

**--CURRICULUM VITAE--**  
**THOMAS G. RANNEY**

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Department of Horticultural Science  
North Carolina State University  
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**RESEARCH FOCUS:**

Breeding and improvement of nursery and bioenergy crops.

**EDUCATION**

B.S.	1981	Natural Resources	The Ohio State University
M.S.	1986	Horticulture/Plant Protection	Cornell University
Ph.D.	1989	Horticulture/Plant Protection	Cornell University

**PROFESSIONAL EXPERIENCE**

JC Raulston Distinguished Professor, Department of Horticultural Science, North Carolina State University, Mountain Horticultural Crops Research and Extension Center, Mills River, North Carolina, 2015-present. Position: 100% research on plant breeding and new crop development.

Professor, Department of Horticultural Science, North Carolina State University, Mountain Horticultural Crops Research and Extension Center, Mills River, North Carolina, 1999-2015. Position: 100% research on plant breeding and new crop development.

Associate Professor, Department of Horticultural Science, North Carolina State University, Mountain Horticultural Crops Research and Extension Center, Fletcher, North Carolina, 1995-1999. Position: 100% research on plant breeding and new crop development.

Assistant Professor, Department of Horticultural Science, North Carolina State University, Mountain Horticultural Crops Research and Extension Center, Fletcher, North Carolina, 1989-1995. Position: 80% research/20% extension on production, culture and physiology.

**HONORS AND AWARDS**

- Extension Educational Aids Award, American Society for Horticultural Science, 1994.
- Outstanding Ornamentals Publication Award, American Society for Horticultural Science, 1998.
- Distinguished Achievement Award for Nursery Crops, American Society for Horticultural Science, 2003.
- Research Friend of Extension Award, North Carolina Cooperative Extension Service, 2004.
- Porter Henegar Memorial Award: For Outstanding Contributions to Environmental Horticulture Research, Southern Nursery Association, 2006.

- H. Marc Cathey Award: Recognizing Outstanding Scientific Research that has Enriched the Field of Horticulture, American Horticultural Society, 2008.
- Fellow, International Plant Propagator's Society, Eastern Region, 2012.
- Outstanding Graduate Educator, American Society for Horticultural Science, 2012.
- Outstanding Contributions to the Horticulture Industry, North Carolina Nursery and Landscape Association, 2013.
- Julian C. Miller, Sr. Distinguished Research Award, Southern Region American Society for Horticultural Science, 2014.
- Outstanding Ornamentals Publication Award, American Society for Horticultural Science, 2014.
- Fellow, American Society for Horticultural Science, 2015.
- JC Raulston Distinguished Professor, 2015.

#### **UNIVERSITY SERVICE**

- Member of the Plant Physiology Graduate Faculty, 2000 - present.
- Horticultural Science Graduate Admissions Committee, 2004 - 2008.
- NC Ag. Research Service, Breeder's Release Board, 2007 - 2009, 2014 – present, Chair 2015-2016.
- NC State Plant Breeding Consortium, 2008 - present.
- Mountain Horticultural Crops Research and Extension Center: Special Facilities Committee (Chair), Landscape Committee (Chair), Secretarial Functions Committee, Field Day Planning Committee, and the Computer and Technology Committee (Chair). Various dates.
- Search Committees: Department Head of Horticultural Science, CALS Director of Research, Director of the JC Raulston Arboretum (twice), Urban Horticulture Extension Specialist, Consumer Horticulture Extension Specialist, Urban Horticulture Specialist, WNC Nursery Research/Extension Specialist, WNC Tomato Breeding and Genetics Researcher, Small Fruit or Vegetable Genomics/Breeder, Plants for Human Health Institute. Various dates.
- Department of Horticultural Science, NC State: Seminar Committee, Departmental Advisory Committee, Post-Tenure Review Committee (Chair, twice), Graduate Admissions Committee, Computing Committee, Distance Education Committee, Newsletter Committee, Departmental Visioning Committee, Honors and Awards Committee (Chair), and serve as faculty mentor for junior faculty. Various dates.
- Member of the Biotechnology Graduate Faculty 2010 – present.
- CALS Dean's Enrichment Grants Program, Review Panel, 2014.
- CALS Innovation and Efficiency Committee, 2015.
- CALS Blue Cross Blue Shield / Kellogg Professorship Screening Committee, 2015.

#### **PROFESSIONAL SERVICE**

- North Carolina Urban Forest Council, Board of Directors, 1992-1998.
- Tree Physiology, Editorial Review Board, 1993-1996.
- Metropolitan Tree Improvement Alliance, Board of Directors and Treasurer, 1996-2002.
- Southern Nursery Association:  
Section Chair and Editor, SNA Research Conference, Landscape Section, 2001-2004.

