



IOWA DEPARTMENT OF NATURAL RESOURCES
FORESTRY SECTION

Iowa's 2025 Forest Health Highlights



December 2025

**Tivon Feeley, Forest Health Program Leader
Mark Runkel, Forest Health Program Technician**

Contents

Introduction	1
Weather Review.....	1
Land Characteristics	4
United States Forest Service Major Pests List.....	5
United States Forest Service Major Pests List: Armillaria Root Disease	6
United States Forest Service Major Pests List: Asian long-horned beetle.....	7
United States Forest Service Major Pests List: Bur Oak Blight.....	8
United States Forest Service Major Pests List: Butternut Canker.....	10
United States Forest Service Major Pests List: Emerald Ash Borer	11
United States Forest Service Major Pests List: Forest Tent Caterpillar	13
United States Forest Service Major Pests List: <i>Lymantria dispar</i>	14
United States Forest Service Major Pests List: Heterobasidion Root Disease.....	17
United States Forest Service Major Pests List: Oak Wilt.....	18
United States Forest Service Major Pests List: Sudden Oak Death.....	20
United States Forest Service Major Pests List: Thousand Cankers Disease.....	21
United States Forest Service Major Pests List: Blister Rust	25
Additional Pest Surveyed: Spotted Lanternfly	26
Additional Pest Surveyed: Cankerworm	28
Additional Pest Surveyed: Pine Shoot Beetle	29
Additional Pest Surveyed: Dutch Elm Disease	31
Additional Pest Surveyed: Hickory Dieback	32
Additional Pest Surveyed: Invasive Plants	33
Additional Pest Surveyed: White Oak Mortality	36
Additional Pest Surveyed: Drought.....	37
Additional Pest Surveyed: Oak Tatters	38
Additional Pest Surveyed: Two Lined Chestnut Borer	39
Conclusion.....	40
Useful Contacts and Resources.....	41

This project was funded in part through a grant awarded by the USDA, Forest Service, Northeastern Area State and Private Forestry.

Federal and State law prohibit discrimination on the basis of age, color, creed, mental and/or physical disability, gender identity, national origin, pregnancy, race, religion, sex, or sexual orientation. If you believe you have been discriminated against in any program, activity or facility as described above, or if you desire further information, please contact the Iowa Civil Rights Commission at 1-800-457-4416 or DNR's Civil Rights Coordinators at civilrights@dnr.iowa.gov.

Iowa's Forest Health Highlights

Introduction

Each year, the Iowa Department of Natural Resources (DNR) Forestry Section collaborates with a variety of agencies to protect Iowa's forests from insects, diseases, and other damaging agents. These cooperative programs include ground and aerial surveys, deployment of pheromone traps, transect-based sampling, laboratory analysis of collected specimens, and the implementation of targeted treatments for specific forest health concerns during the growing season. Following each growing season, the Forestry Section compiles and publishes a comprehensive summary report on the overall health of Iowa's forests.

The 2025 *Forest Health Highlights* report begins with an overview of weather patterns and land characteristics that influence forest conditions across the state. It then presents summaries of surveys for key insect pests, diseases, and invasive plant species with the potential to affect forest health. This year's report emphasizes findings from the U.S. Forest Service's **Major Forest Pest List**, followed by additional damaging agents monitored by the Iowa DNR.

Weather Review

The weather across Iowa in 2025 was marked by pronounced temperature fluctuations and sharp contrasts in precipitation, resulting in alternating periods of ample soil moisture and intermittent stress on forest ecosystems.

The year began with relatively mild and moisture-rich conditions. January 2025 averaged slightly above normal temperatures and ranked among the 20 wettest on record, with a statewide average of 1.71 inches of precipitation. February brought an abrupt transition to widespread warmth and dryness. Although final statewide data remain under verification, preliminary analyses indicate that February 2025 was among the warmest and driest on record, with several regions receiving less than 0.5 inches of precipitation - one of the lowest totals in over a century.

Spring continued the trend of warmth and variability. March and April exhibited near-average temperatures and precipitation, though April brought locally heavier rainfall in southern counties. May 2025 was particularly notable for record-breaking rainfall events. On May 19, Des Moines recorded 3.84 inches of precipitation - the wettest May day in the city's history - leading to widespread soil saturation across central Iowa. While totals varied regionally, many sites reported positive rainfall departures of up to 2 inches above normal.

The summer months were characterized by pronounced climatic extremes that influenced forest soil moisture dynamics. June averaged 1-3°F above normal with localized precipitation deficits. July ranked as Iowa's second-wettest July in the 153-year record, with nearly 9.2 inches of rainfall - 4.8 inches above the long-term average. Statewide mean temperatures hovered near 75°F, approximately 2°F above normal. This excess rainfall temporarily alleviated drought conditions by early August. However, conditions reversed rapidly as August brought below-normal precipitation and renewed soil moisture stress across much of the state.

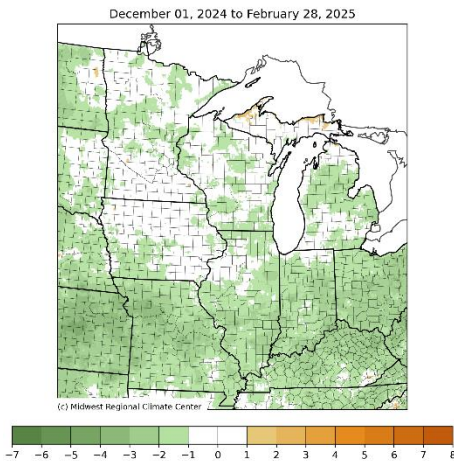
Late summer and fall maintained this pattern of variability. September was notably dry, with several monitoring stations reporting one of the driest early fall periods on record. Temperatures remained consistently above average, reinforcing a pattern of persistent warmth punctuated by short-term moisture deficits.

Overall, 2025 exemplified Iowa's climatic volatility - characterized by alternating warm anomalies, intense precipitation events, and abrupt drying phases. These fluctuations likely influenced forest health statewide by promoting vigorous mid-season growth during wetter intervals, while predisposing certain stands to root stress, fungal pathogens, and late-summer drought effects.

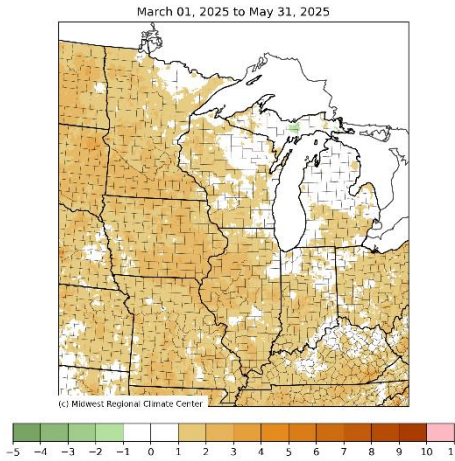
Emerald ash borer is in all 99 counties across Iowa. Reports of increased ash (*Fraxinus* spp.) mortality were received through multiple public inquiries, reflecting the continued statewide impact of this invasive species. Replanting initiatives remain underway to mitigate canopy loss and promote long-term forest recovery. The DNR continues to allocate technical and financial resources to communities most severely affected by EAB, subject to available funding and program priorities.

In 2025, the DNR conducted extensive surveys documenting over 3,600 acres of *White Oak Mortality* (WOM) across the state, with the highest incidence observed in southeastern Iowa. Current evidence suggests that this mortality complex is associated with multiple interacting stressors, including *Armillaria* root disease (*Armillaria* spp.), two-lined chestnut borer (*Agrilus bilineatus*), drought stress, oak wilt (*Bretziella fagacearum*), and other climate-related factors. The DNR continues to monitor affected stands and is implementing enhanced survey methodologies during the 2025 field season to better characterize the extent, severity, and causal mechanisms of WOM. Results from these ongoing investigations will be presented in the forthcoming *2026 Forest Health Highlights* report.

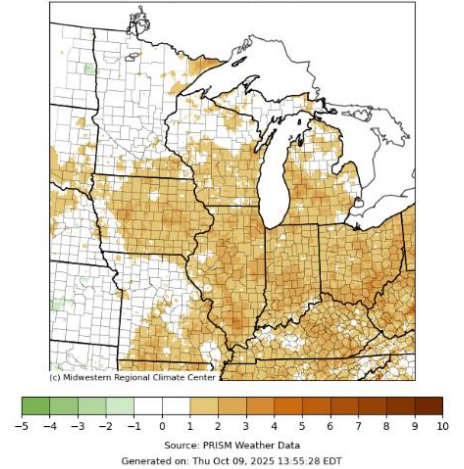
Average Temperature: Departure from 1991-2020 Normals



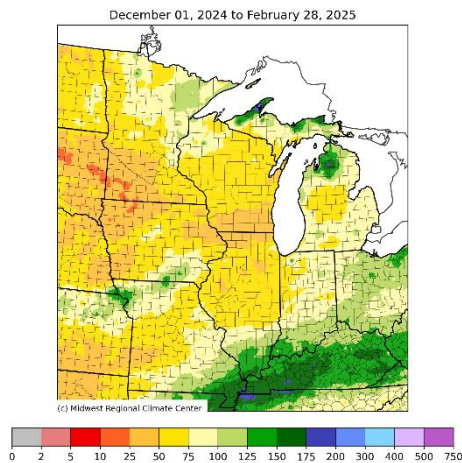
Average Temperature: Departure from 1991-2020 Normals



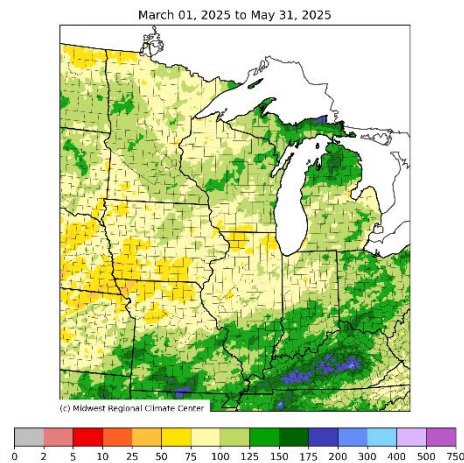
Average Temperature: Departure from 1991-2020 Normals
June 01, 2025 to August 31, 2025



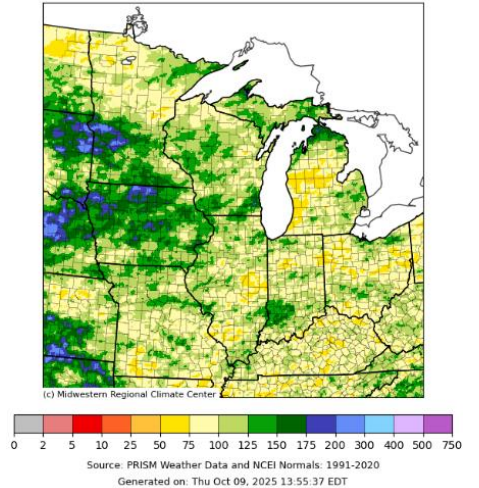
Accumulated Precipitation: Percent of 1991-2020 Normals



Accumulated Precipitation: Percent of 1991-2020 Normals



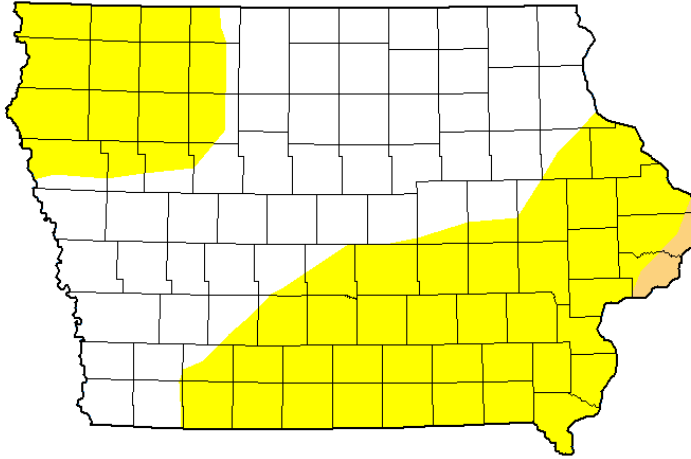
Accumulated Precipitation: Percent of 1991-2020 Normals
June 01, 2025 to August 31, 2025



[Images provided by Midwest Climate Watch](#)

U.S. Drought Monitor
Iowa

October 7, 2025
(Released Thursday, Oct. 9, 2025)
Valid 8 a.m. EDT



Intensity:

