

**Thomas J. Molnar, Ph.D.**

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**EDUCATION**

Ph.D. 2006     **Rutgers, the State University of New Jersey, Plant Biology**  
B.S. 2000     **Rutgers, the State University of New Jersey, Plant Science**

**PROFESSIONAL EXPERIENCE**

2014-present: Associate Professor, Department of Plant Biology, Rutgers University  
2008-2014: Assistant Professor, Department of Plant Biology and Pathology, Rutgers University  
2007-2008: Research Assistant Professor, Department of Plant Biology and Pathology, Rutgers University  
2003-2007: Assistant Instructor, Department of Plant Biology and Pathology, Rutgers University  
2001-2003: Graduate Assistant, Department of Plant Biology and Pathology, Rutgers University  
2000-2001: Albert Fellows Graduate Fellowship, Department of Plant Biology and Pathology, Rutgers University

**SYNERGISTIC ACTIVITIES**

**Collaborations and Affiliations**

- Northern Nut Growers Assoc., Secretary, Member of the Board of Directors 2007-2018, [www.nutgrowing.org](http://www.nutgrowing.org)
- Hybrid Hazelnut Consortium: members include Rutgers Univ., The National Arbor Day Foundation, Oregon State Univ., and the Univ. of Nebraska, Lincoln. 2008-present <http://www.arborday.org/programs/hazelnuts/consortium/>
- Co-Chair, Southern Plant Conference of the Southern Nursery Association (2018-present)
- USDA National Plant Germplasm System Chestnut, Hazelnut, & Pistachio Crop Germplasm Committee. Member of the nut germplasm committee and CGC Chair (2019-present)

**Memberships in Professional Organizations:**

American Society for Horticultural Science (2014 President of the Northeast branch of the ASHS); International Society for Horticultural Science; American Pomological Society; International Plant Propagators Society; Northern Nut Growers Association; Nut Growers Society of OR, WA, and British Columbia.

**GRANTS**

1. USDA-NIFA Specialty Crops Research Initiative, Grant 2016-51181-25412. Title: Genomic tools, genetic resources, and outreach to expand commercial U.S. hazelnut production. Amount: \$3.1 million, Oregon State University lead (Rutgers portion \$1,081,365). Time period: Sept. 2016 to Aug. 2021.
2. Rutgers Center for Turfgrass Science. Title: Genetic improvement of turfgrasses and other underutilized perennial plants for soil improvement, environmental enhancement, improved nutrition, and bioenergy. Amount: \$4,000. Time period: January 2021-December 2021.

3. USDA-NIFA Agriculture and Food Research Initiative, Grant 2014-67013-22421. Title: Securing and expanding the U.S. hazelnut industry through breeding for resistance to eastern filbert blight. Amount: \$500,000 Rutgers lead, award shared with Oregon State University. Time period: Sept. 2014 to Aug. 2016.
4. USDA-NIFA Specialty Crops Research Initiative, Grant 2009-51181-06028. Title: Expansion of hazelnut production and feedstock potential through breeding for disease resistance and climatic adaptation. Amount \$1.39 million, Oregon State University lead (Rutgers portion \$360,000). Time Period: Sept. 2009 to Aug. 2012.

#### **Relevant Patents/Variety Protection Certificates**

1. Molnar, T.J., S.A. Mehlenbacher, and J.M. Capik. 'Raritan' hazelnut. United States Plant Patent Application USPP32460P2 Nov. 17, 2020.
2. Molnar, T.J., S.A. Mehlenbacher, and J.M. Capik. 'Monmouth' hazelnut. United States Plant Patent Application USPP32462P2 Nov. 17, 2020.
3. Molnar, T.J., S.A. Mehlenbacher, and J.M. Capik. 'Somerset' hazelnut. United States Plant Patent Application USPP32494P2 Nov. 24, 2020.
4. Molnar, T.J., S.A. Mehlenbacher, and J.M. Capik. 'Hunterdon' hazelnut. United States Plant Patent Application USPP32461P2 Nov. 17, 2020.
5. Orton, E.R. and T.J. Molnar. *Ilex* x designated 'CR195-115' United States Plant Patent Application USPP30129 P3 February 17, 2017. Trademark name Emerald Lady™ holly
6. Molnar, T.J. and J. Capik. 2015. *Cornus kousa* tree designated 'Rutpink' United States Plant Patent Application USPP28311P3 Aug 22, 2017. Registered trademark name Scarlet Fire® dogwood (October 25, 2016 registration no. 5069732).

