

**USDA - Agricultural Research Service**  
**U.S. National Arboretum**  
***Tsuga* ‘Traveler’ and ‘Crossroad’**  
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**News Feed**

Title: U.S. National Arboretum Offers Solution to Hemlock Woolly Adelgid Pest

Hemlocks, *Tsuga* species, are evergreen trees that can be found in forested ecosystems and in landscape plantings. They are in the pine family and often assume a conical shape. Hemlocks are not poisonous and may even be used as Christmas trees during the holiday season.

Unfortunately, hemlocks in the U.S. are vulnerable to attack by a small insect called the hemlock woolly adelgid (HWA). This insect looks like tiny cotton balls on the needles of the tree and can kill the trees by feeding on the sap. The adelgid has decimated stands of hemlocks in the eastern U.S. While insecticides and biological control measures can offer some relief, the best way to combat HWA is to develop genetic resistance in the trees.

To address this agricultural challenge, USDA-ARS researchers at the U.S. National Arboretum, led by Horticulturist [Susan Bentz](#), developed hybrids between the native (susceptible) Carolina hemlock and a resistant Asian species, *Tsuga chinensis*. Two of these hybrids, *Tsuga* ‘Traveler,’ and *Tsuga* ‘Crossroad’ – were recently released to the nursery industry. Both have resistance to HWA and have outstanding ornamental and growth characteristics, including symmetrical, upright habits. These hybrid hemlocks are the first to be introduced to the horticultural trade and represent new strategies for managing HWA in landscape settings.

“This has been a long-term project that utilized the Arboretum’s horticultural, scientific, germplasm and collaborative resources,” said Susan Bentz. “We are excited to have developed a sustainable approach to this problem.”

Both ‘Traveler’, now patented, and ‘Crossroad’ are hardy in U.S. Department of Agriculture Zones 6 and 7 and will perform well in moist, well-drained soil in full sun to partial shade. These cultivars can be clonally propagated by cuttings taken in December or January or in early summer. Rooting occurs slowly and the resulting plants transplant well from containers into the landscape.

Propagating nurseries interested in ‘Traveler’ or ‘Crossroad’ should contact [usna.comments@usda.gov](mailto:usna.comments@usda.gov) for more information.

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