- Section Chair and Editor, SNA Research Conference, Plant Breeding Section, 2004-2007.  
Porter Henegar Research Award Committee, Southern Nursery Association, 2006-2015.
- American Society for Horticultural Science:  
Associate Editor, Journal of the American Society for Horticultural Science, 2001-2004.  
Chair, Ornamental Plant Breeding Working Group, 2005.  
Investment Trustee, 2006-2008.  
Scholarship Awards Committee, 2011.  
Vice Chair, Bioenergy Working Group, 2012-2014. Chair, 2015.  
Nominations Committee, 2013-2014.  
Poster Section Chair, Southern Region, 2014.  
Julian C. Miller, Sr. Distinguished Research Award Selection Committee, Southern Region, 2014-2015.  
Outstanding Graduate Educator Award Selection Committee, 2013-2015. Chair, 2016.
  - Landscape Plant Development Center:  
Board of Directors, 2003-2008.  
Chair, Strategic Planning Committee, Landscape Plant Development Center, 2008.
  - North Carolina Biotechnology Center, Advisory Committee, Western North Carolina, 2004– 2009.
  - Western Carolina University:  
Advisory Committee, Prof. Science Master’s Program, 2006.  
Adjunct Faculty Member. Ongoing.
  - Clemson University, Adjunct Faculty Member. Ongoing.
  - Asheville-Buncombe Technical Community College, Advisory Committee, Biotechnology Program, 2006.
  - Haywood Community College, Advisory Committee, Biotechnology Program, 2006.
  - American Nursery and Landscape Association, Task Force on Invasive Species, 2007-2008.
  - North Carolina Nursery and Landscape Association, Invasive Plant Committee, 2008-2012.
  - International Plant Propagators Society, Board Member, Eastern Region, 2009-2012.
  - National Review Team Member, University of Florida IFAS, Comprehensive Review, 2010.
  - Served as a reviewer of journal articles in the field of plant breeding, genetics, production, and physiology for the Biological Journal of the Linnean Society, Crop Science, European J. of Plant Path., HortScience, J. Amer. Soc. Hort. Sci., J. Plant Registrations, and Tree Physiology. Ongoing.
  - Served as outside reviewer for Tenure and Promotion for Clemson University, Michigan State University, Texas A&M University, University of Arkansas, University of British Columbia, University of Florida, University of Maine, University of Minnesota, University of Tenn., and Washington State University. Ongoing.
  - Scientific Grant Reviewer for the Horticultural Research Institute. 2015.
  - Provided over 150 presentations, nationally and internationally, on topics relating to horticultural science. Ongoing.

#### **PROFESSIONAL AND HONORARY MEMBERSHIPS**

American Society for Horticultural Science, North Carolina Nursery and Landscape Association,

International Plant Propagators Society, Magnolia Society International, The American Rhododendron Society, Azalea Society of America, Gamma Sigma Delta, Pi Alpha Xi, and Sigma Xi Scientific Research Society.

#### GRADUATE STUDENTS – SERVED AS MAJOR ADVISOR

- **David L. Curtis**, 1995. M.S. Thesis: Rooting and subsequent overwintering survival of stem cuttings of *Stewartia ovata*.
- **Patrick J. McGuigan**, 1995. M.S. Thesis: Micropropagation of *Stewartia pseudocamellia* and propagation of selected species of *Quercus* by stem cuttings.
- **Hunter L. Stubbs**, 1996. M.S. Thesis: Propagation by stem cuttings and nitrogen nutrition of containerized *Cupressus arizonica* var. *glabra* ‘Carolina Sapphire’.
- **Clifford Ruth**, 1996. M. HS. Special Topic: Differential tolerance of holly taxa to flooding and poor drainage.
- **Cindy A. Patton**, 1997. M.S. Thesis: Host plant resistance to Japanese beetles: Role of endogenous allelochemicals in plant defense. Awards: 2<sup>nd</sup> Place, SNA Student Research Conference, M.S., 1996.
- **Amy F. Fulcher**, 1997. M.S. Thesis: Host plant resistance among *Malus* taxa to Japanese beetle, European red mite, and two spotted spider mite. Awards: 3<sup>rd</sup> Place, SNA Student Research Conference, M.S., 1997.
- **J. Dale Witt**, 1998. M.S. Thesis: Biorational plant protectants for controlling adult Japanese beetles.
- **Jason J. Griffin**, 1999. M.S. Thesis: Vegetative propagation and culture of *Thuja* ‘Green Giant’, *Magnolia virginiana* ‘Santa Rosa’, and *Quercus phillyraeoides* ‘Emerald Sentinel’.
- **Bradley T. Holland**, 2002. M. HS. Special Topic: Evaluating recovery of Cupressaceae taxa after flooding at contrasting temperatures.
- **Jason J. Griffin**, 2002. Ph.D. Dissertation: Interactive effects of environmental stresses on photosynthesis.
- **Andrew C. Bell**, 2004. Ph.D. Dissertation: Host plant resistance to fire blight (*Erwinia amylovora*) in the Rosaceae subfamily Maloideae. Awards: 2<sup>nd</sup> Place, SNA Student Research Conference, Ph.D., 2002; 1<sup>st</sup> Place, SNA Student Research Conference, Ph.D., 2000.
- **Richard T. Olsen**, 2006. Ph.D. Dissertation: Utilizing polyploidy for developing improved nursery crops. Awards: ASHS, Krezdorn Award for Excellence in Doctoral Research and Writing, 2007; 1st Place, ASHS Warren S. Barham Ph.D. Graduate Student Paper, 2005; 1<sup>st</sup> Place, SNA Student Research Conference, Ph.D., 2005; 1<sup>st</sup> Place, Southern Region IPPS, Student Research Competition, 2005; 3<sup>rd</sup> Place, SNA Student Research Conference, Ph.D., 2003.
- **Ryan N. Contreras**, 2006. M.S. Thesis: Azaleodendrons: Investigating parentage, fertility, and effects of polyploidy among hybrids of deciduous azaleas and evergreen rhododendrons. Awards: 1<sup>st</sup> Place, SNA Student Research Conference, M.S., 2006; 1<sup>st</sup> Place, ASHS Southern Region Norman F. Childers, M.S., Research Competition, 2006.
- **Jeff R. Jones**, 2008. M.S. Thesis: Investigating prevalence, induction, and fertility of polyploid *Rhododendron* L. and the development of protocols for vegetative propagation. Awards: 1<sup>st</sup> Place, SNA Student Research Conference, M.S., 2007; 2<sup>nd</sup> Place, SNA

