# From the Diagnostic Lab: What Can We Expect This Growing Season?

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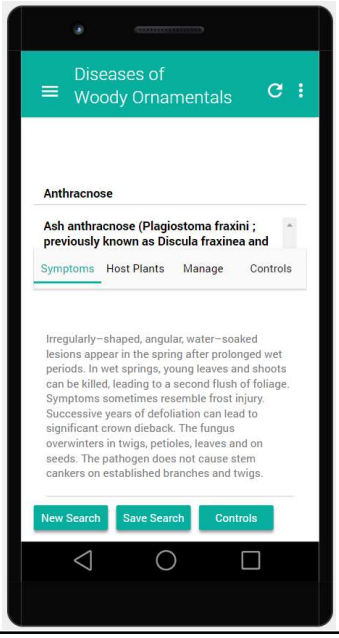
Extension Plant Pathologist
University of Massachusetts

UMASS AMHERST

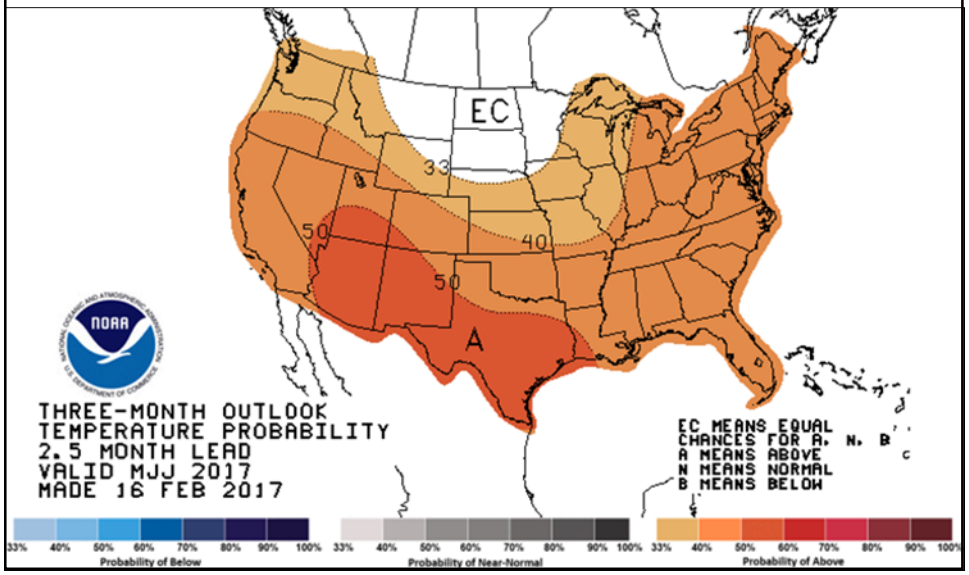
The Center for Agriculture, Food and the Environment

## Tree and Shrub Disease Guide

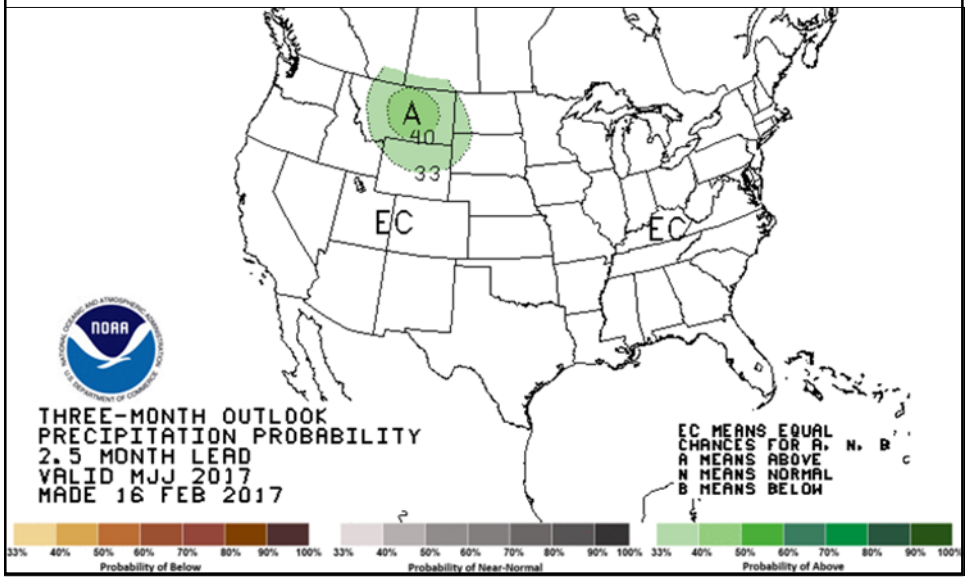
- Revised for 2017
- Free
- No print



# Prediction: <u>Above-Average</u> Temperatures in May, June and July



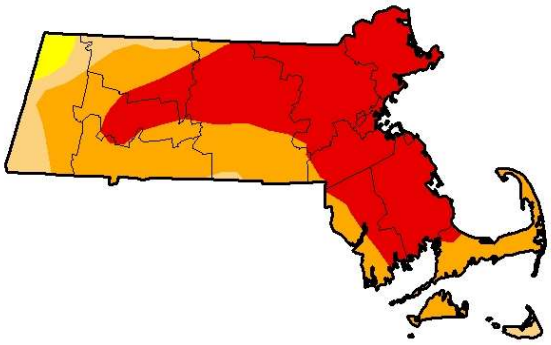

# Prediction: <u>Average</u> Precipitation in May, June and July



# Predisposing Stress: Drought

***U.S. Drought Monitor***

**Massachusetts**



**September 13, 2016**

***(Released Thursday, Sep. 15, 2016)***

**Valid 8 a.m. EDT**

*Drought Conditions (Percent Area)*

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|---|---|---|---|---|---|
| **Current** | 0.00 | 100.00 | 98.15 | 89.95 | 52.13 | 0.00 |
| **Last Week** 9/6/2016 | 0.00 | 100.00 | 94.38 | 77.38 | 22.67 | 0.00 |
| **3 Months Ago** 6/14/2016 | 20.09 | 79.91 | 13.56 | 0.00 | 0.00 | 0.00 |
| **Start of Calendar Year** 12/29/2015 | 22.85 | 77.15 | 26.34 | 0.00 | 0.00 | 0.00 |
| **Start of Water Year** 9/29/2015 | 12.90 | 87.10 | 30.43 | 0.00 | 0.00 | 0.00 |
| **One Year Ago** 9/15/2015 | 34.81 | 65.19 | 0.23 | 0.00 | 0.00 | 0.00 |

