

# Hemlock Facts and Fiction

## Part 1: The Hemlock Crisis

Fiction can be fun, but in the case of the hemlock trees vs. the hemlock woolly adelgids that threaten to wipe out the species, fiction can be fatal. So for the sake of the trees and everyone who loves them, Save Georgia's Hemlocks would like to offer a reality check.



**Fiction:** Hemlocks are like any other trees. If one kind dies, another will take its place so the loss won't really matter.

**Fact:** Hemlock is a keystone species, and there is no other tree that performs the same vital functions. With a massive die-off of these majestic evergreens, wildlife will lose habitat; shade-loving plants will suffer; water quality in rivers will deteriorate; rise in stream temperature will adversely affect trout populations; soil erosion and danger of forest fires will increase; property values and revenue from tourism and recreation will decline.

**Fiction:** If you can't see adelgids or their white cottony egg sacs on your hemlocks, there's no need to worry.

**Fact:** Adelgids and their egg sacs are very tiny and easy to miss. The infestation spreads rapidly, so if adelgids are within 25 miles of your property, take action to protect your trees.

**Fiction:** If your hemlocks already have adelgids, there's nothing you can do. Just cut them down.

**Fact:** There are many inexpensive and effective treatment products available, so you can save as many of your trees as you wish, often even if they're heavily infested.

**Fiction:** Only small hemlocks less than a foot in diameter can be saved.

**Fact:** Trees of any size can be treated. Try to save as many large ones as well as some middle-sized and small ones to allow for generational succession.

**Fiction:** Spring is the only time to treat hemlocks.

**Fact:** Researchers now say that in the South you can treat year-round; soil treatments can be done any time the ground isn't saturated or frozen. Since adelgids can kill hemlocks in just 3-6 years, ASAP is really the best time to treat!

## Part 2: Options for Getting Hemlocks Treated

**Fiction:** Treating hemlocks is complicated and difficult, so you must hire a professional.

**Fact:** The process is neither technically complicated nor physically demanding, and many property owners choose to do it themselves; step-by-step instructions are on the [Resources](#) page of our web site. However, you might choose to hire a professional because of difficult terrain, limited

physical ability or time, or personal preference; you'll find some properly licensed companies on the [Contacts](#) page of our web site.

**Fiction:** Any off-the-shelf insecticide will work for treating hemlocks.

**Fact:** First, the product must be labeled for treating adelgids. Second, even with products so labeled, many are of such low concentration (less than 1% active ingredient) that they are not very effective or for very long. The recommended systemic products are Imidacloprid (75% water soluble powder or 21.4% liquid) for lightly to moderately infested trees and Dinotefuran (sold as Safari 20 SG) for heavy infestations. Places that carry these products are listed on our [Contacts](#) page.



**Fiction:** Insecticidal soaps or horticultural oils work just as well as systemic materials and are cheaper.

**Fact:** Non-systemic sprays kill only the exposed insects they fall directly on, so bugs still in their egg sacs, hiding on the underside of branches, or too high to reach are not affected. These products provide no residual protection and must be repeated frequently, which costs more time and money. Systemic products are much more effective and economical, giving protection for 1 – 2 years with Dinotefuran or 5 – 6 years with Imidacloprid.

**Fiction:** You need special equipment to treat hemlocks.

**Fact:** For soil application a soil injector is helpful, but if you don't have access to one, you can use a piece of rebar to make shallow holes in the soil and a bucket to dispense either of the above products. Places that lend injectors for free are on our [Contacts](#) page. If you want to spray Safari onto the lower tree trunk, a hand-pump sprayer is all you need. The tree absorbs it through the roots or bark and spreads it throughout the plant.

## Part 3: Treatment Costs and Choices

**Fiction:** Treating hemlocks is expensive.

**Fact:** If you treat your own trees, the cost can be as low as \$0.05 per inch of trunk diameter using a generic Imidacloprid product for light to moderate infestation or \$0.82 per inch using Safari for heavy infestation. It does cost more to hire a professional but much less than losing your trees and having them removed.



**Fiction:** It's OK to hire any landscaper, arborist, or person in the tree business to treat hemlocks.

**Fact:** In Georgia, only persons with a pesticide contractor's license in Forest Pest Control and/or Turf & Ornamental Pest



Control can legally be hired to provide this service. They have completed the necessary technical training, know the correct treatment protocols, and have the state-required liability insurance. Some properly qualified companies are on our [Contacts](#) page, or you can call the Ga Department of Agriculture Pesticide Division.