- Student Research Conference, M.S., 2008.
- **Elisabeth M. Meyer**, 2009. M.S. Thesis. Evaluation, propagation, and improvement of Gordoniae trees and an interspecific *Hypericum* hybrid. Awards: 3<sup>rd</sup> Place, SNA Student Research Conference, M.S., 2008; 1<sup>st</sup> place. SNA Student Research Conference, M.S., 2009.
  - **Clara E. Trueblood**, 2009. M.S. Thesis: An invasive species assessment system for the North Carolina horticultural industry. Awards: 1<sup>st</sup> place. Southern Weed Sci. Soc. Annual meeting, M.S. student presentation, 2009.
  - **Kevin Parris**, 2011. M.S. Cooperative program with Clemson University. Thesis: Micropropagation and cytogenetics of *Magnolia*. Awards: 1<sup>st</sup> place, SNA Student Research Conference, M.S., 2009; 1<sup>st</sup> place, SNA Research Conference, M.S., 2010.
  - **Todd Rounsaville**, 2011. M.S. Thesis: Cytogenetics, micropropagation, and reproductive biology of *Berberis*, *Mahonia*, and *Miscanthus*.
  - **Kelly Oates**, 2011. M.S. Thesis: Genetic improvement of *Rudbeckia* and evaluation of a new triploid *Campsis* cultivar. Awards: 1st Place, ASHS Southern Region Norman F. Childers, M.S., Graduate Student Research Competition, 2011. NCSU Outstanding Teaching Assistant, 2011.
  - **Jason Lattier**, 2012. M.S. Thesis: Tissue culture, cytogenetics, and breeding of selected nursery crops. Awards: Horticultural Research Institute Spring Meadow Nursery Scholarship, 2011; Syngenta Glenn Goldsmith Breeding Excellence Scholarship, 2011; 2<sup>nd</sup> Place, SNA Student Research Conference, M.S., 2012; 1<sup>st</sup> place, SRASHS Norman F. Childers MS Student Competition.
  - **Irene Palmer**, 2013. M.S. Thesis: Breeding and evaluation of perennial grasses for landscape and bioenergy applications. Awards: 3<sup>rd</sup> Place, SNA Student Research Conference, Undergraduate, 2007; 1<sup>st</sup> Place, SNA Student Research Conference, Undergraduate, 2008; 1<sup>st</sup> Place, SNA Student Research Conference, M.S., 2012.
  - **Dominic Gillooly**, current student. M.S. Research: Cytogenetics, tissue culture, propagation, and breeding of selected nursery crops. 2<sup>nd</sup> Place, SR-ASHS Norman F. Childers, M.S., Research Competition, 2014.
  - **Whitney Phillips**, current student. M.S. Research: Taxonomy, breeding, and tissue culture of selected nursery crops.

#### GRADUATE STUDENTS – SERVED AS COMMITTEE MEMBER

- **Mark C. Starrett**, 1992. M.S. Thesis: Sexual propagation and micropropagation of *Pieris floribunda* (mountain andromeda) and initial growth of seedlings of *Rhododendron maximum* (rosebay rhododendron) as influenced by day/night temperature.
- **Mack Thefford**, 1993. Ph.D. Dissertation: Effects of uniconazole on morphological, anatomical, and physiological development of *Forsythia ×intermedia* ‘Spectabilis’.
- **Mark C. Starrett**, 1996. Ph.D. Dissertation. Isolation, storage, and use of ericoid mycorrhizal fungi for improved acclimatization and subsequent growth of micropropagated *Pieris floribunda*.
- **Laura G. Jull**, 1998. Ph.D. Dissertation: Seed germination, seedling growth, and heat tolerance of Atlantic white-cedar (*Chamaecyparis thyoides*).
- **Lyn A. Gettys**, 2000. M.S. Investigations of optimum seed germination conditions,

reproductive biology, and genetic relatedness between cultivars of Stoke's aster [*Stokesia laevis* (J. Hill) Greene].

- **Amy N. Wright**, 2002. Ph.D. Dissertation: The physiology of landscape establishment of *Kalmia latifolia*.
- **F. Todd Lasseigne**, 2004. Ph.D. Dissertation: Physiological responses of selected taxa of *Salvia*, *Taxus*, *Cephalotaxus*, and *Syringa* to heat and/or flooding. Under the direction of Drs. Stuart L. Warren and Frank A. Blazich.
- **Jeffrey A. Adkins**, 2005, Ph.D. Dissertation: Characterization and expression of FLORICAULA/LEAFY homologues in *Buddleja davidii*.
- **Jessica G. Barb**, 2007, Ph.D. Dissertation: Biochemical, genetic, and cytogenetic studies of *Stokesia laevis* (Stoke's Aster).
- **Cary J. Hebert**, 2010, M.S. Thesis: Seed germination of five populations of *Rhododendron vaseyi*, ploidy manipulation of *Rhododendron* 'Fragrantissimum Improved' and the effects of S-ABA on the physiology and marketability of various container-grown taxa during short-term desiccation.
- **Stephanie Haines**, 2011, M.S. Thesis: Nitrogen and phosphorus nutrition of *Miscanthus × giganteus*.
- **Anushadevi Panneerselvam**, 2012. M.S. Thesis: Bioprocessing pretreatment of perennial grasses for cellulosic ethanol.
- **Yu Gu**, current. M.S. Thesis: Breeding and genetics of *Zinnia*.
- **David Roberts**, 2015, M.S. Thesis: Genome size determination and inheritance and allelism of morphological traits in *Cercis*.
- **Kelly Moore**, 2016, M.S. Thesis: Evaluation of *Miscanthus* and *Arundo* germplasm for nutrient removal ability.

