



Financial Impact of  
*Phytophthora ramorum*  
in British Columbia

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IPPS – October 2006

leaf disk



# Present Situation in Canada

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- *P. ramorum* task force active in providing input to government.
  - Provides forum for national input from all stakeholders. This has forced national positions to be developed by industry
- No area in Canada is regulated.
- Eradication at the one BC wholesale site which is a carry over from 2005.
- No wholesale nursery sites positive as of October 10, 2006
- Eradication at all trace forward sites.
- Industry has made the decision to develop and implement a rigorous certification program based on ISPM 10, ISPM 14 and RSPM 24.
- Implementation by independent certifying body (CNCI)



# Financial Impacts

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- Direct Costs
  - Destruction of plants
  - Lost Sales
    - During quarantine period
    - Reputation after quarantine is lifted
  - Sampling and testing costs
- Indirect
  - Implementation of Certification Program
    - Training



# Financial Impact

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- Indirect costs
  - Implementation of certification requirements including:
    - Development of systems based risk management program
    - Training
    - Biosecurity
    - Record Keeping
    - Management Time



# Example of direct costs of *P. ramorum* – 2004

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- \$620,000 value of plants disposed in 2004
- Approx \$1 m in lost sales while under quarantine
- Estimated \$1.5 m in future lost sales by impacted nurseries
- Nursery infected in 2005 under indefinite quarantine
- No value put on impact to landscape



# Impact in 2005 - 2006

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- One wholesale nursery found positive (repeat from 2004 and 2005), to date approximately \$1.1m in plants destroyed.



# Managing the Risk

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- Using a systems approach – Application of ISPM 14 – from IPPC
  - “A systems approach **requires two or more measures** that are independent of each other, and may include any number of measures that are dependent on each other. An advantage of the systems approach is the ability to address variability and uncertainty by modifying the number and strength of measures to meet the appropriate level of phytosanitary protection and confidence.”



# Indirect Costs

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- In Canada/BC the individual nursery bears all the costs of certification.
- Certification is not based on taking 40 samples but on implementation of rigorous risk management plus a minimum of 40 samples and testing to verify the integrity of the certification system.



# Why would industry develop and implement a rigorous certification program that they have to pay for?

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- Does not want the disease in the nursery distribution system.
- Huge financial impact if placed under quarantine.
- Customers are demanding it.
- Do not want to be a passive pathway into the environment.
- Must be seen to be equivalent or better than US suppliers.



# What does all this costs?

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- Sampling, testing and certification fee approximately \$2,000 per year
- Audit \$500 - \$1000 per year
- Development of systems manual \$2000 - \$10,000 or equivalent staff time
- In a medium sized nursery e.g. 20 acres estimate about ½ FTE of staff time thus about \$20,000 per year for various certification activities.



# Examples of where additional costs are generated

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# Mandatory BMP's for Nurseries Producing High Risk Plants

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- High risk plants in the industry program are:
  - *Rhododendron*
  - *Camellia*
  - *Viburnum*



