

Dickeya Workshop, SASA, Edinburgh 7-8th May 2009

Conference Report

Organiser and contact person: Dr. Gerry Saddler (SASA)

Chairperson: Prof. Ian Toth (SCRI)

Dickeya species (formerly *Erwinia chrysanthemi*) are pathogens of increasing importance on potato and other crops / ornamentals world-wide. In recent years some species, including *D. dianthicola* and related pathogens (referred to herein as *D. dianthicola*) have caused disease problems on potato in some European countries and in Israel and, as a consequence, a number of teams within Europe/Israel are undertaking research on the biology of this pathogen. The purpose of the workshop was to gather representatives from the main research centres in Europe with the intention, where possible, of coordinating research efforts across Europe and sharing research information. Representatives from Belgium (ILVO), Finland (University of Helsinki), France (INRA, FNPPPT), Israel (ARO), Netherlands (PRI), Poland (University of Gdansk) and UK (FERA, PCL, RERAD, SCRI, SASA) attended the workshop.

The workshop consisted of a number of presentations covering relevant research within in each organisation followed by a general discussion session at the end of each day. On the first day, scientists from the UK described a Scottish Government (RERAD)-funded project to improve knowledge of *D. dianthicola* as a prelude to keeping Scottish seed free from the disease. On the second day, scientists from other countries described their research on *D. dianthicola*. During the workshop both information and ideas were exchanged and in the final discussion a number of recommendations were agreed between all participants.

Recommendations

- 1) **Sharing information:** Following agreement with all participants, all presentations from the workshop were collated onto CD and distributed to each participant.
- 2) **Common methods compendium:** Methods for strain isolation, diagnostics, fingerprinting and pathogenesis will be collated and distributed as a booklet, on CD or through the internet (**Action: IPO, SCRI**).
- 3) **Common image library:** Most presentations included images of disease symptoms and it was agreed that these would be an invaluable resource for discussions with field inspectors, growers, agronomists, and other stakeholders. It was agreed to collect and distribute these images (with the source acknowledged, e.g. through watermarking) between groups (**Action: IPO, SCRI**).
- 4) **Dickeya web site:** A proposal was made to generate a *Dickeya* website to house common information (including (1) and (2) the above) (**Action: ILVO, SCRI**).
- 5) **Exchange of strains and common fingerprint profiles:** There was an agreement to exchange isolates to ensure common points of reference in strain characterisation and to send all relevant isolates to both FERA and IPO for *recA* and *dnaX* fingerprinting, respectively (**Action: IPO, FERA**).

- 6) **Sequencing European isolates:** To ensure that sequence information remains relevant across Europe, it was agreed to add one or more European isolates (including the main isolate used for research by IPO) to those currently being sequenced in the UK. This sequence information, where possible, will be made available to other groups. All *D. dianthicola* sequence information will be fed into a common analysis pipeline / database being developed at SCRI. All groups were encouraged, where possible, to obtain funding for sequencing relevant regional isolates for inclusion in the database. To allow standard analysis of sequenced isolates, groups are encouraged to discuss sequence method and coverage with SCRI prior to sequencing (**Action: SCRI, Helsinki**).
- 7) **Next International *Erwinia* Workshop 2010:** It was announced that the next International *Erwinia* Workshop (IEW), last held in Dundee UK in 2006, would take place in Reunion prior to the International Conference on Plant Pathogenic Bacteria (ICPPB) in July 2010. Further details will be distributed shortly (**Action: SCRI**).
- 8) **Next *Dickeya* workshop:** It was provisionally agreed that the next *Dickeya* workshop would take place in Wageningen in 2011 (**Action: IPO**), although Ge van den Bovenkamp, who could not attend the meeting, suggested afterwards that perhaps this meeting could be brought forward to 2010 for those unable to attend the *Erwinia* workshop / ICPPB in Reunion.
- 9) ***Dickeya* review:** It was agreed that a publishable review on *D. dianthicola* would be written describing the latest knowledge and research outcomes from across Europe/Israel. The writing of this review is to be coordinated by the Dutch and UK groups but will involve other groups at the workshop (**Action: FERA, SCRI, IPO**).
- 10) **Collaboration and EU funding:** Although there was a general agreement to continue to collaborate informally (i.e. without joint funding), information on EU funding / COST actions will be gathered and distributed by various groups. A decision will then be taken on the best approach to gain joint EU funding in the future (**Action: all groups**).
- 11) **Polypectate:** The INRA group will contact other members of the *Dickeya* workshop once the use of their new polypectate has been published and a commercial supplier found (**Action INRA**).

