



EUCARPIA

Programme EAPR – EUCARPIA CONGRESS Potato Breeding after completion of the DNA Sequence of the Potato Genome

27-30 June 2010, Wageningen, the Netherlands

Sunday June 27

- 19.45h Registration
- 20.30h Welcome reception

Monday June 28

- 8.30h Coffee and registration
- 9.00h Welcome and announcements by organisation committee
- 9.15h Official opening by Martin Kropff, rector magnificus Wageningen University

Keynote lectures

Chair: Herman van Eck

- 9.45h *SOLCAP: SNP Development for Elite Potato Germplasm*
David Douches, Michigan State University, East Lansing, United States of America

- 10.30h Coffee break and registration

- 11.00h *PGSC: “The potato genome sequence”*
Glenn Bryan, Scottish Crop Research Institute, Dundee, United Kingdom

PGSC session

Chair: Christian Bachem

- 11.45h *Gene expression analysis to identify those genes important for making the potato out of the potato*
Kåre Lehmann Nielsen, Aalborg University, Aalborg, Denmark
- 12.05h *The integrated cytogenetic, physical, genetic and sequence map of potato chromosome 5*
Jan de Boer, Plant Breeding, WUR, Wageningen, the Netherlands

- 12.30h Lunch

PGSC session continued

- 13.30h *Anchoring and comparative analysis of the homozygous DM and heterozygous RH genome sequences*
Erwin Datema, Plant Research International, WUR, Wageningen, the Netherlands
- 13.50h *Anchoring the potato genome*
Sanjeev Sharma, Scottish Crop Research Institute, Dundee, United Kingdom
- 14.10h *Anchoring the potato genome: in-silico approaches*
Daniel Bolser, Dundee University, Dundee, United Kingdom
- 14.30h *Genome-wide analysis of NBS-LRR encoding resistance genes in potato genome*
Hanhui Kuang, Huazhong Agriculture University, Wuhan, Hubei Province, China
- 15.00h Tea break
- 15.30h Discussion session (please see description on page 27)
From DNA sequence to potato breeding

Genetic Modification

Chair: Ronald Hutten

- 16.00h *T-DNA minicircles for Agrobacterium-mediated delivery of potato genes without vector backbone sequences*
Jeanne Jacobs, The New Zealand Institute for Plant & Food Research
Christchurch, New Zealand
- 16.20h *Selection of "true to type" GMO potatoes*
Ronald Hutten, Plant Breeding, WUR, Wageningen,
the Netherlands

Abiotic Stress

Chair: Gerard van der Linden

- 16.40h *QTL analysis of drought tolerance in a diploid mapping population*
Gerard van der Linden, Plant Research International, WUR, Wageningen,
the Netherlands
- 17.00h Coffee break

Abiotic Stress continued

- 17.30h *P450 genes revisited (in the light of the potato genome sequence)*
Sergio Feingold, INTA - EEA Balcarce, Balcarce, Argentina
- 17.50h *Water use efficiency in potatoes: traits to phenotype*
Ankush Prashar, Scottish Crop Research Institute, Dundee, United Kingdom
- 18.10h *Breeding for frost tolerance in Potato: Merging physiological, biochemical and genetic approaches*
Jiwan Palta, University of Wisconsin, Madison, United States of America
- 19.00h Dinner
- 20.00h Poster session
- 21.00h Drinks and bites **sponsored by CBSG**

Tuesday June 29

8.00h Coffee

Late Blight

Chair: Denis Griffin

8.30h *Durable deployment of late blight resistance genes from an epidemiological perspective*

Geert Kessel, Plant Research International, WUR, Wageningen, the Netherlands

8.50h *Exploiting Phytophthora infestans effectors and deployment of R genes*

Vivianne Vleeshouwers, Plant Breeding, WUR,
Wageningen, the Netherlands

9.10h *Molecular interactions determining Rpi-blb1 mediated late blight resistance*

Dennis Halterman, University of Wisconsin, Madison, United States of
America

9.30h *Recent changes in Phytophthora infestans populations in Ireland challenge available cultivar resistance*

Denis Griffin, Teagasc, Crops Research Centre, Carlow, Ireland

9.50h *Identifying late blight resistance genes in Solanum accessions*

Walter Verweij, the Sainsbury Laboratory, Norwich, United Kingdom

10.10h Coffee break

Keynote lectures

Chair: Evert Jacobsen

10.40h *Marker Assisted Selection at a major vegetable breeding company – cost effective technologies and MAS strategic considerations*

Jan Draaistra, ENZA zaden, Enkhuizen, the Netherlands

11.25h *'Precision breeding' in tetraploid potato: Where are we and where do we want to go?*