*Intensity:*

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

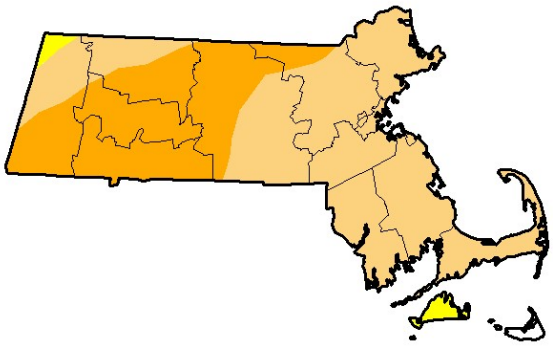
*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

**Author:**
*Eric Luebehusen*
*U.S. Department of Agriculture*

# Predisposing Stress: Drought

***U.S. Drought Monitor***

**Massachusetts**



**February 28, 2017**

***(Released Thursday, Mar. 2, 2017)***

**Valid 7 a.m. EST**

*Drought Conditions (Percent Area)*

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|---|---|---|---|---|---|
| **Current** | 0.70 | 99.30 | 97.18 | 37.11 | 0.01 | 0.00 |
| **Last Week** 2/21/2017 | 0.70 | 99.30 | 97.18 | 37.11 | 0.01 | 0.00 |
| **3 Months Ago** 11/29/2016 | 0.70 | 99.30 | 98.03 | 64.41 | 41.35 | 0.00 |
| **Start of Calendar Year** 1/3/2017 | 0.70 | 99.30 | 98.09 | 69.13 | 8.59 | 0.00 |
| **Start of Water Year** 9/27/2016 | 0.00 | 100.00 | 98.15 | 89.95 | 52.13 | 0.00 |
| **One Year Ago** 3/1/2016 | 79.39 | 20.61 | 0.00 | 0.00 | 0.00 | 0.00 |