- None
- 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. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

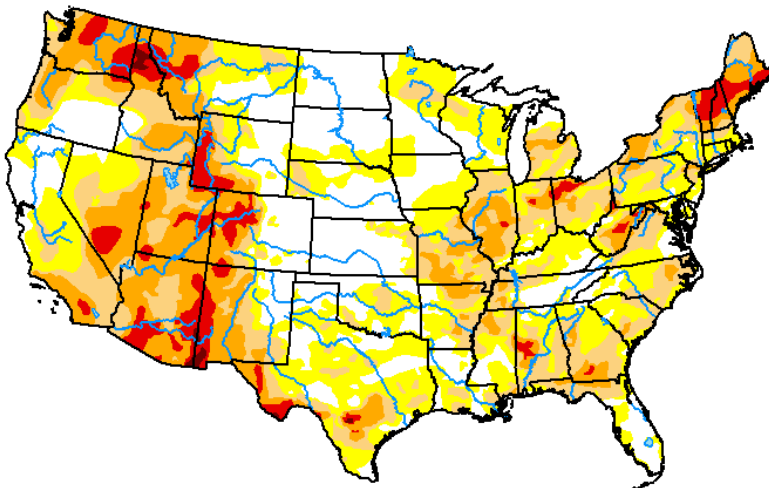
Curtis Riganti
National Drought Mitigation Center



droughtmonitor.unl.edu

U.S. Drought Monitor
Contiguous U.S. (CONUS)

October 7, 2025
(Released Thursday, Oct. 9, 2025)
Valid 8 a.m. EDT



Intensity:

- None
- 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. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Curtis Riganti
National Drought Mitigation Center



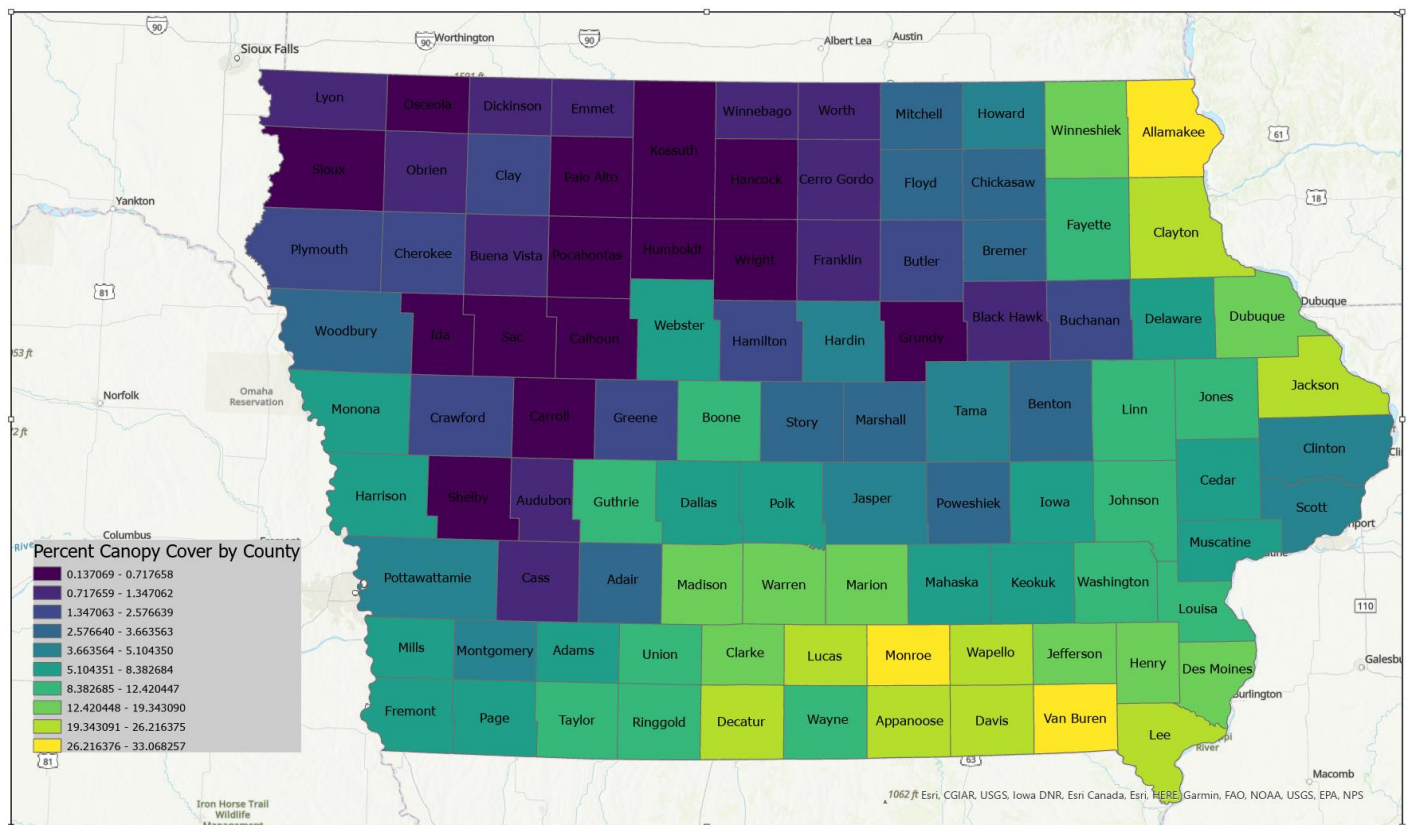
droughtmonitor.unl.edu

Land Characteristics

Iowa has approximately 2.85 million acres of forested land representing a decrease from 3.1 million acres in 2012. Most of Iowa's forests are native hardwood with oak, hickory, maple, basswood, walnut, ash, elm, cottonwood, and many other hardwood species. Less than 3% of Iowa's forests are conifer forests. There are currently 1.06 million acres of oak forest in Iowa.

Nearly 95% of the Forest Inventory Analysis (FIA) plots found one or more invasive plants competing with natives. The data also showed that over half of trees in Iowa are the preferred tree species by the nonnative pest spongy moth. In addition, the FIA report found that the average annual tree growth has declined while the average annual tree mortality has increased. Much of Iowa's small forests and trees that were along fencerows were cleared to allow for more profitable row cropping. The FIA data also indicated that succession to shade tolerant hardwoods (maples/ironwood) replacing shade intolerant hardwoods (oak/hickory) is continuing. These are alarming forest health trends. (Miles, P.D. Wed Mar 25 20:46:53 MDT 2016. Forest Inventory EVALIDator web-application version 1.6.0.01. St. Paul, MN: U.S. Department of Agriculture, Forest Service, Northern Research Station.)

Currently, there are 186 businesses in Iowa which utilize the wood grown in Iowa's forests. The forest products industry contributes over \$3.9 billion each year to Iowa's economy, including over 18,000 jobs for Iowans (Analysis by E.M. (Ted) Bilek, Economist, USDA Forest Service, Forest Products Laboratory, Madison, WI). Additional details can be found on page 192 of [Iowa's Forest's Today](#).



United States Forest Service Major Pests List

This is a national list. Pests highlighted in red(*) do not pertain to Northeastern Area and do not need to be reported. The items in blue have no known impact in Iowa at this time.

Non-Native Pests

Asian Longhorned Beetle
Balsam Woolly Adelgid
Beech Bark Disease
Browntail Moth
Butternut Canker
Dogwood Anthracnose
Emerald Ash Borer
Goldspotted Oak Borer*
Spongy Moth
Hemlock Woolly Adelgid
Laurel Wilt
Oak Wilt
Sirex Woodwasp
Sudden Oak Death
Thousand Cankers Disease
White Pine Blister Rust
Winter Moth

Native Pests

Armillaria Root Disease
Aspen Leafminer
Bur Oak Blight
Douglas-Fir Beetle*
Douglas-fir Black Stain Root Disease*
Fir Engraver*
Forest Tent Caterpillar
Fusiform Rust
Heterobasidion Root Disease
Jack Pine Budworm
Jeffrey Pine Beetle*
Large Aspen Tortrix
Mountain Pine Beetle*
Northern Spruce Engraver
Pine Black Stain Root Disease
Polyphagous Shot Hole Borer*
Port-Orford-Cedar Root Disease*
Southern Pine Beetle
Spruce Beetle
Spruce Budworm
Subalpine Fir Mortality*
Western Five-Needle Pine Mortality*
Western Pine Beetle*
Western Spruce Budworm*
Yellow-Cedar Decline*

**United States Forest Service Major Pests List:
Armillaria Root Disease**

Year: 2025

State: Iowa

Forest Pest

Common Name: Armillaria Root Disease

Scientific Name: *Armillaria spp.*

Hosts: Hardwoods and Conifers

Setting: N/A

Counties: N/A

Survey Methods: Ground

Acres Affected: N/A

Narrative: Armillaria root disease is fairly common in Iowa. The crown symptoms consist of branch dieback and crown thinning. The fungus produces a mycelial fan in recently killed trees just underneath the inner bark that often have a strong “mushroom” odor. The most common signs are the rhizomorphs that are produced just under the bark, and sometimes just on the bark surface. The rhizomorphs look like “shoestring”, which is why this fungus is sometimes called the shoestring fungi. Armillaria root disease, also known as shoestring fungi, is a common occurrence in Iowa. Infected trees display crown symptoms such as branch dieback and thinning. Key signs of this fungus include rhizomorphs - which resemble shoestrings - found under or on the bark surface. In recently killed trees, a mycelial fan with a distinct "mushroom" odor is often visible just beneath the inner bark.

If a landowner needs assistance with armillaria root disease, please contact Tivon Feeley (DNR Forest Health Program Leader) at 515-669-1402 or the ISU Plant Diagnostic Clinic at 515-294-0581. More information can be found on the [USDA website](#).



Figure 1. Armillaria rhizomorphs under the bark. (Image: Robert L. Anderson, USDA Forest Service, Bugwood.org).

United States Forest Service Major Pests List: Asian long-horned beetle

Year: 2025

State: Iowa

Forest Pest

Common Name: Asian long-horned beetle

Scientific Name: *Anoplophora glabripennis*

Hosts: Maple, horsechestnut/buckeye, willow, elm, birch, and sycamore

Setting: Urban

Counties: Carroll, Cass, Clarke, Crawford, Dallas, Decatur, Des Moines, Dubuque, Fayette, Hamilton, Harrison, Howard, Humboldt, Jackson, Kossuth, Linn, Louisa, Obrien, Polk, Sac, Shelby, Sioux, Story, Tama, Warren, and Webster.

Survey Methods: Ground

Acres Affected: N/A

Narrative: State legislative funds allowed the DNR to conduct 26 community inventories looking for invasive pests including Asian longhorned beetle. Maples that had advanced dieback, dime-sized exit holes, and no obvious reason for the decline (e.g., girdling roots, construction damage, or planting depth) were destructively examined for Asian long horned beetle. All of the maples surveyed were in fairly healthy condition and did not have any evidence of Asian long horned beetle. A total of 3,158 Acer was examined. State legislative funds enabled the DNR to conduct 26 community inventories specifically targeting invasive pests such as the Asian longhorned beetle. During these surveys, maples exhibiting advanced dieback, dime-sized exit holes, and no other clear cause for decline (e.g., girdling roots, construction damage, or improper planting depth) were destructively examined for the beetle. A total of 3,158 Acer trees were surveyed, and all were found to be in relatively healthy condition with no evidence of Asian longhorned beetle presence.

Asian long-horned beetle has not been identified in Iowa. It is expected that survey work will resume in 2026. DNR asks all citizens to assist in the future monitoring efforts of this pest. The Asian long-horned beetle has not been found in Iowa. Survey work is anticipated to resume in 2026, and the DNR encourages all citizens to participate in future monitoring for this pest.

If beetles are found (Figure 2) contact Rhonda Santos (USDA Public Information Officer) at 508-852-8044 and Robin Pruisner (State Entomologist) at 515-725-1465. [Asian long-horned beetle](#) information can be found on the USDA website.



Figure 2. Adult Asian long-horned Beetle (Image: Dennis Haugen, USDA Forest Service, Bugwood.org).

