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EDUCATION

Ph.D. Crop Physiology, University of Arkansas – 1990
M.S. Tree Physiology, Colorado State University – 1982
B.S. Forest Management, Colorado State University – 1979

STATEMENT OF RESEARCH AND LEADERSHIP INTERESTS

More than twenty-five years of experience in science, science leadership, and organizational management of large projects and programs, including serving as Director of Oak Ridge National Laboratory's Environmental Sciences Division and Climate Change Science Institute. In these roles provided scientific leadership, strategic planning, sponsor interaction, and staff development for a combined \$70 million organization that encompassed more than 200 scientists, technicians, students, and guests. Research interests include measuring and modeling a changing Arctic; characterizing plant response to global environmental change; modeling plant, regional, and global carbon and water cycles; and incorporating emerging capabilities of molecular biology into studies of plant physiology and ecology. Insights gained through these investigations are used to develop a predictive understanding of land surface processes and their response to disturbance, environmental, and climatic change.

PROFESSIONAL EXPERIENCE

Director, Climate Change Science Institute (2017–present); Oak Ridge National Laboratory, Oak Ridge, Tennessee. Develop and execute strategic vision for an institute built on pillars of ecosystem science, multi-scale models, data and information systems, and resilience of natural and built environments.

Director, Environmental Sciences Division (2017–present); Oak Ridge National Laboratory, Oak Ridge, Tennessee. Provide scientific leadership, strategic planning, and staff development for a large, multi-disciplinary organization that encompasses more than 165 scientists, technicians, students, and guests across the Earth, environmental, and climate sciences.

UT-Battelle Corporate Fellow (2013–present); Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Project Director, Next-Generation Ecosystem Experiments (NGEE Arctic) (2010–present); Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee. Serve as Director and Principal Investigator (PI) for an interdisciplinary team of 140 scientists from four national laboratories and three universities all working to develop advanced Earth Systems Models that can predict *how permafrost thaw and degradation in a warming Arctic will impact regional and global climate systems*.

Lead Scientist, Carbon Sequestration in Terrestrial Ecosystems (CSiTE) (2008–2012); Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee. Coordinate a three-national laboratory effort to understand the chemical, physical, and biological mechanisms that regulate the soil carbon cycle.

Laboratory Directed Research and Development (LDRD) Initiative Review Committee Chair, Biomass Production and Conversion for Energy and Materials (2008–2010); Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Interim Division Director (2008–2009); Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee. Provide scientific leadership and operational oversight for a large, multi-disciplinary organization that encompassed more than 165 scientists, technicians, students, and guests.

Group Leader, Plant Systems Biology (2005–2010); Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee. Provide scientific leadership and mentoring to a highly talented and multi-disciplinary group of researchers involved in applying genetics and molecular biology to questions of interest to plant biology, bioenergy crop development, carbon sequestration, and ecosystem genomics.

Distinguished R&D Scientist (2005–2013); Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Lead, Detection and Simulation of Ecosystem Response (2005–2007), Oak Ridge National Laboratory, Oak Ridge, Tennessee. Led an initiative to apply new technology in ecology. Areas of interest include sensors and sensor networks, next-generation facilities, and simulation of terrestrial ecosystems.

Senior R&D Staff Scientist (2002–2005); Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Staff Research Member (1995–2002); Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Staff Research Associate (1992–1995); Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Alexander Hollaender Distinguished Postdoctoral Fellow (1990–1992); Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

Research Assistant (1985–1990); Department of Agronomy, University of Arkansas, Fayetteville, Arkansas.

Plant Physiologist (1981–1985); US Department of Agriculture-Agricultural Research Service, Fort Collins, Colorado.

Graduate Research Assistant (1979–1981); Department of Forest and Wood Sciences, Colorado State University, Fort Collins, Colorado.