*Intensity:*

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

**Author:**
*Richard Heim*
*NCEI/NOAA*

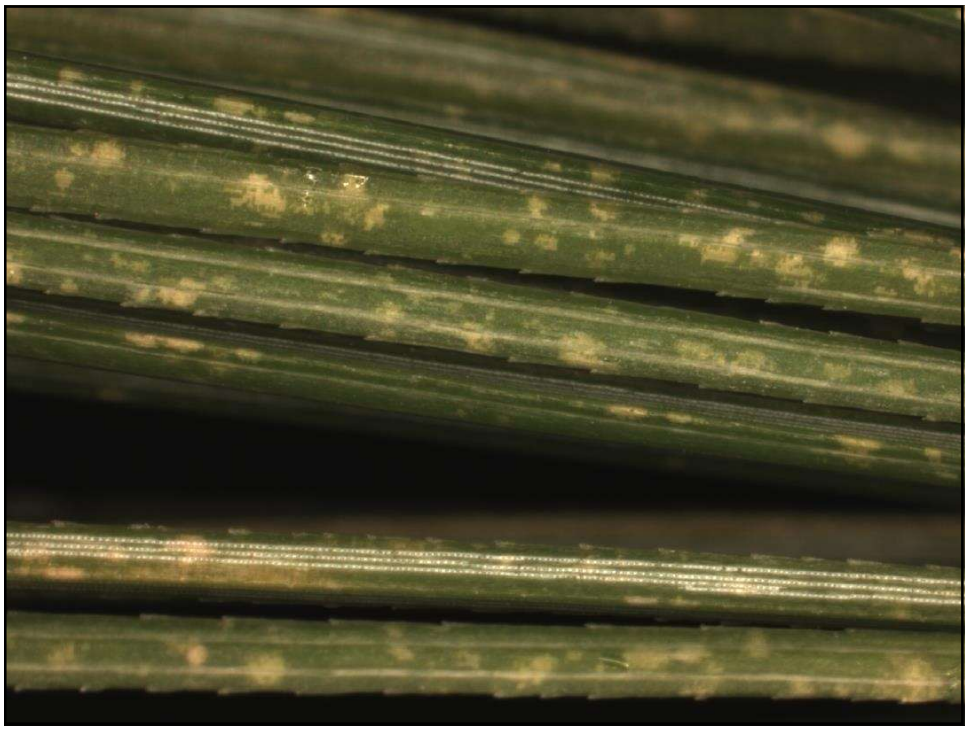
## White Pine: 2016

1. One- and two-year-old needle browning and shedding prior to budbreak
   - 2016 needles browned at tips

2. One- and two-year-old needle browning and shedding prior to budbreak
   - 2016 needles healthy

3. Trees healthy

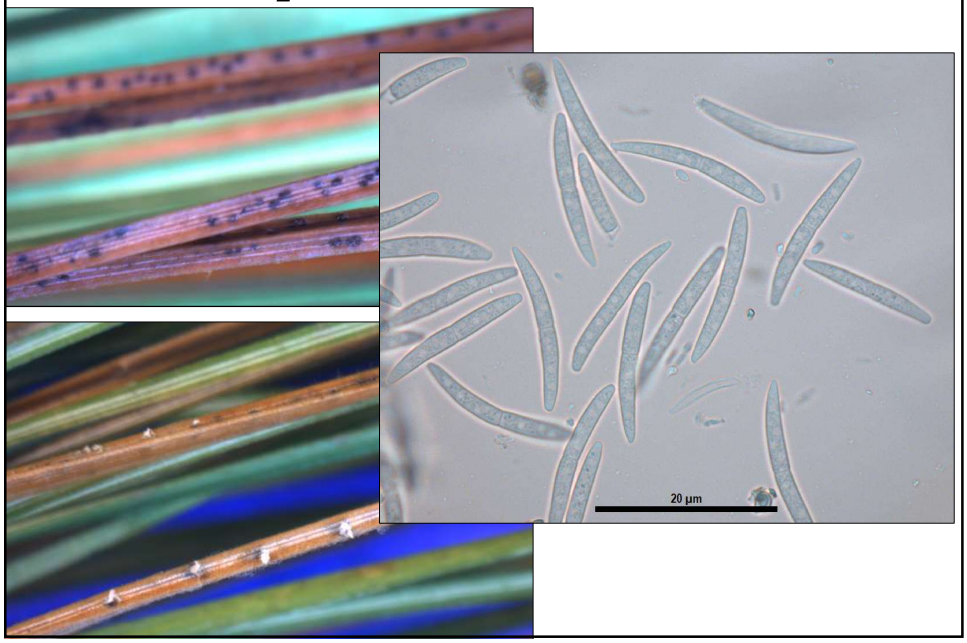
# White Pine: 2017



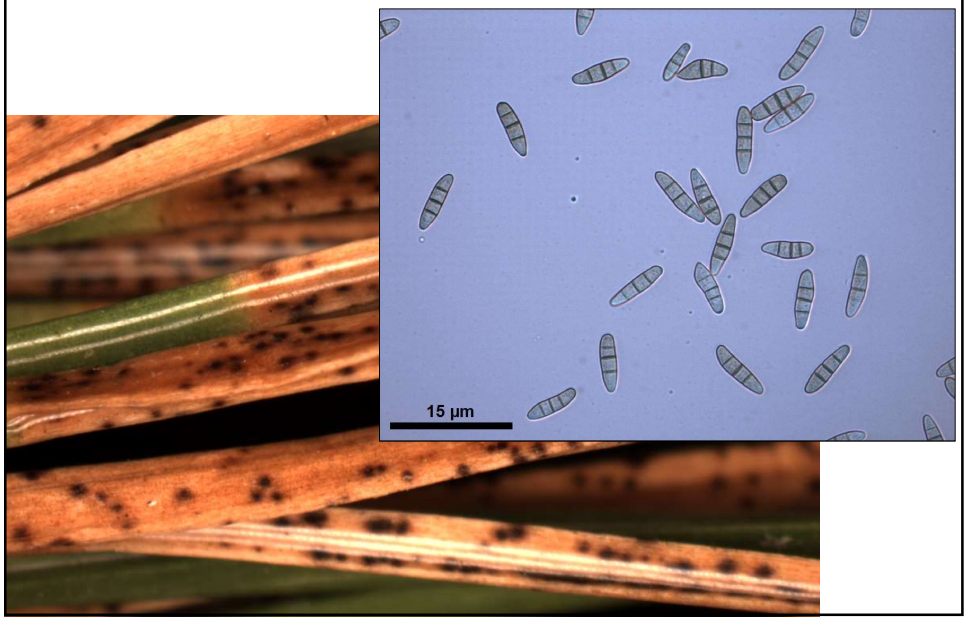
# Caliciopsis canker of white pine

# Matsucoccus scale of white pine

# *Septorioides strobi*



# *Hendersonia acicola*




plant disease

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http://dx.doi.org/10.1094/PDIS-09-15-0994-PDN

DISEASE NOTES

## First Report of *Diplodia corticola* Causing Decline of Red Oak (*Quercus rubra*) Trees in Maine

**S. G. Aćimović**, Research and Development Laboratory, Arborjet Inc., Woburn, MA; **C. L. Harmon** and **S. Bec**, Department of Plant Pathology, University of Florida, Gainesville; **S. Wyka** and **K. Broders**, Department of Biological Sciences, University of New Hampshire, Durham; and **J. J. Doccola**, Research and Development Laboratory, Arborjet Inc., Woburn, MA.

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January 2017, Volume 101, Number 1
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http://dx.doi.org/10.1094/PDIS-08-16-1118-PDN

DISEASE NOTES

# First Report of *Diplodia corticola* Causing Bleeding Cankers on Black Oak (*Quercus velutina*)

**I. A. Munck**, **S. A. Wyka**, **M. J. Bohne**, **W. J. Green**, and **N. W. Siegert**, USDA Forest Service, Northeastern Area State and Private Forestry, Forest Health Protection, Durham, NH 03824.

## *Diplodia corticola*

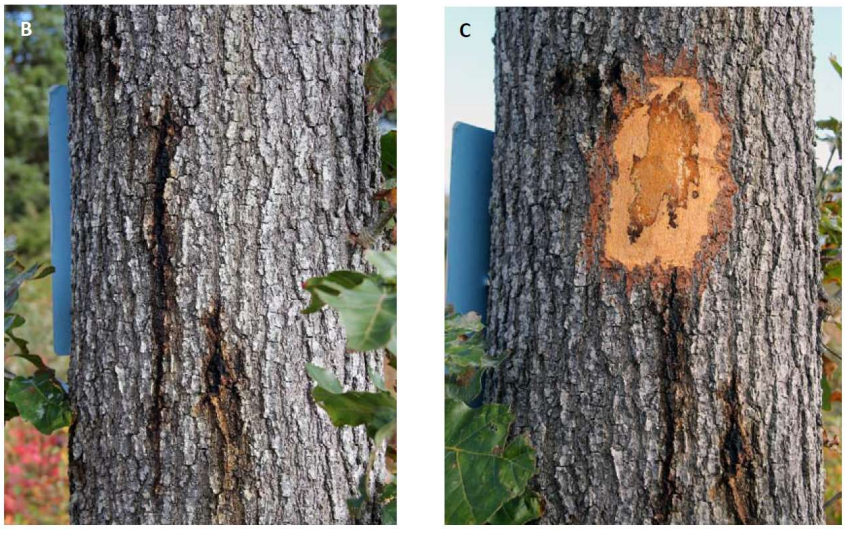


Figure 1 **A**, *Quercus velutina* infested with *Zapatella davisae* showing severe crown dieback. **B,** Bleeding cankers on the same tree. **C,** Vascular necrosis under bleeding cankers.