#### POSTDOCTORAL ASSOCIATES AND RESEARCH SCHOLARS SUPERVISED

- **Dr. Zenaida Vilorio**. 2004-2005. Area of specialization: Plant tissue culture, plant breeding and genetics.
- **Dr. Darren Touchell**. 2005 - present. Area of specialization: Plant tissue culture, micropropagation, plant breeding, molecular biology, and bioenergy crops.
- **Dr. Mitch Sewell**. 2010 - 2012. Area of specialization: population and evolutionary genetics, plant genomics, quantitative genetics, and molecular genomics.

#### INTERNS SUPERVISED (UNDERGRADUATE AND POST GRADUATE)

- **Jon Roethling**. 2006. Project: Breeding new nursery crops.
- **Irene Palmer**. 2007-2010. Project: Crossability, cytogenetics, and reproductive pathways in *Rudbeckia* subgenus *Rudbeckia*.
- **Jason Lattier**. 2009. Project: In vitro regeneration and polyploid induction of *Acer platanoides* 'Crimson Sentry'.
- **Kim Shearer**. 2011-2013. Projects: 1) Interspecific and interploid hybridization among sympatric azaleas in the southern Appalachian Mountains. 2) Ploidy levels and relative genome sizes of species, hybrids, and cultivars or dogwood.
- **David Roberts**. 2012. Project: Ploidy manipulation of interspecific dogwood hybrids.
- **Dominic Gillooly**. 2013. Project: Survey of ploidy levels and relative genome sizes in

*Kalmia* sp.

- **Winston Beck.** 2013. Project: Ploidy Levels and interploid hybridization in panicle hydrangea (*Hydrangea paniculata*).
- **Will Hembree.** 2014. Project: Determining ploidy and relative genome sizes in *Deutzia* spp.
- **Laura Kaderabek.** 2014. Project: Influence of induced polyploidy on fertility and morphology of *Hydrangea macrophylla*.
- **Tracy Thomasson.** 2015. Project: Breeding and genetics of *Aucuba*.
- **Connor Ryan.** 2015. Project: Cytogenetics of *Illicium*.

#### PUBLICATIONS (REFEREED) SINCE 1996

- McGuigan, P.J., F.A. Blazich, and T.G. Ranney. 1996. [Propagating \*Quercus phillyreoides\* by stem cutting.](#) J. Environ. Hort. 14:77-81.
- Curtis, D.L., T.G. Ranney, F.A. Blazich, and E. P. Whitman II. 1996. [Rooting and subsequent overwinter survival of stem cuttings of \*Stewartia ovata\*.](#) J. Environ. Hort. 14:163-166.
- McGuigan, P.J., F.A. Blazich, and T.G. Ranney. 1996. [Propagation of \*Quercus myrsinifolia\* and \*Quercus canbyi\* by stem cuttings.](#) J. Environ. Hort. 14:217-220.
- Stubbs, H.L., F.A. Blazich, T.G. Ranney, and S.L. Warren. 1997. [Propagation of 'Carolina Sapphire' smooth Arizona cypress by stem cuttings: Effects of growth stage, type of cutting, and IBA treatment.](#) J. Environ. Hort. 15:61-64.
- McGuigan, P.J., F.A. Blazich, and T.G. Ranney. 1997. [Micropropagation of \*Stewartia pseudocamellia\*.](#) J. Environ. Hort. 15:65-68.
- Stubbs, H.L., S.L. Warren, F.A. Blazich, and T.G. Ranney. 1997. [Nitrogen nutrition of containerized \*Cupressus arizonica\* var. \*glabra\* 'Carolina Sapphire'.](#) J. Environ. Hort. 15:80-83.
- Ranney, T.G. and J.M. Ruter. 1997. [Foliar heat tolerance of three holly species \(\*Ilex\* spp.\): Responses of chlorophyll fluorescence and leaf gas exchange to supraoptimal leaf temperatures.](#) J. Amer. Soc. Hort. Sci. 122:499-503.
- Patton, C.A., T.G. Ranney, J.D. Burton, and J.F. Walgenbach. 1997. [Natural pest resistance of \*Prunus\* taxa to feeding by adult Japanese beetles: Role of endogenous allelochemicals in host plant resistance.](#) J. Amer. Soc. Hort. Sci. 122:668-672.
- Patton, C.A., T.G. Ranney, J.D. Burton, and J.F. Walgenbach. 1997. [Feeding responses of Japanese beetles to naturally occurring metabolites found in rosaceous plants.](#) J. Environ. Hort. 15:222-227.
- Ranney, T.G. 1997. Going to extremes: Testing hollies for tolerance to environmental stresses. Holly Soc. J. 15(1):5-11.
- Fulcher, A.F., T.G. Ranney, J.D. Burton, J.F. Walgenbach, and D.A. Danehower. 1998. [Role of foliar phenolics in host plant resistance of \*Malus\* taxa to adult Japanese beetles.](#) HortScience 33:862-865.
- Benson, D.M., T.G. Ranney, and K.C. Parker. 1998. Evaluation of *Photinia* spp. for resistance to entomosporium leaf spot, 1996, 1997. Bio. Cultural Tests 13:68.
- Griffin, J.J., F.A. Blazich, and T.G. Ranney. 1998. [Propagation of \*Thuja\* × 'Green Giant' by stem cuttings: Effects of growth stage, type of cutting, and IBA treatment.](#) J. Environ. Hort. 16(4):212-214.

