

Introduction to i-TREE STREETS Pest Tab

Anne Cumming, USDA Forest Service



Topics for Pest Detection

- ▶ Urban Forest Health - The Big Picture
- ▶ What is Pest Detection?
- ▶ Choosing IPED as a Resource for Your Community

- ▶ For More Information:
 - ▶ <http://www.unri.org/iped/videos>
 - ▶ Four Training Webinars Focused on Pest Detection



Urban Forest Health



UGA5023075



5369277



UGA5037026



Urban Forest Health



UGA1301076

Joseph O'Brien, USDA Forest Service, Bugwood.org



Pest Detection



Tom Laurent, USDA Forest Service, Bugwood.org



Stanislaw Kinelski, Bugwood.org



John A. Weidhass, Virginia Polytechnic Institute and State University, Bugwood.org



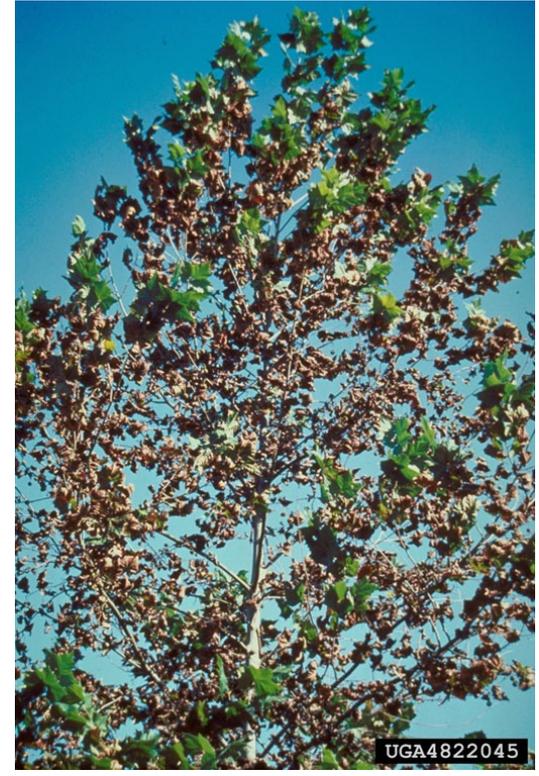
Pest Detection



Cathy Stewart, USDA Forest Service, Bugwood.org



Joseph O'Brien, USDA Forest Service, Bugwood.org



Edward L. Barnard, Florida Department of Agriculture and Consumer Services, Bugwood.org

Pest “Tab”

WM_ryoo3

File Zoom Tools Help

Pest 3:01

Pest Detection

Tree Stress Yes No

Foliage / Twigs Yes No

Branches / Bole Yes No

Primary Pest: - None -

Location GPS Species Mgt **Pest**

Cancel Save

Tree Stress



Epicormic branching on ash

- ▶ Dieback
- ▶ Epicormic branches
- ▶ Wilted foliage
- ▶ Abiotic Factors
 - ▶ Environmental Stresses
 - ▶ Human-caused Stresses

Pest “Tab”

WM_ryoo3

File Zoom Tools Help

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Location GPS Species Mgt **Pest**

Cancel Save

Signs and Symptoms of Leaves and Twigs

- ▶ Chewed Foliage
- ▶ Discolored Foliage
- ▶ Abnormal Foliage
- ▶ Insect Signs
- ▶ Amount of Crown Affected



Leafminer damage on locust



Signs and Symptoms of Leaves and Twigs

▶ Discolored Foliage

- ▶ Mottling, spots, blotches
- ▶ Marginal scorching
- ▶ Interveinal scorching
- ▶ White coating
- ▶ Complete browning/bronzing
- ▶ Complete yellowing
- ▶ Stippling
- ▶ Yellow/orange pustules



Herbicide damage



Pest “Tab”

WM_ryoo3

File Zoom Tools Help

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Pest Detection

Tree Stress Yes No

Foliage / Twigs Yes No

Branches / Bole Yes No

Primary Pest: - None -

Location GPS Species Mgt **Pest**

Cancel Save

Signs and Symptoms of Branches and Bole



Gummosis – lesser peach tree borer

- ▶ Insect signs
 - ▶ Frass
 - ▶ Exit holes
- ▶ Insect presence
- ▶ Disease symptoms/signs
 - ▶ Mushrooms, cankers, conks
- ▶ Abnormal Growth



Signs and Symptoms of Branches and Bole

▶ Abnormal Growth

- ▶ Witches' brooms
- ▶ Galls
- ▶ Parasitic plants
- ▶ Frost cracks and other openings
- ▶ Loose bark



Witches' broom on hackberry



Pest Detection

IPED Field Guide

Pest Evaluation and Detection



United States
Department of Agriculture
Forest Service
Northeastern Area
State and Private Forestry
Newtown Square, PA 19073

NA-TP-02-10

May 2010

www.na.fs.fed.us



http://www.itreetools.org/resources/manuals/IPED_Field_Guide_Print_Friendly_Version.pdf



After data collection,
then what?