# *Diplodia corticola*

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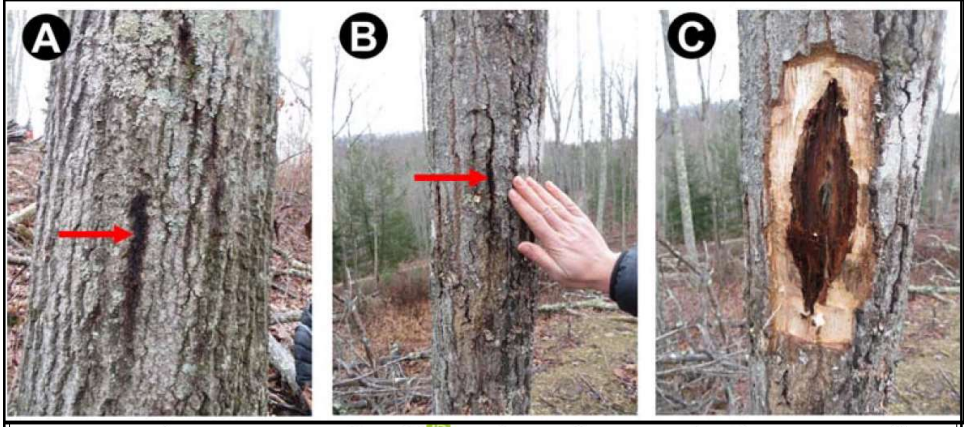
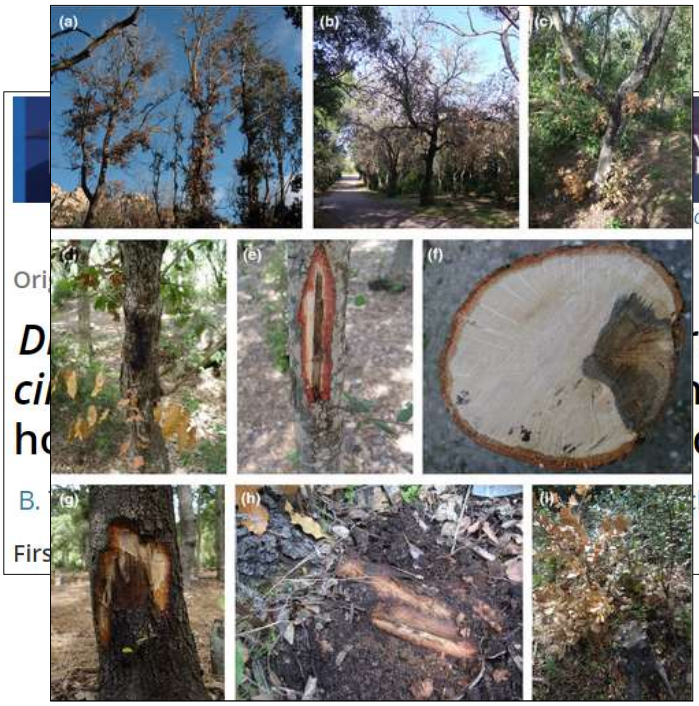
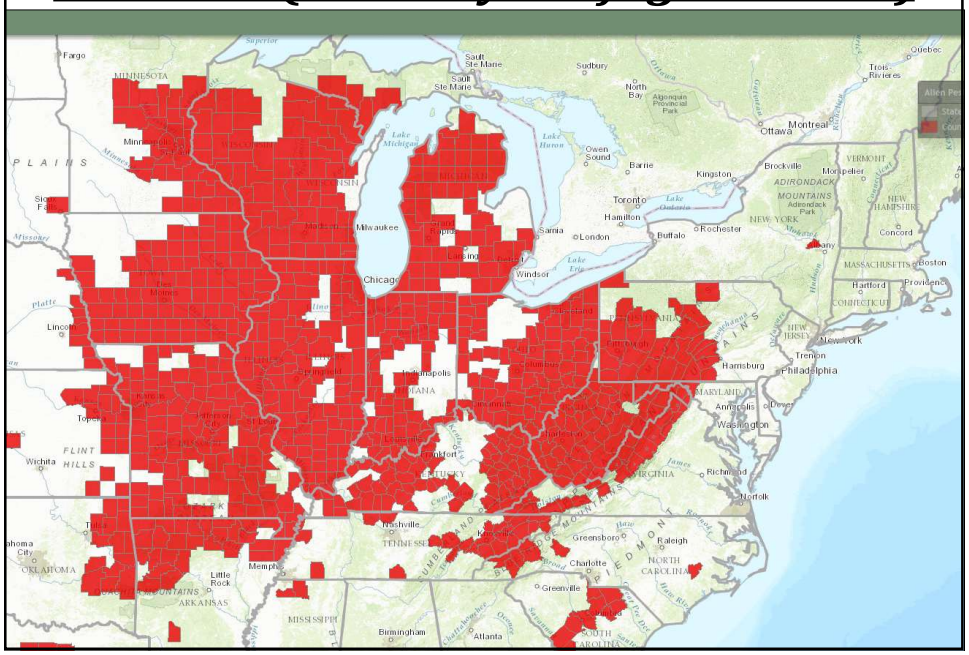



Forestry, Durham, NH; **S. G. Aćimović**, Hudson Valley Research Laboratory, Cornell University, Highland, NY; and **A. M. Macias**, **C. M. Stauder**, and **M. T. Kasson**, Division of Plant and Soil Sciences, West Virginia University, Morgantown, WV.



