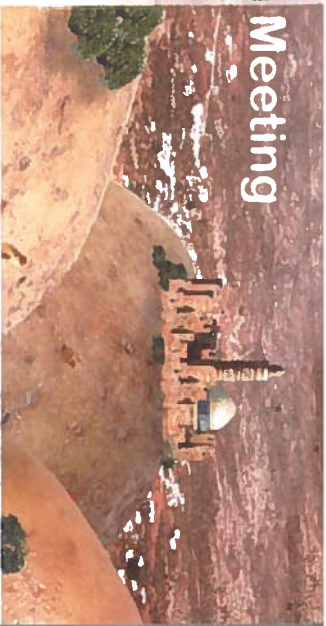




**eaprr Pathology Section Meeting**

**Climate Change/Global Warming:  
Effects on Potato Diseases/Pests**

**Jerusalem, Israel 17 - 21 November 2013**



**EUROPEAN ASSOCIATION FOR POTATO RESEARCH**

**PATHOLOGY SECTION MEETING**

Jerusalem, November 17-21, 2013



**EAPR Pathology Section Meeting - Jerusalem, Israel 17-21  
November 2013**

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## RECENT EVOLUTION OF THE POTATO VIRUS Y (PVY) POPULATIONS IN SWISS SEED POTATO PRODUCTION

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*Potato virus Y* (PVY) is considered as the most problematic potato virus for potato seed production in Europe (Rolot, 2005). This *Polyvirus* is transmitted in a non-persistent manner by aphids of various species (Woodford, 1992). PVY isolates are usually assigned to three main groups, namely PVY<sup>O</sup>, PVY<sup>N</sup> and PVY<sup>C</sup> and three variants, namely PVY<sup>NNNTN</sup>, recombinant PVY<sup>NTN</sup> and PVY<sup>N-W</sup> (Rolland et al., 2008; Singh et al., 2008; Rigotti et al., 2011). It has been demonstrated that specific PVY<sup>N-W</sup> isolates are better transmitted by aphids than PVY<sup>N</sup> isolates and are also better spread in potato fields (Dupuis & Schwaerzel, 2011; Verbeek et al., 2010). The monitoring of PVY isolates performed in Switzerland in 2003 and 2008 has shown an 100% increase of PVY<sup>N-W</sup> isolates, occurrence rising from 6% to 12% during this period (Rigotti et al., 2011). Due to the high virulence of the isolates of the PVY<sup>N-W</sup> group, it was decided to track this evolution through a new survey in 2012. PVY-positive samples based on a serological test were further characterized by molecular tests (RT-PCR) and by biological assays on tobacco. Within the PVY samples, we identified 75% of recombinant PVY<sup>NTN</sup>, 16% of PVY<sup>N-W</sup>, 5% of PVY<sup>O</sup> and 4% PVY<sup>N</sup>. This data confirmed the increasing incidence of PVY<sup>N-W</sup> in Switzerland. Nevertheless, this 33% increase in the last 4 years is lower than the 100% increase observed between 2003 and 2008. It seems that incidence of the PVY<sup>N-W</sup> group shows a trend toward stabilization in Swiss seed potato production fields.

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