PROFESSIONAL AWARDS AND HONORS

- UT-Battelle Awards Night Recipient, Division Level Research Leadership Award (2019)
- Outstanding Alumnus, Crop, Soil, and Environmental Sciences (2016), University of Arkansas
- UT-Battelle Corporate Fellow (2013)
- UT-Battelle Awards Night Recipient, Science Communicator (2013)
- UT-Battelle Awards Night Director's Award for Outstanding Team Accomplishment (2007)
- UT-Battelle Awards Night Winner, Scientific Research Team (2007)
- Scientific Achievement Award (1998), Environmental Sciences Division, Oak Ridge, TN
- Alexander Hollaender Distinguished Postdoctoral Fellowship (1990), ORAU, Oak Ridge, TN
- Outstanding Graduate Student Award (1990), American Society of Agronomy
- Gerald O. Mott Scholarship (1989), Crop Science Society of America
- BASF Outstanding Presentation Award (1989), Beltwide Cotton Production Research Conferences

- Aubrey E. Harvey Award (1988), Sigma Xi Research Society, University of Arkansas
- Outstanding Agronomy Ph.D. Student (1987), Department of Agronomy, University of Arkansas
- Hill Memorial Fellowship (1981), Department of Forest Science, Colorado State University
- Colorado Graduate Scholarship (1980), Graduate School, Colorado State University.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Geophysical Union
Ecological Society of America

SERVICE TO OAK RIDGE NATIONAL LABORATORY

- Faculty Appointment, Bredesen Center for Interdisciplinary Research and Graduate Education, University of Tennessee, Knoxville (2015–present)
- ORNL Wigner Fellow Committee (2015–2017)
- Initiative Review Committee Chair, LDRD Discovery and Innovation (2014–2017)
- ORNL Mentor–Protégé Program (2013–present)
- Young Evolving Scientist Seminar Series (YESSS), Mentor (2012–2015)
- Scientific Advisory Board, Engineering CAM Metabolism for Marginal Lands (2013–2018)
- Alvin M. Weinberg Postdoctoral Fellowship Committee (2008–2010)
- LDRD Selection and Review Panel – Understanding Climate Change Impacts (2009)
- LDRD Selection and Review Panel – Systems Biology and the Environment (2007–2009)
- Seed Fund Committee (2005–2007)
- UT-Battelle Awards Night Selection Committee (2008–2009) – Distinguished Scientist, Early Career Award for Scientific Accomplishment, and Scientific Research
- UT-Battelle Awards Night Selection Committee (2008–009) – Administrative Support (Team or Exempt Individual), Administrative Support, Nonexempt, and Esprit de Corps

SERVICE TO THE SCIENTIFIC COMMUNITY

- E3SM Laboratory Managers Group, Department of Energy (DOE), Office of Science, Biological and Environmental Research Program (BER)
- ESS Cyberinfrastructure Executive Committee, DOE, Office of Science, BER
- Science Advisory Committee, Barrow Environmental Observatory, Barrow, Alaska (2013–present)
- Science Definition Team, NASA Arctic-Boreal Vulnerability Experiment (ABoVE) (2013–2014)
- Editor, *Tree Physiology* (2000–2007)
- Editorial Review Board, *Tree Physiology* (1992–present)
- Ecological Society of America Student Awards Committee (Buell and Braun Awards, 2007–2012)
- American Geophysical Union (Student Poster and Presentation Awards, 2010–present)
- Research Council, Southern Man and the Biosphere (1999–2005)
- Reviewer for scientific journals, including *Science*, *Nature*, *Biogeosciences*, *New Phytologist*, *Global Change Biology*, *Plant Cell and Environment*, *Plant Physiology*, *Plant Cell*, *GCB Bioenergy*, *Ecology*, *Ecology Letters*, *American Journal of Botany*, *Journal of Experimental Botany*, *Tree Physiology*, *Forest Ecology and Management*, *Physiologia Plantarum*, *Journal of Environmental Quality*, *Agricultural and Forest Meteorology*, *Journal of Geophysical Research*, and *Functional Ecology*

ADDITIONAL TRAINING

LeaderCast (2014)
Developing Leadership Potential (2006)

PUBLICATIONS**BOOKS EDITED**

1. Hanson, P.J. and S.D. Wullschleger (eds.) North American Temperate Deciduous Forest Responses to Changing Precipitation Regimes. 2003. Springer, New York, NY. Pp. 472.