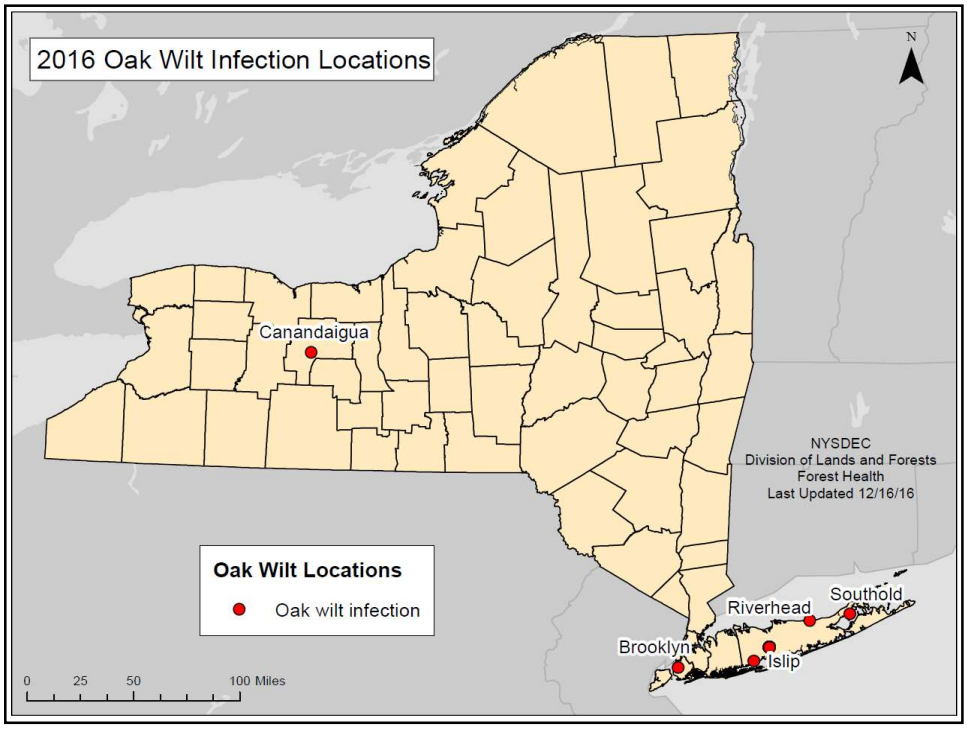
# Oak Wilt (*Ceratocystis fagacearum*)




# Oak Wilt (*Ceratocystis fagacearum*)

- First detected in the U.S. in Wisconsin in 1942 on red oak (*Quercus rubra*).
- *Suspected* to be non-native and possible locations of origin include Mexico, Central America and northern South America.

(Juzwik et al. 2008: The origin of *Ceratocystis fagacearum*, the oak wilt fungus. Annu. Rev. Phytopathol. 2008. 46:13–26.)

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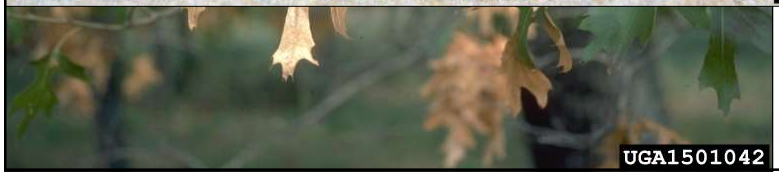


## Oak Wilt (*Ceratocystis fagacearum*)

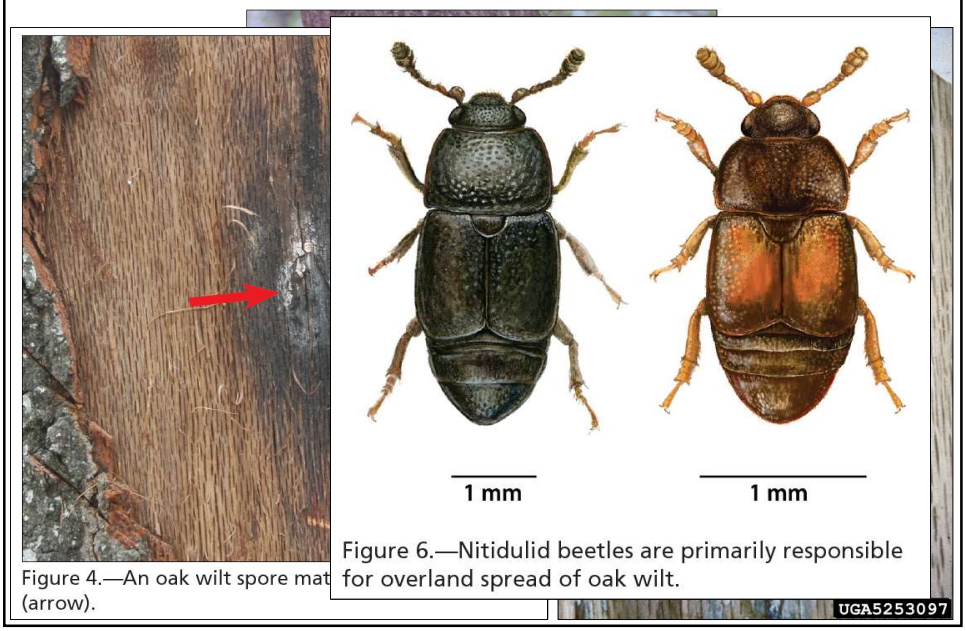



Figure 4.—An oak wilt spore mat (arrow).

Figure 6.—Nitidulid beetles are primarily responsible for overland spread of oak wilt.