**Fiction:** The brand name Imidacloprid product, Bayer's Merit 75, is better than a generic.

**Fact:** The generic versions are chemically equivalent and equally effective but much less expensive.

**Fiction:** Imidacloprid 75% water soluble powder is better than 21.4% liquid.

**Fact:** Don't let the 21.4% strength mislead you. When mixed with the correct amount of water, the liquid formulation yields the same concentration of active ingredient as the 75 WSP. The liquid formulation is easier to use, and if you have a lot of trees to treat, it's actually less expensive on a per-inch basis.

**Fiction:** Safari is better than Imidacloprid or vice versa.

**Fact:** One is not better than the other; they're just different. You should choose based primarily on the condition and size of a tree, and sometimes where it's growing or the weather conditions. Our Hemlock Help Line can provide advice.

**Fiction:** Stem injection (trying to give the tree an I.V.) is the best way to treat hemlocks.

**Fact:** This method involves making holes in the trunk to place chemical in the tree's vascular system. It should be done only in extremely rare and absolutely necessary cases, and then only by a highly experienced professional. A great deal of respected research indicates that stem injection is less effective than soil application, requires more frequent application, costs much more than any other method, requires special equipment and skills, and even with the least invasive device has the potential to wound trees already under adelgid-induced stress.

## Part 4: Safety Concerns

**Fiction:** The treatment products are dangerous to people and the environment.

**Fact:** Neither Imidacloprid nor Dinotefuran is a restricted use product, a designation by the EPA indicating some level of danger that justifies restricting purchase or use to professional pesticide applicators. The misuse of any chemical can be harmful; however, if you read and follow the labeling, you can treat your trees or have them treated with an appropriate systemic product without endangering yourself, children, pets, wildlife, beneficial insects, water systems, or the environment. If the treatment has been sprayed onto the foliage, sprayed onto the bark of the trunk, or applied as a soil drench, you should give time for the material to dry before allowing children or pets into the area; normally an hour or less.

**Fiction:** Imidacloprid is responsible for honeybee hive collapse.

**Fact:** There are several chemicals that, if misused, can harm honeybees, and nicotinoids such as Imidacloprid and Dinotefuran fall into that category.



The key factors in the safe use of these products are how and where they're applied. If they're sprayed into the air on a breezy day or the dry powder is plowed into fields or seeds coated with it are planted by pneumatic drilling machines, particles of insecticide may be released into the air where they can be ingested by bees or drift onto plants they pollinate.

SGH has been advised by experts that soil injected Imidacloprid or Dinotefuran to treat hemlocks poses minimal risk to honeybees. A mild solution is placed in the soil at a depth of 4 - 6 inches close to the base of the tree, so it's not dispersed into the air, onto the surface of plants, or into the root zone of flowering trees or shrubs. The material is taken up by the tree's roots and distributed through the tree's tissue for total systemic protection. And since hemlocks are pollinated by wind and not honeybees, soil injected nicotinoids are unlikely to affect them.

**Fiction:** Imidacloprid is too dangerous to use on trees near waterways, wells, veggie gardens, or other sensitive areas, so hemlocks in such locations should just be cut down.



**Fact:** It is right to be concerned about water quality and safety, but knowing when to worry is important. There is no set-back specified on the product labels. UGA researcher Mark Dalusky says that in forested or residential settings where treatment is placed shallowly in the root mat within a foot of the tree trunk, the organic content is huge and the binding potential is very high. During a 2-year study conducted jointly by the U. S. Forest Service and UGA in 4 forest drainage areas, it was found that Imidacloprid binds quickly to the organic matter in forest soils and only moves a few inches from each injection point; there was no trace of chemical in stream water and no negative impact on resident aquatic insects, which are very sensitive to Imidacloprid and therefore good indicators of contamination.

**Fiction:** Safari is more dangerous to use than Imidacloprid.

**Fact:** Safari is more soluble than Imidacloprid but not more dangerous. If a tree needs Safari but soil composition or proximity to a sensitive area make soil application inadvisable, you can apply it carefully the trunk so it never enters the soil.

**Fiction:** There's no way to know what's safe and what's not.

**Fact:** The product label and the Material Safety Data Sheet for each product provide the necessary safety guidelines; a link to these documents is on our [Chemical Controls](#) page. Users should read and heed this information in combination with a healthy dose of good old fashioned common sense. Here are some basic rules:

\* Don't spray pesticide when there is a breeze.

\* Don't apply directly to water or where surface water is present

\* Don't apply to porous, sandy, gravelly, or cobbly soils, particularly if the water table is shallow.

\* Don't apply to soils that are water-logged, saturated, or frozen.

\* Call the Hemlock Help Line 706-429-8010 if you have questions.