## **NORS-DUC**

#### □ <u>Purpose</u>:

- Ornamental nursery research site
- Answer regulatory questions as they pertain to *P*. ramorum and nursery stock
- Answer questions that help shape nursery regulations
- Sound science leads to sound nursery regulations
- In future years, focus will be on other nursery CA Quarantine pests of national importance
- Education and Outreach

NURSERY RESULTS	Expert				Public				
	Delphi 1	Delphi 2			Delphi 1	Delphi 2			
Category	% out of 97	Rank	Mean	SD	% out of <u>146</u>	Rank	Mean	SD	
anagement Practices	11.34	1	4.56	0.64	11.64	1	4.44	0.68	
ation & Remediation	11.34	2	4.50	0.95	9.59	3	4.26	0.96	
nostics & Detection	13.40	3	4.30	0.95	12.33	2	4.29	0.89	

Best Management Practices	11.34	1	4.56	0.64	11.64	1	4.44	0.68
Eradication & Remediation	11.34	2	4.50	0.95	9.59	3	4.26	0.96
Diagnostics & Detection	13.40	3	4.30	0.95	12.33	2	4.29	0.89
Pathogen Characterization & Spread	13.40	4	4.26	0.76	4.11	4	3.98	0.84
Potting Media & Soils Under Pots	19.59	5	4.12	0.99	16.44	9	3.53	1.10
Water	8.25	6	4.00	1.07	4.11	7	3.64	1.03
Hosts & Symptoms	6.19	7	3.48	1.05	14.38	5	3.92	0.89
Distribution	5.15	8	3.30	0.87	6.85	6	3.64	0.97
Economic Impacts	1.03	9	3.22	1.12	n/a			
Resistance	2.06	10	3.22	1.09	5.48	8	3.55	1.07
Regulations	7.22	11	2.89	1.05	7.53	10	3.31	1.12

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# BMPs

- Effective controls and preventative treatments
- Specific, prioritized BMPs to Prevent establishment, disease development, and spread within nurseries (including treatment of critical control points, etc.), and ensure free-from shipments
- Practices to limit new outbreaks and reoccurrence
- Non-chemical control methods \*
- Validation of BMPs
- Control methods (chemical, biological, cultural) that can be integrated to work together toward eradication = systems approach \*
- Develop guidelines for nursery layout to minimize spread and disease development \*

### **Eradication and Remediation**

Reliable means of eradication of the pathogen from nursery plant stock \*

How long can *P. ramorum* persist in a nursery (soil, gravel, water, etc.) after infested host plants are destroyed?

Methods to remediate repeat nurseries and verify pathogen has been eradicated

## **Diagnostics and Detection**

- Fast, reliable, species-specific, accurate, affordable, easyto-use, field diagnostic kit/test
- Standardized guideline for sampling (where in nurseries, which material, when, how much)

- Quick field test for water runoff
- Is there a Time lag between infection and positive diagnostic test results

#### **Potting Medium/Soil under Pots**

(incl. topics related to Eradication and Remediation\*\*)

- For infected ornamentals, is P ramorum likely to infest the planting media and become active below-ground, resulting in plant to plant spread via roots?
- Ability of *P. ramorum* to survive in planting medium and possibly infect plants from that source (directly or via splashing or contaminated pots, etc.)
- Effective eradication/disinfection methods and materials (including "green" practices) for *P. ramorum* in soils, gravel, substrates, potting media, pots, etc. \*\*
- Effective soil treatments that do not require the soil to be warm in order to treat \*\*
- Identify minimum inoculum load in potting media (host and/or non-host) within pots to cause infection

## NORS-DUC BMPS

- □ Sentinel plants surrounding the site
- Regular baiting of evaporative pond
- □ Regular baiting of drainage points (plots & walkways)
- Physical barriers on the fencing (material to block the wind)
- Site-specific shoes to be worn while working in research plots
- Physical barrier (shadecloth) between research blocks
- □ Gravel barrier on ground
- □ Footbaths