## Oak Wilt (*Ceratocystis fagacearum*)

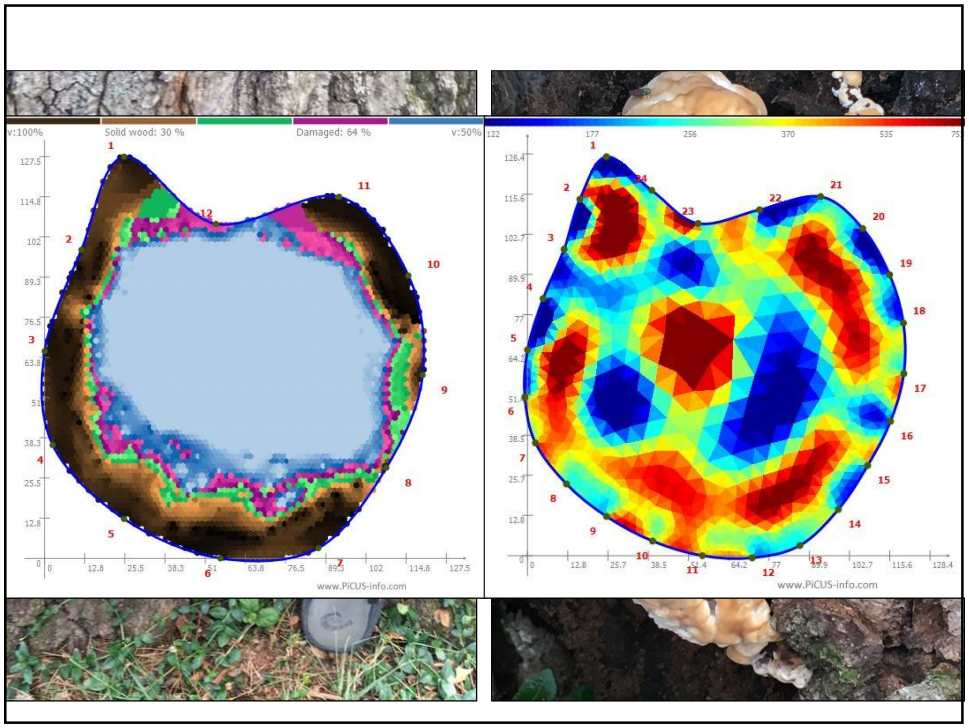
1. Wilting of leaves and branches.
2. Marginal scorch on leaves (July).
3. Vascular discoloration of most recent tissue (*sometimes*).
4. Mycelial mats under bark that give off a smell of rotting fruit.

