 80523.

10:45am  (46) **Pacific Northwest Potato Tolerance and Varietal Response to Sulfentrazone.** Hutchinson, Pamela J. S.*, Dennis J. Tonks, Corey V. Ransom, Rick A. Boydston, and Claude G. Ross, University of Idaho, Aberdeen, ID 83210, Washington State University, Davenport, WA 99122, Oregon State University, Ontario, OR 97914, USDA-ARS, Prosser, WA 99350; and FMC Corp., Loveland, CO 80537.

11:00am  (47) **Norkotah Response to Foliar Applications of Apogee® (prohexadione-calcium).** Nissen, Scott J.*, Pamela Hutchinson, and Susie Thompson; Colorado State University, Ft. Collins, CO, University of Idaho, Aberdeen, ID and Colorado State University, San Luis Valley Research Center, Center, CO.

11:15am  (48) **Pre-Planting Management to Maximize Short Season Yield Potential.** Mikitziel, Loretta J.¹* and David Wattie², New Brunswick Department of Agriculture, Fisheries and Aquaculture, ¹Potato Development Centre, Wicklow, NB, Canada E7L 3S4, and ²Bon Accord Elite Seed Potato Centre, Bon Accord, NB, Canada E7H 2K8.

11:30am  (49) **Efficacy of Chlorine Dioxide as a Disinfectant in Potato Storages.** Woodell, Lynn K., Gale E. Kleinkopf *, and Nora Olsen, University of Idaho, 3793 N 3600 E, Kimberly, ID 83341-5076 and University of Idaho, PO Box 1827, Twin Falls, ID 83303-1827.

11:45am  (50) **Response of Russet Burbank Potatoes to Irrigation Frequency with Set-Move Sprinkler Systems.** Stark, Jeff* and Brad King, University of Idaho, Research & Extension Center, P.O. Box 870 Aberdeen, Idaho, 83210.

12:00  Adjourn

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**Tuesday Afternoon, April 24, 2001**

**Concurrent Session III: -- Production**

**Presiding:** Dr. Donald Halseth, Cornell University, Ithaca, NY.


1:45pm  (52) **Seed Physiology and Growing Temperature Influences on Early Tuber Set.** Olsen, Nora*¹ and Robert E. Thornton²,¹ Dept. of PSES, University of Idaho, Twin Falls, ID, 83303 and ²Dept. of Hort. and L.A. Washington State University, Pullman, WA 99164.

2:00pm  (53) **Influence Iron and Manganese Concentration in Nutrient Solution on Growth and Mineral Content of the Potato Plants.** Chang, Dong Chil*, Sung Y. Kim, Young I. Hahm, *Division of Crop Research, National Alpine Agricultural Experiment Station, RDA, Pyongchang 232-955, Korea.
2:15pm (54) Improving Nitrogen Efficiency in Michigan Potato Systems. Snapp, Sieglinde* and Don Smucker, Michigan State University, Dept. Horticulture, East Lansing, MI 48824 and Michigan State Extension, P.O. Box 308, Stanton, MI, 48888.


3:00pm Break

Physiology Section Mini Symposium:

Periderm Maturation: Skin-Set Development, Measurement and Physiology
Presiding: Dr. Ed Lulai, USDA-ARS, Northern Crop Science Lab., Fargo, ND.

3:30pm (S28) Skin-Set: Measurement and Physiology of Resistance to Tuber Skinning Wounds. Lulai, Edward C.*, USDA-ARS, Northern Crop Science Laboratory, Fargo, ND 58105-5677.


4:10pm (S30) Relating Potato Skinning to Field Measurements of Skin-Set. Pavlista, Alexander, D.*, University of Nebraska-Lincoln, Panhandle Research & Extension Center, 4502 Ave. I, Scottsbluff, NE 69361.

4:30pm Adjourn

Tuesday Evening, April 24, 2001

Poster Session: 6:00pm to 7:00pm (Authors present)


P2 The Corrosive Effects of Purogene and Oxidate. Norikane, Joey H.¹*, William W. Kirk², and Roger Brook³, ¹USDA/ARS, Department of Agricultural Engineering, Michigan State University, 220 Farrall Hall, East Lansing, MI 48824, ²Department of Botany and Plant Pathology, Michigan State University, East Lansing, MI 48824, ³Department of Agricultural Engineering, Michigan State University, East Lansing, MI 48824.
P3 Efficacy of Purogene and Oxidate Disinfectants Added to Potato Storage Humidity Water for Pathogen Control. Norikane, Joey, H. 1*, Roger C. Brook 2, and William W. Kirk 3, 1USDA/ARS, Department of Agricultural Engineering, Michigan State University, 220 Farrall Hall, East Lansing, MI 48824, 2Department of Agricultural Engineering, Michigan State University, East Lansing, MI 48824, 3Department of Botany and Plant Pathology, Michigan State University, East Lansing, MI 48824.