United States Forest Service Major Pests List:

Bur Oak Blight

Year 2025

State: Iowa

Forest Pest

Common Name: Bur Oak Blight

Scientific Name: *Tubakia iowensis*

Hosts: Bur oak and Swamp White Oak

Setting: Rural Forests, Nursery, and Urban

Counties: Statewide

Survey Methods: Aerial, Ground, General Observation, and Culturing

Acres Affected: Approximately 925 acres

Narrative: Bur oak blight has been recognized in Iowa for only the last 15 years. However, it is suspected that the fungus that causes the disease has probably been here much longer. Theories on why bur oak blight has increased include: a shift in climate temperatures, more frequent rain events, older mature trees might be more susceptible, and that trees are more susceptible on sites that have a history of grazing or construction. Bur oak blight has been recognized in Iowa for only the last 15 years, although the fungus causing the disease is suspected to have been present for a much longer period. Several theories exist regarding the increase in bur oak blight, including: a shift toward warmer climate temperatures, more frequent rain events, increased susceptibility of older mature trees, and that trees on sites with a history of grazing or construction may be more vulnerable.

The disease can be found in most counties in Iowa, causing severe decline and mortality. Spring chemical injections, as needed, with propiconazole (Alamo) seem to control bur oak blight. However, some chemical burning (phytotoxic effects of the chemical) does occur. This control method works well in urban settings. Bur oak blight is present in most Iowa counties, leading to significant tree decline and mortality. Control is typically achieved in urban areas with spring chemical injections of propiconazole (Alamo), applied as needed. While effective, this treatment can sometimes cause chemical burning or phytotoxic effects.

Currently, control measures have not been identified for woodland trees. Severely declining bur oaks have been harvested (salvaged) before they die. The estimated acres affected reflect the approximate acres of woodland salvage cuts. This does not reflect the urban damage, which cannot be quantified at this time. Control measures for woodland trees are currently unavailable. Severely declining bur oaks have been salvaged (harvested) before mortality. The estimated acres affected reflect only the approximate acreage of these woodland salvage cuts, and do not include the unquantifiable damage in urban areas.

There have been a few reports confirmed by the ISU NPDN Clinic of bur oak blight of swamp white oak. These appear to be true swamp white oak and not hybrids. The damage tends to be some venial necrosis and does not appear to be as severe on swamp white oak as it is on bur oak. These positive swamp white oaks will be followed to determine if the disease progresses over the years as it does on bur oaks. Bur oak blight has been confirmed on swamp white oak in a few reports by the ISU NPDN Clinic. These appear to be true swamp white oaks, not hybrids. The damage observed, typically venial necrosis, seems less severe on swamp white oak compared to bur oak. These positive swamp white oaks will be monitored to track the disease's progression over time, similar to the studies on bur oaks.

All samples bur oak blight should be sent to the ISU Plant Diagnostic Clinic, who can be reached at 515-294-0581.

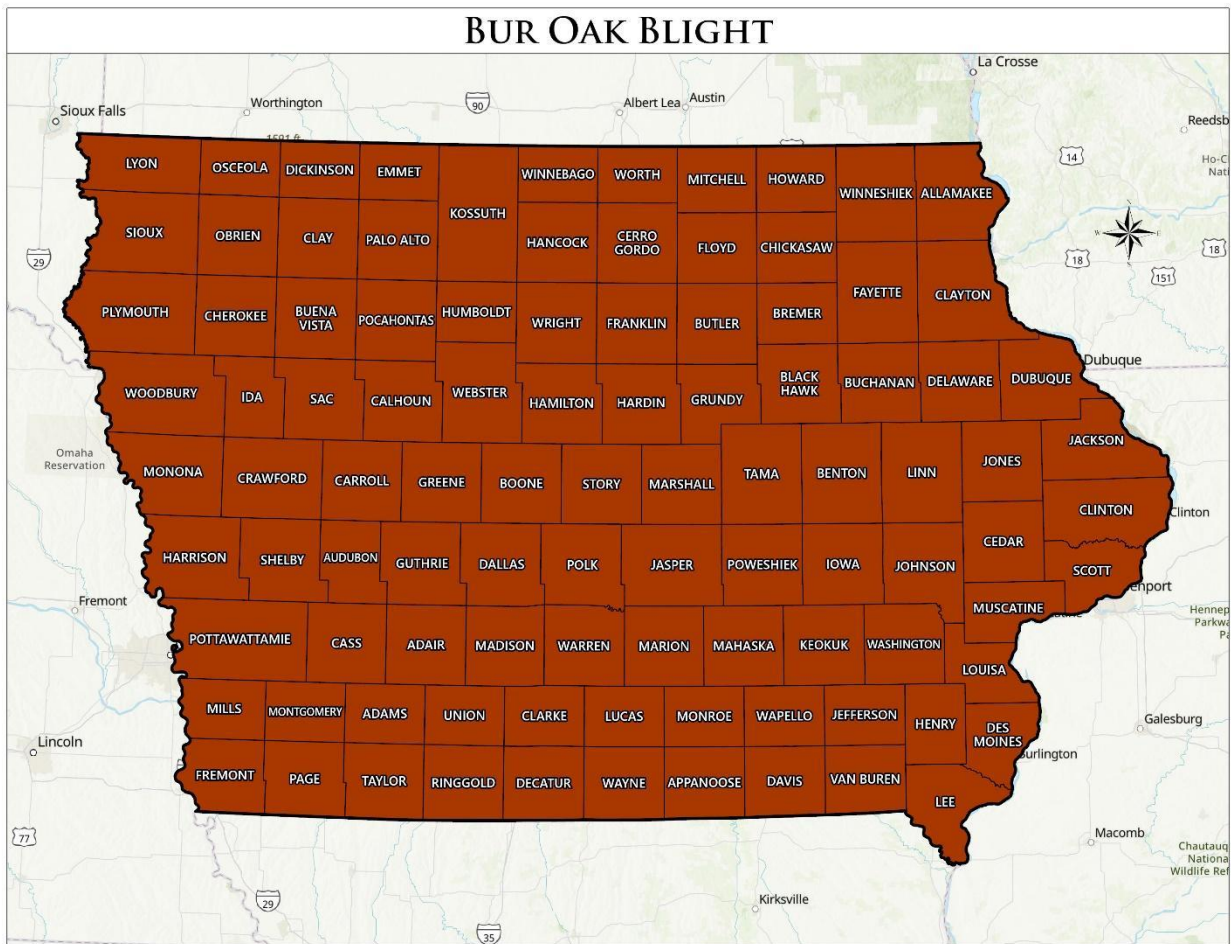


Figure 3. Current map of known locations of bur oak blight. (Image: Created by DNR based on locations provided by Dr. Harrington, ISU).

United States Forest Service Major Pests List:

Butternut Canker

Year 2025

State: Iowa

Forest Pest

Common Name: Butternut Canker

Scientific Name: *Ophiognomonia clavignenti-juglandacearum*

Hosts: Butternut

Setting: Rural Forest

Counties: Statewide

Survey Methods: General Observation

Acres Affected: Eastern half of Iowa (Scattered throughout roughly 2 million acres)

Narrative: Efforts to conserve native Iowa butternut trees, severely threatened by butternut canker, are showing promise in the Loess Hills State Forest. Iowa DNR foresters collected seeds from genetically verified native butternut trees in the early 2010s. These seeds were grown at the State Forest Nursery and later planted in 2010 and 2011. A recent review in 2025 revealed that some trees, now reaching 8" DBH, remain canker-free, offering hope for the survival of this species. Given that butternut canker has caused a 95% decline in Iowa's butternut population, these disease-free trees represent a significant step toward conservation. A promising conservation effort is underway for native Iowa butternut trees, which have been severely impacted by butternut canker, leading to a 95% population decline in the state. In the early 2010s, Iowa DNR foresters collected seeds from genetically verified native butternut trees. These seeds were cultivated at the State Forest Nursery and then planted in the Loess Hills State Forest in 2010 and 2011. A 2025 review of these plantings offers hope for the species' survival, as some trees, now reaching 8 inches in Diameter at Breast Height (DBH), remain canker-free. These disease-free individuals represent a significant step in the ongoing conservation of this threatened species.

These mature trees are producing seed, creating an opportunity to propagate disease-resistant butternuts on suitable soils, especially outside their native range where butternut canker is less prevalent. Landowners seeking guidance on managing butternut trees or addressing butternut canker should contact Tivon Feeley, DNR Forest Health Program Leader, at 515-669-1402 or the ISU Plant Diagnostic Clinic at 515-294-0581. Landowners looking for assistance with managing butternut trees or dealing with butternut canker can contact Tivon Feeley, DNR Forest Health Program Leader, at 515-669-1402 or the ISU Plant Diagnostic Clinic at 515-294-0581 for guidance. These mature trees are producing seed, which offers an opportunity to propagate disease-resistant butternuts on appropriate soils, especially in areas outside of their native range where butternut canker is less common.



Figure 4. Examples of canker found on butternut trees (Image: Minnesota Department of Natural Resources Archive, Minnesota Department of Natural Resources, Bugwood.org).

United States Forest Service Major Pests List: Emerald Ash Borer

Year 2025

State: Iowa

Forest Pest

Common Name: Emerald Ash Borer

Scientific Name: *Agrilus planipennis*

Hosts: All Ash (*Fraxinus*) species

Setting: Rural Forest, Nursery, Urban

Counties: All 99 Counties

Survey Methods: Aerial, Ground, General Observation, and Trapping

Acres Affected: Statewide (Unknown Acres)

Narrative: The *Emerald Ash Borer* (*Agrilus planipennis* Fairmaire; EAB) was first detected and confirmed in Iowa on May 14, 2010, on Henderson Island in Allamakee County. Since that initial detection, EAB infestations have been confirmed in all 99 counties across the state.

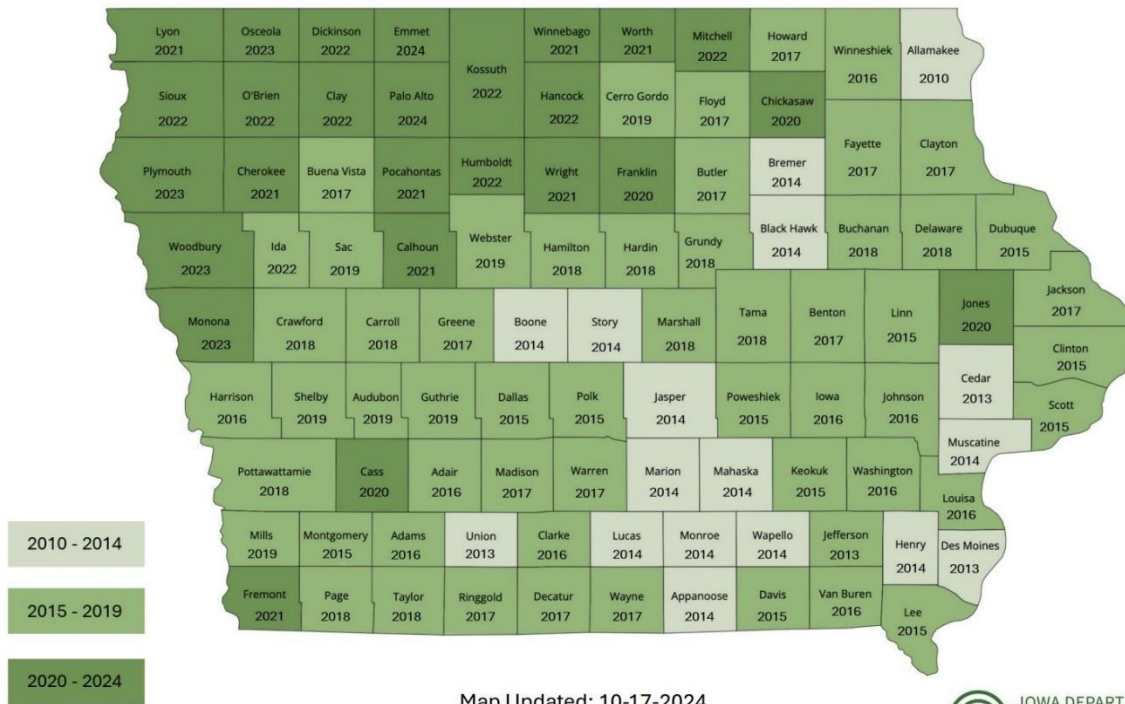
Due to the pest's rapid and widespread distribution, a statewide quarantine was enacted on February 4, 2014, to slow its spread and regulate the movement of ash materials. All federal and state EAB quarantines were subsequently lifted on January 14, 2021, allowing unrestricted movement of ash wood products within Iowa.