## Managing High-Value Trees

- Propiconazole (Alamo)
- Late season injection → roots

## Managing High-Value Trees

- Prune during the dormant season (November through January)
- Pruning wounds with flowing sap attract beetles (vector)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Solid wood: 30 %
Damaged: 64 %
v:50%
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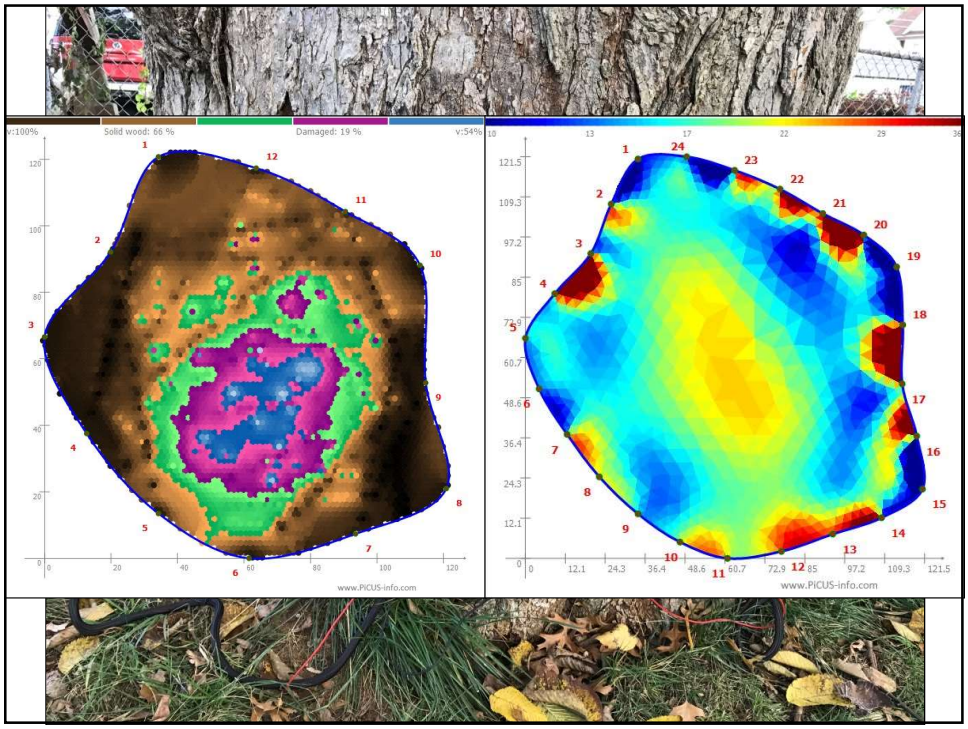
v:100%
Solid wood: 66 %
Damaged: 19 %
v:54%
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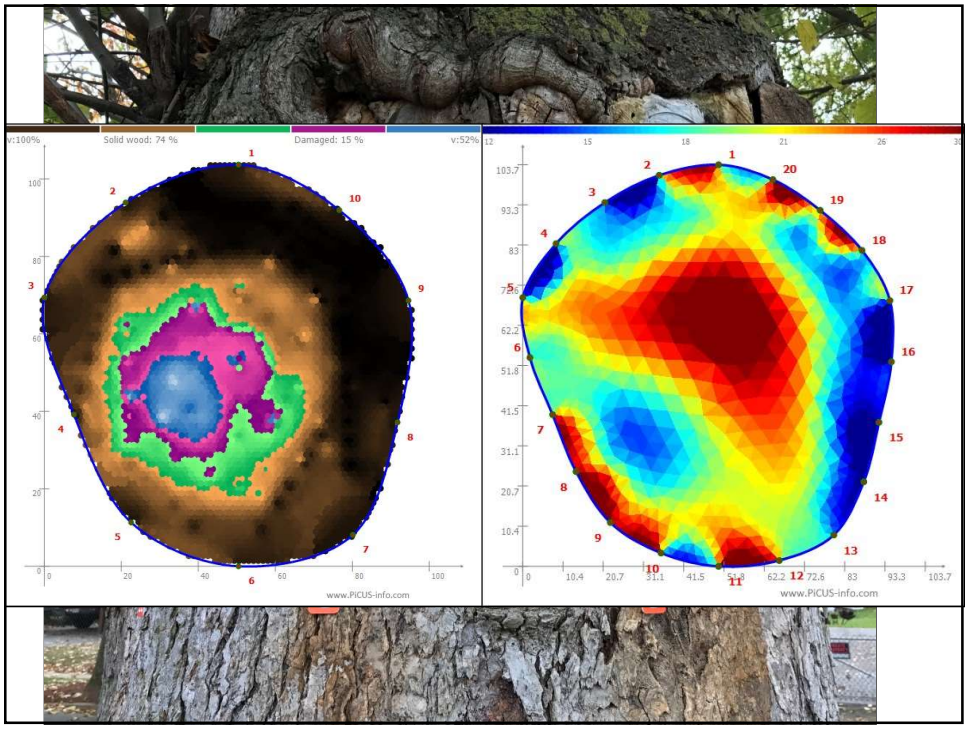
v:100%
Solid wood: 74 %
Damaged: 15 %
v:52%
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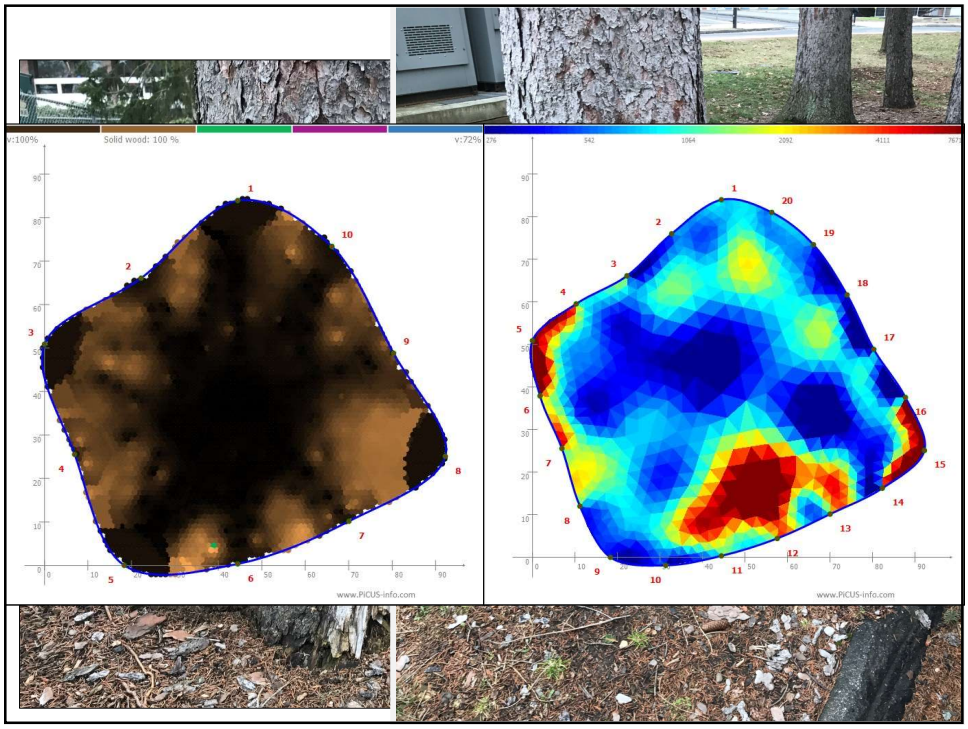
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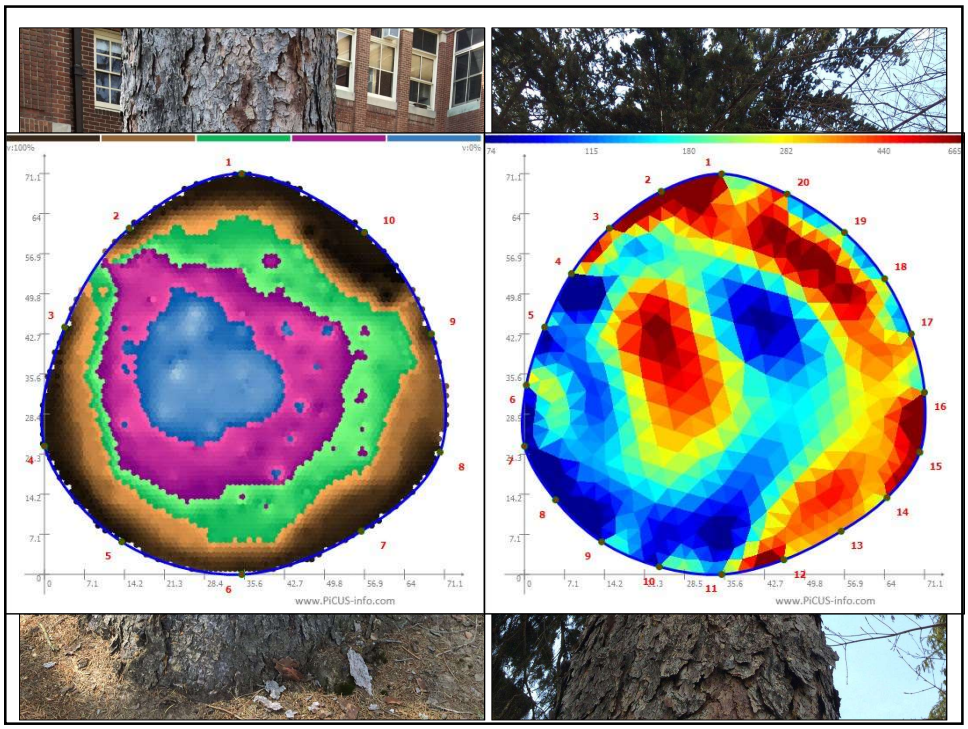
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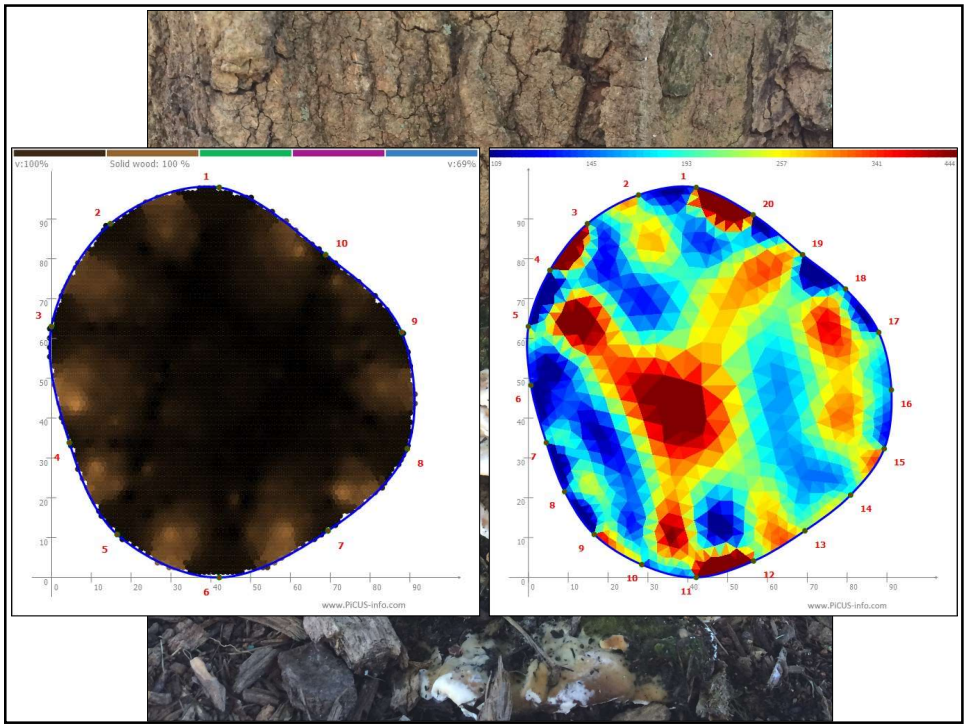
v:100%
Solid wood: 100 %
v:69%
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# Brown Rot of Stone Fruits