BOOK CHAPTERS (21 published)

1. Oosterhuis, D. M. and S. D. Wullschleger. 1989. Psychrometric water potential analysis in leaf discs. pp. 113-133. *In* Modern Methods of Plant Analysis, New Series, Volume 9, Gases in Plant and Microbial Cells. H. F. Linskens and J. F. Jackson (eds.). Springer-Verlag, Berlin.
2. Wullschleger, S.D., W.M. Post and A.W. King. 1995. On the potential for a CO₂ fertilization effect in forest trees - An assessment of 58 controlled-exposure studies and estimates of the biotic growth factor. Pp.85-107. *In* Biotic Feedbacks in the Global Climate System: Will Warming Feed the Warming? G.M. Woodwell and F.T. Mackenzie (eds.). Oxford Press.
3. Norby, R.J., E.G. O'Neill and S.D. Wullschleger. 1995. Belowground responses to atmospheric carbon dioxide in forests. Pp. 397-418. *In* Carbon Forms and Functions in Forest Soils. W.F. McFee and J.M. Kelly (eds.). American Society of Agronomy, Madison, WI.
4. Norby, R.J., S.D. Wullschleger and C.A. Gunderson. 1996. Tree Responses to Elevated CO₂ and Implications for Forests. Pp. 1-21. *In* Carbon Dioxide and Terrestrial Ecosystems. G.W. Koch and H.A. Mooney (eds.). Academic Press.
5. McLaughlin, S.B., J.D. Joslin, A. Stone, R. Wimmer and S.D. Wullschleger. 1996. Effects of acid deposition on calcium nutrition and health of Southern Appalachian Spruce-Fir forests. *In* Proc. IUFRO Symp. Air Pollution and Multiple Stresses. R. Cox, K.Percy, K. Jensen and C. Simpson (eds.). p. 207-215. Fredericton, New Brunswick, Canada. September 7-9, 1994.
6. Post, W.M., A.W. King and S.D. Wullschleger. 1996. Soil organic matter models and global estimates of soil organic carbon. D.S. Powlson, P. Smith, and J.U. Smith (eds.), NATO Advanced Science Institute, Series I, vol. 38:201-222.
7. Wullschleger, S.D., R.J. Norby and C.A. Gunderson. 1997. Forest trees and their response to atmospheric CO₂ Enrichment - A Compilation of Results. Pg. 79-100. *In* Advances in Carbon Dioxide Effects Research. L.H. Allen, Jr. (ed.). American Society of Agronomy Special Publication
8. McLaughlin, J.D. Joslin, W. Robarge, A. Stone, R. Wimmer and S.D. Wullschleger. 1997. The impact of acidic deposition and global change on high elevation Southern Appalachian Spruce-Fir forests. Pg. 255-277. *In* The Productivity and Sustainability of Southern Forest Ecosystems in a Changing Environment. R.A. Mickler and S. Fox (eds.). Forest Service, Southern Global Change Program.
9. Martin, M., S. Wullschleger, and C. Garten. 2002. Laser-induced breakdown spectroscopy for environmental monitoring of soil carbon and nitrogen. *In* T. VoDinh and S. Buttgenbach (eds.) Advanced Environmental Sensing Technology. Pg. 188-195. Proceedings of the Society of Photo-optical Instrument Engineers.
10. Wullschleger, S.D. and P.J. Hanson. 2003. Sensitivity of saplings and mature-tree water use to altered precipitation regimes. pg. 87-99. *In* North American Temperate Deciduous Forest Responses to Changing Precipitation Regimes. P.J. Hanson and S.D. Wullschleger (eds.). Springer, New York.
11. Wullschleger S.D., P.J. Hanson and D.E. Todd. 2003. Forest water use and the influence of precipitation change. pg. 363-377. *In* North American Temperate Deciduous Forest Responses to Changing Precipitation Regimes. P.J. Hanson and S.D. Wullschleger (eds.). Springer, New York,

NY.

