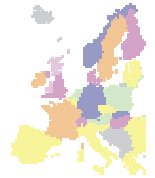




# EuroBlight Workshop

## Hamar, Norway 28-31 October, 2008

Summary of subgroup discussions and recommendations



19 December, Jens G. Hansen, Alison Lees, Huub Schepers & Greg Forbes

### **Session 6: Plenary session – outlook and new initiatives** (Chairman: Jens G. Hansen)

In this session ideas for new initiatives, projects and network activities were presented by: Workshop Subgroup on fungicides, Workshop Subgroup on Collecting and analysing pathogen and host resistance data, input from ENDURE (Huub Schepers) and GILB (Greg Forbes).

Normal text relates to subgroup presentations of discussion points and conclusions  
*Text in italic are the comments from the EuroBlight coordinators*

### **Outlook and initiatives as proposed by the subgroup: Collecting and analysing pathogen and host resistance data** (Presented by David Cooke)

#### **Further improve the EucaBlight Pathgen database and associated tools**

- Expand the EucaBlight database beyond Europe. *This was all ready requested at the GILB conference in Beijing, April 2009. The database and P.exe are ready to be used by countries outside Europe after minor adaptations. P.exe is currently being used in CIP, both in Peru and Ecuador. There are also plans to use P. exe in Indonesia in 2009.*
- Define and make a combined set of SSR markers available (David Cooke, SCRI and Theo van der Lee, WUR)
- Write a protocol for use of reference isolates and for calibration of equipment and methods between labs (worldwide). *Preliminary protocols and information are currently available on the EucaBlight website*
- We need a facility to identify a genotype and search for it in the database. *We have implemented a specific search for the Blue 13\_A2 genotype, but this is only available after login. A generic search feature has to be developed.*
- Diagnostic alleles, link allele combinations, convert to nomenclature, look at prevalence
- Profile of 13 A2 on the web for comparison
- Include maps for local spatial analysis and analysis of changes over countries and years
- Completion of data entry by May 2009 & publication. *David Cooke will contact data owners*
- Linking phenotype to genotype – tool does not currently exist, but could be there, relies on entry of all available data

It was discussed whether to include aggressiveness data into the database, but it was decided not to until methods and experiences have been discussed further. One approach would be to identify difficulties in the aggressiveness experiments – and propose common protocols for the different experiments. Another question is how to combine the aggressiveness data with the phenotypic and genotypic data. Some groups in the EuroBlight network (Nordic, UK and France) have combined sets of aggressiveness, genotypic and phenotypic data. Analysing these data could be a starting point. *The three groups are kindly requested to review these aspects and propose common protocols via the EuroBlight website and, at the next workshop in France, May 2010.*

## Host resistance data

- The accurate quantification of resistance can still be a problem and we need to discuss this on a global level (GILB).
- Lack of exchange of info between breeders?
- (Determine which R genes in cultivars)
- Stability of resistance over countries and years

*EucaBlight worked on these issues and obtained good results. The monitoring of the stability of resistance over countries and years is very important when new genotypes like 13\_A2 spread across Europe, and it will be very important when new cisgene potatoes are expected to be introduced in Europe. The combined database (host/pathogen) will be a very powerful tool to cope with arising research challenges and questions. Since Leontine Colon and Ulrich Darsow are no longer active in EuroBlight we need to re-establish the EuroBlight Host resistance technical group to further develop the Host part of the EucaBlight database and tools, and to discuss with GILB how to proceed from here – together with CIP/GILB and in a global multi-partner endeavour. We have also discussed with CIP the possibility of linking their host database with EuroBlight and we will follow up on this. If any EuroBlight member with a particular interest in host resistance can offer assistance then we would encourage their participation.*

## Models and DSS

- Use of resistance as a tool in DSS
- The differences between countries in same control, but with different number of sprays applied may be a result of differences in disease pressure and landscape (refer to Pete Skelsey talk).

*The information given in the EuroBlight country reports on use of DSSs indicate that most countries in Europe have a national system covering 80-90% growers and that a minor group of growers use a commercial farm specific system like Plant-Plus. In the Netherlands 30-40% of 10.000 growers use Plant-Plus or Prophy, and all growers receive SMS warning about blight risk. ENDURE recently published 4 leaflets on integrated control of late blight in Europe and use of DSS - available from ENDURE web site or via EuroBlight. In EuroBlight we will improve the information on use of DSS in Europe. We have prepared a modelling platform for test of weather based sub-models (blight weather, fungicide weathering etc.) and we have ideas for establishing a new GIS based monitoring system for early attacks of late blight covering all Europe.*

## **Outlook and initiatives as proposed by GILB** (Presented by Greg Forbes)

### **Role of GILB**

At the GILB meeting in Beijing, host resistance and farmer training were identified as major factors in developing countries, but having global impact requires more than local intervention.