Although regulatory restrictions have ended, the Iowa Department of Natural Resources (DNR) continues to promote best management practices to minimize the spread of invasive forest pests. Campers and landowners are strongly encouraged to purchase firewood locally, obtain certified heat-treated firewood, or gather firewood on-site where permitted. Transporting firewood over long distances can inadvertently spread invasive species, including EAB and other wood-boring insects, posing ongoing risks to forest health.

If a landowner has an ash tree that they believe has emerald ash borer please contact Tivon Feeley (DNR Forest Health Program Leader) at 515-669-1402 or Mike Kintner (IDALS EAB Coordinator) at 515-725-2877. Emerald ash bore information can be found at [Emerald Ash Borer Info](#) and the [Iowa DNR](#).

Confirmed Emerald Ash Borer in Iowa by County

First County Detection by Year



Map Updated: 10-17-2024



Iowa Department of Agriculture & Land Stewardship, Entomology & Plant Science Bureau, Entomology@IowaAgriculture.gov, 515-725-1470

Figure 5. Locations of the emerald ash borer infestations, as of August 2025. Please note that every county in the State of Iowa has been confirmed with EAB. The current recommendations from the Iowa EAB Team are not to chemically treat an ash tree until your property is within one of the brown circles. (Image: Tivon Feeley, DNR)

**United States Forest Service Major Pests List:
Forest Tent Caterpillar**

Year 2025

State: Iowa

Forest Pest

Common Name: Forest Tent Caterpillar

Scientific Name: *Malacosoma disstria*

Hosts: Many tree species

Setting: Rural Forests and Urban

Counties: Allamakee, Chickasaw, Clayton, Delaware, Fayette, Howard, and Winneshiek

Survey Methods: Ground and General Observation

Acres Affected: Approximately 18 acres

Narrative: Iowa DNR started receiving reports of forest tent caterpillars in Northeast Iowa in late May. Forest tent caterpillars are native and commonly found throughout the United States. The forest tent caterpillars have regional outbreaks every 6 to 16 years.

This is the first year the numbers have started to increase of [forest tent caterpillars](#).



Figure 6. The picture above shows forest tent caterpillars on the main stem of a young tree. (Image: Robert Honeywell, DNR)

United States Forest Service Major Pests List:

Lymantria dispar

Year 2025

State: Iowa

Forest Pest

Common Name: Spongy Moth

Scientific Name: *Lymantria dispar*

Hosts: Oak, spruce, maples, elms, and many more

Setting: Rural Forests and Urban

Counties: Statewide

Survey Methods: Pheromone Delta Traps

Acres Affected: None

Narrative: The *Spongy Moth* (*Lymantria dispar* Linnaeus) has been repeatedly detected in Iowa through annual monitoring efforts. Ongoing trapping programs designed to detect outlying populations, combined with targeted mating disruption treatments, have effectively maintained populations at very low levels. To date, no defoliation or feeding damage attributable to *L. dispar* has been observed on Iowa's forest or urban trees.

During the 2025 trapping season, a total of 519 male *L. dispar* moths were captured statewide. For the 2026 monitoring season, 18 areas have been designated for delimitation trapping to determine whether Iowa is experiencing an isolated, early-stage infestation. Implementation of this survey plan will require an estimated 180 additional traps.

No egg masses were detected during the 2025 fall survey. Final distribution maps will be completed following genetic testing of the captured male specimens to confirm species identification as *L. dispar*.

More information on the spongy moth and the spray program can be found on the [Iowa Tree Pest](#) website.

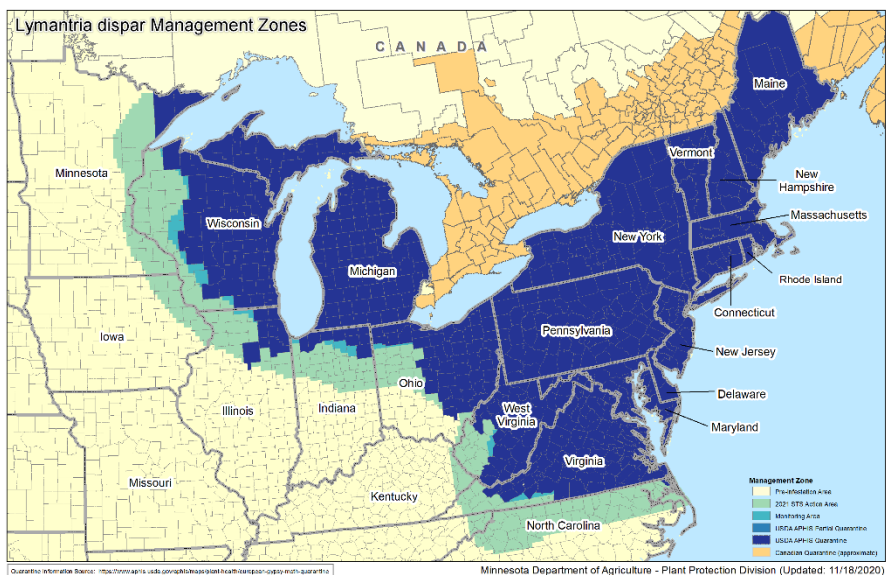
Slow the Spread efforts are coordinated by a chartered, non-profit foundation that coordinated the operations of the program and facilitates the movement of funding between federal (USDA Forest Service and APHIS) and state agencies. Currently there are 11 States that participate in STS, and a Board of Directors leads the foundation. The STS Foundation Board of Directors is responsible for managing the STS project, which includes approving the annual plan of work, and allocating available resources. Two groups located at Virginia Polytechnic Institute and State University (VT) and Michigan State University (MSU) manage the centralized database for the program. Ongoing research from VT and other researchers are helping to improve management options for *Lymantria dispar* and improve the modeling of *Lymantria dispar* populations. Together they have achieved their goal of reducing spread of this destructive pest by more than 60%, which has prevented infestation of more than 140 million acres in 15 years.

The Threat: *Lymantria dispar* is a destructive, exotic forest pest that feeds on over 300 species of trees. It was accidentally introduced into the United States in 1869 and is currently established throughout the northeast and parts of the upper mid-west (gray shaded area on maps), where it has defoliated 80 million acres since 1970.

- It feeds on over 300 species of trees but oaks are most preferred.
- Defoliation causes extensive tree mortality, reduces property values, adversely affects commerce and causes allergic reactions in sensitive individuals that come in contact with the caterpillars.
- Most of the susceptible hardwood forests in the United States are not yet infested and are still at risk.

The Benefits:

- Prevents invasion of more than 300 million acres over the next 30 years
- Protects the extensive urban and wild land hardwood forests in the south and upper mid-west while also protecting the environment through use of spongy moth specific strategies.
- Yields a benefit to cost ratio of 3 to 1 by delaying the onset of impacts that occur as spongy moth invades new areas. The 20-year net present value after subtracting costs ranges from 184 to 348 million dollars.
- Delays impacts associated with spongy moth quarantines on intra- and inter-state commerce.
- Unifies the partners and promotes a coordinated, region-wide action based on biological need.



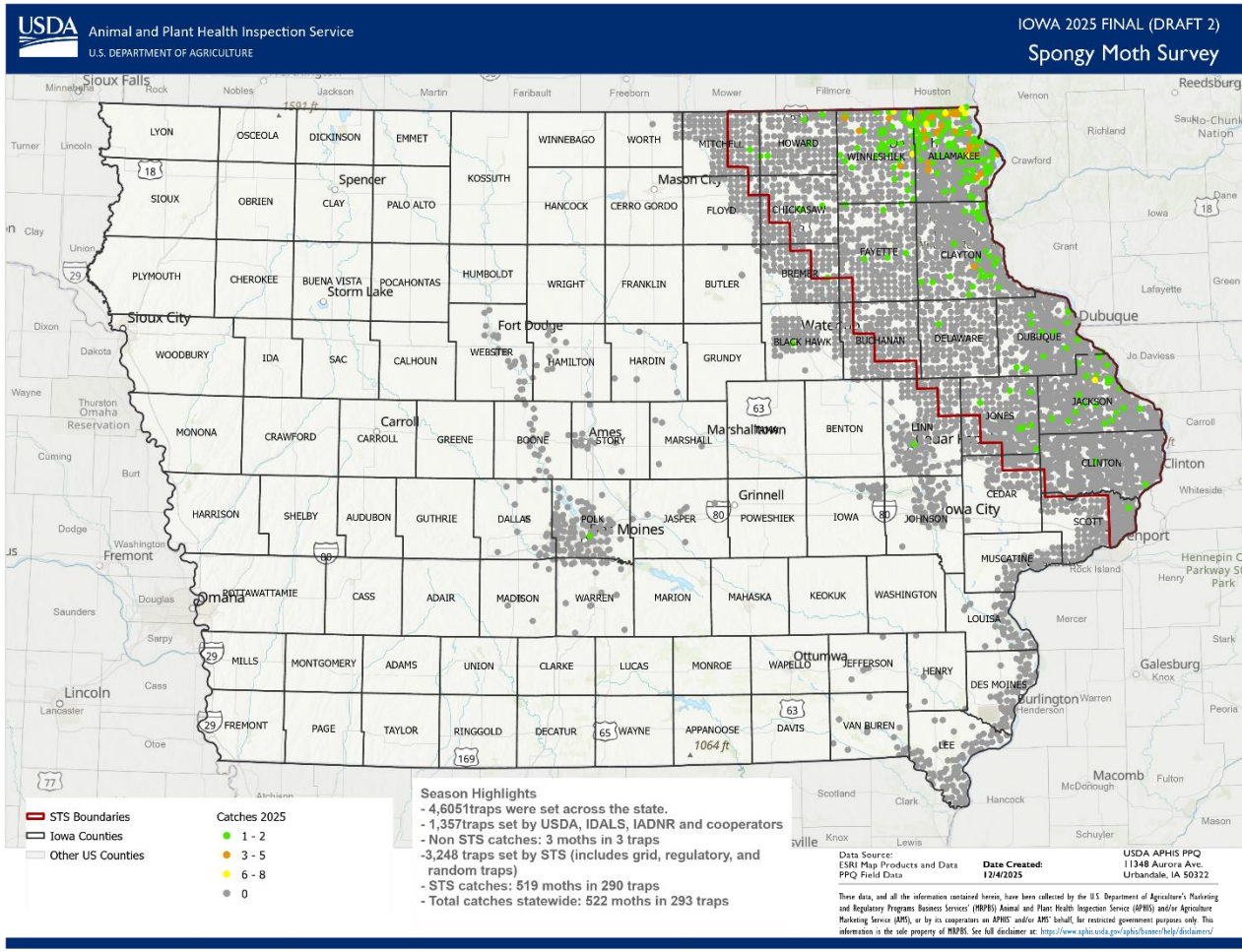


Figure 7. The map above details the locations of all the spongy moth traps and the number of moths captured in them during the 2025-trapping season. The total male moth capture was 519 male moths. (Image: Mark Hollister, PPQ).

United States Forest Service Major Pests List: Heterobasidion Root Disease

Year 2025

State: Iowa

Forest Pest

Common Name: Heterobasidion root disease

Scientific Name: *Heterobasidion spp.*

Hosts: Conifers (All)

Setting: N/A

Counties: Lucas and Van Buren

Survey Methods: N/A

Acres Affected: N/A

Narrative: *Heterobasidion* root disease (HRD), caused by the fungal pathogen *Heterobasidion irregulare* (formerly *H. annosum*), has been confirmed in Iowa and is recognized as a significant root and butt rot disease affecting conifers, particularly pines (*Pinus spp.*) and eastern redcedar (*Juniperus virginiana*). Historically, the disease has been documented on jack pine (*Pinus banksiana*) within Stephens State Forest.

In 2025, survey activities were conducted at Yellow River State Forest to evaluate the presence of *Heterobasidion* root disease. To date, the pathogen has not been detected at this location. Continued surveillance is essential, as HRD can establish in both managed and natural conifer stands and is capable of persisting in stumps and root systems for extended periods, contributing to stand decline and mortality.

Landowners or land managers who suspect *Heterobasidion* root disease are encouraged to contact the Iowa State University Plant and Insect Diagnostic Clinic (phone: 515-294-0581) for diagnostic assistance and laboratory confirmation. Additional information regarding the biology, detection, and management of *Heterobasidion* root disease is available through the U.S. Department of Agriculture (USDA) Forest Service website.



Figure 8. Example of heterobasidion root disease. (Image: William Jacobi, Colorado State University, Bugwood.org)

United States Forest Service Major Pests List:

Oak Wilt

Year 2025

State: Iowa

Forest Pest

Common Name: Oak Wilt

Scientific Name: *Ceratocystis fagacearum*

Hosts: All Oak Species

Setting: Woodlands and Urban

Counties: Statewide

Survey Methods: Aerial, ground, culturing, and general observation.