- Griffin, J.J., F.A. Blazich, and T.G. Ranney. 1999. [Propagation of \*Magnolia virginiana\* ‘Santa Rosa’ by semi-hardwood cuttings](#). J. Environ. Hort. 17(1):47-48.
- Griffin, J.J., S.L. Warren, F.A. Blazich, and T.G. Ranney. 1999. [Nitrogen nutrition of containerized \*Thuja\* x ‘Green Giant’](#). J. Environ. Hort. 17(2):76-79.
- Jull, L.G., T.G. Ranney, and F.A. Blazich. 1999. [Heat tolerance of selected provenances of Atlantic white cedar](#). J. Amer. Soc. Hort. Sci. 124:492-497.
- Griffin, J.J., F.A. Blazich, and T.G. Ranney. 1999. [Shading and IBA treatment does not improve rooting of stem cuttings of \*Quercus phillyraeoides\* ‘Emerald Sentinel’](#). J. Environ. Hort. 17(3):123-125.
- Witt, J.D., S.L. Warren, T.G. Ranney, and J.R. Baker. 1999. [Biorational and conventional plant protectants reduce feeding by adult Japanese beetles](#). J. Environ. Hort. 17(4):203-206.
- Dunwell, W.C., D. Fare, M.A. Arnold, K. Tilt, G. Knox, W. Witte, P. Knight, M. Pooler, W. Klingeman, A. Niemiera, J. Ruter, T. Yeager, T. Ranney, R. Beeson, J. Lindstrom, E. Bush, A. Owings, and M. Schnelle. 2001. Plant evaluation program for nursery crops and landscape systems by the Southern Extension and Research Activities/Information Exchange Group-27. HortTechnology 11(3):373-375.
- Holland, B.T., S.L. Warren, and T.G. Ranney. 2003. [Evaluating recovery of \*Cupressaceae\* taxa after flooding at contrasting temperatures](#). J. Environ. Hort. 21(1):51-55.
- Ranney, T.G., T.A. Eaker, P.R. Fantz, and C.R. Parks. 2003. [×\*Schimlinia floribunda\* \(Theaceae\): A new intergeneric hybrid between \*Franklinia alata\* and \*Schima argentea\*](#). HortScience 38(6):1198-1200.
- Griffin, J.J., T.G. Ranney, and D.M. Pharr. 2004. [Photosynthesis, chlorophyll fluorescence, and carbohydrate content of \*Illicium\* taxa grown under varied irradiance](#). J. Amer. Soc. Hort. Sci. 129(1):46-53.
- Griffin, J.J., T.G. Ranney, and D.M. Pharr. 2004. [Heat and drought influence photosynthesis, water relations, and soluble carbohydrates of two ecotypes of redbud \(\*Cercis canadensis\*\)](#). J. Amer. Soc. Hort. Sci. 129(4):497-502.
- Bell, A.C., T.G. Ranney, T.A. Eaker, and T.B. Sutton. 2005. [Resistance to fire blight among flowering pears and quince](#). HortScience 40(2):413-415.
- Ranney, T.G. and P.R. Fantz. 2006. [×\*Gordlinia grandiflora\* \(Theaceae\): An intergeneric hybrid between \*Franklinia alata\* and \*Gordonia lasianthus\*](#). HortScience 41(6):1386-1388.
- Olsen, R.T., T.G. Ranney, and C.S. Hodges. 2006. [Susceptibility of \*Catalpa\*, \*Chilopsis\*, and hybrids to powdery mildew and \*catalpa\* sphinx larvae](#). HortScience 41(7):1629-1634.
- Olsen, R.T., T.G. Ranney, and Z. Vioria. 2006. [Reproductive behavior of induced allotetraploid ×\*Chitalpa\* and in vitro embryo culture of polyploidy progeny](#). J. Amer. Soc. Hort. Sci. 131(6):716-724.
- Olsen, R.T., T.G. Ranney, and D.J. Werner. 2006. [Fertility and inheritance of variegated and purple foliage across a polyploid series in \*Hypericum androsaemum\* L.](#) J. Amer. Soc. Hort. Sci. 131(6):725-730. (JASHS cover).
- Contreras, R.N., T.G. Ranney, and S.P. Tallury. 2007. [Reproductive behavior of diploid and allotetraploid \*Rhododendron\* L. ‘Fragrant Affinity’](#). HortScience 42(1):31-34.



