



Preliminary studies regarding the *Potato virus Y* status in seed potatoes in Romania (for several cultivars)

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The cultivar's selection is essential, being one of the most important critical component in the PVY control. Potato varieties which demonstrate some resistance to PVY can be managed effectively in most regions and maintain their certification status. However, knowledge regarding each cultivar's reaction to PVY and the various strains of PVY (especially the necrotic one) are critical. This preliminary studies investigating the status of the *Potato virus Y* (PVY) during three years (2013, 2014 and 2015), in five main seed potato growing areas of Romania, revealed large differences in PVY incidence. The samples tested were from the following cultivars: Christian, Roclas (romanian cv.), Riviera, Carrera, Hermes and Red Lady. The tests largely confirmed the predominance of the PVY^N group. So, serological investigations showed that 40.7% of the PVY positive samples in 2013, 50.9% of the PVY positive samples in 2014 and 70.4% in 2015, viruses belonging to the PVY^N group were found. Within this group, the prevalence of recombinant PVY^{NTN} (for the cv. Hermes and Carrera) and PVY^{Wilga} (for the other cultivars) respectively was confirmed by the tests.

Key words: seed potato, potato virus Y, necrotic strains.

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**16th TRIENNIAL MEETING OF THE VIROLOGY SECTION OF THE
EUROPEAN ASSOCIATION OF POTATO RESEARCH**
&
8th ANNUAL MEETING OF PVYWIDE ORGANIZATION

May 31st – June 3rd 2016
Ljubljana, Slovenia



It is our pleasure to welcome you at the **16th triennial meeting of the Virology Section of the European Association of Potato Research (EAPR)**, which is combined with the **8th annual meeting of PVYwide organization**.

The meeting is held from **May 31st till June 3rd 2016** in Ljubljana, Slovenia.

The programme consists of plenary talks, oral presentations, poster sessions and scientific excursion. The meeting covers different aspects of virus research in potatoes, ranging from diagnosis and detection to plant-virus interactions.

Welcome to Ljubljana!

Adrian Fox,
on behalf of the Virology Section of EAPR

Christophe Lacomme,
on behalf of PVYwide organization

Maruša Pompe-Novak,
on behalf of Organizing committee

COMMITTEES

Scientific committee:

- Adrian Fox
- Christophe Lacomme
- Annelien Roenhorst
- Jan Kreuze
- Laurent Glaïs
- Brice Dupuis
- Dirk Bellstedt
- Maja Ravnikar
- Maruša Pompe-Novak

Organizing committee:

- Maruša Pompe-Novak
- Maja Ravnikar
- Ana Mihevc
- Polona Kogovšek
- Nataša Mehle
- David Dobnik
- Peter Dolničar
- Irena Mavrič-Pleško



Program at glance

	Tuesday May 31st	Wednesday June 1st	Thursday June 2nd	Friday June 3rd
8:30 - 9:00				PVYwide meeting
9:00 - 9:30				Scientific session
9:30 - 10:00				CB, Posters
10:00 - 10:30				CB, Posters
10:30 - 11:00				Scientific session
11:00 - 11:30				Visit of National institute of Biology
11:30 - 12:00				BM
12:00 - 12:30	Registration			Closing
12:30 - 13:00				
13:00 - 13:30	Lunch			
13:30 - 14:00				
14:00 - 14:30	Opening		Lunch	
14:30 - 15:00				
15:00 - 15:30				
15:30 - 16:00				
16:00 - 16:30	CB, Posters			
16:30 - 17:00				
17:00 - 17:30				
17:30 - 18:00				
18:00 - 18:30				
18:30 - 19:00				
19:00 - 19:30				
19:30 - 20:00				
20:00 - 20:30				
20:30 - 21:00				
21:00 - 21:30				
21:30 - 22:00	Welcome dinner	Dinner	Congress dinner	

PROGRAM

Tuesday, 31st of May

12:00 - 14:00	Registration
13:00 - 14:00	Lunch

Chair: Maruša Pompe Novak

14:00 - 14:20	Opening
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Session 1: Diversity and evolution

Chair: Maruša Pompe Novak

14:20 - 15:20	Invited speaker	Marilyn J. Roossinck	Spillover/spillback of agricultural viruses into wildland plants
15:20 - 15:40	Oral presentation 1	Dirk Bellstedt	Why are some PVY recombinant strains replacing the older non-recombinant strains?
15:40 - 16:00	Oral presentation 2	Denis Kutnjak	Discovering potato virus Y within-plant population structure changes with deep sequencing of small RNAs