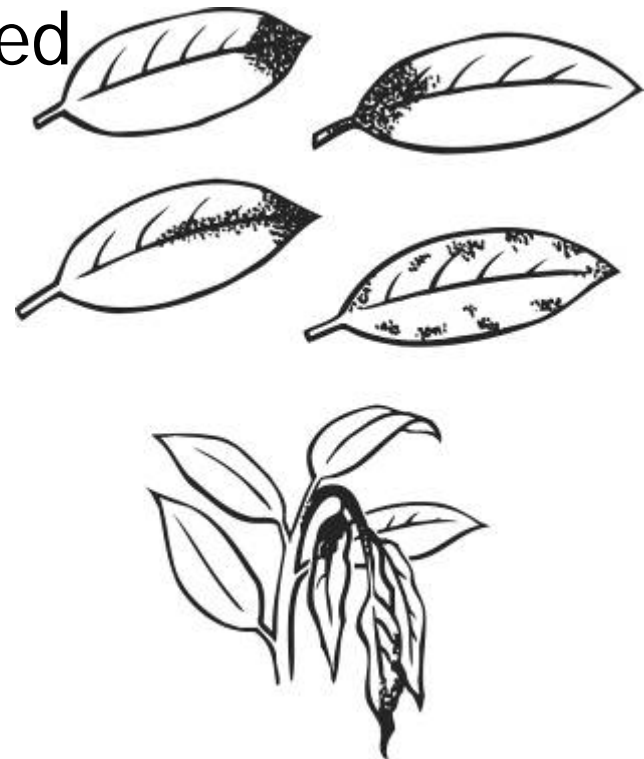
# Mandatory for High Risk

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- Must be segregated from other plants.
- Must be grown in areas with minimal standing water or puddling.
- Must implement preventative fungicide program or have a one way production system with clean nuclear stock.
- Weeds must be controlled.

# Mandatory for High Risk

Leaf disease must be monitored and controlled.



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# Mandatory for High Risk

- Higher sampling rate than other host plants.
- All efforts must be taken to reduce leaf wetness from irrigation to under 6 hrs.



# Mandatory for High Risk

Control leaf litter and other plant debris



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# Mandatory for High Risk

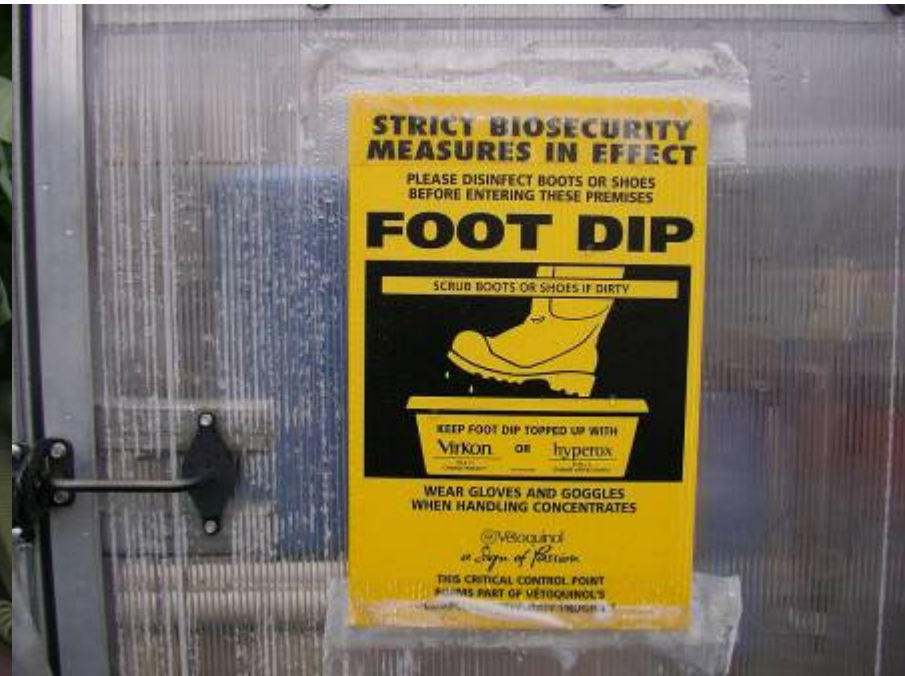
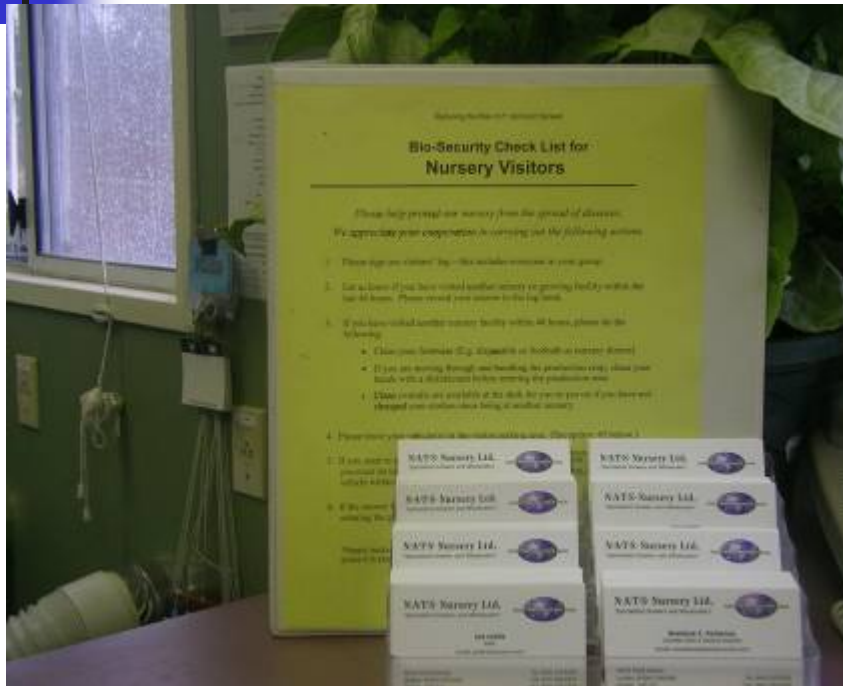


