Trends in Diagnostics of Ornamentals in the NCSU Plant Disease & Insect Clinic

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Introduction

As changes in commercial production of ornamentals occur, the profile of pests and pathogens that affect these crops shifts. When pests or pathogens get introduced into the state, samples at the clinic increase rapidly. Examples include the emergence of rose rosette and boxwood blight. This report is a brief summary of diagnostic trends and new reports of pathogens on ornamentals from the Plant Disease and Insect Clinic (PDIC) in North Carolina.

Methods

- Ornamental diagnostics were consolidated from 2013 to September 30, 2016
- Host site types:
  - homeowner (landscape and indoor plants)
  - nursery (container and field-grown)
  - greenhouse
  - park/natural area (not including forested areas)
- Not included:
  - "Unknown" problem or host site
  - Saprophytes
  - Poor samples
- Number of diagnoses, rather than samples, were included

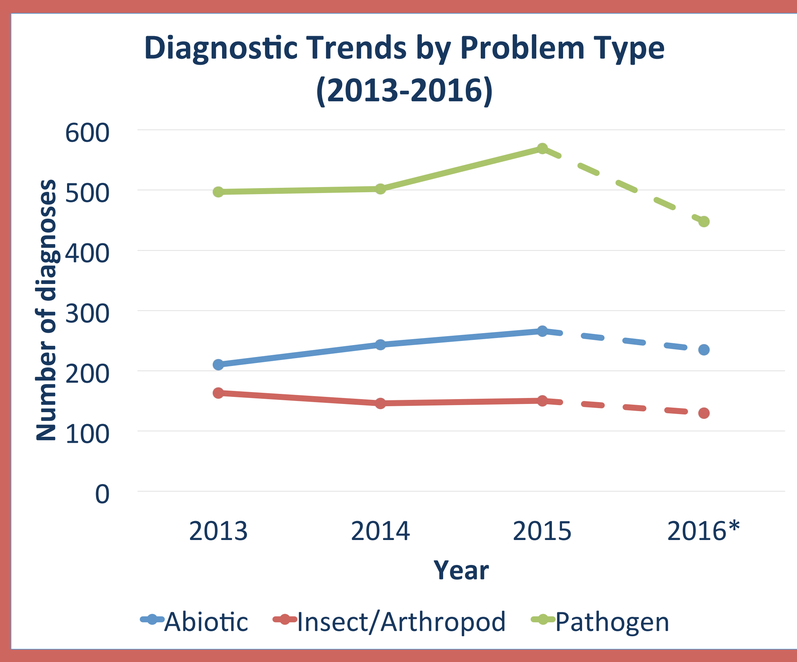

Fig. 1. Trends in diagnostics by problem type in the NCSU Plant Disease and Insect Clinic from 2013 to 2016. The dashed line indicates diagnostics up to Sept. 30, 2016 and is likely to underrepresent 2016 numbers.

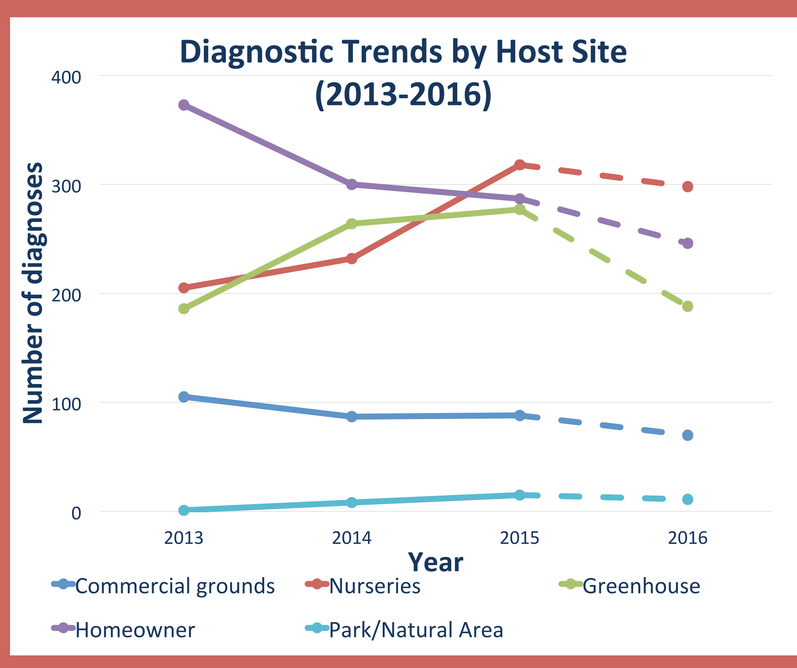

Fig. 2. Trends in diagnostics by host site in the NCSU Plant Disease and Insect Clinic from 2013 to 2016. The dashed line indicates diagnostics up to Sept. 30, 2016 and is likely to underrepresent 2016 numbers.

Fig. 3. *Phytophthora* sp. on *Spathiphylum* sp. (A); white smut (*Kordyana tradescantiae*) on *Tradescantia andersonia* 'Sweet Kate' (B); palm rot (*Neodeightonia phoenicum*) on jelly palm (*Butia capitata*) (C); powdery mildew (*Golovinomyces orontii*) on viola (*Viola* sp.) (D); and basal root proliferation (*Rhodococcus fascians)* on sweetpotato (*Ipomaea batatas* 'Lime Cordate') (E); anthracnose (*Colletotrichum* sp.) on sea thrift (*Ameria meritima* 'Ballerina Red') (F). Images courtesy of PDIC

Recent New Reports* from NC

White smut (*Kordyana tradescantiae*) on **spiderwort** (*Tradescantia andersonia* 'Sweet Kate') from a container nursery (2015; Fig. 3B)

Palm rot (*Neodeightonia phoenicum*) on **jelly palm** (*Butia capitata*) from a home landscape (2014; Fig. 3C)

Powdery mildew (*Golovinomyces orontii*) on **viola** (*Viola* sp.) from home a landscape (2016; Fig. 3D)

Basal shoot proliferation (*Rhodococcus fascians*) on **sweetpotato** (*Ipomaea batatas* 'Lime Cordate') from a greenhouse (2013; Fig. 3E)

*NOTE: New reports do not necessarily represent recent introductions. In some cases, the organism may have been present for some time, but had only been recently reported.

Trends and Observations from 2013-2016

- 57% (2016/3559) of diagnoses were pathogens (Fig. 1)
- Largest portion of pathogen diagnoses were *Phytophthora* species at 15% (298) (e.g., Fig. 3A), followed by *Pythium* species at 8% (167), and *Colletotrichum* species at 5% (91) (e.g., Fig. 3F)
- Most prevalent host site: Homeowner (in 2013, 2014); Nurseries (in 2015, 2016) (Fig. 2)
- Diagnoses on samples from Nurseries and Greenhouses from 2013 to 2015 appears to be increasing (Fig. 2)

North Carolina State University Plant Disease and Insect Clinic

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