16:00 - 16:30	Coffee and Posters 1 - 3
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Session 1: Diversity and evolution

Chair: Dirk Bellstedt

16:30 - 16:50	Oral presentation 3	Jerzy Syller	The effects of within-host interactions between isolates of Potato virus Y on virus accumulation in some solanaceous plants
16:50 - 17:10	Oral presentation 4	Maruša Pompe Novak	The influence of the potato circadian rhythm on the disease development after infection with PVY
17:10 - 17:30	Oral presentation 5	Renate Koenig	Characterization of several groups of Tobacco rattle virus (TRV) RNA1s and RNA2s and recognition of different TRV RNA1/RNA2 pairings in various corky ringspot-infected potato-growing areas in Germany
17:30 - 17:50	Oral presentation 6	Renate Koenig	Detection of a variably sized internal poly A tract ('IPAT') in a new type of Tobacco Rattle Virus (TRV) RNA2

Session 5: Diagnostic and detection methods

Chair: Dirk Bellstedt

17:50 - 18:10	Oral presentation 35	Victor Gaba	The detection of Potato virus Y in seed potato lots in Israel by a TaqMan Real Time PCR technique
18:10 - 18:30	Oral presentation 39	Colin Jeffries	The United Kingdom Potato Quarantine (UKPQU): an accredited off-shore potato quarantine station for New Zealand and an approved source of high health material for Australia

18:30 - 20:30	Guided tour around Ljubljana
20:30 - 22:00	Welcome dinner

Wednesday, 1st of June

Session 2: Plant - virus interactions

Chair: Christophe Lacomme

8:30 - 9:30	Invited speaker	Kristina Gruden	Modelling of potato immune signaling response
9:30 - 9:50	Oral presentation 7	Aleš Sedlar	Differential gene expression patterns in PVYNTN infected potato tubers
9:50 - 10:10	Oral presentation 8	Polona Kogovšek	Primary metabolism, phenylpropanoids and antioxidant pathways are regulated in potato as a response to Potato virus Y infection
10:10 - 10:30	Oral presentation 9	Zhimin Yin	Host miRNA response in leaves of PVY infected tobacco plants
10:30 - 10:50	Oral presentation 10	Maja Križnik	Identification and characterization of small RNAs involved in tolerance response of potato (<i>Solanum tuberosum</i> L.) to Potato virus Y (PVYNTN)
10:50 - 11:10	Oral presentation 11	Špela Baebler	Enhancing understanding of potato – virus interactions using GoMapMan

11:10 - 11:40	Coffee and Posters 4 - 11
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PROGRAM

Session 2: Plant - virus interactions

Chair: Jan Kreuze

11:40 - 12:00	Oral presentation 12	Elena Voronkova	Novel DNA locus associated with PVY resistance in potato is mapped to chromosome V
12:00 - 12:20	Oral presentation 13	Douglas Pyott	Engineering of CRISPR/Cas9-mediated virus resistance in transgene-free <i>Arabidopsis</i> plants
12:20 - 12:40	Oral presentation 14	Anna Coll	GenoCAD plant grammar, a Computer-Aided Design software tool for plant expression vectors

Session 3: Transmission and control

Chair: Jan Kreuze

12:40 - 13:00	Oral presentation 15	Johanna W. (Annelien) Roenhorst	Lessons learned from potato spindle tuber viroid infections in potato plants in the Netherlands
13:00 - 13:20	Oral presentation 16	Christophe Lacomme	Genetic Diversity of PVY isolates in Potato Crops: Impact of Strain Competition and Ability to Overcome Host Resistance Mechanisms
13:20 - 13:40	Oral presentation 17	Pankaj Kumar	Recombinant strains of Potato virus Y overcome mature plant resistance in <i>Solanum tuberosum</i> L.
13:40 - 14:00	Oral presentation 18	Adrian Fox	The transmission of PVY and PVA in the UK

14:00 - 15:00	Lunch
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Session 3: Transmission and control