P4 Vydate ® C-LV "over and under" Control of Nematodes and Insects in Potatoes. Drake, G. E.*, N. D. McKinley, DuPont Crop Protection Products, Stine-Haskell Research Center, Newark DE.


P6 Physiological and Biochemical Markers of Seed-Tuber Productivity. Knowles, N.R., Lisa Knowles* and G.N.M. Kumar, Dept of Horticulture & Landscape Architecture, P.O. Box 646414, Pullman, WA 99164-6414.

P7 Optimum Soil Water Potential and Drip Tape Position for Potato (Solanum tuberosum L.) Drip Irrigation. Shock, Clinton C.*, Eric P. Eldredge, Lamont D. Saunders, and Erik G. B. Feibert, Oregon State University, Malheur Experiment Station, 595 Onion Ave., Ontario, OR.

P8 Utilization of Controlled Release Fertilizers in Chip Potato Production. Hutchinson, Chad M.* and D.P. Weingartner, University of Florida/IFAS, Hastings Research and Education Center, P.O. Box 728, Hastings, FL 32145.

P9 Crop Tolerance and Weed Control with Flumioxazin and Sulfentrazone in Pacific Northwest Potato Production. Boydston, Rick A.*, Corey V. Ransom, and Pamela J. S. Hutchinson, USDA-ARS, Irrigated Agriculture Research and Extension Center, 24106 N. Bunn Road, Prosser, WA 99350; Malheur Experiment Station, Oregon State University, 595 Onion Ave., Ontario, OR 97914; and University of Idaho, Box AA, Aberdeen, ID 83210.


P11 Potato Variety Trials in Ontario 2000. Currie, Vanessa* and Dr. J. A. Sullivan, Department of Plant Agriculture, University of Guelph, Guelph, Ontario, Canada N1G 2W1.

P12 Comparative Growth Analysis of Russet Norkotah and Russet Norkotah Strains. Miller, J. Creighton, Jr.*, Jeff W. Koym1, Douglas C. Scheuring1, Gretta Schuster2, and George J.C. Fernandez3, 1Department of Horticultural Sciences, Texas A&M University, College Station, TX 77843-2133, 2 Division of Agriculture, West Texas A&M University, Canyon, TX 79016-0001, 3Department of Applied Economics and Statistics, University of Nevada Reno, Reno, NV 89557-0105.
P13  *S. phurejs*-s. *stenotomum* Contributes High Specific Gravity and Internal Tuber Quality under High Temperature Growing Environments to 4X-2X Hybrids. Sterrett, S.B.*, M.R. Henninger, G.C. Yencho, and K.G. Haynes, Virginia Polytechnic and State University, Painter, VA 23420; Rutgers University, New Brunswick, NJ 08903; North Carolina State University, Plymouth, NC; and USDA/ARS, Beltsville, MD 20705.

P14  Human Serum Albumin Production in Transgenic Potato Tubers. Farran, Inma* and Angel M. Mingo-Castel, Instituto de Agrobiotecnología y Recursos Naturales (UPNA/ CSIC), Campus Arrosadia s/n, 31006-Pamplona, Spain.


P18  OPEN


P20  Subtractive Hybridization for the Isolation of Common Scab Resistance Genes from the Potato. Goyer, Claudia*, Patrice Audy, Henry De Jong, Russ King, Agnes Murphy, George Tai, Richard Tarn, Agriculture and Agri-Food Canada, Potato Research Centre, P.O. Box 20280, 850 Lincoln, Fredericton, NB E3B 4Z7, Canada.

P21  Control of Black and Silver Scurf on Potato Seed Tubers. Tsror (Lahkim), L. 1*, O. Erlich1, M. Aharon1, M. Lavy2 and I. Peretz-Alon1, 1Department of Plant Pathology, Gilat Experiment Station, Agricultural Research Organization, Ministry of Agriculture, M.P. Negev, ISRAEL, 85280; 2Maon Enterprises, M.P. Negev, ISRAEL.