12. Wullschleger S.D., C.A. Gunderson, L.M. Tharp, D.C. West and W.M. Post. 2003. Simulated patterns of forest succession and productivity as a consequence of altered precipitation. pg. 433-446. *In North American Temperate Deciduous Forest Responses to Changing Precipitation Regimes*. P.J. Hanson and S.D. Wullschleger (eds.). Springer, New York.
13. Hanson, P.J., N.T. Edwards, T.J. Tschaplinski, S.D. Wullschleger and J.D. Joslin. 2003. Estimating the net primary and net ecosystem production of a southeastern upland *Quercus* forest from an 8-year biometric record. pg. 378-395. *In North American Temperate Deciduous Forest Responses to Changing Precipitation Regimes*. P.J. Hanson and S.D. Wullschleger (eds.). Springer, New York.
14. Norby R.J., L.A. Joyce and S.D. Wullschleger. 2004. Modern and future forests in a changing atmosphere. Pg. 394-414. *In History of Atmospheric CO₂ and the Impacts on Plants, Animals, and Ecosystems*. J. Ehleringer, T. Cerling and D. Dearing (eds.). Springer, New York.
15. Tuskan, G.A., S.D. Wullschleger, J.H. Cushman, R.L. Graham, and S.R. Thomas. 2004. Mitigation of greenhouse warming, biomass-based energy supply systems and accelerated domestication of energy crops. *In N.J. Rosenberg, F.B. Metting, and R.C. Izuarralde (eds.) Application of Biotechnology to Mitigation of Greenhouse Warming*, St. Michaels, MD, April 13-15, 2003.
16. Norby R.J., S.D. Wullschleger, P.J. Hanson, C.A. Gunderson, T.J. Tschaplinski, J.D. Jastrow. 2006. CO₂ enrichment of a deciduous forest: The Oak Ridge FACE Experiment. pp. 231-251 *In Managed Ecosystems and CO₂: Case Studies, Processes, and Perspectives* (Nösberger J., Long S.P., Norby R.J., Stitt M., Hendrey G.R., Blum H, editors). Ecological Studies, Vol. 187. Springer, Berlin.
17. Martin, M.Z., S.D. Wullschleger, C.T. Garten, and P.V. Palumbo. 2007. Measurement of carbon for carbon sequestration and site monitoring. *In J.P. Singh and S.N. Thakur (eds.) Laser Induced Breakdown Spectroscopy*, Elsevier Science, The Netherlands.
18. Wullschleger S.D. and D.J. Weston. 2010. Microarrays and Molecular Phenotypes. *In J.A. DeWoody (ed.) Molecular Insights into Natural Resource Conservation and Management*, Cambridge University Press.
19. Li T., D. Weston, A. Karve, J. L. Labbe, L. E. Gunter, O. Sukumar, A. Bourland, J.-G. Chen, S. D. Wullschleger, T J. Tschaplinski and G. A. Tuskan. 2011. Innovation biological solutions to challenges in sustainable biofuels production. Pg. 376-414. *In M. Aurelio dos Santos Bernardes (ed.) Biofuels Production – Recent Developments and Prospects*, InTech. 576pp.
20. Cseke, L.J., S.D. Wullschleger, A. Sreedasyan, G. Trivedi, P.E. Larsen, and F.R. Collart. 2013. Carbon Sequestration. Pp. 415-455. *In C. Kole (ed.), Genomics and Breeding for Climate-Resilient Crops*, Vol. 2, Springer-Verlag, Berlin Heidelberg. http://dx.doi.org/10.1007/978-3-642-37048-9_12
21. Zegada-Lizarazu, W., S.D. Wullschleger, S.S. Nair, and A. Monti. 2013. Crop physiology. Pp. 55-86. *In A. Monti (ed.), Switchgrass: A Valuable Biomass Crop for Energy*, Springer-Verlag, London. http://dx.doi.org/10.1007/978-1-4471-2903-5_3

REFEREED PUBLICATIONS (213 published; 29 cited 100 times or more; h-index 61)

1. Kidd, F. A., S. D. Wullschleger, K. Dawley and C. P. P. Reid. 1982. Use of Gentamicin in axenic culturing of ectomycorrhizal plants. *Applied Environmental Microbiology* 44:506-508.
2. Schaffer, B., F. G. Hawksworth, S. D. Wullschleger and C. P. P. Reid. 1983. Cytokinin-like activity related to host reactions to Dwarf mistletoe (*Arceuthobium* spp.). *Forest Science* 29:66-70.
3. Fiscus, E. L., S. D. Wullschleger and H. R. Duke. 1984. Integrated stomatal opening as an indicator of water stress in *Zea*. *Crop Science* 24:245-249.