Reports

iTree Streets will
produce summary
reports for post-
inventory review

http://s3.amazonaws.com/basec/505171/1322628/Ithaca%20pest%20symptom%20by%20street%20detail.pdf - Microsoft Internet Explorer p

Address http://s3.amazonaws.com/basec/505171/1322628/Ithaca%20pest%20symptom%20by%20street%20detail.pdf?AWSAccessKeyId=1RF809NDDCNB7616HJ028&Expires=1254111000&Signature=0P6Ch72qMmgMGVY%2BEkV

Ithaca Page 1 of 8

Pest Symptom Details Complete by Street of Public Trees for All Zones

9/15/2009

Street	Symptom Type/Location	Symptom	Condition	Tree Count	% of Street	% of All Zones	% of Total Trees	% of Pest Aff. Trees
Esty	Tree Stress	Dieback	Scattered twigs (<10%)	0	0.00	0.00	0.00	0.00
			Scattered twigs (>10%; <30%)	0	0.00	0.00	0.00	0.00
			Pervasive twig dieback throughout the crown	0	0.00	0.00	0.00	0.00
			One or more whole branch	2	66.67	6.45	6.45	6.67
			Total Affected	2	66.67	6.45	6.45	6.67
	Epicormic Sprouts	Yes	Yes	0	0.00	0.00	0.00	0.00
			Total Affected	0	0.00	0.00	0.00	0.00
	Wilted Foliage	Wilt, whole crown	Wilt, whole crown	0	0.00	0.00	0.00	0.00
			Wilt, partial crown	0	0.00	0.00	0.00	0.00
			Total Affected	0	0.00	0.00	0.00	0.00
	Environmental Stress	Lightning strike	Lightning strike	0	0.00	0.00	0.00	0.00
			Hail injury	0	0.00	0.00	0.00	0.00
			Sunscald	0	0.00	0.00	0.00	0.00
			Broken branches	1	33.33	3.23	3.23	3.33
			Flooding	0	0.00	0.00	0.00	0.00
			Drought/poor soil	0	0.00	0.00	0.00	0.00
			Other	0	0.00	0.00	0.00	0.00
			Total Affected	1	33.33	3.23	3.23	3.33
	Human-caused Stress	Topping/Poor pruning	Topping/Poor pruning	1	33.33	3.23	3.23	3.33
			Poor or restricted planting/mulching	0	0.00	0.00	0.00	0.00
			Wounding of woody tissues	0	0.00	0.00	0.00	0.00
			Salt/Chemicals	0	0.00	0.00	0.00	0.00
			Other	0	0.00	0.00	0.00	0.00
Total Affected	1	33.33	3.23	3.23	3.33			
Notes	Present	Present	0	0.00	0.00	0.00	0.00	
		Total Affected	0	0.00	0.00	0.00	0.00	
Trees Affected				2	66.67	6.45	6.45	6.67

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<http://wiki.bugwood.org/IPED>

Welcome to the IPED on-line resources

a wiki guide for **US Forest Service's** Urban Forest Pest Detection module for **i-Tree**



i-Tree

Tools for Assessing and Managing
Community Forests

Get the Tools.



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What's new?

- [Project Overview](#)
- [Pilot Cities](#)
- [Development Team](#)

Survey Planning Resources

- [Urban Forest Pest Detection](#)
- [An example of the IPED Protocol in Anytown, USA](#)
- [Survey Planning](#)
- [i-Tree Tools User Forum](#)

Survey Resources

- [Pest detection protocol](#)
- [Tree stress](#)
- [Signs and symptoms of foliage and twigs](#)
- [Signs and symptoms of branches and bole](#)
- [Glossary](#)
- [IPED Pest Detection Protocol Manual](#)
- [IPED Field Guide](#)
- [IPED Field Guide - Printer Friendly Version](#)
- [IPED Tatum Guide](#)

Post Survey and Follow-up Resources

- [What to do after the survey](#)
- [Interpreting IPED reports](#)
- [Early Detection Target Factsheets](#)
- [IPED Pest and Disease Key](#)
- [Using raw data](#)
- [What happens if a new pest or disease is found?](#)



Photo Credit: M.T. Smith, Bugwood.org



Pest Detection Webinar Series

Introduction

Project Planning

Pest Protocol Training

Reports and Post-survey Analysis

<http://www.unri.org/iped/videos>