

# REMEMBERING Dr. Fred Hain

Champion of Forest Health  
in North Carolina





*This article on Dr. Hain is part one of a two-part series. In the next issue of TreeLine, Part 2 will explore the collaboration between the Forest Restoration Alliance, the Hemlock Restoration Initiative, North Carolina State University, and the North Carolina Forest Service to restore native hemlock populations.*

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*By Caroline Lord, Outreach and Communications Manager,  
Hemlock Restoration Initiative*

**D**r. Fred Hain was a forest entomologist for 37 years. As a faculty member in the Department of Entomology at North Carolina State University (NCSU), Dr. Hain spent a lot of time studying invasive insects, and he ultimately decided that he wanted to help save certain tree species harmed by those insects.

Dr. Hain made important contributions to the research and management of several forest pests, in particular conifer pests such as the southern pine beetle. But adelgids were his specialty. Through his work, Dr. Hain became one of the leading authorities on the management of balsam woolly adelgid impacts on Fraser fir in natural stands and Christmas tree plantations in North

Carolina. His sights were always set on developing long-term, sustainable management options to save trees from these pests.

In the late 1990s, Dr. Hain noticed hemlock trees dying from hemlock woolly adelgid (HWA) infestations. The invasive insect first arrived on an ornamental Southern Japanese hemlock tree destined for a garden in Richmond, VA. The tiny insects have spread, destroying hemlocks throughout the eastern United States, and more recently parts of Ontario and Nova Scotia. Dr. Hain brought together researchers from the National Arboretum and the USDA Forest Service to help find ways to save the eastern and Carolina hemlock populations affected by HWA. In 2007, he formed what is now known as the Forest Restoration Alliance

(FRA), a selective resistance-screening and breeding program based on the success and methodologies of The American Chestnut Foundation.

At FRA, Dr. Hain and others began propagating potentially resistant hemlocks at a lab and nursery in Waynesville, NC to test for heritable traits of HWA resistance. "After we find an individual tree that looks healthy where everything else is dead and dying, we collect cuttings from it that we root back in Waynesville," Dr. Hain said in a 2016 *Our State* article by Eleanor Spicer Rice. Later, FRA incorporated traditional and molecular breeding techniques into the program.

## A Tireless Advocate

When Dr. Hain retired from NCSU in 2011, he devoted his time to further building the FRA and advocating for state and federal legislation on invasive species. On Forestry Days at the North Carolina Legislature, Margot Wallston of the Hemlock Restoration Initiative says that Dr. Hain "could be found walking the halls as a real-life Lorax committed to the goal of raising support for tree resistance

and breeding research and advocating for a comprehensive forest health initiative."

Throughout his tenure at NCSU, Dr. Hain trained 34 graduate students, including current NCSU faculty Dr. Kelly Oten and Dr. Robert Jetton. In 1995, the Southern Forest Insect Work Conference presented him with the A. D. Hopkins award for his outstanding record of service to Southern forest entomology. In 2011, he was awarded the Order of the Longleaf Pine, one of the highest state honors a North Carolinian can receive, and in 2018, Dr. Hain received the NC Governor's Forest Conservationist of the Year Award.

Although he worked hard, a colleague remembers that Dr. Hain enjoyed kicking back with others for a beer after work. He liked these gatherings so much that he organized a standing "Friday Afternoon Seminar" to bring together faculty, graduate students, and staff at a bar near the NCSU campus in Raleigh.

After his death in 2023, a group of his friends and colleagues held "Fred Hain's Ultimate Friday Afternoon Seminar" where they shared stories about Dr. Hain while enjoying food and drinks at a local bar.

Dr. Hain's story continues today through FRA's goal of solving the threats posed by invasive pests with the aim of achieving long-term forest stability. ■



### ABOUT THE AUTHOR

**Caroline Lord** is the Outreach and Communications Manager at the Hemlock Restoration Initiative in Asheville, NC. She recently graduated from Clemson University with a Master in Resilient Urban Design. Before joining HRI, she worked as a freelance writer, editor, and public speaking coach.

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