4. Wullschleger, S. D. and D. M. Oosterhuis. 1986. A rapid leaf- disc sampler for psychrometric water potential measurements. *Plant Physiology* 81:684-685.
5. Tyree, M. T., E. L. Fiscus, S. D. Wullschleger and M. A. Dixon. 1986. Detection of xylem cavitation in corn under field conditions. *Plant Physiology* 82:597-599. **Cited 101 times.**
6. Wullschleger, S. D. and D. M. Oosterhuis. 1987. Electron microscope study of cuticular abrasion on cotton leaves in relation to water potential measurements. *Journal of Experimental Botany* 38:660-667.
7. Oosterhuis, D. M. and S. D. Wullschleger. 1987. Water flow through cotton roots in relation to xylem anatomy. *Journal of Experimental Botany* 38:1866-1874.
8. Oosterhuis, D. M. and S. D. Wullschleger. 1987. Osmotic adjustment in cotton (*Gossypium hirsutum* L.) leaves and roots in response to water stress. *Plant Physiology* 84:1154-1157
9. Oosterhuis, D. M., M. L. Parker, S. D. Wullschleger and K. S. Kim. 1988. The citrus leaf cuticle in relation to measurement of leaf water potential using thermocouple psychrometers. *Plant, Cell and Environment* 11:129-135.
10. Wullschleger, S. D., M. A. Dixon and D. M. Oosterhuis. 1988. Field measurement of leaf water potential with a temperature-corrected *in situ* thermocouple psychrometer. *Plant, Cell and Environment* 11:129-135.
11. Wullschleger, S. D. and D. M. Oosterhuis. 1989. The occurrence of an internal cuticle in cotton (*Gossypium hirsutum* L.) leaf stomates. *Environmental and Experimental Botany* 29:229-235.
12. Wullschleger, S. D. and D. M. Oosterhuis. 1989. Water use efficiency as a function of leaf age and position within the cotton canopy. *Plant and Soil* 120:79-85.
13. Oosterhuis, D. M., H. D. Scott, R. E. Hampton and S. D. Wullschleger. 1990. Physiological response of two soybean [*Glycine max* (L.) Merr] cultivars to short-term soil flooding. *Environmental and Experimental Botany* 30:85-92.
14. Wullschleger, S. D. and D. M. Oosterhuis. 1990. Photosynthesis of individual field-grown cotton leaves during ontogeny. *Photosynthesis Research* 23:163-170.
15. Oosterhuis, D. M., S. D. Wullschleger, R. E. Hampton and R. A. Ball. 1990. Physiological response of rice (*Oryza sativa* L.) to fenoxaprop-induced injury. *Weed Science* 38:459-462.
16. West, C. P., D. M. Oosterhuis and S. D. Wullschleger. 1990. Osmotic adjustment in tissues of tall fescue in response to water deficit. *Environmental and Experimental Botany* 30:149-156.
17. Wullschleger, S. D. and D. M. Oosterhuis. 1990. Photosynthetic carbon production and use by developing cotton leaves and bolls. *Crop Science* 30:1259-1264.
18. Wullschleger, S. D. and D. M. Oosterhuis. 1990. Photosynthetic and respiratory activity of fruiting forms within the cotton canopy. *Plant Physiology* 94:463-469.
19. Oosterhuis, D. M. and S. D. Wullschleger. 1990. Drought tolerance and irrigation scheduling of vegetable crops. *Acta Horticulturae* 278:351-358.
20. Wullschleger, S. D. and D. M. Oosterhuis. 1990. Canopy development and photosynthesis of cotton as influenced by nitrogen nutrition. *Journal of Plant Nutrition* 13:1141-1151.
21. Hampton, R. E., S. D. Wullschleger and D. M. Oosterhuis. 1990. Impact of *Verticillium* wilt infection on net photosynthesis, respiration, and photorespiration of field-grown cotton. *Physiological and Molecular Plant Pathology* 37:271-280.
22. Wullschleger, S. D. and C. P. P. Reid. 1990. Implication of ectomycorrhizal fungi in the cytokinin