P22  Characterization of Isolates of *Phytophthora erythroseptica* from Prince Edward Island According to Metalaxyl Sensitivity and Allozyme Genotype. Peters, R.D.1*, A.V. Sturz2, B.G. Matheson2, W.J. Arsenault1, and A. Malone1, 1Agriculture and Agri-Food Canada, Crops and Livestock Research Centre, P.O. Box 1210, Charlottetown, PE C1A 7M8; 2PEI Department of Agriculture and Forestry, Plant Health Research and Diagnostics, P.O. Box 1600, Charlottetown, PE C1A 7N3.

P23  Characterization of Late Blight in Uruguay. Deahl, Kenneth L.*, M.C. Pagnani, F.M. Perez, B. Moravec, and L.R. Cooke, USDA, ARS, PSI, Vegetable Laboratory, Beltsville, MD 20705, INIA, Plant Pathology, Canelones 90200, Uruguay, and The Queen's University of Belfast, Belfast, Northern Ireland.
Partial Characterization of Phytophthora infestans Isolates from Chile. Secor, Gary A.*, Viviana V. Rivera and Fernando Riveros, Department of Plant Pathology, North Dakota State University, Fargo, ND 58105 and INIA Intihuasi, Apartado Posta; 36-B, LaSerena, Chile.


Effects of Temperature and Fungicide Applications on Stem Lesions of Phytophthora infestans on Potato. Shepherd, C. P.*, R. M. Geddens, M. D. Stidham, DuPont Crop Protection Products, Stine-Haskell Research Center, Newark DE.

Bioproduction of Stable Protein/Antimicrobial Peptides for Disease Control. Jones, Richard W.*, USDA, ARS, Vegetable Laboratory, Rm. 311, Bldg. 010A,BARC-West, Beltsville, MD 20705.

Combining Host Plant Resistance with Managed Fungicide Applications to Control Potato Late Blight (Phytophthora infestans). Kirk, William¹, Kimberly Felcher²*, David Douches², J. Stein¹ and R. Hammerschmidt¹, Michigan State University, East Lansing, ¹Dept. of Botany and Plant Pathology, ²Dept. of Crop and Soil Sciences.


Thursday Morning, April 26, 2001

Concurrent Session I: -- Breeding

Presiding: Dr. Sal Locascio, Department Horticultural Sciences, University of Florida, IFAS, Gainesville, FL.

8:15am  (57) Cultural Practice, A Tool in Promoting New Advanced Selections. Groza, Horia¹*, Timothy Connell³, Bryan Bowen¹, Jiming Jiang², University of Wisconsin, ¹4181 Camp Bryn Afon Rd, Rhinelander, WI 54501, ²1575 Linden Drive, Madison, WI 53706, ³Portage County UW Extension, 1462 Strongs Ave, Stevens Point, WI 54481.


9:00am  (60) A Comparison of Production and Processing Quality Traits of Chip and Non-Chip Genotypes. Tarn, T. Richard*, Warren K. Coleman, Henry De Jong and George C.C. Tai., Potato Research Centre, Agriculture and Agri-Food Canada, P.O. Box 20280, Fredericton, New Brunswick, Canada E3B 4Z7.
9:15am  (61) Variation of Chipping Quality in Three Genetic Populations Derived from *Tuberosum x Tuberosum*, *Andigena x Tuberosum* and Diploid x Diploid Crosses. Tai, George C.C.*, Henry De Jong, T. Richard Tarn and Warren K. Coleman, Potato Research Centre, Agriculture and Agri-Food Canada, P.O. Box 20280, Fredericton, New Brunswick, Canada E3B 4Z7.


9:45am  (63) Identification and Genetic Location of a Novel Potato Alkaloid. Sagredo, Boris, Abbas Lafta, Howard Casper, and Jim Lorenzen*, Dept. of Plant Sciences, North Dakota State University, Fargo, N.D. 58105.

10:00am  Break  Ballroom D

10:30am  (64) Mapping Late Blight Resistance and other Agronomic Traits in a *S. microdontum* Population. Bisognin, Dilson*, Lynn Buszka and David Douches, Department of Crop and Soil Sciences, Michigan State University, East Lansing MI 48824.