GILB can enhance impact in different ways:

- Human – forum for interaction among researchers
  - In China we saw the need increase collaboration and share data
- Resistance - need accurate quantification and effective databases
  - New sources of resistance and deployment
- Epidemiology, effect of environment (weather) – understand disease in different environments
- The impact of changes in aggressiveness under different environments is a question of global interest

### **Some goals**

- Determine whether aggressiveness data can be standardised and included for comparison with genotypic data
- Link what is needed globally with the information that the database can provide – ‘a purpose driven database’
- ‘White paper’ describing problem and ways forward as ‘GILB’ to solve goals
- List of generic questions for developed and developing world that can be tackled using same approaches

GILB should develop a proposal for a future project with clear objectives that utilises databases for added value in order to:

- Target where late blight is important & then set specific goals
- Risk assessment with Geo-spatial modelling in changing climate, P.i. population
- Impact analysis of using increased resistance and farmer training
- Genotype x environment analysis
- Information management

## **Outlook and initiatives as proposed by the subgroup: Fungicide subgroup** (Presented by Huub Schepers)

### **Proposal for activities in 2009**

#### **Trials and protocols**

- Leaf blight - Fungicide trials including “new” and “old” products
- Other trials: Tuber blight, Curative activity, Alternaria & Rain fastness
- Draft protocols were discussed in Bologna - some comments received

### Tuber blight (protocol)

- A tuber blight susceptible variety. Field trial: six replicates
- Artificial inoculation of spreader rows
- Mancozeb (+cymoxanil) is used on all plots
- Once foliar blight (0.5%) is established, the test fungicides are applied (7-10 day intervals) for the remainder of season
- Assessment of blighted tubers
- 6 trials (2 years) needed for rating
- Comments
- 5-7 day intervals to stabilize blight and avoid big differences between products
- Heterogeneity in leaf blight should be assessed
- Rainfall, temp, sporulating lesions, soil conditions monitored to analyze results

### Curative efficacy (protocol)

- A late blight susceptible variety
- Artificial inoculation (potted plants or in field)
  - Droplets on leaves
  - Spray complete plant
- High RH to ensure infection
- Fungicide application after (0), (12), 24, (36), 48 hrs
- Assessment of leaves or plants
- 6 trials (1 year) needed for rating
- Comments
  - 12-15 C in stead of 18-20 C
  - Assessment of aggressiveness of inoculum
  - Include a negative standard such as mancozeb

### Rainfastness (Jersey Proceedings: p.161-163)

- A late blight susceptible variety
- Application of full dose of fungicide
- Application of rain after 1 (-4) hrs
- Amount of rain 0, 20 & 40 mm
- Inoculation on same day as fungicide and rain application
- Other elements are optional
- 6 trials (1 year) needed for rating
- Comments
  - More rain events for example after 1, 2, 3 AND 4 hours

### Alternaria solani & A. alternata (EPPO-guideline approved 2008-2009)

- An early blight susceptible variety
- Field trial: 4 replicates,  $\geq 25$  m<sup>2</sup> per plot
- Number and timing of applications should be as specified for the intended use
- (Highest dose rate registered in Europe)
- First spray shortly after flowering and repeated every 14 days (DSS?). All plots should be treated on same day
- Assessment of % infection
- (6 trials (2 years) needed for rating

## **Outlook and initiatives as proposed by the ENDURE:** (Presented by Huub Schepers)

In ENDURE the Potato Case Study produced 4 leaflets related to the integrated control of potato late blight:

- Reducing primary inoculum sources
- Decision Support Systems
- Fungicides
- Cultivar resistance

A new initiative was proposed in the frame of ENDURE: Arable System Case Study:

Working-group potato-based rotations:

- System analysis
- IPM scenarios
- Innovative systems
- Bottlenecks & recommendations
- Reporting & dissemination

*Unfortunately this proposal was not approved by ENDURE due to limited budgets. EuroBlight partners are encouraged to contribute with presentations on these issues on the next workshop.*

## **Instructions to authors**

### **Deadline:**

The organising committee must have the manuscript **before 31 January 2009**. Manuscript received after that date cannot be printed in the Proceedings.

### **Format:**

Please mail the manuscript in Microsoft Word. Please make the layout of the manuscript (text + figures + tables) as simple as possible (=standard, no bold or underlined words, black and white etc.). Mail text, figures, photos and tables as separate documents. Indicate in the text where the figures, photos and tables are to be placed. The final layout will be made by the editors.


### **Fonts:**

Use Garamond or Adobe Garamond Pro 12 points

### **Margins:**

Top/bottom/left/right: 2.5 cm/3.5 cm/2.5 cm/2.5 cm

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In the “previewcommentsadds” document the layout of the manuscript is explained. Please follow these instructions carefully. The editors can decide to return the manuscript when the layout is not conform the instructions. Find the Instruction to authors and the “previewcommentsadds” document under Events and then the Name of the meeting (Workshop Hamar). Select the icon  to open list of files.

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