Sub group Epidemiology and decision support

St Petersburg
12 October 2011
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 & collaborate 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