

FLORAL AND NURSERY CROP INDUSTRY NEEDS- DISEASES

Top needs include:

- I. Detection, identification, characterization and management of pathogens of (new) plant genera for importation
 - i. Developing protocols for rapid screening including non-destructive methods
 - ii. Evaluating methods and materials for eradication

LINKS: Insects/weeds, Breeding, Production

PEOPLE:

Viruses- John Hammond, Scott Adkins, Ramon Jordan, Dennis Lewandowski, Hanu Pappu, Deborah Mathews, Jim Moyer, Ben Lockhart, Tom German

Bacteria- Dave Norman, Caitilyn Allen, Qi Huang, Melodie Putnam

Nematodes- Robert McSorley, Nancy Burelle, Inga Zasada

Fungi- Jim Locke, Mary Hausbeck, Jerry Weiland, Dean Glawe, Dilip Lakshman, Margery Daughtrey, Steve Jeffers, Wade Elmer, Gary Chastagner, James Buck*

Oomycetes- Nik Grunwald, Mike Benson, Jennifer Parke, Mary Hausbeck, Kelly Ivors, Gary Moorman, Margery Daughtrey, Steve Jeffers, Chuan Hong, Gary Chastagner

- II. Management of plant pathogens in irrigation water
 - i. Adopt techniques from other crops
 - ii. Risks associated with recycled and runoff water

- iii. Include virus dynamics (not just fungi/water molds/bacteria)
- iv. How can we work from prior research and collaborate with other groups?
 1. Optimization of water usage and cost effectiveness

LINKS: Insects/weeds, Production

PEOPLE:

Phytophthora- Chuan Hong, Mary Hausbeck, Mike Stanghellini*, Mike Benson, Kelly Ivors, Gary Chastagner, Jennifer Parke*, Nik Grunwald*, Steve Jeffers*, Loren Oki*, Jim MacDonald (?)

viruses- Deborah Mathews, Scott Adkins and Loren Oki

Pythium- Margery Daughtrey*, Mike Stanghellini, Gary Moorman*

Bacteria- Dave Norman, Caitlin Allen, Qi Huang, Melodie Putnam*

III. Plant pathogens in sustainable production

- i. Developing disinfestation methods for GH and nursery (structures, containers and substrates)
 1. Biocontrol
 2. Reduced risk materials
 3. Cultural techniques

LINKS: Insects/weeds, Breeding, Production

PEOPLE:

Mary Hausbeck, Margery Daughtrey, Wade Elmer, Dilip Lakshman, Gary Chastagner, Jim Locke, Jennifer Parke, Bob McSorley*, Nancy Burrelle, Warren Copes, Erin Roskopf

- IV. Detection, identification, and characterization of emerging, enigmatic and undiagnosed plant pathogens and their vectors (i.e. gladiolus rust, downy mildew, powdery mildew, viruses, rose wilt?)

LINKS: Insects/weeds, Production

PEOPLE:

Viruses- John Hammond, Scott Adkins, Ramon Jordan, Dennis Lewandowski, Hanu Pappu, Deborah Mathews*, Jim Moyer*, Ben Lockhart, Tom German

Bacteria- Dave Norman, Caitilyn Allen, Qi Huang, Melodie Putnam

Nematodes- Robert McSorley, Nancy Burrelle, Inga Zasada

Fungi- Jim Locke, Mary Hausbeck*, Jerry Weiland, Dean Glawe, Dilip Lakshman, Margery Daughtrey*, Steve Jeffers*, Wade Elmer, Gary Chastagner, James Buck*

Oomycetes- Nik Grunwald, Mike Benson, Jennifer Parke, Mary Hausbeck*, Kelly Ivors, Gary Moorman*, Margery Daughtrey*, Steve Jeffers, Chuan Hong, Gary Chastagner

- V. Plant pathogens in relation to incidence and survival
 - i. In new substrates

1. Fate of pesticides
2. Suppressiveness
 - ii. In soil
 - iii. Related to inoculum levels, determination of thresholds
 - iv. Pathogen sensitivity to fungicides

LINKS: Insects/weeds, Production

PEOPLE:

Bacteria- Dave Norman, Caitilyn Allen, Qi Huang

Nematodes- Robert McSorley, Nancy Burelle, Inga Zasada

Fungi- Jim Locke, Mary Hausbeck, Jerry Weiland, Dean Glawe, Dilip Lakshman, Margery Daughtrey, Steve Jeffers, Wade Elmer, Gary Chastagner, Mike Benson, Warren Copes

Oomycetes- Nik Grunwald, Mike Benson, Jennifer Parke, Mary Hausbeck, Kelly Ivors, Gary Moorman, Margery Daughtrey, Steve Jeffers, Chuan Hong, Gary Chastagner

- VI. Management of plant pathogens and disorders regarding cultivar difference
 - i. Disease susceptibility
 - ii. Post-harvest problems
 - iii. Phytotoxic response to chemicals
 - iv. Abiotic interactions
 - v. Regional differences

LINKS: Insects/weeds, Breeding, Production

PEOPLE:

Bill Miller*, Mary Hausbeck*, Margery Daughtrey*, Bill Jacobi, Mike Benson*, Wade Elmer, Bob McSorley*, Michael Reid, Cai-zhong Jiang, Gary Chastagner, Nik Grunwald

- VII. Management of plant pathogens in GH and nursery operations by development of science-based BMPs (including evaluation of sanitation methods)

LINKS: Insects/weeds, Breeding, Production

PEOPLE:

Viruses- John Hammond, Scott Adkins*, Ramon Jordan, Dennis Lewandowski, Hanu Pappu, Deborah Mathews, Jim Moyer, Ben Lockhart, Tom German

Bacteria- Dave Norman*, Caitilyn Allen*, Qi Huang*

Nematodes- Robert McSorley, Nancy Burelle, Inga Zasada, Rob Wick

Fungi- Jim Locke, Mary Hausbeck, Jerry Weiland, Dilip Lakshman, Margery Daughtrey*, Steve Jeffers*, Wade Elmer, Gary Chastagner*, James Buck*, Warren Copes

Oomycetes- Nik Grunwald*, Mike Benson, Jennifer Parke*, Mary Hausbeck, Kelly Ivors, Gary Moorman*, Margery Daughtrey*, Steve Jeffers*, Chuan Hong, Gary Chastagner