Acres Affected: N/A

Narrative: Oak wilt, caused by the vascular fungus *Bretziella fagacearum* (formerly *Ceratocystis fagacearum*), is a lethal disease affecting oaks (*Quercus* spp.) throughout the eastern and midwestern United States, including Iowa. The pathogen invades the xylem, disrupting water and nutrient transport, which leads to rapid wilting, leaf discoloration, defoliation, and eventual tree mortality. Red oaks (*Quercus rubra* group) are particularly susceptible, often dying within weeks of infection, while white oaks (*Quercus alba* group) may decline more slowly over several years.

Transmission of the pathogen occurs primarily in two ways:

1. **Overland spread** via sap-feeding nitidulid beetles (*Coleoptera: Nitidulidae*) that carry fungal spores from infected trees to fresh wounds on healthy trees.
2. **Subterranean spread** through root grafts between adjacent oak trees, which allows the fungus to move between interconnected root systems.

In 2025, approximately 289 oak trees across Iowa were sampled and tested for oak wilt using newly developed PCR-LAMP (Loop-Mediated Isothermal Amplification) field diagnostic assays. All collected samples tested positive for *B. fagacearum*, confirming widespread presence of the pathogen in the surveyed areas. These results underscore the importance of continued monitoring and early detection to prevent further disease spread.

Landowners or land managers who suspect oak wilt infection are encouraged to contact the Iowa State University Plant and Insect Diagnostic Clinic (phone: 515-294-0581) for laboratory confirmation and management recommendations. Prompt diagnosis and sanitation measures - such as removal of infected trees, trenching to disrupt root grafts, and avoidance of pruning during the growing season are critical for effective oak wilt management.

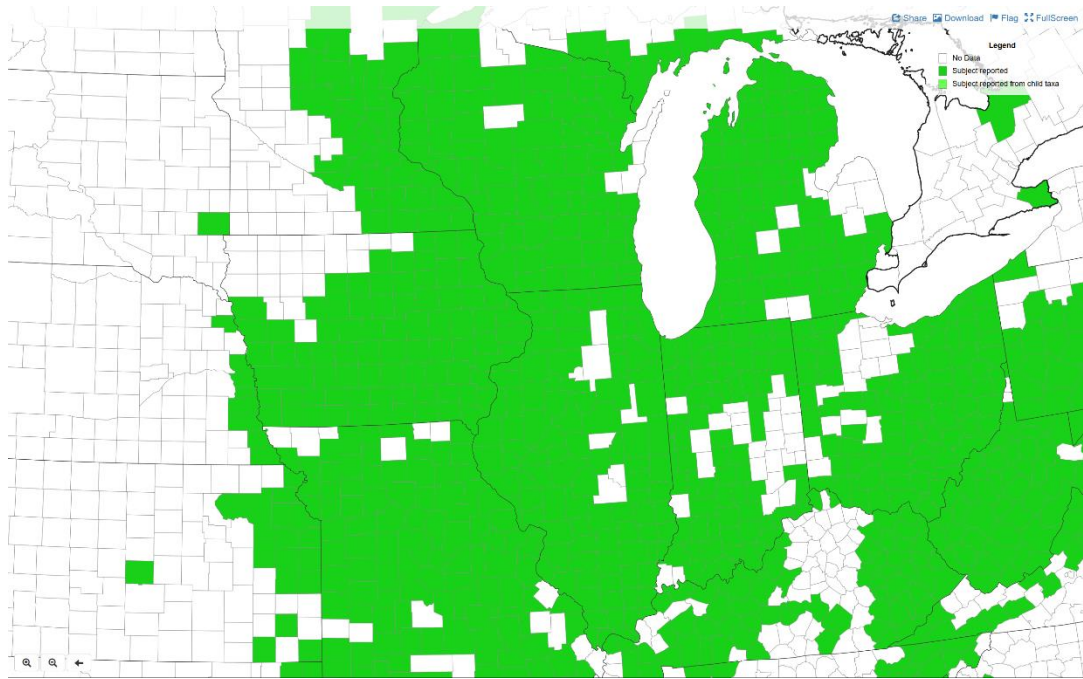


Figure 9. The map above details the counties in Iowa with confirmed oak wilt. Oak wilt may occur in the non-shaded counties, but has not been confirmed by the ISU Diagnostic Clinic. (Image: Quinn Chavez, USFS).

United States Forest Service Major Pests List: Sudden Oak Death

Year 2025

State: Iowa

Forest Pest

Common Name: Sudden Oak Death

Scientific Name: *Phytophthora ramorum*

Hosts: All Oaks

Setting: Rural Forests, Nursery, and Urban

Counties: Statewide

Survey Methods: N/A

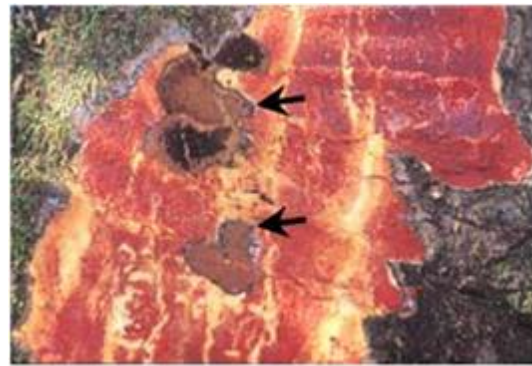
Acres Affected: N/A

Narrative: Iowa did receive numerous notices of “trace forward” of suspected sudden oak death in 2025, meaning that potentially infected plant material had been shipped to Iowa. The notices were received too late in the season and the plants had been sold. Iowa’s weather conditions make it extremely unlikely for sudden oak death to survive. Stream baiting, to test for sudden oak death was not conducted in 2025 and is not planned for 2026 at this time.

If a landowner suspects that their plants have [sudden oak death](#), please contact Tivon Feeley (DNR Forest Health Program Leader) at 515-669-1402 or Robin Pruisner (State Entomologist) at 515-725-1465.



Ooze bleeds from a canker on an infected oak.



Black zone lines are found under diseased bark in oak.

Figure 10. Two examples of the oozing canker found on an infected tree. The black lines under the bark are also symptomatic of sudden oak death. (Images: Joseph O’Brien, USDA Forest Service Pest Alert, and Bugwood.org)

United States Forest Service Major Pests List: Thousand Cankers Disease

Year 2025

State: Iowa

Forest Pest

Common Name: Thousand Cankers Disease

Scientific Name: *Pityophthorus juglandis* and *Geosmithia morbida*

Hosts: Walnut

Setting: Rural Forests, Nursery, and Urban

Counties: Statewide

Survey Methods: Ground, General Observation, and Culturing

Acres Affected: None

Narrative

The *Walnut Twig Beetle* (*Pityophthorus juglandis* Blackman) is a small bark beetle native to the southwestern United States. It is the primary vector of *Geosmithia morbida*, the fungal pathogen responsible for Thousand Cankers Disease (TCD). This disease complex poses a significant threat to black walnut (*Juglans nigra*), a species of major ecological and economic importance in the central United States.

TCD develops when *P. juglandis* introduces *G. morbida* into walnut branches during gallery construction. The fungus colonizes phloem tissues, producing numerous cankers that eventually girdle branches and stems. Repeated beetle attacks and cumulative canker formation lead to canopy thinning, branch dieback, and eventual tree mortality. The disease has caused extensive losses in western and eastern U.S. walnut populations, prompting continued monitoring and prevention efforts in Iowa.

In 2025, a total of 221 sites were selected across Iowa for the annual walnut twig beetle survey. At each site, a Lindgren four-funnel dry trap baited with the *P. juglandis* pheromone lure (ISCA Technologies) was deployed in a declining black walnut tree to enhance detection sensitivity. Traps were installed and serviced over a three-week interval during April, May, and the first week of June. Trap contents were collected, sorted, and identified to assess both target and non-target bark and ambrosia beetle activity.

During the 2025 survey, the following beetle species were collected:

Xyleborus atratus, *Ambrosiodmus tachygraphus*, *Hylocurus rudis*, *Xylosandrus germanus*, *Xyleborinus saxeseni*, *Xyloterinus politus*, *Xylosandrus crassiusculus*, *Pityophthorus lautus* (and subspecies), *Pityophthorus crinalis*, and *Pityophthorus consimilis*.

A total of 7,114 ambrosia beetles, *Pityophthorus* beetles, and weevils were collected statewide. No walnut twig beetles (*P. juglandis*) were detected during the 2025 survey. Numerous non-target beetles (e.g., Japanese beetles, June beetles, and other common species) were also captured but excluded from quantitative analyses. Beetle capture rates peaked in May, followed by a decline through early June. This pattern has remained consistent across multiple survey years, indicating that May represents the optimal period for monitoring *Pityophthorus* species activity in Iowa.

Results from the 2025 survey indicate that the *Walnut Twig Beetle* remains undetected in Iowa. Continued annual surveillance remains essential due to the significant risk posed by *P. juglandis* and its associated pathogen *G. morbida* to Iowa's walnut resource. Early detection is critical for implementing rapid response measures and minimizing potential impacts of Thousand Cankers Disease on both natural and managed walnut stands.

If a landowner has walnut trees that they believe have [thousand cankers disease](#), please contact the ISU Plant Diagnostic Clinic at 515-294-0581.



Figure 11. One of the Lindgren funnel traps that were used in conjunction with the walnut twig beetle pheromone. The traps were placed at sawmills, communities, and campgrounds. (Image: Shane Donegan, DNR)



Figure 12. A look inside the Lindgren Funnel trap capture chamber. The picture shows two pheromone pouches and a 3-inch-long strip of dog collar that was used to kill the beetles that entered the capture chamber. (Image: Shane Donegan, DNR)

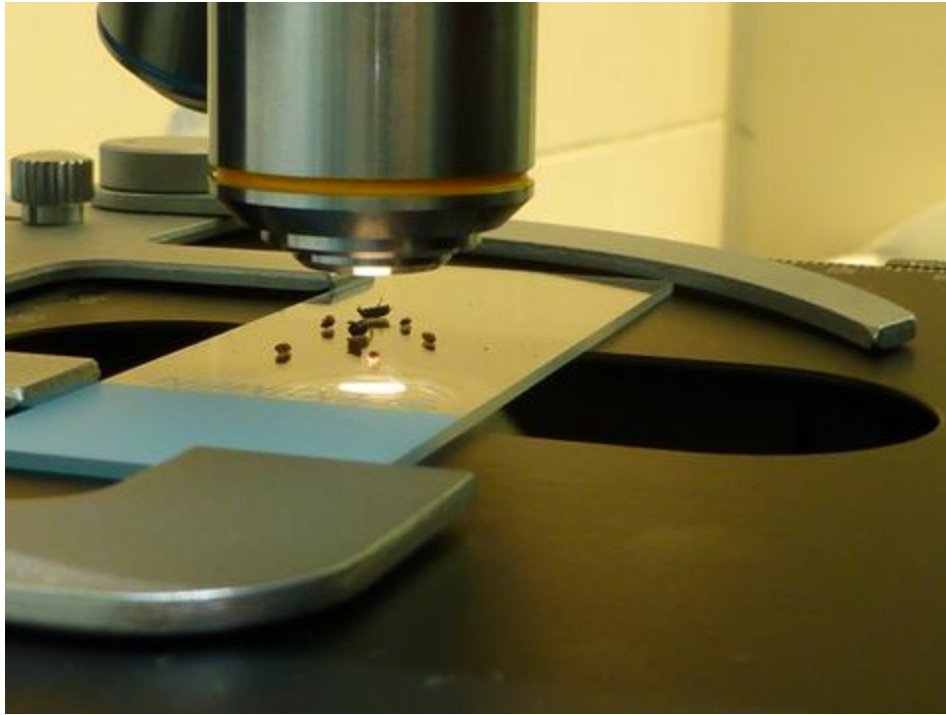


Figure 13. Microscopes were used to help identify the beetle captured. The walnut twig beetle is about 1/4 of an inch long.
(Image: Shane Donegan, DNR)



Figure 14. Pictured above is a *Pityophthorus* sp. (not *P. juglandis*) that was captured and sent in for identification. (Image: Shane Donegan, DNR)

