

# I-PED Pest Detection Protocol

## *Tatum Guide*

### I. Tree Stress:

#### Dieback

- Twig dieback (>10%), but not pervasive
- Pervasive twig dieback throughout crown

#### Epicormic sprouts on the bole

#### Wilted Foliage (biotic or abiotic)

- Wilt, whole crown
- Wilt, partial crown

#### Environmental Stress

- Frost Cracks
- Lightning Strike
- Hail Injury
- Sunscald
- Broken Branches
- Flooding
- Drought/Poor Soil

#### Human-caused stress/injury

- Topping/Poor pruning
- Poor or restricted planting/mulching
- Wounding of Woody Tissues
- Salt/Chemicals

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### II. Signs and symptoms of Foliage and Twigs:

#### Defoliation (10% threshold)

- Defoliation, >10%, but not pervasive
- Defoliation, pervasive throughout the crown
- Leaf mining, >10%, but not pervasive
- Leaf mining, pervasive throughout the crown
- Chewing of the mid-rib only (any level)

#### Discolored Foliage (10% threshold)

- Mottling, Spots, Blotches (any color)
- Marginal Scorching (browning) of leaves
- Interveinal Scorching (browning) of leaves
- White coating
- Black coating
- Complete browning/bronzing of leaves
- Complete yellowing of leaves
- Stippling
- Yellow/orange/white pustules

#### Abnormal Foliage

- Foliage/twigs distorted (including galls)
- Witches' brooms present

#### Insect Signs

- Caterpillars/sawflies throughout the crown
- Beetles feeding throughout the crown
- Aphids/white cotton pervasive throughout the crown
- Bags pervasive throughout the crown
- Scales pervasive throughout the crown
- Tents/webbing on more than one branch

#### % Foliage Affected (10% threshold)

- >10; <30%
- >30% but not the whole crown
- Whole crown affected

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### III. Signs and Symptoms of Branches and Bole:

#### Insect Signs

- Frass only
- Sawdust
- Pitch/resin exudation
- D-shaped exit holes
- Pencil round or oval exit holes ( $\geq 2$ mm)
- Shot holes ( $< 2$ mm)
- Other holes

#### Insect Presence

- Caterpillars
- Beetles
- Aphids
- Scale
- Carpenter ants

#### Disease Signs and Symptoms

- Decay
- Conks
- Fleshy mushrooms
- Cankers
- Bleeding/slime flux
- Resinosis/gummosis
- Woody galls or burls

#### Problem Location

- Branches
- Bole and/or root collar
- Both

#### Loose bark

- Loose bark only
- Rhizomorphs present
- Mycelial fans present
- Insect boring or galleries causing loose bark

For all signs and symptoms noted, a reasonable threshold level should be exceeded. Generally, 10% of the foliage should be affected before a pest is noted.