10:45am  (65) Cloning Late Blight Resistance from *Solanum bulbocastanum*. Bradeen, James M.*, S. Kristine Naess, Susan M. Wielgus, Jeffrey A. Davis, Geraldine T. Haberlach, and John P. Helgeson, Department of Plant Pathology, University of Wisconsin, 1630 Linden Drive, Madison, WI 53706.

11:00am  (66) Genetic Variation in Potato with High Levels of Red and Blue Anthocyanins. Brown C. R. 1*, R. Wrolstad2, and B. Clevendence3, 1USDA/ARS, Prosser, WA, 2Oregon State University, Corvallis, OR; 3USDA/ARS, Beltsville, MD.


11:30am  (68) Development and Characterization of an Adapted Form of *Droopy*, a Diploid Potato Mutant Deficient in Abscisic Acid. De Jong, H.1*, L. M. Kawchuk2, W. K. Coleman1, C. A. Verhaeghe2, L. Russell1, V. J. Burns1 and E. Tremblay-Deveau1, 1Agriculture and Agri-Food Canada Potato Research Centre, P.O. Box 20280, Fredericton, NB, E3B 4Z7, 2Agriculture and Agri-Food Canada Lethbridge Research Centre, P.O. Box 3000, Lethbridge, AB, T1J 4B1.

11:45am  (69) Genetic Heterogeneity among Breeding Systems of Potato Species and its Ramifications in Germplasm Conservation. del Rio, Alfonso H.*, and John B. Bamberg, USDA/Agricultural Research Service, Vegetable Crops Research Unit, Inter-Regional Potato Introduction Station, 4312 Hwy. 42, Sturgeon Bay, WI 54235, USA.

12:00  Adjourn
Thursday Morning, April 26, 2001

Concurrent Session II: -- Pathology

Presiding: Dr. William Crow, Department of Entomology and Nematology, University of Florida, IFAS, Gainesville, FL.

8:30am (70) Effects of Azoxystrobin (Quadris) Rates on Colletotrichum coccodes and Verticillium dahliae Colonization in the Russet Burbank Potato. Davis, James R.* and Ann T. Schneider, University of Idaho, Aberdeen R&E Center, PO Box 870, Aberdeen, ID 83210.

8:45am (71) Below-Ground Potato Plant Architecture in Early-Die Soil: With Special Reference to Pratylenchus penetrans (Nematoda). Bird, G. W.*1 & J. Chen2,1 Department of Entomology, 243 Natural Science Building, Michigan State University, East Lansing, MI 48824, 2Department of Nematology, University of California-Davis.

9:00am (72) Potentials of Precision Agriculture Technology in Potato Early-Die Management. Bird, G.W.*1, M. Otto2, N. Hoff3, R. Brook3 & R. Gore1,1 Department of Entomology, 243 Natural Science Building, Michigan State University, East Lansing, MI 48824; 2Agribusiness Consultants Inc., Lansing, MI; 3Department of Agricultural Engineering, Michigan State University.

9:15am (73) Soil Fumigation with Telopic (C-35) to Control Verticillium Wilt. Tsror (Lahkim), L.*1, O. Erlich1, M. Aahron1, Y. Cahlon2, A. Hadar2, Y. Cohen3, M. Shmueli3, E. Shlevin4, E. Ben-Nun4, B. Meler5, Z. Bigel5 and I. Peretz-Alon6,1 Agricultural Research Organization, Dept. of Plant Pathology, Gilat Experiment Station, M. P. Negev, 85280 Israel; 2Agrichem Ltd. Petach Tikva, Israel; 3Dead Sea Bromine LTD., Beer-Sheva, Israel; 4Kibbutz Saad, M. P. Negev, Israel; 5Kibbutz Alumim, M. P. Negev, Israel; 6Maon Enterprises, M. P. Negev, Israel.

9:30am (74) “Introducing Moncoat MZ, a New Potato Seed Piece Protectant.” Schafer, Ron*, Technical Representative, & Frank Fronek, Commercial Product Development Representative, United Agri Products, P.O. Box 1286 Greeley CO 80632.


10:00am Break

10:30am (76) Thermal Properties of Potato Cull Piles and Different Genotypes of Phytophthora infestans in Relation to Overwintering of Potato Late Blight. Kirk, William W.*, R. Scott Shaw, Brendan A. Niemira, Jeffrey M. Stein and Robert L. Schafer, Department of Botany and Plant Pathology, Michigan State University, East Lansing, 48824.