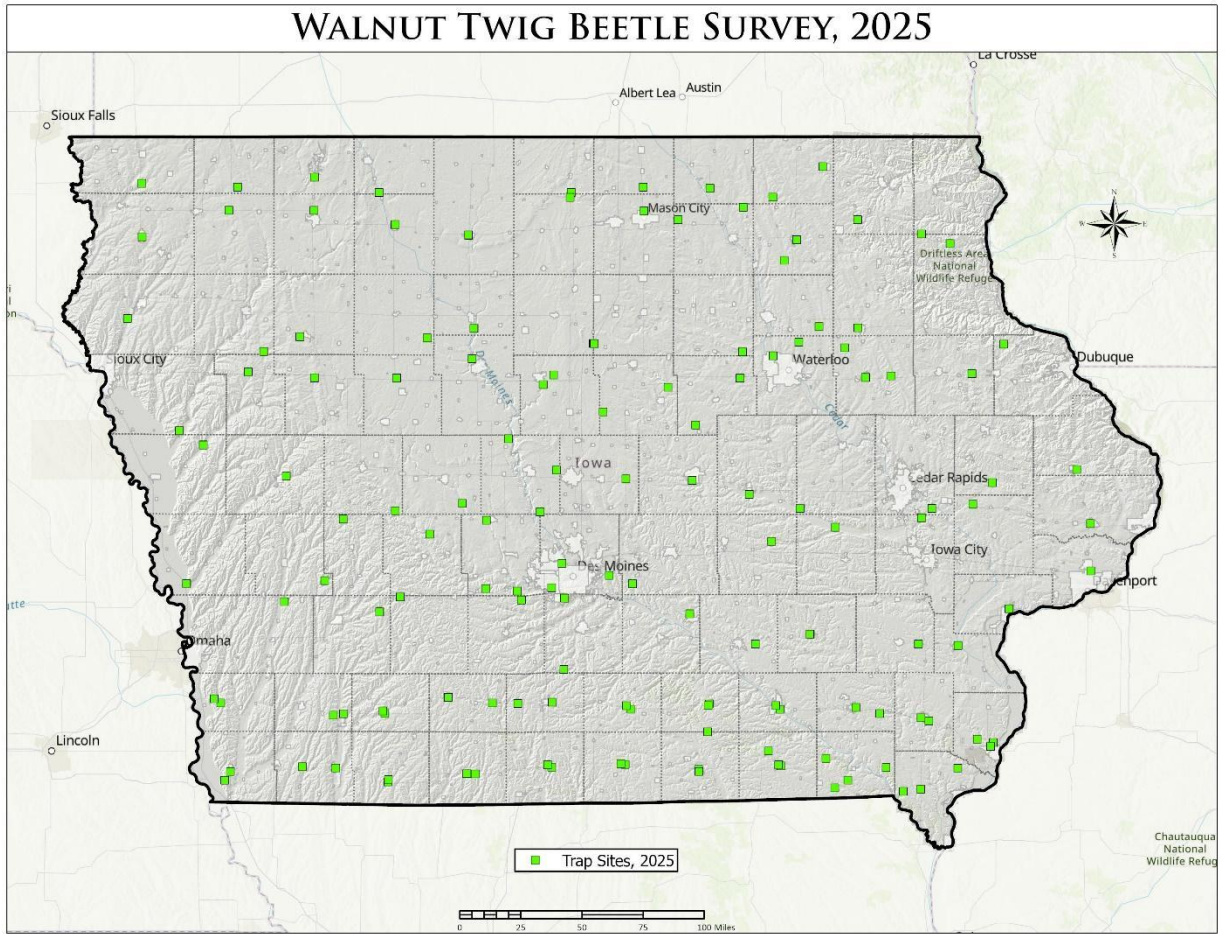


Figure 15. The locations of the 221 survey traps for walnut twig beetle throughout the state. (Image: Tivon Feeley, DNR)

United States Forest Service Major Pests List: Blister Rust

Year: 2025

State: Iowa

Forest Pest

Common Name: White Pine Blister Rust

Scientific Name: *Cronartium ribicola*

Hosts: White Pine

Setting: N/A

Counties: N/A

Survey Methods: N/A

Acres Affected: Unknown

Narrative: White pine blister rust (WPBR), caused by the fungal pathogen *Cronartium ribicola* J.C. Fisch., has been identified in Iowa and remains a potential threat throughout the native range of eastern white pine (*Pinus strobus*). The disease is a heteroecious rust requiring two hosts to complete its life cycle - five-needle pines and plants in the genus *Ribes* (currants and gooseberries). Infection occurs when spores from *Ribes* hosts infect pine needles, leading to the development of cankers on branches and stems that can eventually girdle and kill the tree. Symptoms include oozing resin, canker formation, flagging of branches, and eventual top dieback.

Although WPBR has been confirmed in Iowa, no survey activities were conducted in 2025 due to a lack of dedicated funding. Additionally, no suspect samples were submitted to the Iowa Department of Natural Resources (DNR) or the Iowa State University (ISU) Plant and Insect Diagnostic Clinic during the reporting period.

Landowners, foresters, or land managers who suspect white pine blister-rust infection are encouraged to contact the ISU Plant and Insect Diagnostic Clinic at 515-294-0581 for laboratory diagnosis and management recommendations. Early detection and proper sanitation practices - such as pruning infected branches and managing *Ribes* populations near white pine stands - are key strategies for limiting disease spread and impact.

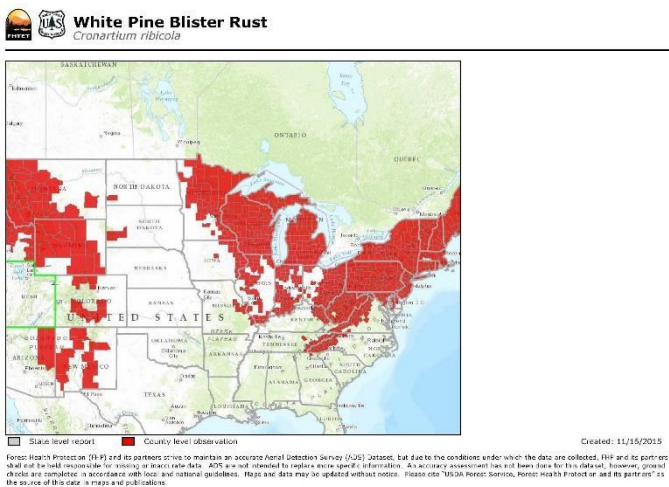


Figure 16. The range map for known areas of white pine blister rust (Map: USFS)

Figure 17. Rust spores on an infected tree. (Image: Brian Geils, USDA Forest Service, Bugwood.org)

Additional Pest Surveyed: Spotted Lanternfly

Year 2025

State: Iowa

Forest Pest

Common Name: Spotted Lanternfly

Scientific Name: *Lycorma delicatula*

Hosts: Maple, Oak, Pine, Poplar, Sycamore, Walnut, Willow

Setting: Nursery

Counties: Polk

Survey Methods: Ground observation

Acres Affected: Areas unknown

Narrative: The Spotted Lanternfly (*Lycorma delicatula* White) is an invasive planthopper native to Asia and first detected in the United States in Pennsylvania in 2014. Since its introduction, it has spread to multiple states across the eastern and midwestern regions. The insect poses a threat to hardwood trees, fruit crops, and ornamental plants due to its sap-feeding behavior, which weakens host plants and promotes the growth of sooty mold on leaves and stems. Preferred hosts include *Ailanthus altissima* (tree-of-heaven), grapevine (*Vitis* spp.), and a range of hardwood species including maple, walnut, and birch.

In Iowa, *L. delicatula* was first identified in Dallas County during the 2022 season, when two nymphal instars were discovered by nursery staff and subsequently confirmed by the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS). No evidence of an established breeding population was found.

During the 2025 field season, adult Spotted Lanternflies were confirmed in Des Moines County, again without indications of a reproducing population. These detections underscore the ongoing risk of introduction and establishment through accidental human-assisted transport, particularly on nursery stock, vehicles, and outdoor materials.

The DNR continues to collaborate with IDALS, USDA-APHIS, and other partners to survey for *L. delicatula* and monitor potential establishment sites across the state. Landowners, businesses, and the public are encouraged to remain vigilant and promptly report any suspected sightings to the Iowa Department of Agriculture and Land Stewardship. If you spot SLF in Iowa, please call the IDALS Entomology and Plant Science Bureau at 515-725-1470 or e-mail Entomology@IowaAgriculture.gov. You may also contact your local county Iowa State University Extension and Outreach Office.

For more information about the spotted lanternfly More information on the spotted lanternfly can be found on the [Iowa DNR's Forest Health](#) website.



Figure 18. Adult Spotted Lanternfly (Image: Pennsylvania Department of Agriculture, Bugwood.org)



Figure 19. Immature (Instar) Spotted Lanternfly (Image: Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org)

**Additional Pest Surveyed:
Cankerworm**

Year 2025

State: Iowa

Forest Pest

Common Name: Cankerworm, Loopers, Spanworms

Scientific Name: *Paleacrita vernata*

Hosts: Apple, Ash, Beech, Elm, Hickory, Linden, Maples and Oaks

Setting: Rural Forests and Urban

Counties: Benton, Cedar, Linn

Survey Methods: Ground observation

Acres Affected: Areas unknown

Narrative: Iowa DNR started receiving reports of cankerworm in select counties in late May of 2025. Cankerworm caterpillars are native and commonly found throughout the United States. The cankerworm caterpillar rarely causes defoliation that were observed in Benton, Cedar, and Linn counties. Expected that this pest will not be a risk to forest health. No formal survey work is planned to take place in 2026.



Figure 20. The picture above shows a Cankerworm on a leaf of a young tree. (Image: James B. Hanson, USDA Forest Service, Bugwood.org).



Figure 21. The picture above shows a tree that has been damaged by Cankerworm (Image: Tivon Feeley, DNR)

Additional Pest Surveyed: Pine Shoot Beetle

Year 2025

State: Iowa

Forest Pest

Common Name: Pine Shoot Beetle

Scientific Name: *Tomicus piniperda*

Hosts: All Pines

Setting: Rural Forests, Nursery, and Urban

Counties: Statewide

Survey Methods: N/A

Acres Affected: Unknown

Narrative: Pine Shoot Beetle was identified September 18, 2006 and all counties in Iowa were quarantined for pine shoot beetle. Since the entire state is quarantined, no further monitoring has been needed. If a landowner needs assistance with management options for the [pine shoot beetle](#), please contact the ISU Plant Diagnostic Clinic at 515-294-0581.

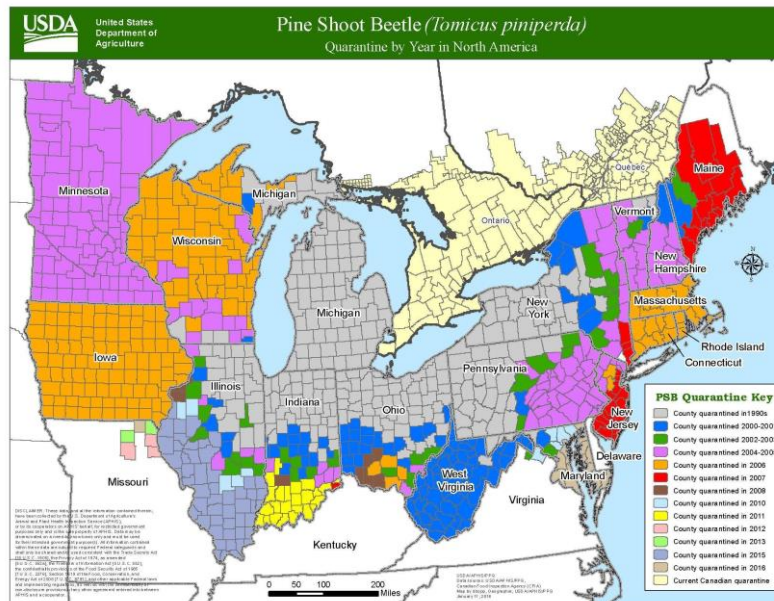


Figure 22. The map above shows the quarantined areas for pine shoot beetle. (Image: by USDA-APHIS-PPQ)

Pine Shoot Beetle Background

The pine shoot beetle (*Tomicus piniperda* L.) is an introduced pest that attacks pines. It was first discovered in the US at a Christmas tree farm near Cleveland, Ohio, in July 1992. A native of Europe, the beetle attacks new shoots of pine trees, stunting the growth of the trees. The pine shoot beetle may also attack stressed pine trees by breeding under the bark at the base of the trees. The beetles can cause severe decline in the health of the trees, and in some cases, kill the trees when high populations of the beetle exist.