Traffic (by persons or vehicles) must be controlled and limited



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# Biosecurity



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# Biosecurity



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# Sanitation and Vehicle Control



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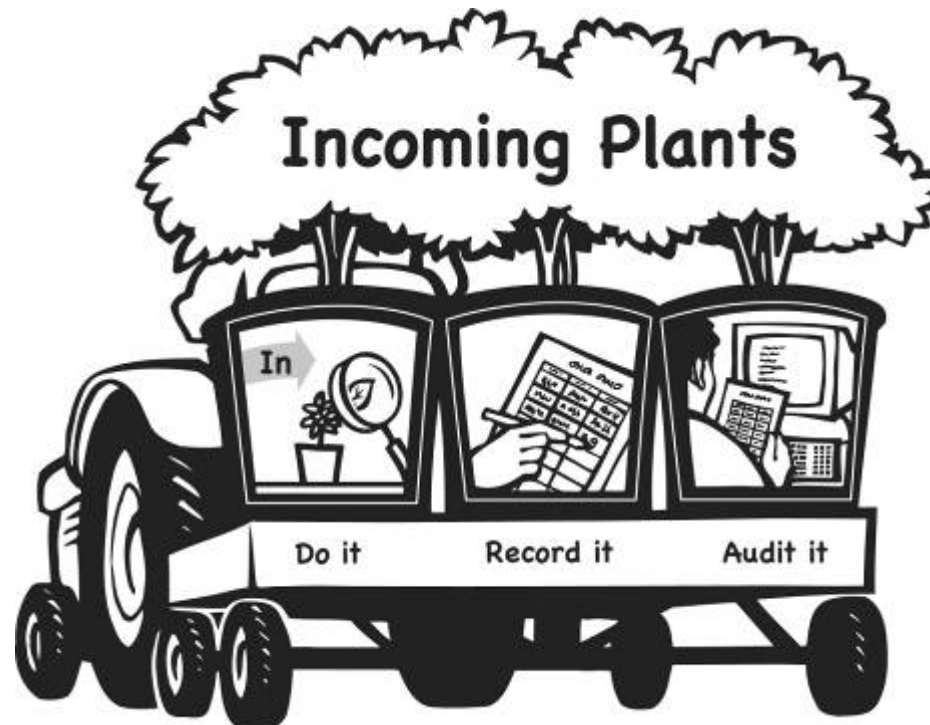
# Mandatory for High Risk

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- Movement of high-risk plants throughout the nursery shall be minimized;
- No returns of any high-risk plants to the nursery.

# Systems Approach

- Basic principle is: Do it, record it & Audit = opportunity for improvement





# Audits (taking away the fear)

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- Internal Audits
  - Review compliance
  - Identify weaknesses
  - Opportunity for improvement
    - Take Action
- External Audits
  - Identify non-compliance
  - Take Corrective Action
  - May lose certification status



# Conclusion

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- Canada has:
  - Developed and applied a rigorous certification program built directly on the principles of ISPM 10, ISPM 14, and RSPM 24.
  - Developed and implementing rigorous BMP's that are the best way to manage the risk.
  - Built an Industry/CFIA partnership to deal with science, regulatory, and resource issues.
- This has given Canada a reasonable chance of controlling or eradicating the disease in the nursery industry but at a significant costs to individual nursery operations.