- relations of loblolly pine. *New Phytologist* 116:681-688.
23. Wullschleger, S. D., J. E. Cahoon, J. A. Ferguson and D. M. Oosterhuis. 1991. SURFTEMP: Simulation of soil surface temperature using the energy balance equation. *Journal of Agronomic Education* 20:11-15.
 24. Oosterhuis, D. M., R. E. Hampton and S. D. Wullschleger. 1991. Water deficit effects on the cotton leaf cuticle and the efficiency of defoliant. *Journal of Production Agriculture* 4:260-265.
 25. Wullschleger, S. D. and D. M. Oosterhuis. 1991. Osmotic adjustment and the growth response of seven vegetable crops following water-deficit stress. *HortScience* 26:1210-1212.
 26. Kirkpatrick, T. L., D. M. Oosterhuis and S. D. Wullschleger. 1991. Interaction of root-knot nematodes and water stress in two cotton cultivars. *Journal of Nematology* 23:462-467.
 27. Wullschleger, S. D., D. M. Oosterhuis, R. E. Hurrion and P. J. Hanson. 1991. Evidence for light-dependent recycling of respired CO₂ by the cotton fruit. *Plant Physiology* 97:574-579.
 28. Wullschleger, S. D. and D. M. Oosterhuis. 1991. Photosynthesis, transpiration, and water-use efficiency of cotton leaves and fruit. *Photosynthetica* 25:505-515.
 29. Wullschleger, S. D., R. J. Norby and D. L. Hendrix. 1992. Carbon exchange rates, chlorophyll concentration, and carbohydrate status of two forest tree species to carbon dioxide enrichment. *Tree Physiology* 10:21-31. **Cited 118 times.**
 30. Wullschleger, S. D., P. J. Hanson and R. F. Sage. 1992. PHOTOBIO: Modeling the stomatal and biochemical control of plant gas-exchange. *Journal of Natural Resources and Life Sciences Education* 21:141-145.
 31. Wullschleger, S. D. and D. M. Oosterhuis. 1992. Canopy leaf area development and age-class dynamics in cotton. *Crop Science* 32:451-456.
 32. Norby, R. J., C. A. Gunderson, S. D. Wullschleger, E. G. O'Neill and M. K. McCracken. 1992. Productivity and compensatory growth responses of yellow-poplar trees to elevated CO₂. *Nature* 357:322-324. **Cited 281 times.**
 33. Wullschleger, S. D., R. J. Norby and C. A. Gunderson. 1992. Growth and maintenance respiration in leaves of *Liriodendron tulipifera* L. saplings exposed to long-term carbon dioxide enrichment in the field. *New Phytologist* 121:515-523.
 34. Wullschleger, S. D., P. J. Hanson and C. A. Gunderson. 1992. Assessing the influence of exogenous ethylene on electron transport and fluorescence quenching in leaves of *Glycine max*. *Environmental and Experimental Botany* 32:449-455.
 35. Wullschleger, S.D. and R.J. Norby. 1992. Respiratory cost of leaf growth and maintenance in white oak saplings exposed to atmospheric CO₂ enrichment. *Canadian Journal of Forest Research* 22:1717-1721.
 36. Edwards, G.S., S.D. Wullschleger and J.M. Kelly. 1993. Growth and physiology of northern red oak: Preliminary comparisons of mature and seedling responses to ozone. *Environmental Pollution* 83:215-221.
 37. Hanson, P.J., S.D. Wullschleger, S.A. Bohlman and D.E. Todd. 1993. Seasonal and topographic patterns of forest floor CO₂ efflux from an upland oak forest. *Tree Physiology* 13:1-15. **Cited 282 times.**

