



### What is EuroBlight?

Late and early blight, caused by *Phytophthora infestans* and *Alternaria* spp. respectively, severely threaten the foliage and tubers of potato crops and cause losses in other important food crops such as tomato. In Europe, the cost of late blight alone, including control and losses, is estimated at about 900 M€ a year. Despite recent breakthroughs, continued research and extension efforts are needed fully to achieve integrated pest management (IPM) strategies, as required by EU Directive 2009/128/EC.

What are the drivers for pathogen changes and adaptation? How can we work together in Europe and beyond via an effective data management and communication infrastructure? How can we improve existing decision support systems to maximize the effect of host resistance and fungicides whilst mitigating the risk of reduced efficacy of these important control measures due to pathogen change?

These and many other questions remain the rationale for 'EuroBlight', an ongoing network of approximately 200 scientists and industry representatives, launched with initial funding from the EU. This network has met regularly since 2006 at EuroBlight Workshops with a clear overall objective: to identify, evaluate and combine the best possible tools to predict, manage and control late and early blight epidemics. The EuroBlight network and the associated information system (euroblight.net and databases) is a unique collaborative platform from which the challenges that early and late blight pose can be tackled. Its biennial workshops allow key research and extension priorities to be identified and formulated into collective statements that underpin joint actions and international collaborations for improved IPM strategies. The 16<sup>th</sup> EuroBlight Workshop, held in Aarhus, Denmark in May 2017, brought together 110 participants from Europe, South America, USA, Africa, Israel and China to share research results and identify current challenges and opportunities.

### Major achievements and breakthroughs from past EuroBlight statements

Europe-wide monitoring of *P. infestans* populations, carried out yearly by EuroBlight partners since 2013 (> 5300 isolates collected and genotyped using SSR markers), confirmed that these populations are constantly evolving and can be subject to periodic invasions by novel genotypes. In 2016, several new clonal lineages (notably 36\_A2 and 37\_A2) suddenly emerged, and early phenotyping suggests that they might be highly aggressive to potato crops. Similarly, surveys of *Alternaria* populations show the progressive expansion of genotypes less sensitive to fungicides. EuroBlight has thus proved its value as a fast-reaction, coordinated infrastructure able to rapidly detect ongoing changes in blight pathogen populations that require a response from all stakeholders including potato breeders, the agrochemical industry, extension services and growers.

A major step towards linking phenotypic and genotypic traits was the successful launch of [IPMBlight2.0](#), a 3-year ERANET C-IPM project, in 2016. Preliminary results, presented during the Aarhus workshop, include the detection and characterisation of new, aggressive clones which may endanger host resistance and the sustainability of other control measures. In view of these recent advances, but also of the current knowledge gaps and urgent issues, EuroBlight members present in Aarhus unanimously support the following recommendations:

### Recommendation 1: Monitor populations of blight pathogens

**Continue to monitor populations of blight pathogens, as this information is crucial for the optimal deployment of sustainable control strategies.**

*EuroBlight wishes to continue its involvement in pathogen monitoring in Europe and beyond. However, it recommends that a coordinated and continuous long-term monitoring effort would be best supported through National Action Plans for IPM implemented in EU member states. EuroBlight stresses that such a coordinated scheme which can be easily transposed to other major crop pathogens, should: 1) consolidate an EU (global) network of reference laboratories for pathogen characterisation; 2) improve, harmonise and distribute protocols for sampling, storing and phenotyping isolates, including the development of 'fast phenotyping' methods; and 3) manage and exploit a database and communication infrastructure, so that geo-referenced data on pathogen composition, host resistance and fungicide performance can be evaluated in a European context and additionally, can be integrated with national and regional information systems and DSSs where growers regularly seek information and support.*



**Recommendation 2:  
Integrate tools and  
services into IPM  
strategies**

**Develop and evaluate integrated control strategies combining chemical and non-chemical control methods, management practices, sensor techniques etc.**

*EuroBlight will pursue its evaluation of management tools for the control of late and early blight and encourage expansion of the range of options available (new chemistry, biocontrol products, new sources of resistance, precision farming tools etc.) It will provide updated information on the current best practices for IPM against early and late blight on the EuroBlight website. The EuroBlight network is ideally placed to test innovative ideas and strategies through participatory actions. EuroBlight is also willing to help in the review of IPM status in 2018 from National countries to the EU, and to play an active role in the assessment of more complex and integrated blight control systems. The availability of a wide array of active substances and modes of action is vital to both IPM strategies and strategies for the avoidance of resistance development. This requirement is challenged by the stringent execution of EU Legislation 1107/2009 in EU28, which restricts the use of currently available options and delays access to innovative biological and chemical solutions in EU28 compared with other regions.*

**Recommendation 3:  
React to global changes in a coordinated way**

**Ensure a coordinated and participatory response to rapid and global changes - e.g. impact of trade and environmental change on pathogen distribution and spread.**

*EuroBlight recognises the intensive intercontinental trade in potato and tomato and the risk of worldwide dissemination of invasive genotypes. Preparedness for global changes will require continued cooperation between the continental networks – Europe (EuroBlight), USA (USABlight), Latin America (Tizón Latino) and Asia (AsiaBlight). EuroBlight will continue to contribute its tools and information platforms to the other networks for the stimulation of collaboration and sharing of data. EuroBlight will endeavour to propose topics and suggestions to funding agencies to promote cooperative, transcontinental projects and infrastructures.*

**Recommendation 4:  
Ensure best use and dissemination of data and tools**

**Disseminate analytical technologies, data and data management tools and software for the benefit of all stakeholders.**

*EuroBlight recognises that the value and visibility of its databases and web tools can be further enhanced to the benefit of a range of stakeholders. EuroBlight commits to reinforce its dissemination efforts towards the academic and scientific community, extension specialists, teachers and end-users. EuroBlight will develop a policy regarding data management and use, to make its data and results available to a wider audience.*

**Contact**

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