- Contreras, R.N., T.G. Ranney, S.R. Milla-Lewis, and G.C. Yencho. 2007. [Investigating parentage and hybridity of three azaleodendrons using AFLP analysis](#). HortScience 42(3):740-743.
- Ranney, T.G., N.P. Lynch, P.R. Fantz, and P. Cappiello. 2007. [Clarifying taxonomy and nomenclature of \*Fothergilla\* \(Hamamelidaceae\) cultivars and hybrids](#). HortScience 42(3):470-473. (HortScience cover).
- Lasseigne, F.T., S.L. Warren, F.A. Blazich, and T.G. Ranney. 2007. [Day/Night temperature influences growth and photosynthesis of cultivated \*Salvia taxa\*](#). J. Amer. Soc. Hort. Sci. 132(4):492-500.
- Jones, J.R., T.G. Ranney, N.P. Lynch, and S.L. Krebs. 2007. [Ploidy levels and relative genome sizes of diverse species, hybrids, and cultivars of rhododendron](#). J. Amer. Rhododendron Soc. 61(4):220-227.
- Zhou, W., T. Gibbons, L. Goetsch, B. Hall, T.G. Ranney, and R. Miller. 2008. [Rhododendron colemanii: A new species of deciduous azalea \(\*Rhododendron\* section \*Pentanthera\*; Ericaceae\) from the Coastal Plain of Alabama and Georgia](#). J. Amer. Rhododendron Soc. 62(2):72-78.
- Jones, J.R., T.G. Ranney, and T.A. Eaker. 2008. [A novel method for inducing polyploidy in \*Rhododendron\* seedlings](#). J. Amer. Rhododendron Soc. 62(3):130-135.
- Palmer, I.E., T.G. Ranney, N.P. Lynch, and R.E. Bir. 2009. [Crossability, cytogenetics, and reproductive pathways in \*Rudbeckia\* subgenus \*Rudbeckia\*](#). HortScience 44(1):44-48.
- Jones, J.R. and T.G. Ranney. 2009. [Fertility of neopolyploid \*Rhododendron\* and occurrence of unreduced gametes in triploid cultivars](#). J. Amer. Rhododendron Soc. 63(3):131-135.
- Meyer, E.M., T.G. Ranney, and T.A. Eaker. 2009. [Differential resistance of \*Gordoniaeae\* trees to \*Phytophthora cinnamomi\*](#). HortScience 44(5):1484-1486.
- Meyer, E.M., A.V. LeBude, and T.G. Ranney. 2009. [Vegetative propagation of \*Gordoniaeae\* trees by stem cuttings](#). J. Environ. Hort. 27(4):191-194.
- Meyer, E.M., D.H. Touchell, and T.G. Ranney. 2009. [In vitro shoot regeneration and polyploid induction from leaves of \*Hypericum\* species](#). HortScience 44(7):1957-1961.
- Hebert, C.J., D.H. Touchell, T.G. Ranney, and A.V. LeBude. 2010. [In vitro shoot regeneration and polyploidy induction of \*Rhododendron\* 'Fragrantissimum Improved'](#). HortScience 45(4):801-804.
- Jones, J.R., A.V. LeBude, and T.G. Ranney. 2010. [Vegetative propagation of \*Oconee azalea\* \(\*Rhododendron flammeum\*\) by stem cuttings and mound layering](#). J. Environ. Hort. 28(2):69-73.
- Trueblood, C.E., T.G. Ranney, N.P. Lynch, J.C. Neal, and R.T. Olsen. 2010. [Evaluating fertility of triploid clones of \*Hypericum androsaemum\* L. for use as non-invasive landscape plants](#). HortScience 45(7):1026-1028.
- Rounsaville, T.J. and T.G. Ranney. 2010. [Ploidy levels and genome sizes of \*Berberis\* L. and \*Mahonia\* Nutt. species, hybrids, and cultivars](#). HortScience 45(7):1029-1033.
- Parris, J.K., T.G. Ranney, H.T. Knap, and W.V. Baird. 2010. [Ploidy levels, relative genome sizes, and base pair composition in magnolia](#). J. Amer. Soc. Hort. Sci. 135(6):533-547. (JASHS cover).
- Rounsaville, T.J., D.H. Touchell, T.G. Ranney, and F.A. Blazich. 2011. [Micropropagation of \*Mahonia\* 'Soft Caress'](#). HortScience 46(7):1010-1014.

- Rounsaville, T.J., D.H. Touchell, and T.G. Ranney. 2011. [Fertility and reproductive pathways in diploid and triploid \*Miscanthus sinensis\*](#). HortScience 46(10):1353-1357. ([HortScience cover](#)).
- Oates, K.M., T.G. Ranney, and D.H. Touchell. 2012. [Influence of induced polyploidy on fertility and morphology of \*Rudbeckia\* species and hybrids](#). HortScience 47(9):1217-1221.
- Shearer, K., T.G. Ranney, R. Miller, and C. Towe. 2012. [Pentanthera webs: Interspecific and interploid hybridization among sympatric azaleas in the southern Appalachian mountains](#). J. Amer. Rhododendron Soc. 66(4):187-197.
- Parris, J.K., D.H. Touchell, T.G. Ranney, and J. Adelberg. 2012. [Basal salt composition, cytokinins, and phenolic binding agents influence in vitro growth and ex vitro establishment of \*Magnolia\* 'Ann'](#). HortScience 47(11):1625-1629.
- Lattier, J.D., T.G. Ranney, and N.P. Lynch. 2013. [History and cytological reassessment of \*Rhododendron canadense\*](#). J. Amer. Rhododendron Soc. 67(2):92-98.
- Shearer, K. and T.G. Ranney. 2013. [Ploidy levels and relative genome sizes of species, hybrids, and cultivars of dogwood \(\*Cornus\* spp.\)](#). HortScience 48(7):825-830.
- Oates, K.M., D.H. Touchell, and T.G. Ranney. 2013. [Induced variation in tetraploid \*Rudbeckia subtomentosa\* 'Henry Eilers' regenerated from gamma-irradiated callus](#). HortScience 48(7):831-834.
- Panneerselvam, A., R.R. Sharma-Shivappa, P. Kolar, T. Ranney, and S. Peretti. 2013. Potential of ozonolysis as a pretreatment for energy grasses. Bioresource Technology. 148:242-248.
- Panneerselvam, A., R.R. Sharma-Shivappa, P. Kolar, D.A. Clare, and T. Ranney. 2013. Hydrolysis of ozone pretreated energy grasses for optimal fermentable sugar production. Bioresource Technology. 148:97-104.
- Lattier, J.D., T.G. Ranney, P.R. Fantz, and T. Avent. 2014. [Identification, nomenclature, genome sizes and ploidy levels of \*Liriope\* and \*Ophiopogon\* Taxa](#). HortScience 49(2):145-151.
- Lattier, J.D., D.H. Touchell, T.G. Ranney, J.C. Smith. 2013. [Micropropagation and Polyploid Induction of \*Acer platanoides\* 'Crimson Sentry'](#). J. Environ. Hort. 31(4):246-252.
- Oates, K.M., T.G. Ranney, D.H. Touchell, and Z. Vilorio. 2014. *Campsis* × *tagliabuana* 'Chastity': A highly infertile triploid trumpet vine. HortScience 49(3):343-345.
- Palmer, I.E., R.J. Gehl, T.G. Ranney, D. Touchell, and N. George. 2014. [Biomass yield, nitrogen response, and nutrient uptake of perennial bioenergy grasses in North Carolina](#). Biomass Bioenergy 63:218-228.
- Lattier, J.D., D.H. Touchell, and T.G. Ranney. 2014. [Micropropagation of an interspecific hybrid dogwood \(\*Cornus\* 'NCCH1'\)](#). Propagation of Ornamental Plants. 14(4):184-190.
- Haines, S., R. Gehl, J. Havlin, and T.G. Ranney. 2014. Nitrogen and phosphorus fertilizer effects on establishment of giant miscanthus. BioEnergy Res. DOI 10.1007/s12155-014-9499-4.
- Zhen-Chen Qi, Yi Yu, Xiang Liu, Andrew Pais, Thomas Ranney, Ross Whetten, and Qiu-Yun (Jenny) Xiang. 2015. [Phylogenomics of polyploid \*Fothergilla\* \(Hamamelidaceae\) by RAD-tag based GBS - insights into species origin and effects of](#)

