



NURSERY NEWS

New Pest Alert: Dothistroma Needle Blight

By Jim Walla.

A serious disease of pines, Dothistroma needle blight (DNB) has appeared in North Dakota for the first time. DNB has recently increased in incidence and severity in many countries. It is important that tree owners and professionals learn about the disease so it can be better monitored and managed.

Symptoms and signs: Visible signs of DNB start with 1/32 to 1/16 inch-wide, yellow or tan spots and bands, that widen to 1/8 inch and turn brown, usually on second-year needles. A few months after a band darkens, the end of the needle dies, while the base of the needle remains green. Infections occur at random locations on needles, so the amount of dieback on adjacent needles varies (Fig. 1). Fruiting bodies develop on dead portions of needles, most often in the bands or at the base of the tip dieback (Fig. 2). The fruiting bodies, which are barely visible without magnification, push through the needle surface to reveal black fungus tissue under the torn epidermis.

Other diseases (e.g., brown spot, Lophodermium needle blight), saprophytic fungi, aphid feeding, and environmental damage could be confused with DNB. If there

are fruiting bodies on the needles, a laboratory diagnosis is usually required to determine the cause. Insect and environmental factors will not result in production of fruiting bodies, and the pattern of dieback is typically uniform within needle age classes with environmental damage.



Figure 1: Photo by Jim Walla

Hosts and known incidence: Any pine species can be infected, but those most often or most seriously affected in the U.S. include Austrian, limber, mugo, and ponderosa. Although uncommon, DNB can infect spruce, larch, and Douglas-fir. In North Dakota, DNB has been found on ponderosa pine at five sites in Cass, Pembina, and Stutsman counties and on Austrian, limber, lodgepole, mugo, mountain (*P. uncinata*), Mexican white (*P. ayacahuite*), ponderosa, Swiss stone (*P. cembra*), and whitebark pines at another site in Cass County.

Damage: Tree growth will likely be reduced if most of the third-year needles are brown. Shoots and branches will slow in growth and then begin dying if most of the second-year needles are brown for more than three years. On established pines, damage is most severe in the lower crown and the north

side of the crown where the moisture required for infection remains longest. Pines planted under older infected pines are often severely damaged.

In nurseries, the presence of brown older needles on seedlings does not typically result in serious damage, but may impact sales. Larger nursery plants for landscape settings are more likely to be damaged by DNB. The greatest concern

in nurseries is that sales of infected seedlings and landscape plants will spread DNB to new sites where damage may become serious. For-



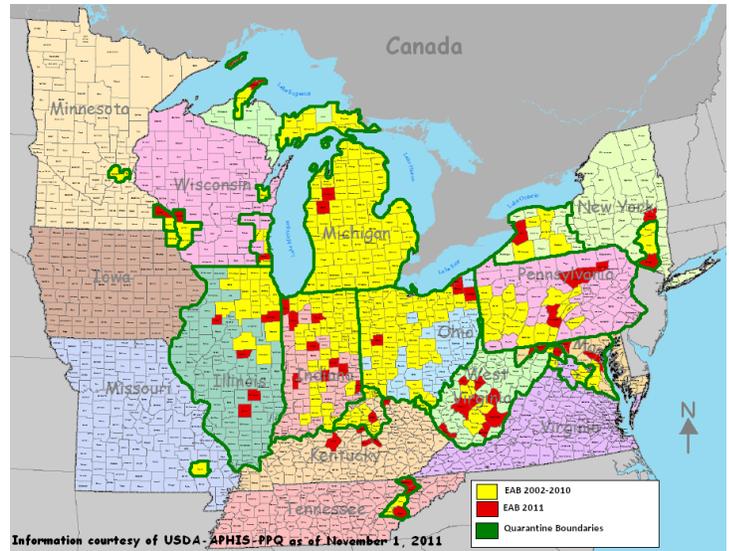
Figure 2: Photo by Jim Walla

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Emerald Ash Borer Update

The threat of introduction of emerald ash borer remains a major concern to North Dakota. The North Dakota Department of Agriculture (NDDA) again this year teamed up with USDA-APHIS-PPQ, the North Dakota Forest Service, city forestry departments, and city park officials to conduct a detection survey, hanging 246 purple prism traps in sites across the state. No EAB were found. First Detector training sessions were offered across the state, and state and city agency staff visited EAB sites in Minnesota to learn more about detecting this dangerous pest.