#### **RELEVANT PUBLICATIONS (past 4 years)**

1. Capik, J.M., M. Muehlbauer, P. Wadl, and T.J. Molnar. 2017. *Cornus kousa* 'Rutpink' (Scarlet Fire®) dogwood. HortScience 52:1438-1442.
2. Molnar, T.J. 2017. Going nuts: continuing a 40-year-old woody ornamental breeding program. Acta Hort. 1174:305-312 (Combined Proceedings of the International Plant Propagators' Society 67:305-312)
3. Lombardoni, J.J., J.A. Honig, J. Vaiciunas, C. Kubik, J. Capik, S.A. Mehlenbacher and T.J. Molnar. 2018. Evaluation of European hazelnut (*Corylus avellana*) genetic diversity using a genotyping-by-sequencing approach. Acta Hort. 1280:11-16
4. Molnar, T.J., J.A. Honig, A. Mayberry, R.S. Revord, S.T. Lovell, S.A. Mehlenbacher, and J.M. Capik. 2018. *Corylus americana*: a valuable genetic resource for developing hazelnuts adapted to the eastern United States. Acta Hort. 1226:115-121
5. Molnar, T.J., J.J. Lombardoni, M.F. Muehlbauer, J.A. Honig, S.A. Mehlenbacher, and J.M. Capik. 2018. Progress breeding for resistance to eastern filbert blight in the eastern United States. Acta Hort. 1226:79-85
6. Molnar, T.J. 2018. Breeding Powdery Mildew Resistant Dogwoods and More at Rutgers University. Combined Proceedings of the International Plant Propagators' Society 68:385-395

7. Muehlbauer, M. J. Honig, and T. Molnar. 2018. The use of chloroplast gene sequences to confirm maternal backgrounds of powdery mildew resistant interspecific hybrid dogwood (*Cornus kousa* x *C. florida*). *Acta Hort.* 1191:17-26
8. Muehlbauer, M., J.M. Capik, T.J. Molnar, and S.A. Mehlenbacher. 2018. Assessment of the 'Gasaway' source of resistance to eastern filbert blight in New Jersey. *Scientia Horticulturae* 235:367-372
9. Nowicki, M., S.L. Boggess, A.M. Saxton, D. Hadziabdic, Q-YJ Xiang, T. Molnar, M.L. Huff, M.E. Staton, Y. Zhao, and R. N. Trigiano. 2018. Haplotyping of *Cornus florida* and *C. kousa* chloroplasts: insights into species-level differences and patterns of plastic DNA variation in cultivars. *PLoS ONE* 13(10):e0205407.
10. Wadl, P.A., B.M. Mack, S.B. Beltz, G.G. Moore, R.E. Baird, T.A. Rinehart, T. J. Molnar, M.E. Staton, D. Hadziabdic, and R.N. Trigiano. 2018. Development of genomic resources for the powdery mildew, *Erysiphe pulchra*. *Plant Disease* 103:804-807
11. Botta, R. T.J. Molnar, E. Erdogan, N. Valentini, D. Torello Marinoni, S.A. Mehlenbacher. 2019. Hazelnut (*Corylus* spp.) breeding. In: *Advances in Plant Breeding Strategies*, Vol. 4. Pg 157-219 Nut and Beverage Crops. Al-Khayri, Jameel M., Jain, S. Mohan, Johnson, and Dennis V. (Eds.) Springer, Cham.
12. Molnar, T.J., S.A. Mehlenbacher, P. Engel, and J.M. Capik. 2019. Multiple sources of eastern filbert blight resistance provide breeding utility in New Jersey. *Journal of the American Pomological Society* 73:178-192
13. Muehlbauer, M.F., J. Tobia, J.A. Honig, N. Zhang, B.I. Hillman, K. Morey Gold, K., and T.J. Molnar. 2019. Population differentiation within *Anisogramma anomala* in North America. *Phytopathology* 109:1074-1082.
14. Revord, R, S. Lovell, T. Molnar, K. Wolz, and C. Mattia. 2019. Germplasm Development of Underutilized Temperate U.S. Tree Crops. *Sustainability* 11:1546. 10.3390/su11061546.
15. Honig, J.A., M.F. Muehlbauer, J.M. Capik, C. Kubik, J.N. Vaiciunas, S.A. Mehlenbacher, and T.J. Molnar. 2019. Identification and Mapping of Eastern Filbert Blight Resistance Quantitative Trait Loci in European Hazelnut Using Double Digestion Restriction Site Associated DNA Sequencing. *Journal of the Amer. Soc. for Hort. Science.* 144: 295-304
16. Revord, R.S., S.T. Lovell, J.M. Capik, S.A. Mehlenbacher, and T.J. Molnar. 2020. Eastern Filbert Blight Resistance in American and Interspecific Hybrid Hazelnuts. *Journal of the Amer. Soc. for Hort. Science.* 145:162-173.
17. Revord, R.S., S.T. Lovell, P. Brown., J.M. Capik, and T.J. Molnar. 2020. Using Genotyping-By-Sequencing Derived SNPs to Examine Genetic Structure and Identify a Core Set of *Corylus americana* germplasm. 2020. *Tree Genetics and Genomes.* 16:65
18. Mehlenbacher, S.A. and T.J. Molnar. 2020. Hazelnut (*Corylus*) breeding. *Plant Breeding Reviews.* *In press November 2020.*

19. Muehlbauer, M. J. Capik, and T.J. Molnar. 2021. Choosing plants for a hazelnut orchard in New Jersey. New Jersey Agricultural Experiment Station. Cooperative Extension Bulletin E368 <https://njaes.rutgers.edu/e368/>