

Sub group Epidemiology and decision support

St Petersburg
12 October 2011



PLANT RESEARCH INTERNATIONAL
WAGENINGEN UR

Subgroup epidemiology and decision support

- 18 people present
- Presentations on:
 - Ragnhild Naerstad:
Exploiting cultivar resistance in plb control
 - Tongle Hu:
China blight, A web based dss for plb management in China
 - Alison Chapman:
The changing *P. infestans* population: implications for epidemics and control
 - Temp effects on infection by specific genotypes & competition between genotypes

DSS status

■ Barriers for implementation

- Belgium:
 - On farm systems considered too heavy by farmers
 - Subscribe to more general warning systems
- Growers are minimizing risk → Security spraying
 - Farms become too large to spray in 1 or 2 days
 - Weekly schedules are logistically simple
 - Commercial pressure (to sell fungicides or to deliver high quality yield)
- Applications:
 - Weekly spray schedules may also result in non optimal control
 - Fungicide choice very important
 - Application technique important
- Negative results are always blamed on system justified or not



DSS status

■ Barriers for implementation

- Relatively low cost are a barrier, money rather spent on fungicides/machinery
- Free systems available
- Farmer confidence in systems ..
- Target groups:
 - Advisors, many farmers rely on advisors and want to keep it this way
 - Farmers
- DSS's tool for farmer risk management
 - More practical dss needed instead of scientific (purist) dss
 - Product use strategies & weekly schedules versus CP dss

DSS status

■ Knowledge gaps

- How to provide farmers with a practical dss ..
Stronger link between “science & practice”
e.g. including “local knowledge”
- Core models:
 - Primary inoculum
 - Oospores
 - Volunteers
 - Seed
 - More validation needed .. Monocyclic Trap plant experiments versus polycyclic data
 - Collect biological data for biological data
Harmonized protocols



DSS status

- Model platform on Euroblight
 - Analyse sub/core models to identify gaps and best models to come to a unified dss
Analyse and integrate ..
 - Explanatory presentations for advisors, farmer study groups etc
 - Epidemiology (primary sources,)
 - Models
 - (Results of) field demonstrations

DSS status

- Support implementation of IPM
 - Different levels of implementation between:
 - Countries
 - Farmers
 - Quality demands from Retail chain
 - Stakeholder workshops / meetings with advisors etc ..
 - Reliable maps with current outbreaks in combination with forecast models
 - Increase price of fungicide 4x ☹️

DSS status

- New sampling of isolates for genotyping phenotyping:
 - Reliable snap shot of EU population
 - Common sampling strategy
 - Reliable geno/phenotyping 1-2 labs
 - Phenotyping more practical than genotyping
 - Metalaxyl resistance
 - Mating types (→ do we have oospores?)
 - Parameters used to calculate infection events ↔ temperature effects
 - Identify models adapted - not adapted to new populations
 - Developing countries survey important since there is no knowledge



DSS status

■ New financing of activities

- EU wide sampling
- Cover knowledge gaps identified
 - Companies
 - EU (eranet)
 - Network of PhD students cooperating at EU level
 - Coordinate national activities research, companies, ...)
 - Cooperate & colaborate without common projects within euroblight network

DSS status

- Projects in developing countries
 - Jonathan / Greg: East Africa sampling of isolates all US1 sofar
Population change in this area may have huge negative impact
 - Rwanda / NL project proposal on potato chain, status proposal unclear
 - Cooperation Belgium – China on forecasting