In May, 2006, USDA-APHIS-PPQ confirmed the presence of pine shoot beetle (PSB) in Dubuque and Scott counties. A Federal Order was issued effective June 22, 2006 placing Dubuque and Scott counties under a Federal quarantine for interstate movement of PSB regulated articles. Iowa Department of Agriculture and Land Stewardship (IDALS) was provided a copy of the Federal Order as well as additional information concerning the pine shoot beetle, and was requested to consider placing a state PSB quarantine for intrastate movement of PSB regulated articles from Dubuque and Scott Counties. However, after considerable review, IDALS declined to implement an intra-state quarantine for PSB. Therefore, a Federal Order was issued effective September 18, 2006 for quarantine of the entire state of Iowa for PSB, *Tomicus piniperda*.

The quarantine affects the following pine products, called “regulated articles”:

- Pine nursery stock
- Pine Christmas trees
- Wreaths and garlands
- Pine logs/lumber (with bark attached)

All pine nursery stock shipped from Iowa to a non-regulated state must be inspected and certified free from PSB. This inspection and certification must occur just before shipping. Small pine seedlings (less than 36 inches tall, and 1 inch in diameter) and greenhouse grown pines require a general inspection of the whole shipment. All other (larger) pine nursery stock shipments must have 100% tip-by-tip inspection.



Figure 23. The picture above shows the pine shoot beetle and the damage it causes to branches.
(Images: Steve Passoa, USDA APHIS PPQ, Bugwood.org)

**Additional Pest Surveyed:
Dutch Elm Disease**

Year 2025

State: Iowa

Forest Pest

Common Name: Dutch Elm Disease

Scientific Name: *Ophiostoma ulmi* or *Ophiostoma novo-ulmi*

Hosts: Elm

Setting: Rural Forests and Urban

Counties: Statewide

Survey Methods: Ground, General Observation, and Culturing

Acres Affected: Approximately 9,102 Acres

Narrative: Dutch elm disease was introduced to North America in the 1930s and began killing millions of native elm trees. Dutch elm disease has been identified in all of Iowa's counties, and it's estimated that just over 95 percent of the urban elm trees have succumbed to this disease.

The fungus is native to Asia and was introduced to Europe shortly after World War I. From Europe, it traveled to North America in the 1930s in crates made from infected elm logs. The disease quickly infected elms across the United States since our native elms did not have natural resistance to the introduced pathogen.

Dutch elm disease was reported statewide in 2025. The 2025 season appeared to have a high occurrence of [Dutch elm disease](#).



**Figure 24. Areas where Dutch elm disease is generally known to occur within the continental United States.
(Image: Tivon Feeley, DNR)**

**Additional Pest Surveyed:
Hickory Dieback**

Year 2025

State: Iowa

Forest Pest

Common Name: Hickory Dieback

Scientific Name: *Fusarium solani* and *Ceratocystis smalleyi*

Hosts: Bitternut Hickory and Occasionally Shagbark Hickory

Setting: Rural Forests and Urban

Counties: Statewide

Survey Methods: Ground

Acres Affected: Unknown

Narrative: Hickories have continued to decline statewide. Mortality has become fairly common within the range of bitternut hickory making it difficult to track and estimate the acres impacted. If a landowner suspects hickory mortality, they should contact the ISU Plant Diagnostic Clinic at 515-294-0581.



Figure 25. Hickory bark beetle attack. (Image: Dr. Jennifer Juzwik, USFS)



Figure 26. Associated cankers. (Image: Dr. Jennifer Juzwik, USFS)

Additional Pest Surveyed:

Invasive Plants

Exotic invasive species are plants that are non-native to an ecosystem and cause or are likely to cause economic or environmental harm to humans, crops, livestock, or natural plant and animal communities. The most common non-native species found in the FIA report as problematic in Iowa forests are multiflora rose, reed canary grass, bush honeysuckle, garlic mustard, Japanese knotweed, autumn olive, common buckthorn, Japanese barberry, and oriental bittersweet (Miles, P.D. Wed Mar 25 20:46:53 MDT 2016. [Forest Inventory DataMart](#) web-application version 1.6.0.01. St. Paul, MN: U.S. Department of Agriculture, Forest Service, Northern Research Station.).

These invasive and exotic plants are out-competing native forest species, diminishing fisheries and wildlife habitat, reducing water quality, reducing economic returns from forest management and tourism, and threatening long term forest sustainability and biodiversity. In 2013 Oriental bittersweet, Japanese knotweed, garlic mustard, and Japanese hops were made illegal to distribute in the State of Iowa.

Known Invasive Plants in Iowa 2025

Key: NP= Not Present- Not known to exist in Iowa

I= Isolated- the species is infrequent, not commonly seen

LA= Locally Abundant- the species is present but is not in the majority of the counties

W= Widespread- commonly seen in the majority of counties in large or small populations

Species	Common Name	Abundance
<i>Abutilon theophrasti</i>	Velvetleaf	W
<i>Ailanthus altissima</i>	tree-of-heaven	W
<i>Alliaria petiolate</i>	garlic mustard	W
<i>Berberis thunbergii</i>	Japanese barberry	W
<i>Bromus tectorum</i>	cheatgrass	W
<i>Butomus umbellatus</i>	flowering rush	I
<i>Carduus acanthoides</i>	plumeless thistle	I
<i>Carduus nutans</i>	Musk thistle	W
<i>Celastrus orbiculata</i>	Oriental bittersweet	LA
<i>Centaurea maculosa/beibersteinii</i>	spotted knapweed	LA
<i>Centaurea repens</i>	Russian knapweed	I
<i>Centaurea solstitialis</i>	yellow starthistle	I
<i>Cirsium arvense</i>	Canada thistle	W
<i>Cirsium</i> spp.	thistle	W
<i>Cirsium vulgare</i>	bull thistle	W
<i>Conium maculatum</i>	poison hemlock	I
<i>Coronilla varia</i>	crown vetch	W
<i>Daucus carota</i>	Queen Anne's lace	W
<i>Dipsacus fullonum/sylvestris</i>	common teasel	I
<i>Dipsacus laciniatus</i>	cutleaf teasel	I
<i>Dipsacus sativus</i>	Indian teasel	NP
<i>Elaeagnus angustifolia</i>	Russian olive	I
<i>Elaeagnus umbellate</i>	autumn olive	LA
<i>Euonymus alatus</i>	burning bush	LA
<i>Euphorbia esula</i>	leafy spurge	W
<i>Fallopia japonica</i>	Japanese knotweed	LA
<i>Frangula alnus/Rhamnus frangula</i>	glossy buckthorn	I

Species	Common Name	Abundance
<i>Heracleum mantegazzianum</i>	giant hogweed	NP
<i>Hesperis matronalis</i>	dame's rocket	W
<i>Humulus japonicus</i>	Japanese hop	LA
<i>Lespedeza cuneata</i>	Sericea lespedeza	I
<i>Ligustrum japonicum</i>	Japanese privet	NP
<i>Ligustrum obtusifolium</i>	blunt-leaved or border privet	I
<i>Ligustrum sinense</i>	Chinese privet	NP
<i>Ligustrum vulgare</i>	common or European privet	I
<i>Lonicera fragrantissima</i>	fragrant honeysuckle	NP
<i>Lonicera japonica</i>	Japanese honeysuckle	LA
<i>Lonicera maackii</i>	Amur honeysuckle	W
<i>Lonicera standishii</i>	Standish's honeysuckle	NP
<i>Lonicera tatarica</i>	Tatarian honeysuckle	W
<i>Lonicera x bella</i>	Bell's honeysuckle	I
<i>Lonicera xylosteum</i>	European fly honeysuckle	NP
<i>Lythrum salicaria</i>	purple loosestrife	W
<i>Morus alba</i>	white mulberry	W
<i>Pastinaca sativa</i>	wild parsnip	W
<i>Potamogeton crispus</i>	curlyleaf pondweed	I
<i>Pueraria montana</i>	kudzu	I
<i>Rhamnus cathartica</i>	common buckthorn	W
<i>Rosa multiflora</i>	multiflora rose	W
<i>Tamarix</i> spp.	salt cedar	I

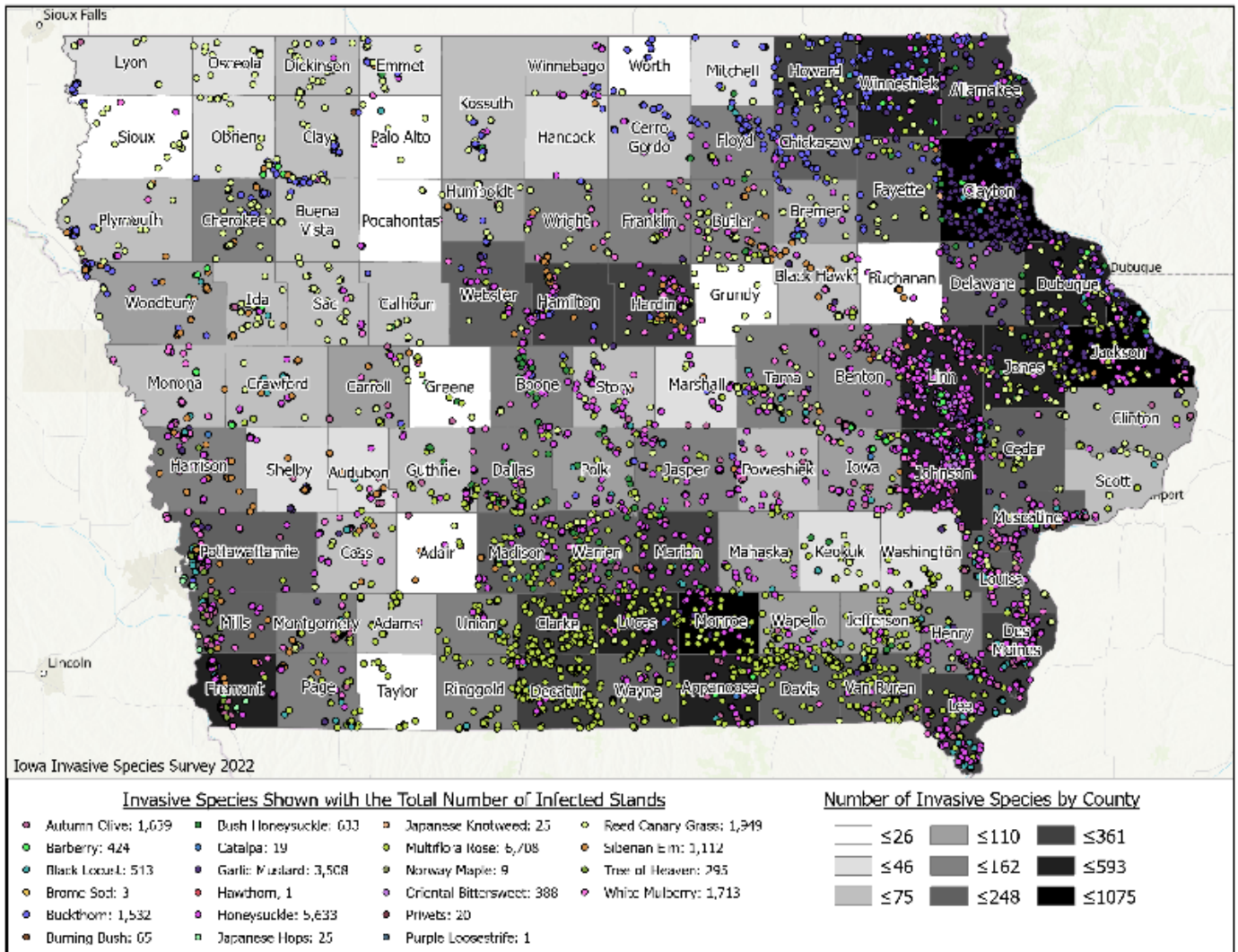


Figure 27. The map above details the locations of invasive species as identified by DNR District Foresters and the Forest Health Program Leader in 2025. (Image: Tivon Feeley, DNR)

Additional Pest Surveyed: White Oak Mortality

Year 2025

State: Iowa

Forest Pest

Common Name: White Oak Mortality

Scientific Name: Unknown

Hosts: Quercus alba

Setting: Rural Forests and Urban

Counties: SE Iowa

Survey Methods: General Observation

Acres Affected: Approximately 3,600 acres

Narrative: During the 2025 field season, the Iowa Department of Natural Resources (DNR) documented continued occurrences of rapid white oak mortality (WOM) in several southeastern Iowa counties. Affected woodlands exhibit a characteristic pattern of decline, with initial symptoms appearing on lower-slope trees and rapidly progressing upland. Infected trees display chlorotic foliage, branch flagging, and canopy thinning, often culminating in complete tree mortality within a single growing season.