The nearest known infestations to North Dakota are in the Twin Cities area. They were discovered in 2009 in St. Paul and Falcon Heights, 2010 in Minneapolis and 2011 in Shoreview. The Minneapolis infestation is a five square-mile area in the southeast part of the city, and is relatively close to the St. Paul and Falcon Heights sites. The Shoreview infestation is significant because it shows EAB has moved about 10 miles to the north. EAB has also been found this year on historic Summit Avenue in St. Paul, nearly three miles from any other infestation.



This map shows 2011 EAB detections in red, and previous detections in yellow. The current quarantine is outlined in green.

Using local sources of firewood remains the best means of preventing introduction of EAB.

Visit www.nd.gov/ndda/pest for more information about EAB.

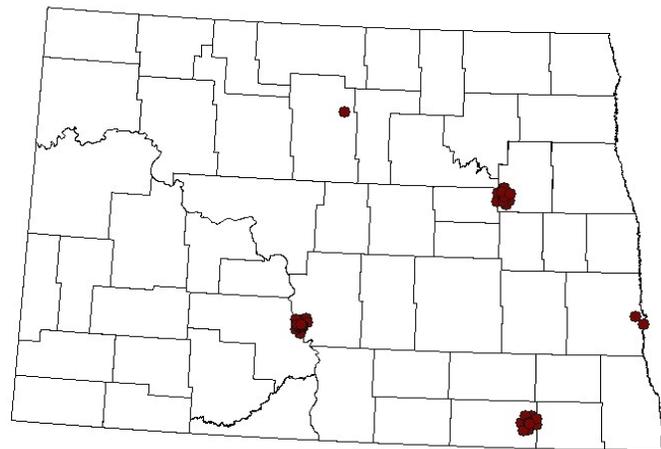
Japanese Beetle Update

No insects were caught in the 70 traps set out by NDDA in the 2011 Japanese beetle survey. The survey is required for certifying nursery stock as free from the Japanese beetle. The designation is needed to ship nursery stock to Arizona, Colorado, California, Idaho, Montana, Nevada, Oregon, Utah and Washington. Japanese beetle has been found in Minnesota, Montana, and South Dakota.



Photo by: Charles Elhard, 2011

2011 Japanese Beetle Trapping



● - Japanese Beetle Trap Sites

Nonhardy List Update:

The nonhardy list has been redesigned to make it more user-friendly by grouping plants into categories. The groups include trees, shrubs, fruits/ornamental fruits, and conifers. The list will be available at the North Dakota Nursery and Greenhouse Convention in January and also on our website at <http://www.nd.gov/ndda/program/nursery-program>.

Crop Insurance: A Risk Management Tool for North Dakota Nurseries

Information Provided by Laura Estes, USDA Risk Management Agency.

U.S. Nurseries insure more than \$3 billion in product annually, making it one of the largest value crops covered in the U.S. The more than 200 licensed nursery dealers and growers in North Dakota insured \$1,708,523 worth of product in 2011. The 2007 Census of Agriculture showed North Dakota sales in the nursery, greenhouse, floriculture and sod sector were \$9,126,000.

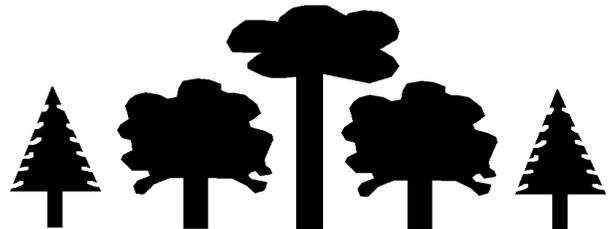
Multi-peril crop insurance is available for nurseries that receive at least 50 percent of their gross income from wholesale sales and covers both plants grown in standard containers or in the field. It provides producers with protection against natural causes of loss, such as adverse weather, failure of irrigation supply, fire and wildlife damage. Coverage can be designed to fit a particular business plan with various coverage levels and several endorsement choices. Here are some features that may be of interest to North Dakota growers:

- Choose either a catastrophic (CAT) coverage level (50 percent coverage) or optional buy-up coverage (up to 75 percent of inventory value).
- Different plant types can be insured individually when purchasing buy-up coverage.
- Inventory value is determined by the producer's catalog and price lists (limited to a maximum published in the Risk Management Agency's plant

price schedule).

