Monitoring *Phytophthora infestans* in Europe

May 21, 2016

Introduction
The changing populations of the late blight pathogen *Phytophthora infestans* in Europe stress the need for constant monitoring of population structures and characterisation of invasive genotypes, to understand the reasons for these changes and finally predict them. The clonal lineage 13_A2 (Blue 13) became dominant in various countries after 2004 thanks to its increased aggressiveness. Since 13_A2 is also usually resistant to metalaxyl, control strategies had to be adapted. The clonal lineage Green 33 with reduced sensitivity to fluazinam was detected in the Netherlands in 2009. Control strategies were adapted and this lineage is now rarely found which indicates the benefits of the monitoring.

Monitoring 2016
This project aims to collect 1000-1500 late blight samples from the main potato growing regions in Europe. The goal is to capture as much genotypic variation as possible by sampling many outbreaks. Samples are analysed using standardised 12 plex Euroblight SSR genotyping. The results will provide insight in the international, national and regional structures of the *P. infestans* EU population through e.g. the proportion (and dynamics) of the different currently known clonal lineages (e.g. Green33, Blue13, Pink6 etc.) and unique genotypes in the population.

Participating companies/institutes will receive FTA-cards on which the samples can be collected and stored. Detailed instructions on how to use, store and return the cards will be provided. The SSR profiles will be stored in the EuroBlight database and matched to known genotypes. At the end of the season the results will be made available to the participants. Data are owned by the submitting company/institute. All data are however available to all participants in anonymized form through the summarizing analysis and comparison tools available on the EuroBlight web site. In a later stage these data will become public through e.g. joint publication(s).

Costs
At the beginning of the project, participants indicate how many FTA-cards they want to receive. One FTA card represents 1 field with 2 samples. 1 sample will be analysed, the second sample serves as a back-up sample. Costs for the SSR analysis + reporting and modification of the Euroblight website/database are 1.50€ per card supplied and 21.50€ for each card returned for analysis. Participants will receive an invoice for the number a FTA-cards received plus the number of FTA cards analysed. The minimum number of SSR cards ordered is 50.

Particpants
ADAMA, BASF, Bayer, Syngenta, Belchim, DuPont, Makteshim Agan, Gowan, HZPC, Certis, CRA-W, Agriphar, Cyprus University of Technology, Phytophthora consortium France (Germicopa et al), Bayerische Landesanstalt für Landwirtschaft, Swedish University of Agricultural Sciences

Geert Kessel & Huub Schepers

David Cooke

Jens Grønbech Hansen

Didier Andrivon