

REYNOLDS HOMESTEAD

Forest Resources Research Center



A primary research focus of the Reynolds Homestead FRRRC AREC is conducting ecophysiological and silvicultural studies in an effort to understand better how trees grow in order to optimize productivity and sustainability in southern pine and hardwood plantations. Much of this work is done in conjunction with the Forest Productivity Cooperative on the Regionwide 20 study site that was established on the Homestead in 2009.

Partners in the cooperative include the four host universities - Virginia Tech, North Carolina State University, University of Concepcion in Chile, and Lavras University in Brazil - as well as the forest industry, timber management investment organizations, forestry consultants, governmental agencies, private landowners, and others interested in intensive plantation management. Members own or manage over 24 million acres (10 million hectares) of pine and broadleaved plantations in the southeastern U.S. and Latin America. The Regionwide 20 study is examining why loblolly pine (the primary commercial tree species in the southeastern U.S.) grows much faster in South America. If we can develop an understanding of the mechanisms that make this rapid growth possible, we may be able to improve our management of loblolly in the southeastern U.S. The result could be a step change in our understanding rather than the typical incremental gains we obtain from our research.

Superintendent Kyle Peer, along with AREC staff, works with Virginia Tech faculty, industrial affiliates, government agencies, and neighboring institutions to conduct forestry research to further our understanding of tree ecophysiology in an effort to increase production in pine plantations throughout the southeastern U.S. and abroad.

PARTNER WITH US

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reynolds-homestead](http://www.arec.vaes.vt.edu/arec/reynolds-homestead)

“Genomics and biotechnology together with field trials and greenhouse studies at the FRRRC allow us to connect genes to traits important for sustainable wood production and forest health. More than 20 undergraduate, graduate, and post-doctoral researchers have worked on these studies over the past 13 years.”



AMY BRUNNER

ASSOCIATE PROFESSOR, FOREST RESOURCES AND ENVIRONMENTAL CONSERVATION

“The woody plant screen at the AREC has evolved into a critically important tool for evaluating plant responses under controlled environmental conditions. The system design and studies at this site have been reviewed by experts in our company from around the globe and have led to important discoveries in product development.”



PAT BURCH

SENIOR RESEARCH FIELD SCIENTIST CORTEVA AGRISCIENCE

REYNOLDS HOMESTEAD AT A GLANCE



DISCIPLINES

- Silviculture
- Forest genetics
- Forestry BMP's
- Christmas trees

INNOVATIVE TECHNOLOGIES

- Plant canopy analyzer
- Aces system for root gas exchanges analysis
- Tree genomics

FACILITIES

- 780 contiguous acres
- 2 greenhouses, slat house, coolers, cold frame, and tractor sheds
- Lab space, offices, student, and superintendent housing

INDUSTRY PARTNERS

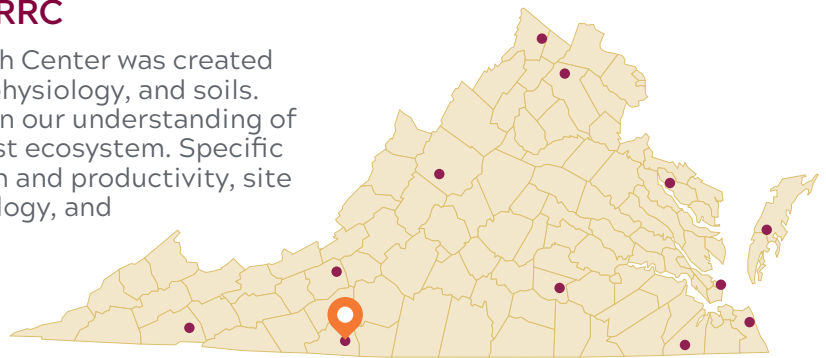
- Forest productivity coop
- Forestry herbicide industry
- Tree farmer associations

ABOUT THE REYNOLDS HOMESTEAD FRRC

The Reynolds Homestead Forest Resources Research Center was created in 1969 to study forest biology, including genetics, physiology, and soils. The AREC was founded to serve a void that existed in our understanding of the biological and physical relationships of the forest ecosystem. Specific projects include harvesting to increase forest health and productivity, site preparation, forest fertilization, loblolly pine physiology, and forest herbicide testing.

A COLLABORATIVE NETWORK

The ARECs are a network of 11 centers strategically located throughout the state that emphasize close working relationships between Virginia Agricultural Experiment Station, Virginia Cooperative Extension, and the industries they work with. The mission of the system is to engage in innovative, leading-edge research to discover new scientific knowledge and create and disseminate science-based applications that ensure the wise use of agricultural, natural, and community resources while enhancing quality of life.



Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg



VIRGINIA AGRICULTURAL
EXPERIMENT STATION
VIRGINIA TECH.



Virginia Tech • Virginia State University

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