Form 1100-001
(R 9/07)

NATURAL RESOURCES BOARD AGENDA ITEM

Item No. 8.B.3

SUBJECT: Information item: Annosum root rot update

FOR: SEPTEMBER 2008 **BOARD MEETING**

TO BE PRESENTED BY: Kyoko Scanlon, Forest Pathologist

SUMMARY:

Annosum root rot is a serious disease of conifers. Infected trees show thin crowns, reduced growth, and eventual mortality. In Wisconsin, the disease is most commonly found on red pine and white pine in a plantation setting. The disease not only causes serious damage to existing overstory, but significantly limits understory growth by infecting and killing understory trees. The disease was first found in Wisconsin in 1993, and currently it is confirmed in 18 counties in southern and central Wisconsin. Since the initial finding, numerous management efforts have been made as well as surveys and outreach efforts. However, once the disease is established in a stand, it is very difficult to control this disease. The best way to manage this disease is by prevention. The Wisconsin DNR has formed a committee to develop and implement management guidelines for this disease. The committee consists of professionals with a variety of perspectives, including DNR, County, industrial foresters, a logger, forest health specialists, a landowner, and forest pathologists from the University of Wisconsin and USDA Forest Service. Guidelines may include a strong recommendation to the use of a fungicide on a fresh cut stump during the thinning operations. The application of a fungicide is proven effective to prevent the disease. If such guidelines are implemented, a variety of forestry-related professionals and forest property owners, including foresters, loggers, and landowners will be affected. An application of a fungicide will require additional cost during thinning/harvesting operations, including the purchase of a fungicide, labor, and initial investment of an application apparatus. This is our first opportunity to present this issue to the Board. This presentation is being given at the request of a board member.

RECOMMENDATION: This is an information item.

LIST OF ATTACHED MATERIALS:

No	☑	Fiscal Estimate Required	Yes ☐	Attached
No	☑	Environmental Assessment or Impact Statement Required	Yes ☐	Attached
No	☐	Background Memo	Yes ☑	Attached

APPROVED:

Bureau Director, — Date 8-11-08

Administrator, — Date 8/11/08

Secretary, Matt Frank — Date 9/4/08

cc: Laurie J. Ross - AD/8

Andrea Diss-Torrance - FR/4
Quinn Williams - LS/8
Jane Cummings-Carlson - Fitchburg
Allison Hellman - FR/4
Darrell Zastrow - FR/4
Paul Delong - AD/8
Tim Mulhern - FR/4

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: September 4, 2008

TO: Christine Thomas, Chair
Jonathan Ela, Vice-Chair
John W. Welter

FROM: Matt Frank, Secretary

SUBJECT: Informational Item - Background Memo on the Annosum root rot update including current status in WI and DNR facilitation and contribution to the development of management and prevention guidelines

1. Why is this topic an issue?

Annosum root rot is caused by the fungus, *Heterobasidion annosum*. This disease is considered among the most important and destructive diseases affecting conifers in the north temperate regions of the world. Infected trees show thin crowns, reduced growth, and eventual mortality. It was first identified in Wisconsin in 1993 and is currently confirmed in eighteen central and southern counties (Adams, Buffalo, Columbia, Dunn, Green, Iowa, Jefferson, Juneau, LaCrosse, Marquette, Portage, Richland, Sauk, Trempealeau, Walworth, Waukesha, Waushara, and Wood counties). Since the initial finding, numerous management efforts have been made as well as surveys and outreach work. However, once the disease is established in a stand, it is very difficult to control this disease.

Though over 200 woody species, both deciduous and coniferous trees have been reported as hosts, conifer species are considered much more susceptible to this disease. In Wisconsin, the disease has been most commonly seen on red and white pines in plantation-grown stands. The disease not only causes serious damage to existing overstory, but significantly limits understory growth by infecting and killing understory trees. Understory infection has been observed on balsam fir, jack, red and white pines, red cedar, and red oak in Wisconsin.

Infection most often occurs when spores, produced by the fruit body, land and germinate on the surface of a freshly cut stump. This infection process creates a strong relationship between Annosum root rot and thinned stands. In Wisconsin, pines occupy 15% of the total growing stock volume. The pine forest type (jack, red, white) comprises 8.6 % of total acres of timberland, and the spruce-fir forest type (balsam fir, black spruce, northern white-cedar, tamarack, white spruce) occupies another 8.3% in Wisconsin. Approximately half of the pine plantations are in the 20-50 year of age range, where a thinning is scheduled for stand management, and these plantations are especially at risk from Annosum root rot.