Current management strategies focus on aggressive removal of affected trees to reduce stand-level hazards and limit potential secondary pest outbreaks.

This pattern of rapid decline mirrors observations reported in Missouri and other adjacent states, where similar mortality events have been associated with complex biotic and abiotic stress interactions. Historical sampling in Iowa (2017) identified the presence of Armillaria root disease, two-lined chestnut borer (*Agrilus bilineatus*) activity, and other decline-associated pathogens, indicating that WOM is likely a multifactorial syndrome rather than a single-cause disease. Nested PCR assays for oak wilt (*Bretziella fagacearum*) conducted on symptomatic trees have consistently returned negative results.

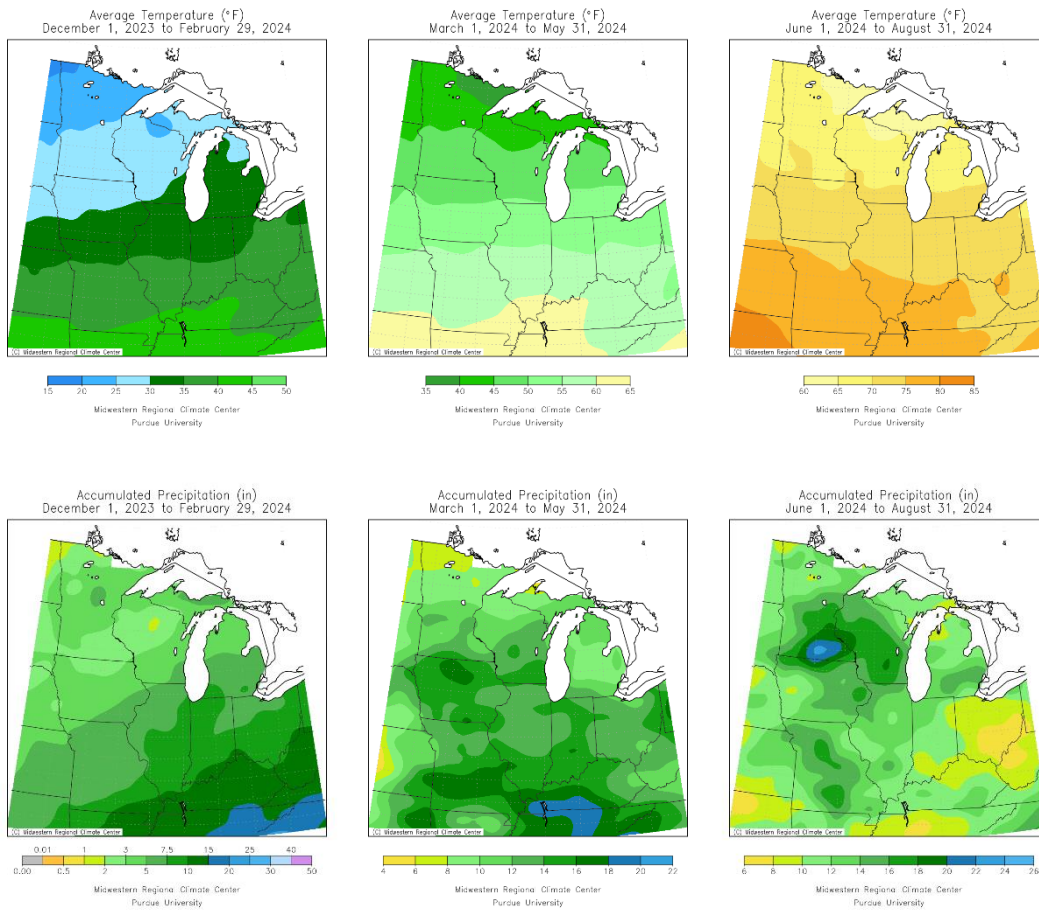
Despite ongoing investigations, the primary causal factors driving rapid white oak mortality in Iowa remain uncertain, and additional research is underway to clarify the interactions among root pathogens, insect vectors, and environmental stressors contributing to stand-level decline.

**Additional Pest Surveyed:
Drought**

Year: 2025
 State: Iowa
 Forest Pest
 Common Name: Drought
 Scientific Name: Unknown

Hosts: N/A
 Setting: Rural Forests and Urban
 Counties: Statewide
 Survey Methods: N/A
 Acres Affected: N/A

Narrative: Average temperatures along with above average accumulated precipitation has led to the state experiencing an average growing season.



The Average Temperature map (left) illustrates the regions in Iowa that experienced typical temperatures from June 1 to August 31, 2025. The Accumulated Precipitation map (right) indicates that most of Iowa saw an increased number of rainfall events during the same period. These more moderate temperatures and higher precipitation levels contributed to fewer counties facing the moderate to severe drought conditions observed over the past three years (Source: Midwest Central Climate Center)

Additional Pest Surveyed:

Oak Tatters

Year 2025

State: Iowa

Forest Pest

Common Name: Oak Tatters

Scientific Name: Unknown

Hosts: Oaks and Hackberry

Setting: Rural Forests and Urban

Counties: Pottawatomie, Mills, Adair, Dallas, Polk, Hardin, Marshall, Jasper, Washington, Johnson, Linn, and Muscatine

Survey Methods: General Observation

Acres Affected: Unknown

Narrative: During the 2025 growing season, the Iowa Department of Natural Resources (DNR) received multiple reports of tatters on oak (*Quercus* spp.) and hackberry (*Celtis* spp.). Oak tatters is a foliar disorder characterized by incomplete leaf expansion, ragged or shredded leaf margins, and reduced photosynthetic area. While the syndrome has been observed sporadically across the Midwest, the etiology of oak tatters remains unclear.

Research conducted by the University of Illinois has suggested a potential association with Class 5 herbicide exposure, though field verification of this hypothesis remains inconclusive. Other factors, including environmental stress, pathogen interactions, or insect activity, have not been ruled out.

The overall number of oak tatters reports in 2025 was lower than in previous growing seasons, suggesting a possible fluctuation in occurrence or reporting. The DNR will continue to collaborate with federal and state cooperators to monitor affected areas, document symptom development, and investigate potential causal factors. Ongoing surveillance and research are critical for clarifying the origin and ecological impact of this disorder.

Additional Pest Surveyed: Two Lined Chestnut Borer

Year 2025

State: Iowa

Forest Pest

Common Name: Two Lined Chestnut Borer

Scientific Name: *Agrilus bilineatus*

Hosts: Oaks

Setting: Rural Forest, Nursery, Urban

Counties: Iowa, Marshall, Polk

Survey Methods: Ground, General Observation, and Trapping

Acres Affected: Unknown

Narrative: The Two-lined Chestnut Borer (TLCB; *Agrilus bilineatus* Weber) is a native metallic wood-boring beetle that primarily attacks stressed or declining oak (*Quercus* spp.) and chestnut (*Castanea* spp.) trees. Adult beetles emerge in late spring to early summer and lay eggs in bark crevices of weakened trees. Larvae tunnel beneath the bark, feeding on phloem and cambial tissues, which can contribute to branch dieback, canopy thinning, and, in severe infestations, tree mortality. TLCB activity is often associated with drought, disease, or other stressors that predispose host trees to attack.

In 2025, three sites were selected for statewide TLCB monitoring. At each site, a Lindgren seven-funnel wet trap baited with the species-specific pheromone developed by Synergy Semiochemicals Corporation was deployed in declining oak trees to enhance detection. Traps were left in place for three-week intervals and serviced monthly during June, July, and August, corresponding with peak adult flight activity.

Numerous non-target beetles were captured during the survey (e.g., Japanese beetle, June beetle, and other common species); however, these were not included in quantitative analyses as they are not relevant to TLCB monitoring.

These data contribute to ongoing efforts to assess population dynamics, identify high-risk stands, and inform management strategies for preserving the health of oak forests susceptible to two-lined chestnut borer activity. Survey activities will continue and expand in 2026.

If a landowner has oak trees that they believe have [two lined chestnut borer](#) damage please contact the ISU Plant Diagnostic Clinic at 515-294-0581.



Figure 28. (Left) Close up images of the two lined chestnut borer beetle

Figure 29. (Right) Image of an oak tree showing signs of two lined chestnut borer damage. (Image: Tivon Feeley, DNR)

Conclusion

Effective forest management is critical for maintaining healthy and resilient woodlands in Iowa. A primary strategy for ensuring forest resilience is species diversity and appropriate stocking density. Diverse stands with an optimal number of trees per acre are less susceptible to catastrophic loss from a single pest or disease and maintain higher overall vigor, which can enhance resistance to potentially destructive insects and pathogens. For community forests, it is recommended that no single species exceed 10% of the total composition to reduce vulnerability to species-specific threats.

Iowa's forests provide numerous ecological, social, and economic benefits, including wildlife habitat, water quality protection, outdoor recreation opportunities, human health benefits, and the production of wood and fiber resources. However, these ecosystems face unprecedented pressures from invasive pests, chemical damage, wildlife impacts, and suboptimal management practices. Invasive species such as emerald ash borer, spongy moth, bur oak blight, and thousand cankers disease on walnut have the potential to collectively impose economic impacts exceeding \$91.6 billion on Iowa's woodlands and urban trees. These threats underscore that passive management is no longer sufficient to maintain forest conditions; active stewardship, informed by a thorough understanding of woodland dynamics, is essential for long-term forest health. Landowners seeking technical guidance are encouraged to contact their private lands forester for assistance.

The Iowa DNR Forestry Section, in collaboration with federal and state partners, implements programs to monitor forest stressors and emerging threats. These programs, supported in part by USDA Forest Service grants and the State of Iowa Woodland Health Appropriation, were actively conducted throughout 2025, with plans to continue robust monitoring and management efforts in the coming years.

Despite these efforts, budgetary limitations constrain the ability to fully address high-priority forest health concerns, including white oak decline, aspen decline, additional oak wilt pockets, and bur oak blight. Additional funding is required to mitigate these threats effectively and maintain the health of Iowa's forests.

The DNR recognizes and appreciates the contributions of its collaborators, including the USDA Forest Service, USDA-APHIS-PPQ, Iowa State University Extension, Iowa Department of Agriculture and Land Stewardship, and DNR field foresters, whose cooperative efforts support the protection and stewardship of Iowa's woodlands.

“Where conflicting interests must be reconciled, the question shall always be answered from the standpoint of the greatest good of the greatest number in the long run.” - Gifford Pinchot

Useful Contacts and Resources

The Iowa Department of Natural Resources (DNR) Forestry Section maintains updated resources on forest health and invasive pests:

- DNR Forest Health Program: Forest Health Page - includes current information on forest health monitoring and management.
- Emerald Ash Borer Resources: DNR EAB Page - guidance for identification, management, and reporting.

State and academic resources for tree and plant health include:

- Iowa Department of Agriculture and Land Stewardship (IDALS) Tree Health Page: IDALS Tree Health – updates on pests, diseases, and regulatory information.
- Iowa State University (ISU) Pest Management and the Environment: ISU PM&E – information on emerald ash borer, spongy moth, and other pest management strategies.
- ISU Plant Disease Clinic: Serving Iowa for nearly 50 years, the clinic provides diagnostic assistance for plant diseases affecting flowers, shrubs, and trees. Contact: 515-294-0581 or visit ISU Plant Disease Clinic.
- ISU Extension Entomology: Assists with identification and management of insect pests affecting plants. Contact: 515-294-1101 or visit ISU Entomology Extension.

Additional DNR resources:

- Landowner Assistance Programs: DNR Landowner Assistance - guidance for woodland management and technical support.
- Iowa DNR Website: www.iowadnr.gov - updated information on all forestry programs and services.

DNR Forest Health Program Contacts

Tivon Feeley
Forest Health Program Leader
Iowa Department of Natural Resources, Forestry Section
6200 Park Ave Ste 200, Des Moines, IA 50321
Phone: 515-669-1402 | Email: Tivon.Feeley@dnr.iowa.gov

Mark J. Runkel
Forest Health Program Technician
Iowa Department of Natural Resources, Forestry Section
6200 Park Ave Ste 200, Des Moines, IA 50321
Phone: 319-327-4184 | Email: Mark.Runkel@dnr.iowa.gov