10:45am (77) Evaluation of Seed Piece Fungicides and Application Time to Control Tuberborne Late Blight. Ludy, R. L.*, M. L. Powelson, B. Gunderson and D. Inglis, Department of Botany & Plant Pathology, Oregon State University, Corvallis, OR 97331-2902 and Washington State University, Mount Vernon Research and Extension Unit, Mount Vernon, WA 98273.
11:00am (78) A Technique to Evaluate the Response of Non-Tuber Potato Tissue to Infection with Phytophthora erythroseptica. Peters, R.D.1,* and A.V. Sturz2, 1Agriculture and Agri-Food Canada, Crops and Livestock Research Centre, P.O. Box 1210, Charlottetown, PE C1A 7M8; 2PEI Department of Agriculture and Forestry, Plant Health Research and Diagnostics, P.O. Box 1600, Charlottetown, PE C1A 7N3.

11:15am (79) Effect of Fungicide Programs on Early Blight Control and Nitrogen Fertilizer Response in Potato. Miller, Jeff S.* and Carl J. Rosen, University of Idaho, PO Box 870, Aberdeen, ID 83210 and University of Minnesota, St. Paul, MN 55108.

11:30am (80) Influence of Seed-Borne Helminthosporium solani on Progeny-Tuber Disease Levels. Geary, Brad*, D. A. Johnson and P. B. Hamm. University of Idaho, 29603 U of I Ln, Parma, ID 83660, Washington State University, P.O. Box 646430, Pullman, WA 99164-6430, Hermiston Ag. Research & Extension Center P.O. Box 105, Oregon State University, Hermiston 97838.

11:45 Adjourn

Thursday Morning, April 26, 2001

Concurrent Session III: -- Production/General

Presiding: Dr. Dennis Corsini, USDA-ARS, Research and Ext. Center, Aberdeen, ID

8:15am (81) Production of Creamer Potatoes in No-Tillage Cover Cropping System. Carrera, Lidia M.1,* Ronald Morse2, Aref A. Abdul-Baki1, Kathleen Haynes3,and John R. Teasdale4, 1USDA, ARS, ANRI, SASL, 10300 Baltimore Avenue, Bldg 010A, Room 224, Beltsville, MD 20705, 2Department of Horticulture, College of Agriculture and Life Science, Blacksburg, VA 24061;3USDA, ARS,PSI, Vegetable Lab., 10300 Baltimore Avenue, Building 010A, Room 312, Beltsville, MD 20705.

8:30am (82) Relating Potato Yield and Quality to Variability in Soil Characteristics. Redulla, C.1, J. R. Davenport*1, R. G. Evans2, M. J. Hattendorf3, A. K. Alva4 and R. A.Boydston4, 1Washington State University, 24106 N. Bunn Road, Prosser, WA 99350, 2USDA/ARS , 1500 N. Central Ave., Sidney, MT 59270, 3Vantage Point, 2057 Vermont Drive, Fort Collins, CO 80525, 4USDA/ARS, 24106 N. Bunn Road, Prosser, WA 99350.

8:45am (83) Influence of Seed Size and Density on the Performance of Direct Seedling Transplants from Hybrid True Potato Seed (TPS). Upadhya, Mahesh D.*and Rolando Cabello, International Potato Center, La Molina, Lima, Peru.

9:00am (84) Steps Underway to Strengthen Metam-Sodium as an Effective Fumigant for Weeds, Disease, and Nematode Control. Sullivan, David A.*, Executive Director, Metam-Sodium Task Force, 1900 Elkin Street, Suite 240, Alexandria, VA 22308.

9:15am (85) National Ugandan Potato Program Review. Locke, Kerry A.*, Oregon State University, Klamath County Extension, 3328 Vandenberg Road, Klamath Falls, OR 97603.

9:30am (86) Protein Levels in Potato Breeding Selections and Cultivars. Corsini, Dennis *, Richard Novy, Annie Marshall, and Joseph Pavek, University of Idaho, Aberdeen Research and Extension Center, PO Box 870, Aberdeen, ID 83210 and 2-3439 E. Cliff Drive, Santa Cruz, CA 95062.
(87) Physicochemical Properties of Starches during Potato Growth. Liu, Q¹ and R. Yada², Food Research Program, Agriculture & Agri-Food Canada, Guelph, Ontario, Canada N1G 5C9¹ and Dept. of Food Science, University of Guelph, Guelph, Ontario, Canada N1G 2W1².

10:00am Adjourn