[software pipelines](#). J. Syst. Evol. 53(5):432-447. doi: 10.1111/jse.12176.

- Gillooly, D.A. and T.G. Ranney. 2015. Genome sizes and ploidy levels in the genus *Kalmia*. HortScience 50(10):1426-1428.
- Touchell, D.H., T.G. Ranney, D.R. Panthee, R.J. Gehl, and A. Krings. 2016. Genetic diversity, cytogenetics, and biomass yields among taxa of giant reeds (*Arundo spp.*). J. Amer. Soc. Hort. Sci. (in press)

#### **PUBLICATIONS SUMMARY:**

- Refereed Journal Articles: 81
- Research Reports, Symposium Articles, etc.: 119
- Extension Bulletins: 1
- Extension Leaflets: 4
- Abstracts: 39
- Popular and Misc. Articles: 26

For a more complete publication list see:

<http://www.ces.ncsu.edu/fletcher/mcilab/publications/index.html>

#### **PATENTS AND PLANT INTRODUCTIONS**

##### Patents:

- *Calycanthus* ‘Venus’, PP15,925. August 23, 2005.
- *Hydrangea arborescens* ‘NCHA1’ Invincibelle™ Spirit, PP20,765. February 16, 2010.
- *Chaenomeles speciosa* ‘Pink Storm’, PP20,920. April 6, 2010.
- *Chaenomeles speciosa* ‘Orange Storm’, PP20,950. April 27, 2010.
- *Chaenomeles speciosa* ‘Scarlet Storm’, PP20,951. April 27, 2010.
- *Clethra alnifolia* ‘Crystalina’, PP21,561. December 7, 2010.
- *Weigela florida* ‘Sunset’, PP23,212, Nov. 27, 2012.
- *Exochorda* ‘Blizzard’, PP23,329, January 15, 2013.
- *Calycanthus* ‘Aphrodite’, PP24,014, Nov. 5, 2013.
- *Callicarpa* ‘NCCX1’ Purple Pearls™, pending.
- *Deutzia* ‘NCDX1’ Yuki Snowflake™, pending.
- *Hypericum calycinum* ‘NCHC1’ Golden Rule™, pending.
- *Albizia julibrissin* ‘NCAJ1’ Chocolate Fountain™, pending.
- *Cornus* ‘NCCH1’ Little Ruby™, pending.
- *Pyrus* ‘NCPX1’ Javelin™, pending.
- *Miscanthus* ‘NCMS1’ My Fair Maiden™, pending.
- *Prunus* ‘NCPH1’ Pink Cascade™, pending.
- *Deutzia* ‘NCDX2’ Yuki Cherry Blossom™, pending.
- *Ilex verticillata* ‘NCIV1’ Little Goblin™, pending.
- *Ligustrum* ‘NCLX1’ Golden Ticket™, pending.
- *Viburnum* ‘NCVX1’ Shiny Dancer™, pending.
- *Viburnum* ‘NCVR1’, Emerald Envy™, pending.
- *Hydrangea arborescens* ‘NCHA2’ Invincibelle™ Spirit II, pending.
- *Hydrangea arborescens* ‘NCHA3’ Invincibelle™ Ruby, pending.

- *Hydrangea arborescens* ‘NCHA4’ Incrediball™ Blush, pending.
- *Magnolia* ‘NCMX1’ Mercury™, pending.

Other Plant Introductions:

- ×*Gordlinia grandiflora* ‘Sweet Tea’
- *Hypericum androseum* ‘Picasso’, ‘Matisse’, and ‘Pollock’
- *Mahonia* ‘JC Raulston’
- *Illicium floridanum* ‘Swamp Hobbit’
- *Rhododendron minus* var. *minus* ‘Southern Cerise’

For more information on plant introductions see:

