

EVALUATION OF NON-NATIVE *TSUGA* SPECIES AS REPLACEMENTS FOR *T. CANADENSIS* KILLED BY HEMLOCK WOOLLY ADELGID

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ABSTRACT

Several species of *Tsuga* from the western United States and Asia are under evaluation as potential replacements for *T. canadensis* being destroyed by hemlock woolly adelgid (*Adelges tsugae* Annand). Test plots were established in Katonah, NY in October, 2003, and trees were inoculated with adelgid egg masses in spring of 2004 and 2005. Adelgids have yet to establish on test trees, but dramatic differences in tree growth among the species is apparent. *T. canadensis*

and *T. chinensis* have shown the largest growth increment, while the remaining test species have shown almost no growth over an 18-month period. *T. chinensis*, in addition to being a vigorous grower, has botanical traits much like *T. canadensis*, which leads to the preliminary conclusion that this species might be a suitable replacement for *T. canadensis* and/or *T. caroliniana*, pending evaluation of its susceptibility to hemlock woolly adelgid (reports in the literature indicate that it is resistant).