- Inventory values can be adjusted several times during the year to take into account normal fluctuations. A "Peak Inventory Endorsement" is also available for additional flexibility.
- Unlike most other multi-peril crop insurance policies, nursery crop insurance will cover multiple insurable losses during the crop year up to the amount of insurance purchased.
- The federal government subsidizes premiums based on the coverage level chosen. Premium rates are reasonable for buy-up coverage. The only cost for CAT coverage is an administrative fee of \$300.

Nursery insurance may be bought any time during the year with a 30-day waiting period before insurance attaches. Applications should be submitted by May 1 to ensure coverage for the whole year. Local crop insurance agents will have more details. Local agents can be found at www.rma.usda.gov/apps/agents. More information about nursery insurance is at www.rma.usda.gov/pubs/rme/nursery.pdf.



NDSU Campus Arboretum Walking Trail

A self-guided tree tour has been established on the North Dakota State University campus with a second on the way. Professor emeritus Dr. Dale Herman designed the 1.8-mile, 66-tree Yellow Trail, south of Centennial Avenue, and has written a tour pamphlet with descriptions and a map. A second trail, the Green Trail, is being developed for trees north of Centennial Boulevard. The tour guides are available at the Bison Card Office in the Memorial Union and at the customer service desk at the Wallman Wellness Center during regular business hours. The project is funded by a student government improvement grant.

NDInvasives Website Goes Live

The North Dakota Invasives website is now online at www.ndinvasives.org. Administered by the NDSU Extension Service and created by the North Dakota Forest Service, NDInvasives provides information on several invasive tree pests of concern to North Dakota. The site currently contains information on Dutch elm disease, emerald ash borer, Asian longhorned beetle, gypsy moth, thousand cankers disease, sudden oak death and oak wilt. Of these, only Dutch elm disease is confirmed in North Dakota. By educating the public we hope to keep it that way.

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Upcoming Events:

- January 4-6, 2012: Northern Green Expo, Minneapolis, MN
- January 29-31, 2012: North Dakota Nursery and Greenhouse Convention, Fargo, ND

EAB outreach material available to nurseries

NDDA has outreach cards with information about Emerald ash borer that are available to the nursery industry free of charge. Please contact Charles Elhard by phone or email if you would like some of the cards for next season and we will gladly mail them out to you. You may also pick them up at the NDNGA convention in January.

(New Pest Alert: Continued from page 1)

estry and horticulture professionals should avoid purchase of DNB-infected plants to prevent introduction of DNB to new sites.

Disease management: Best management is to screen plants coming into an area for DNB and reject any infected shipments. If DNB is present in a nursery area, the feasibility of eradication of DNB from the nursery and its immediate surroundings should be considered. If eradication is unfeasible, management practices that will restrict the infested area and reduce disease severity should be taken. Crop rotation, sanitation, management of watering methods

Emerald Ash Borer



A Threat to North Dakota Ash Trees

and regimens, increasing air circulation around susceptible plants, and proper fungicide application should be integrated into a disease management plan. Several fungicides are registered for applications to pines for management of DNB. Search Needle Blight (Dothistroma) or Needle Blight at <http://www.kellysolutions.com/nd/pesticideindex.htm>.

NDSU is documenting incidence of DNB to gain an understanding of its incidence and severity in ND. If you find DNB, please inform Jim Walla (j.walla@ndsu.edu).

The author is a research scientist at NDSU.

Most Common Pests 2011

- gall-causing insects on oak and hackberry
- cottonwood leaf beetle
- ash leaf curl aphid
- erineum maple gall mite
- woolly aphid
- Cedar-hawthorn rust
- juneberry rust
- poplar rust
- needlecast of spruce

Top Non-Hardy Citations 2011

- Emerald arborvitae
- Dwarf Alberta spruce
- Nonhardy varieties of apple, pear and cherry trees
- Dwarf flowering almond
- Eastern redbud
- Blackberries
- Japanese pieris
- Japanese maple