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The Hemlock Woolly Adelgid in the Finger Lakes, an Update

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The Hemlock Woolly Adelgid (HWA), *Adelges tsugae*, has been in New York for at least the past 20 years. Originally confined to the lower Hudson Valley it has since moved north to near Albany and west into the Catskill Mountains. It was detected in the Finger Lakes region in 2008 and subsequent investigation revealed that it was largely confined to the southern parts of Seneca and Cayuga Lakes. In the intervening years HWA has been spreading and is now found from Skaneateles Lake south to Binghamton and west it was recently found in Allegany State Park.

HWA looks like a tiny ball of cotton attached to twigs at the base of needles on Hemlock trees. This is because this tiny aphid like insect produces a dense mass of waxy hairs to protect it. An interesting aspect of its biology is that it actually grows during the winter and through to early summer. During summer and fall is very tiny, without the waxy fluff, and settled on the twigs waiting for the end of fall when it will begin development and production of the waxy fibers covering its body. The best time for detection is between January and May. You can see it by looking at the underside of twigs on hemlock branches.

So what can you do if you have hemlocks on your property? The most important thing is to see if your hemlocks have HWA on them, if you don't have the bugs you don't need to treat. Examine the branches and compare them with the photo included here and others on our website, www.nyis.info, where you will also find much more information. Once you've determined that you have HWA don't panic! You have time to act, in many cases even trees that have thin canopies can be brought back to full health. We recommend consulting with a licensed arborist and registered pesticide applicator to save your trees. However, there is an effective product that homeowners can purchase at the local garden store and use themselves. Always read and follow carefully instructions on the label of any pesticide you are using.

There are two pesticides currently being used for HWA in New York. Treatments with one of the several formulations of Imidacloprid (active ingredient) have been found to be effective up to 7 years. These can be applied by soil drench, soil injection, time-release soil tablets (Core Tect), or trunk injection. The only formulation available to homeowners is the soil drench; all others must be applied by registered pesticide applicators. Be aware that a soil drench could possibly move through a porous soil and get into waterways. It's best not to use the soil drench within 75 feet of any body of water. Soil drench works best when the soil is moistened after a rainstorm, not when it is dry. The advantage of the professionally applied time-release soil tablets is that because the active ingredient (imidacloprid) is released over a two year period, twice as many trees can be treated in a given area at the same time.

One of the drawbacks to Imidacloprid is that it moves slowly into the tree and older trees may not be able to move the product into the crown fast enough to survive. A recent development in New York is the recent registration of Dinotefuran (active ingredient), under the trade name Safari, to be used as a basal trunk spray. This is significant because Safari moves much more rapidly than Imidacloprid into the tree canopy, but the drawback is that its efficacy is limited to only a single year. We recommend that Safari be used for older trees and any tree that has severe crown thinning. In these circumstances it is used to rapidly reduce HWA so the trees can recover and have time to take up Imidacloprid for more long-term protection. Safari must be applied by registered pesticide applicators.

Once you have had your trees treated HWA will not be able to re-establish for up to 7 years if you used imidacloprid. This would be effective even if your neighbor did not treat their trees and the HWA infestation is heavy. Any HWA that would land on your trees would be killed as it started to feed.

A bright spot in the otherwise depressing HWA story is the glimmer of hope that biological control agents may be successful. Work begun in North Carolina 10 years ago with the release of the predator *Laricobius nigrinus* (Coleptera: Derodontidae) is finally showing promise with large numbers of predators recovered and a slight recovery in the crowns of residual hemlocks. *L. nigrinus* has been released at 14 locations in the Finger Lakes since 2008 and recovered at two sites but recoveries are still very small. Supplies of this predator are very limited and it will take years for the populations to build to the point that they will be able to control HWA. Therefore it's important to act and keep hemlocks alive on the landscape until biocontrol can take over.

For more information go to the insect section and find Hemlock Woolly Adelgid at: www.nyis.info

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