<http://www.ces.ncsu.edu/fletcher/mcilab/introductions/index.html>

**INVITED PRESENTATIONS (SINCE 2003)**

- Dreaming plants. J.C. Raulston Arboretum. Raleigh, NC. Oct. 2015.
- Reticulating evolution: Trials and tribulations of *Mahonia/Berberis* breeding. Mahonia Summit, Squamish, WA. Feb., 2015.
- A world of opportunities: Breeding breakthrough plants. The Western Nursery and Trade Show, Kansas City, MO. Jan., 2015.
- Dreaming up plants. Farwest Trade Show, Portland, OR. Aug., 2014.
- Applications of ploidy manipulation and analysis in an applied nursery-crop breeding program. Invited presentation for the Ornamental Plant Breeding Workshop. ASHS. Palm Desert, CA. July, 2013.
- Genetic reunions and recombinations. Southern Nursery Association, Southern Plant Conference. Atlanta, GA. August, 2013.
- Bioenergy crops: The next generation. Feedstock production workshop, NCDA&CS, Raleigh, NC. Dec., 2013.
- Rhododendron research: Tramping through mountain balds and double helices. Joint conference of the American Rhododendron Society and the Azaleas Society of America, Asheville, NC. April, 2012.
- A world of opportunities: Genetic reunions and new plant development. The Japanese Nursery Association, Kawaguchi, Japan. June, 2012.
- Population control: Quantifying and interpreting measures of propagule pressure. Ornamental Plant Breeding Workshop, American Society for Horticultural Science. Miami, FL. July, 2012.
- Plant breeding methods. International Plant Propagators Soc. Philadelphia, PA. Oct., 2012.
- Building a mountain bald. T.G. Ranney. J.C. Raulston Arboretum. Raleigh, NC. March, 2012.
- Building a mountain bald. T.G. Ranney. Woody Plant Conference. Villanova University, Philadelphia, PA. July 25, 2012.
- Must have trees and shrubs for modern landscapes. North Carolina Nursery and Landscape Association, Green & Growin’ Show. Greensboro, NC. Jan. 2011.
- The new age of bioenergy crops: research and development of fuelstocks for North

- Carolina. North Carolina Biotechnology Center. Asheville, NC. April, 2011.
- Energy canes: Promising fuelstocks for North Carolinas diverse energy needs. Blue Ridge Sustainability Inst., Asheville, NC. Jan., 2010.
  - Selecting and breeding new plants for modern landscapes. North Carolina Nursery and Landscape Association Green and Grown' Show. Winston-Salem, NC, Jan., 2010.
  - Developing non-invasive landscape plants. Blue Ridge Parkway Headquarters, Asheville, NC, Feb., 2010
  - Progress developing non-invasive nursery crops, Eastern Region, Intl. Plant Prop. Soc., Warwick, RI. Sept., 2010.
  - Breeding new plants for modern landscapes, Southern Region, Inter. Plant Prop. Soc., Raleigh, NC. Oct., 2010.
  - Breeding non-invasive nursery crops. USDA Floral and Nursery Crops Research Initiative Overview. Cleveland, OH. Oct., 2009.
  - Making plants from scratch. Speaking of Gardening Symposium. Asheville, NC. Aug., 2009.
  - From genotype to phenotype: adventures in plant breeding. JC Raulston Arboretum. Raleigh, NC. March, 2008.
  - Breeding non-invasive nursery crops. NC Arboretum, Invasive Plant Workshop. Asheville, NC. Aug., 2008.
  - Novel applications of plant tissue culture. International Plant Propagators Society. Denver, CO. Sept., 2008.
  - New opportunities for breeding polyploidy nursery crops. Raleigh, NC, Oct., 2008.
  - Energy canes: Ideal crops for North Carolina diverse energy needs. Bioenergy Field Day, Wallace, NC. Oct., 2008.
  - Agricultural Biotechnology. Advisory Committee for Biotechnology in WNC. Asheville, NC. Feb., 2007.
  - Progress in breeding non-invasive nursery crops. International Plant Propagators Annual Meeting. Chattanooga, TN. Oct., 2007.
  - Bringing intrigue to the urban forest. NC Urban Forest Council, Greensboro, NC. Jan., 2007.
  - Developing non-invasive nursery crops. NC Nursery and Landscape Association. Greensboro, NC. Jan., 2007.
  - Conifers for Western North Carolina. NC Cooperative Extension Service, Lenoir, NC. Feb., 2007.
  - Conifers for Western North Carolina. NC State Nursery Short Course, Fletcher, NC. Summer, 2007.
  - New opportunities for breeding with polyploids. ASHS Annual Conference, Ornamental Plant Breeding Workshop – Polyploidy in Ornamental Plant Breeding. ASHS Annual Conference, New Orleans, LA. Aug., 2006.
  - Exploring opportunities in horticultural and conservation biotechnology. Program on bringing biotechnology to Western, NC. Asheville, NC. Feb., 2006.
  - Overview of research and extension activities on nursery crops. Program for President Erskine Bowles, NC State Administration, and local leaders, Fletcher, NC. April, 2005.
  - Update on developing non-invasive nursery crops. American Nursery and Landscape Association. St. Louis, MO. Sept., 2005.
  - Dreaming plants. Woody Plant Conference, Swarthmore College, Swarthmore, PA, July,

2005.

- Polyploidy: From evolution to plant breeding, Southern Plant Conference. Lexington, KY. Sept., 2005.
- Developing non-invasive landscape plants. Metropolitan Tree Improvement Alliance conference, Lisle, Ill. Summer, 2005.
- Population control: Developing non-invasive nursery crops. Southern Region International Plant Propagators Society. Greenville, SC. 2005.
- Dreaming plants. JC Raulston Arboretum Symposium. Raleigh, NC. 2004.
- Plant selection and management for drought resistance. N.C. Green & Growing Show, Winston-Salem, NC. 2004.
- Sweetshrubs. N.C. Green & Growing Show. Winston-Salem, NC. 2004.
- Breaking sex barriers. Clemson University, Clemson, SC. 2004.
- Plants for the future. Urban Horticulture Symposium, Waynesboro, VA. 2003
- Re-inventing sweetshrubs. 53<sup>rd</sup> Annual Meeting of the Eastern Region of the International Plant Propagators Society. 2003.
- A passion for plants: Adventures in plant breeding. NC Arboretum Lecture series. 2003.