- Blossom/shoot blight, twig cankers and fruit rot
- Apricot, Cherry, Plum, Nectarine, Peach and Prune

# Elm Mosaic Virus

# Brown Felt Blight

- "Snow molds" that kill conifer foliage
- Grow beneath the snow

# Cenangium Canker

- Drought-induced cankering pathogen of hard pines

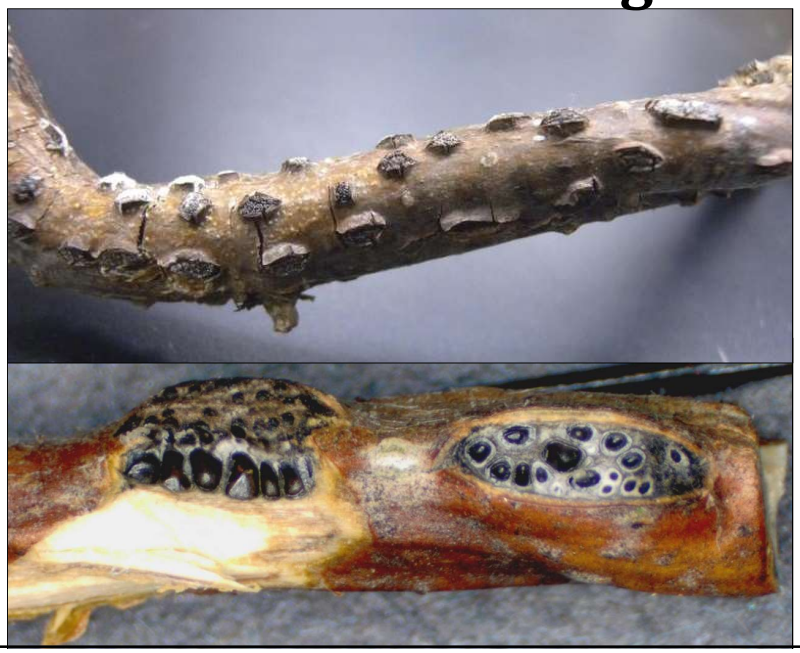
# Cryptocline Needle Blight of Yew

# Cryptocline Needle Blight of Yew

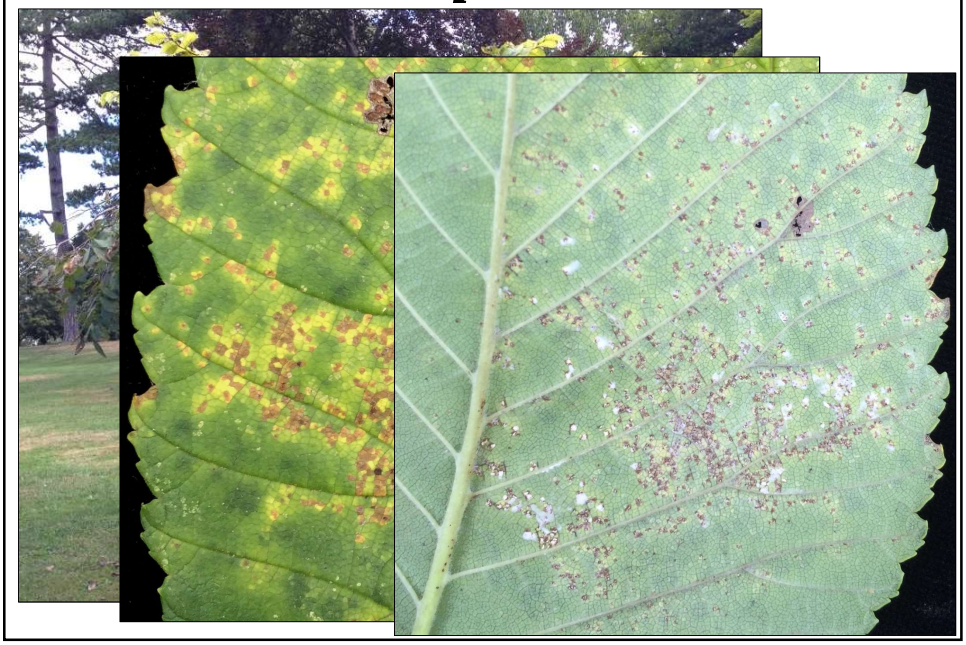


# Eastern Filbert Blight

# Eastern Filbert Blight



## *Phloeospora ulmi*



## Oak Leaf Blister (*Taphrina caerulescens*)

# Fabrella Needle Blight