



**HAL**  
open science

# Virulence and adaptation of Potato virus Y (PVY) on *Nicotiana tabacum* varieties carrying recessive resistance va gene

Christelle Lacroix, Michel Tribodet, Laurent Glais, Emmanuel Jacquot

## ► To cite this version:

Christelle Lacroix, Michel Tribodet, Laurent Glais, Emmanuel Jacquot. Virulence and adaptation of Potato virus Y (PVY) on *Nicotiana tabacum* varieties carrying recessive resistance va gene. 80. Annual general meeting of the canadian society of phytopathology, Jun 2009, Winnipeg, Canada. hal-02752331

**HAL Id: hal-02752331**

**<https://hal.inrae.fr/hal-02752331v1>**

Submitted on 3 Jun 2020

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

**Annual general meeting of the Canadian Phytopathological Society  
Winnipeg, Manitoba. June 22 to 25th, 2009**

Oral presentation

**Virulence and adaptation of *Potato virus Y* (PVY) on *Nicotiana tabacum* varieties carrying recessive resistance gene “*va*”.** C. Lacroix, M. Tribodet, L. Glais, E. Jacquot. INRA, Agrocampus Ouest, Univ. Rennes 1, UMR1099 BiO3P (Biology of Organisms and Populations applied to Plant Protection), BP 35327, F-35653 Le Rheu.

*Potato virus Y* (PVY, genus *Potyvirus*) infects a wide range of host plants including solanaceous species. PVY is the most damaging virus affecting tobacco. Three allelic forms (0, 1 and 2) of the “*va*” recessive resistance gene have been introduced in numerous *Nicotiana tabacum* varieties. To test the impact of “*va*” on PVY natural populations, the virulence of 86 isolates collected from French tobacco fields was characterized using susceptible and “*va*” resistant tobacco genotypes as hosts. Most of the tested isolates infect both susceptible and resistant genotypes. Moreover, virulence of PVY isolates collected on various resistant tobacco varieties is broader than the one observed for isolates collected on susceptible ones. To assess the adaptation of PVY isolates to the gene “*va*”, serial passages of a PVY infectious clone were initiated on tobacco genotypes B0 and V2 carrying alleles 0 or 2 of the “*va*” gene, respectively. A first passage of the infectious PVY clone on test plants led to the production of only a few (15/130) V2 infected plants. These viral populations produced in V2 infected hosts were able, after a second passage on test plants, to efficiently infect both B0 (192/450) and V2 (273/450) lineages. This reveals a fast adaptation dynamics of the infectious PVY clone used.

Person presenting the abstract: C. Lacroix, PhD. Student  
Phone number: (00 33) 223485163  
e-mail: christelle.lacroix@rennes.inra.fr

Contact person: E. Jacquot, PhD.  
Phone number: (00 33) 223485817  
e-mail: emmanuel.jacquot@rennes.inra.fr