Current DNR guidelines for Annosum root rot recommend the application of a fungicide on each fresh cut stump as soon as possible after cutting or by the end of each cutting day during thinning/harvesting operations throughout the state to prevent the introduction of this disease to a stand. This treatment has been scientifically proven to be effective to protect fresh cut stumps from being infected with the disease. However, the current application method is labor intensive, and the time sensitive nature of this application makes the treatment complicated and often impractical especially with machine harvesting. Development and implementation of comprehensive management guidelines that are scientifically sound and operationally practical are essential to minimize the further spread of the disease in Wisconsin.

Printed on Recycled Paper

2. Summary of current status

The Wisconsin DNR formed a committee to develop and implement comprehensive management guidelines in 2007. The committee consists of professionals with a variety of perspectives, including DNR, County, industrial foresters, a logger, forest health specialists, a landowner, and forest pathologists from the University of Wisconsin and USDA Forest Service. The committee is in the process of developing guidelines based on the risk assessment approach. The risks of introduction and spread of the disease have been evaluated using a variety of factors, including proximity to counties where the disease is confirmed, time of thinning, and harvest level of conifers, soil type, and land use history. This approach will identify high risk areas for focusing management efforts.

A statewide detection survey of the disease was initiated last year and should be completed by 2009. All of the counties where the disease has not been confirmed will be surveyed by visual inspection and wood sample analysis collected from dead and dying trees.

The committee has been working with a pesticide manufacturer (Nisus Corporation) and logging equipment manufacturers to make a fungicide treatment more practical and effective during machine harvesting in Wisconsin. Very recently, the pesticide manufacturer made a water-soluble fungicide (Trade name: Cellu-Treat) available in small sizes (25 lb and 50 lb) in Wisconsin. Application of a fungicide using a backpack sprayer or through an attachment to a harvester can be performed with the product.

3. How this issue affects existing policy?

The current guidelines recommend a fungicide treatment throughout the state. The committee plans to incorporate the risk assessment approach to identify high, moderate, and low risk stands for the disease in order for landowners and property managers to be able to evaluate the risk of the disease. The committee has also been working on establishing resources and services that should be available for landowners and property managers to pursue the fungicide treatment. New services that offer a fungicide application may create more job opportunities for local businesses. Depending on the survey results and risk assessment, the state may need to move from recommendations to requirements at some point in the future

4. Has the board dealt with these issues before?

No, it has not. Information on this topic was requested by Natural Resources Board member David Clausen.

5. Who will be impacted by this issue?

Since the disease has been found in Wisconsin only for 15 years, long-term effects of this disease have yet to be fully captured. A number of aticipated impacts are associated with the disease. The damage caused by this disease will impact landowners and property owners directly due to reduced future timber harvesting revenues. All forestry-related professionals, including foresters, loggers, timber buyers, paper mills will be impacted as both existing stands and regeneration could suffer from the disease. Infection of trees in an urban setting, such as residential trees or trees in a campground, would pose a risk of property damage or human injury. Difficulty in regeneration could reduce recreational opportunities in some locations.

An application of a fungicide will require additional cost in materials and labor for landowners and property managers. A fungicide (granular formula) that has been available for several years in Wisconsin costs $62.50 for a 25-lb bag. One pound of the fungicide covers approximately 260 6-inch diameter stumps or 60 12-inch diameter stumps. A water-soluble fungicide that recently became available in Wisconsin costs $61.25 for a 25-lb bucket or $98.00 for a 50-lb bag, plus shipping. One pound of Cellu-Treat makes 2 gallons of solution and covers 800 sq ft (4,000 6-inch stumps or 960 12-inch stumps). In order to apply a fungicide through a special attachment to a harvester, a logger will need to make an initial investment of purchasing the equipment that could be up to $17,000 including labor to mount it. If an individual is hired to apply a fungicide, he or she is required to be certified and licensed to be a commercial pesticide applicator with the Wisconsin, Department of Agriculture, Trade and Consumer Protection. It costs $47.48 for a self-study manual and test fee, and $54 for a license per year per individual.

cc: Jane Cummings-Carlson - Fitchburg
Paul DeLong - AD/8
Andrea Diss-Torrance - FR/4
Allison Hellman - FR/4
Tim Mulhern - FR/4
Quinn Williams - LS/8
Darrel Zastrow - FR/4