

Chemical Update :: Greyhound™ Insecticide



PINE WILT

A fatal condition attacking Scots and other Pines

What is Pine Wilt?

:: Pine Wilt is a condition that is currently found primarily in Scots pine trees, also called Scotch pine (*Pinus sylvestris*) but has also been observed in Austrian pines. Scots pine is a non-native pine tree most easily identified by the red-hued trunk and peeling bark.

How does Pine Wilt affect pines?

:: Once symptoms appear, Pine Wilt typically kills trees quickly—within a few weeks to a few months. Pine needles turn grayish green, then tan, then brown, often affecting scattered branches before spreading to the rest of the tree. In other situations, the entire tree turns brown all at once. Small sections of browning are not unusual on Scots pines. If the browning continues to spread throughout the tree, it probably has Pine Wilt. There is nothing that can be done to save a tree already affected by Pine Wilt.

Where is this problem most prevalent?

:: The Pine Wilt problem has expanded across the Central U.S. The effects of Pine Wilt have been discovered as far west as Colorado and as far east as Pennsylvania.

How do trees become affected by Pine Wilt?

:: Pine sawyer beetles carry pinewood nematodes, a microscopic worm. When the beetles feed on the soft new growth of Scots pines, the nematodes leave the beetles and enter the tree through feeding wounds. The nematodes feed and rapidly multiply in the resin canals of the tree, destroying the tree's vascular system, resulting in tree death due to severe dehydration.

If a tree has Pine Wilt, what should be done to prevent it from spreading to other trees?

:: Dying or dead trees should be removed and the wood chipped to prevent the spread of the nematodes to other trees. Cut trees should not be stored for firewood as beetles may emerge restarting the cycle on healthy trees. Symptomless trees near affected trees can be treated to enhance likelihood of survival.

How can Pine Wilt be prevented?

:: A new treatment has been developed and tested which greatly reduces the likelihood of a tree being killed by Pine Wilt. One application of ArborSystems Greyhound Insecticide has been shown to provide three-year protection against this devastating disease. (See research report summary on reverse side.)



“We’ve been using Greyhound Insecticide applied with the Wedgle™ Direct-Inject™ system for the last four years, and we’ve protected hundreds of trees against Pine Wilt. We’ve injected quite a few trees in high-stress locations, where many neighboring untreated trees have died from Pine Wilt. Overall, our survival rate is about 92%. We’re making a lot of customers very happy; when their trees survive while they see Scots Pines all over town brown up and die.”

Jim Haas, Owner

Lincoln Tree Service, Inc., Lincoln, Nebraska

Prevention Recommendation

Numerous field tests and research conducted by the Nebraska Forest Service, University of Nebraska-Lincoln have demonstrated that a single application of Greyhound Insecticide can reduce the risk of Pine Wilt infection for up to three years. In the Nebraska study (see reverse side), **the survival rate of treated trees exceeded that of untreated trees by nearly 300%.**

Greyhound Insecticide must be used for preventative control and should be applied prior to any insect activity. Apply with ArborSystems Direct-Inject QC™ trunk injection unit and Portle Injection Tips with an application rate of 5 ml every 4" around the base of the tree.

One application provides 3-year protection.

Greyhound™
Insecticide



Portle® Injection Tips Improve conifer treatments

The Quick-Connect™ Portle Injection Tips are designed specifically for conifers. Multiple ports at the end of the tip deposit chemical at numerous points in the inner active layers of the tree, improving chemical retention and absorption. Portle Tips are inserted with the new Tip Setter, which easily drives tips deep into the tree, optimizing treatment effectiveness.

Greyhound™ Insecticide:

Research demonstrates that one application reduces Pine Wilt risk for up to 3 years

There is no cure for Pine Wilt, although a preventative treatment has emerged. One application of ArborSystems Greyhound Insecticide has been shown to provide three-year protection against this devastating disease.

Research Report

Condensed from original

SCOTCH PINE (*Pinus sylvestris*)
Pine Wilt; *Bursaphelenchus xylophilus*

Research conducted by:
Nebraska Forest Service, University of Nebraska-Lincoln

Control of Pine Wilt by trunk injection, 2003-2005

A test of a trunk-injection treatment for control of Pine Wilt (pinewood nematode) was conducted in an even-aged 41-year-old block planting of Scotch pine [also called Scots pine] at Horning State Farm, near Plattsmouth, NE. Trees in the test ranged in trunk diameter from 21 cm to 30 cm (8" to 12") and were approximately 17 m (55 ft.) tall. Many trees in the planting and surrounding area had died from Pine Wilt in the previous two to three years. Eleven replicate pairs of trees with no visible signs of Pine Wilt were selected based on their close proximity to trees that had recently died from Pine Wilt. One tree in each pair was selected randomly for treatment. One additional pair of trees was established in a manner similar to the other 11 pairs, and the tree selected for treatment showed a small amount of needle color fading, an early Pine Wilt symptom.

Treatments were applied on 12 and 13 May 2003. The rate was approximately 2 ml of product [Greyhound Insecticide, ArborSystems,

Inc., Omaha, NE] per cm of trunk diameter. An ArborSystems injector with a modified tapered tip was used to apply the treatments. Evaluations were made after each of three growing seasons by recording trees that were alive, dead, or dying. As untreated control trees died in the replicate pairs, new paired control trees were established for the next growing season as before, based on close proximity to the treated tree and to trees that had recently died of Pine Wilt. Only six of eight control trees were available in the third year to pair with the treated trees.

In the 11 replicate pairs of trees that showed no Pine Wilt symptoms at the time of treatment, **the trunk injection treatment resulted in significantly greater survival of the treated trees after the first growing season. Survival rates of the treated trees after the second and third years were similar to the first.**



The No-Drill Injection Solution

ArborSystems Direct-Inject QC is the only no-drill trunk injection system on the market. The Direct-Inject QC system injects chemical directly to where the tree can best use it, without drilling. Two Quick-Connect couplers on the Direct-Inject QC unit accept Quick-Connect Chemical Packs and Quick-Connect Injection Tips.

Four specialized Quick-Connect Injection Tips are designed to place chemical precisely where each tree's unique vascular structure can best use it. Wedgle® Tips are for hardwoods, Palm Tips for palms, and Portle® Injection Tips are used for conifers.

Quick-Connect™
Direct-Inject QC™
TREE INJECTION SYSTEM

Upgrade Your
Wedgle Ask for details.



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