Chair: Annelien Roenhorst

15:00 - 15:20	Oral presentation 19	Brice Dupuis	The influence of aphids flights on the transmission of the potato virus Y (PVY) in the field
15:20 - 15:40	Oral presentation 20	Jean-Louis Rolot	Fighting strategies against PVY dissemination in a potato seed multiplication field: comparison of several methods using insecticides (systemic and pyrethroids) and paraffinic mineral oils
15:40 - 16:00	Oral presentation 21	A. Mityushkin	Minimizing of sources and vectors of virus infections on seed potatoes in the Central region of Russia
16:00 - 16:20	Oral presentation 22	Uta Priegnitz	Virus control in Ugandan seed potato tubers over multiple field generations by applying different seed technologies
16:20 - 16:40	Oral presentation 23	José Alberto Caram De Souza Dias	Potato virus Y (PVY): Attempts toward bio-immune monitoring system for potato and tobacco production of propagating material
16:40 - 17:00	Oral presentation 24	Jan Kreuze	A process based epidemiological model for the Potato yellow vein virus – <i>Trialurodes vaporariorum</i> (greenhouse whitefly) - potato pathosystem

17:00 - 17:30	Coffee and Posters 12 - 16
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17:30 - 20:00	Tour to Postojna cave
20:00 - 22:00	Dinner

Thursday, 2nd of June

Session 4: Epidemiology

Chair: Brice Dupuis

8:30 - 8:50	Oral presentation 25	Stewart Gray	Evolving disease dynamics of the Potato virus Y complex affecting the U. S. potato crop: A group effort between selection pressures and farming practices
8:50 - 9:10	Oral presentation 26	Zofia Wojcik	Trends in PVY population changes in Poland
9:10 - 9:30	Oral presentation 27	Piret Peterson	Viruses in Estonian seed potatoes; Strains of Potato Virus Y
9:30 - 9:50	Oral presentation 28	Asmaa Youssef	Serological, Molecular and Biological Characterization of Potato Virus Y Isolates from Potato in Sweden
9:50 - 10:10	Oral presentation 29	Antonia dos Reis Figueira	Occurrence of Potato virus Y strains in Brazil and quantification in single and mixed infections by qRT-PCR
10:10 - 10:30	Oral presentation 30	Cigdem Ulubas Serce	Survey and detection of Potato virus Y (PVY) and its strains from the Nigde province of Turkey

10:30 - 11:00	Coffee and Posters 17 - 18
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PROGRAM

Session 4: Epidemiology

Chair: Laurent Glais

11:00 - 11:20	Oral presentation 31	Hakan Carpar	Determination of PVY and AMV infection in weeds in potato fields in Hatay-Turkey
11:20 - 11:40	Oral presentation 32	Üftade Güner	Screening of Potato Virus Y (PVY) Strains in Potato, Weeds and Aphid Samples in Bolu Province (Turkey)
11:40 - 12:00	Oral presentation 33	Gulsen Sertkaya	Status of Natural Alfalfa mosaic virus (AMV) Infection in Potatoes in Hatay-Turkey

12:00 - 14:00	Visit of National Institute of Biology
14:00 - 14:30	Lunch at NIB
14:30 - 18:00	Visit of experimental fields at Jablje

18:00 - 20:00	Tour to Bled lake
20:00 - 22:00	Congress dinner

Friday, 3rd of June

Chair: Christophe Lacomme

8:30 - 9:30	PVYwide meeting
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Session 5: Diagnostic and detection methods

Chair: Maja Ravnikar

9:30 - 9:50	Main sponsor	Adam Bemis	Ultrasensitive Rare Sequence Detection with Droplet DigitalTM PCR
9:50 - 10:10	Oral presentation 34	Denise Altenbach	Potato DNA/RNA rapid extraction suitable for molecular test systems such as qPCR and PCR macroarray
10:10 - 10:30	Oral presentation 36	Olivier Schumpp	High throughput qPCR detection of virus for certification of seed potatoes

10:30 - 11:00	Coffee and Posters 19 - 24
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Session 5: Diagnostic and detection methods

Chair: Adrian Fox

11:00 - 11:20	Oral presentation 37	Pruthvi Kalyandurg	Sequencing and Molecular Characterization of Peruvian Potato mop-top virus full-length cDNAs Reveals Two Genotypes and Evidence for Recombination
11:20 - 11:40	Oral presentation 38	Carolyn Nisbet	A proficiency test for potato infecting phytoplasmas
11:40 - 12:00	Oral presentation 40	Maja Ravnikar	New technologies for diagnostics and epidemiology of viruses

Chair: Adrian Fox

12:00 - 12:40	EAPR Virology Business meeting
12:40 - 13:00	Closing

ABSTRACTS

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