Opportunities for Potato Late Blight DSS’s in Argentina

Sites

- Mendoza San Carlos
- Tandil
- Balcarce
Potatoes in Argentina

- **Argentina:**
  - 4300 km sub-tropics – sub antarctic
  - 77,000 ha potato (NL: 157,000 ha)
  - Total production: 1.8 mln tons → 23 t/ha (NL 51 t/ha)
  - 1/3 production is processed, 70% exported
  - Per capita consumption per year:
    - Arg: 40 kg potatoes (10% processed)
    - NL: 87 kg potatoes (50% processed)
  - Production on a medium to low technical level with much labour involved, especially for the fresh market (<25% fully mechanized)
  - Bulk storage almost non existent, ware potatoes stored on fields
Potatoes in Argentina

- **Production areas:**
  - Buenos aires (Processing/Fresh) (26000 ha; November - March/May)
  - Cordoba (Fresh/Processing) (36000 ha; August – November)
  - Mendoza (Fresh…) (7500 ha; November - March)
  - Tucumán (Fresh) (6000 ha June – October)
Potatoes in Argentina

- Varieties:
  - Fresh market: Spunta
- Processing:
  - Russet Burbank
  - Ranger Russet
  - Innovator
  - Shepody
  - Santana
  - Asterix
  - ..

- Processing Industry:
  - McCain (French Fries, 1995)
  - Fram Frites (French Fries 1996)
  - PepsiCo (Frit-o-Lay Crisps, 1996)
  - Los 5 Hispanics (Crips)
Fram Frites Mendoza (San Carlos)

Potato Farm: San Fili
- Founded 2007
- 350 ha potato (→ 2000 ha)
- 7 irrigated pivots of 50ha
- Processing potatoes
- Attainable yield: ≥ 80 t/ha of high quality Potatoes
- 500 - 1000m elevation
Potatoes grown in irrigated pivots
San Fili Farm
San Fili farm
San Fili Farm
Irrigation at San Fili

- Approximately 10 mm/day
- Fertilizer is applied with irrigation water
Crop protection at San Fili

- **Main problems:**
  - Thrips
  - Virus
  - Seed potato quality
    - Mixtures ….
    - Produced as ware potatoes
    - Cut before planting
  - Soil moisture content

- **Weekly sprays according to “MasterPlan” against:**
  - Thrips
  - P. infestans
  - A. solani
New developments

- Introduction of Dacom weather stations and PlantPlus to:
  - Control & optimize irrigation
  - Schedule fungicide sprays
  - Supervision & support by Dacom and PRI/PPO
    - Control strategy
    - Interpretation of weatherdata
    - Spray advice & choice of fungicides
    - Spray technology
  - Save around 7000 euro per unnecessary spray application ...
Plant Plus output for San Fili Farm; Weekly sprays
Plant Plus output for San Fili Farm; Optimum
Farm Frites Tandil

- Potato production on hired land
- 250 – 500 ha/farmer
Crop protection at Tandil

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  - Thrips
  - Virus
  - Seed potato quality
    - Mixtures ....
    - Produced as ware potatoes
    - Cut before planting
  - Soil moisture ..

- Weekly sprays according to MasterPlan against:
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INTA & McCain Balcarce

- **INTA**: El Instituto Nacional de Tecnología Agropecuaria
  - 47 experimental stations
  - 260 extension units
  - 15 research institutes
- **Balcarce**
Activities with INTA & McCain Balcarce

- Development of Decision support system based on SIMCAST blight units
- Start up of a monitoring system for P. infestans 2010/2011
  - Isolates collected by McCain and Farm Frites
  - PRI supports/carries out characterization SSR (12Plex) & virulence (DuRPh)
  - Visit to PPO/PRI & SCRI July 2010
Analysis of weather data Balcarce 2010

Infection risk (%)

Date (2009/2010)
Conclusions

- Ample opportunities for introduction of PLB dss
  - To improve the quality of control
  - To reduce the cost of production
  - To reduce the impact of potato production on the environment
Thank you for your attention