Christiane Gebhardt, Max Planck Institute for Plant Breeding Research, Cologne,
Germany

12.15h Lunch

Marker Assisted Breeding

Chair: Dan Milbourne

13.15h *Characterisation of the major disease resistance locus on potato chromosome 4 allows the development of diagnostic markers for resistance breeding*

Dan Milbourne, Teagasc, Carlow, Ireland

13.35h *Analysis of tetraploid cultivars with GoldenGate markers: Identification of 5 genotypic classes and trait associations*

Roeland Voorrips, Plant Research International, WUR, Wageningen, the Netherlands

13.55h *Genetic variation at the StGWD locus is associated with starch-bound phosphate levels of tetraploid potato cultivars*

Jan Uitdewilligen, Plant Breeding, WUR,
Wageningen, the Netherlands

14.15h *Developing molecular genetic marker technology capability to enhance Australian potato breeding*

Tony Slater, Department of Primary Industries, Victoria, Australia

14.35h *Exploiting Genetic Variation for Elevated Mineral Concentrations in Potatoes*
Nithya Subramanian, Scottish Crop Research Institute, Dundee, United Kingdom

15.00h Tea break

Pathogen Resistance

Chair: Jari Valkonen

15.30h *Additional genetic factors behind the responsiveness and higher levels of virus resistance expressed by potato genotypes carrying virus-specific R genes*
Jari Valkonen, University of Helsinki, Helsinki, Finland

15.50h *Exploring intragenic approaches towards disease resistance in potatoes*
Sathiyamoorthy Meiyalaghan, The New Zealand Institute for Plant & Food Research Christchurch, New Zealand

16.10h Excursion (please see description on page 24)

19.00h Conference Dinner at Doorwerth Castle

Wednesday June 30

8.00h Coffee

Pathogen Resistance continued

8.30h *Breeding research for main virus resistance in potato*
Ewa Zimnoch-Guzowska, Plant Breeding and Acclimatization Institute, Młochów, Poland

8.50h *Physical map and comparative genomics of the potato cyst nematode resistance locus HI at three haplotypes in potato*
Anna Finkers-Tomczak, Nematology, Wageningen University, Wageningen, the Netherlands

Quality Traits

Chair: Richard Visser

9.10h *Identification of genes that impact on potato tuber colour, flavour and texture using transcriptomic and transgenic approach*
Mark Taylor, Scottish Crop Research Institute, Dundee, United Kingdom

9.30h *Mapping and validation of QTL for after-cooking darkening*
David De Koeper, Agriculture and Agri-Food Canada, Fredericton, NB, Canada

9.50h *Potato Tuber Bruising: Some are more hurt than others*
Claude Urbany, Max Planck Institute for Plant Breeding Research, Cologne, Germany

10.10h Coffee break

Quality Traits continued

- 10.40h *Dynamic of senescence-related QTLs in potato using time series data*
Paula Hurtado Lopez, Plant Breeding, WUR, Wageningen,
the Netherlands
- 11.00h *A comprehensive approach to study quantitative traits using After-Cooking
Darkening as a model*
Gefu Wang-Pruski, Nova Scotia Agricultural College, Truro, Canada
- 11.20h *Identification of alternative oxidase marker alleles associated with reducing sugar
content in diploid potato tubers*
Dominika Czyzewska, Plant Breeding and Acclimatization Institute, Młochów,
Poland
- 11.40h *From marker to function: The role of natural variation of starch phosphorylase
in cold sweetening*
Anna Camila Nader-Nieto, Max Planck Institute for Plant Breeding Research,
Cologne, Germany
- 12.00h *Breeding for improved tuber internal quality and processing quality traits*
Jiwan Palta, University of Wisconsin, Madison, United States of America
- 12.20h Lunch
- 13.15h Section Meeting

Omics Studies

Chair: Glenn Bryan

- 13.40h *Interpreting and exploiting genome data based on suitable integrated
bioinformatics platforms*
Maria Luisa Chiusano, University Federico II of Naples, Naples, Italy
- 14.00h *An integrated genome wide genetic map of sequenced NBS-LRR disease
resistance
gene homologues (RGH) and resistance loci in potato*
Erin Bakker, Nematology, Wageningen University, Wageningen, the
Netherlands
- 14.20h *An integrative -omics approach for studying potato tuber quality traits*
Bjorn Kloosterman, Plant Breeding, WUR, Wageningen,
the Netherlands
- 14.40h *QTL analysis and linking QTLs to Tomato and Potato genomes at SGN
Database*
Isaak Tecele, Boyce Thompson Institute for Plant Research, Cornell University,
United States of America
- 15.00h Closure and tea break