***Dickeya* Workshop**

7 – 8 May, 2009

SASA, Edinburgh, UK

Thursday 7 May, 2009

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| 12:00 – 13:00 | Lunch |
| 13:00 – 13:15 | Welcome, introductions and domestic arrangements Gerry Saddler SASA, Edinburgh, UK |
| 13:15 – 13:30 | Outline of the project ' <i>Dickeya dianthicola</i> - A Threat to Scottish Seed Potatoes' Ian Toth SCRI, Dundee, UK |
| 13:30 – 14:00 | The status of <i>Dickeya</i> spp. in Scotland and preliminary results on pathogenicity and diversity studies Gerry Saddler, Gosia Kowalewska and Greig Cahill SASA, Edinburgh, UK |
| 14:00 – 14:30 | Status of <i>Dickeya</i> spp. on potato in England and Wales John Elphinstone FERA, York, UK |
| 14:30 – 15:00 | RecA phylogeny of <i>Dickeya</i> isolates from European and worldwide origins Neil Parkinson FERA, York, UK |
| 15:00 – 15:30 | Coffee Break |
| 15:30 – 16:00 | Preliminary results from the project including initial findings from the genomic analysis of <i>Dickeya</i> spp. Ian Toth SCRI, Dundee, UK |
| 16:00 – 17:00 | General Discussion |
| 17:00 | Depart to hotel by bus (Jurys Inn (Edinburgh), 43 Jeffrey Street, Edinburgh (http://edinburghhotels.jurysinns.com/jurysinn_edinburgh)) |

Friday 8 May, 2009

- 8:30 Depart from hotel to SASA
- 9:00 – 9:30 Epidemiology, diagnostics, taxonomy and control of *Dickeya* spp. in The Netherlands
Jan van der Wolf
Plant Research International, Wageningen, The Netherlands
- 9:30 – 10:00 Current research and the status of *Dickeya* spp. in Israel
Leah Tsrur
Agricultural Research Organization, Negev, Israel
- 10:00 – 10:30 The status of *Dickeya* spp. in Poland
Ewa Lojkowska
University of Gdansk, Poland
- 10:30 – 11:00 Coffee Break
- 11:30 – 12:00 Current research and the status of *Dickeya* spp. in Finland
Minna Pirhonen
University of Helsinki, Finland
- 12:00 – 12:30 Detection and characterization of *Dickeya* spp. from seed potatoes in Belgium
Johan Van Vaerenbergh
Department of Agriculture, ILVO - Plant: Crop Protection, Merelbeke, Belgium
- 12:30 – 13:30 Lunch
- 13:30 – 14:00 Current research and the status of *Dickeya* spp. in France
Yves Le Hingrat & Valérie Hélias
INRA/FNPPPT, Hanvec, France
- 14 :00-15 :00 General Discussion
- 15 :00 – 15 :30 Coffee Break
- 15 :30 – 16 :30 Tour of SASA
- 16 :30 – 17 :00 Closing Remarks & Farewells
- 17 :00 Depart to hotel and railway station by bus

Participants

Gerry Saddler, SASA, UK

Greig Cahill, SASA, UK

Gosia Kowalewska, SASA, UK

Karen Fraser, SASA, UK

Pieter van de Graaf, SASA, UK

John Kerr, SASA, UK

Colin Jeffries, SASA, UK

Robert Burns, The Scottish Government, UK

Ian Toth, SCRI, UK

Sonia Humphris, SCRI, UK

Michel Perombelon, SCRI, UK

John Elphinstone, FERA, UK

Neil Parkinson, FERA, UK

Mark Prentice, Potato Council Ltd., UK

Yves Le Hingrat, FNPPPT, France

Johan Van Vaerenbergh, ILVO, Belgium

Minna Pirhonen, University Helsinki, Finland

Ewa Lojkowska, University of Gdansk, Poland

Leah Tsrer, Agricultural Research Organization, Israel

Jan van der Wolf, Plant Research International, Wageningen, The Netherlands