38. Wullschleger, S.D. 1993. Biochemical limitations to carbon assimilation in C₃ plants - A retrospective analysis of the A/C_i curves from 109 species. *Journal of Experimental Botany* 44:907-920. **Cited 725 times.**
39. Gunderson, C.A. and S.D. Wullschleger. 1993. Photosynthetic acclimation of trees to a doubling of atmospheric CO₂: A broader perspective. *Photosynthesis Research* 39:369-388. **Cited 286 times.**
40. Gunderson, C.A., R.J. Norby and S.D. Wullschleger. 1993. Foliar gas exchange of two deciduous hardwoods during three years of growth in elevated CO₂: No loss of photosynthetic enhancement. *Plant, Cell and Environment* 16:797-807. **Cited 140 times.**
41. Tschaplinski, T.J., R.J. Norby and S.D. Wullschleger. 1993. Responses of loblolly pine seedlings to elevated CO₂ and fluctuating water supply. *Tree Physiology* 13:283-296.
42. Luxmoore, R.J., S.D. Wullschleger and P.J. Hanson. 1993. Forest responses to CO₂ enrichment and climate warming. *Water, Soil, and Air Pollution* 70: 309-323.
43. Wullschleger, S.D., L.H. Ziska and J.A. Bunce. 1994. Respiratory responses of higher plants to atmospheric CO₂ enrichment. *Physiologia Plantarum* 90:221-229. **Cited 106 times.**
44. Bondada, B.R., Oosterhuis, D.M., Wullschleger, S.D., Kim, K.S. and Harris, W.M. 1994. Anatomical considerations related to photosynthesis in cotton (*Gossypium hirsutum* L.) leaves, bracts, and the capsule wall. *Journal of Experimental Botany* 45:111-118.
45. Wullschleger, S.D., Lynch, J.P. and Berntson, G.M. 1994. Modeling the belowground response of plants and soil biota to edaphic and climatic change - What can we expect to gain? *Plant and Soil* 165:149-160.
46. Wullschleger, S.D., R.J. Norby and P.J. Hanson. 1995. Growth and maintenance respiration in stems of *Quercus alba* after four years of CO₂ enrichment. *Physiologia Plantarum* 93:47-54.
47. Hanson, P.J., L.J. Samuelson, S.D. Wullschleger, T.A. Tabberer and G.S. Edwards. 1994. Seasonal patterns of light-saturated photosynthesis and leaf conductance for mature and seedling *Quercus rubra* L. foliage: differential sensitivity to ozone. *Tree Physiology* 14:1351-1366.
48. Norby, R.J., S.D. Wullschleger, C.A. Gunderson and C.T. Nietch. 1995. Increased growth efficiency of *Quercus alba* trees to a CO₂-enriched atmosphere. *New Phytologist* 131:91-97.
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51. Wullschleger, S.D., P.J. Hanson and G.S. Edwards. 1996. Growth and maintenance respiration in leaves of northern red oak seedlings and mature trees after three years of ozone exposure. *Plant, Cell and Environment* 19:577-584.
52. Wullschleger, S.D., M.A. Sanderson, S.B. McLaughlin, D.P. Biradar and A.L. Rayburn. 1996. Photosynthetic rates and ploidy levels among populations of switchgrass. *Crop Science* 36:306-312.
53. Gunter, L.E., G.A. Tuskan and S.D. Wullschleger. 1996. Diversity among populations of switchgrass based on RAPD markers. *Crop Science* 36:1017-1022.
54. Wullschleger, S.D., P.J. Hanson and D.E. Todd. 1996. Measuring stem water content in four deciduous hardwoods with a time domain reflectometer. *Tree Physiology* 16:809-815.

55. Sanderson, M.A., R.L. Reed, S.B. McLaughlin, S.D. Wullschleger, B.V. Conger, D.J. Parrish, D.D. Wolf, C. Taliaferro, A.A. Hopkins, W.R. Ocumpaugh, M.A. Hussey, J.C. Read and C.R. Tischler. 1996. Switchgrass as a sustainable bioenergy crop. *Bioresource Technology* 56:83-93. **Cited 265 times.**
56. Post, W.M., A.W. King and S.D. Wullschleger. 1997. Historical variations in terrestrial biospheric carbon storage. *Global Biogeochemical Cycles* 11:99-109.
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