

Fred M. van Eck Scholarships
Hardwood Tree Improvement and Regeneration Center
Department of Forestry and Natural Resources
Purdue University

The Hardwood Tree Improvement and Regeneration Center (HTIRC) at Purdue University is seeking outstanding candidates interested in working toward M.S. or Ph.D. degrees. The HTIRC is a collaborative research organization comprised of Purdue University and U.S. Forest Service scientists whose mission is to advance the science and application of tree improvement, management, and protection to improve hardwood forests, with emphasis in the Central Hardwood Forest Region.

Funding for the van Eck Scholarships is provided by the Fred M. van Eck Foundation for Purdue University whose purpose is to support research in the genetic improvement of high-value North American hardwood tree species.

Candidates should have well developed quantitative skills and knowledge and experience in biological sciences such as forestry, horticulture, botany, plant biology, genetics, physiology, entomology, or pathology. Candidates should have a GPA of at least 3.4 and GRE scores averaging above the 60th percentile.

Assistantships will be awarded at \$19,915 (M.S.) and \$22,850 (Ph.D.) per year. In addition, an annual budget (\$10,000) will be available for research support and a laptop computer will be provided for the duration of the scholarship.

For admission for fall semester 2018, applications must be received by November 30, 2017 (M.S. and Ph.D.). Interested individuals should contact Mike Saunders directly via email msaunders@purdue.edu to discuss their background, qualifications, and research interests. Please also provide a short (one page) letter of interest and a CV that includes cumulative GPA, GRE scores and contact information for at least three references.

More information on this scholarship opportunity can be found at www.htirc.org.

Purdue University is an EEO/AA employer fully committed to achieving a diverse workforce. All individuals, including minorities, women, individuals with disabilities, and protected veterans are encouraged to apply.



Potential projects:



Effects of prescribed fire in Central Hardwood Forests:

Eastern hardwood forests, in general, are slowly converting from oak to maple. Several factors are responsible, but elimination of periodic surface fire is a prominent reason. Managers, therefore, are using fire again for oak regeneration, but the ecological and economical impacts of prescribed fire are not fully understood. This study will use data collected from several prescribed fires to calibrate local fuel models, investigate the effectiveness of fire for regeneration, and/or investigate impacts on wildlife and other ecosystem components.

Development of a “cultural options” model for plantation establishment: If you had \$1000 to spend on plantation establishment, what would you spend it on? This question is the crux of this research project – to develop an economic model for landowners on how to spend their money most effectively for restoration and afforestation plantings. The study will use data collected by HTIRC from over 200 sites to estimate the benefits of deer fencing, fertilization, improved stock, competition control, pruning and other factors on survival and growth of young hardwood plantations.



Refine soil suitability indices for black walnut and other fine hardwood species:

Growth for any species is inherently related to soil quality and drainage. For fine hardwoods, particularly black walnut, the difference between plantation success and failure can be solely driven by soil quality. Existing relationships between soil properties and black walnut growth are coarse; this study seeks to fine-tune those relationships for better regional models of soil suitability for black walnut. The study will use a regional database of black walnut growth and collect soil samples from over 200 sites to better elucidate the site-growth relationship in black walnut.