

# DIANE L. HAASE

---

*Western Nursery Specialist*  
USDA Forest Service • PO Box 3623, Portland, OR 97208  
503.808.2349 • DLHaase@fs.fed.us • www.RNGR.net

## Current Position

2009 - present      Western Nursery Specialist  
USDA Forest Service, State and Private Forestry, Portland, OR

As a member of the National Reforestation, Nurseries, and Genetic Resources Team (RNGR), I provide expert support to state, industrial, and private forest and native plant nurseries in the 17 western US states and the American-affiliated Pacific islands. This entails advising nursery managers and other plant professionals on a variety of issues and opportunities pertaining to seedling production, native plant restoration, and forest regeneration as well as assisting with problem solving and providing guidance in developing strategies to address seedling quality issues. Through reports, publications, presentations, conferences, workshops, and on-site visits, I provide key information to aid in the understanding and implementation of effective technology for bareroot and container nursery operations.

## Previous Position

1991- 2009      Associate Director, Nursery Technology Cooperative (NTC)  
Department of Forest Science, Oregon State University, Corvallis, OR

In this position, I conducted research in the areas of reforestation, bareroot and container nursery practices, and plant physiology. This included study development and design, establishment of trials, data collection, statistical analysis, budget monitoring, and report preparation. I also provided technical information and expert advice to the nursery, conservation, and reforestation community through journal articles, technical papers, annual reports, and quarterly newsletters. In addition, I gave presentations at professional meetings and graduate classes as well as organized and directed conferences, meetings, and workshops on topics including seedling morphological and physiological development, forest regeneration, and native plant restoration. I managed all aspects of the Seedling Quality Evaluation Services. Through the NTC's integrated program of research, information sharing, and technical assistance in collaboration with Federal, State, Tribal, and Private organizations, my work significantly benefitted the nursery and reforestation community by generating and transferring knowledge and practices which have been widely applied to growing techniques and outplanting practices.

## Education

- 1991 M.S. Forest Science, minor in applied statistics,  
Oregon State University, Corvallis
- 1989 B.S. Forestry, Humboldt State University, Arcata, CA

## Other Relevant Experience

- 1989-91 Graduate Research Assistant, OSU Department of Forest Science,  
Corvallis, OR
- 1989 Forestry Technician, tree improvement, Simpson Timber Company,  
Korbel, CA
- 1988 Forestry Technician, timber preparation, Plumas National Forest,  
Challenge, CA
- 1987 Forestry Technician, silviculture, Sequoia National Forest,  
Pinehurst, CA

## Refereed Publications

- Rose R, Atkinson M, Gleason J, Haase D. 1992. Nursery morphology and preliminary comparison of 3-year field performance of 1+0 and 2+0 bareroot ponderosa pine seedlings. *Tree Planters' Notes*. 43(4):153-158.
- Haase DL, Rose R. 1993. Soil moisture stress induces transplant shock in stored and unstored 2+0 Douglas-fir seedlings of varying root volumes. *Forest Science*. 39(2):275-294.
- Haase DL, Batdorff JH, Rose R. 1993. Effect of root form on 10-year survival and growth of planted Douglas-fir trees. *Tree Planters' Notes*. 44(2):53-57.
- Haase DL, Rose R. 1994. Effects of soil water content and initial root volume on the nutrient status of 2+0 Douglas-fir seedlings. *New Forests*. 8(3):265-277.
- Fisker SE, Rose R, Haase DL. 1995. Chlorophyll fluorescence as a measure of cold hardiness and freezing stress in 1+1 Douglas-fir seedlings: response to seasonal changes in the nursery. *Forest Science*. 41(3):564-575.
- Haase DL, Rose R. 1995. Vector analysis and its use for interpreting plant nutrient shifts in response to silvicultural treatments. *Forest Science*. 41(1):54-66.
- Rose R, Haase DL. 1995. Effect of the antidesiccant Moisturin on conifer seedling field performance. *Tree Planters' Notes*. 46(3):97-101.
- Khan SR, Rose R, Haase DL. 1996. Water stress: its effects on phenology, physiology, and morphology of containerized Douglas-fir seedlings. *New Forests*. 12(1):19-39.
- Rose R, Haase DL. 1996. Irrigation for frost protection in forest nurseries: Room for improvement. *Western Journal of Applied Forestry*. 11(1):16-19.
- Rose R, Haase DL. 1997. Thawing regimes for freezer-stored container stock. *Tree Planters' Notes*. 48(1):12-17.

- Rose R, Haase DL, Kroiher F, Sabin T. 1997. Root volume and growth of ponderosa pine and Douglas-fir seedlings: A summary of eight growing seasons. *Western Journal of Applied Forestry*. 12(3):69-73.
- Rose R, Royo A, Haase DL. 1999. *Peltophorum dasyrachis* seedling growth response to different levels of boron. *Journal of Tropical Forest Science*. 11(4):832-845.
- Khan SR, Rose R, Haase DL, Sabin TE. 2000. Effects of shade on morphology, chlorophyll concentration, and chlorophyll fluorescence of four Pacific Northwest conifer species. *New Forests*. 19(2):171-186.
- Rose R, Haase DL. 2000. The use of coir as a containerized growing medium for Douglas-fir seedlings. *Native Plants Journal*. 1(2):107-111.
- Birchler TD, Rose R, Haase DL. 2001. Fall fertilization with N and K: Effects on Douglas-fir seedling quality and performance. *Western Journal of Applied Forestry*. 16(2):71-79.
- Rose R, Haase DL. 2002. Chlorophyll fluorescence and variations in tissue cold hardiness in response to freezing stress in Douglas-fir seedlings. *New Forests*. 23(2):81-96.
- Jacobs DF, Rose RW, Haase DL. 2003. Development of Douglas-fir seedling root architecture in response to localized nutrient supply. *Canadian Journal of Forest Research*. 33(1): 118-125.
- Jacobs DF, Rose R, Haase DL, Morgan P. 2003. Influence of nursery soil amendments on water relations, root architectural development, and field performance of Douglas-fir transplants. *New Forests*. 26(3):263-277.
- Jacobs DF, Rose R, Haase DL, Alzugaray PO. 2004. Fertilization at planting inhibits root system development and drought avoidance of Douglas-fir (*Pseudotsuga menziesii*) seedlings. *Annals of Forest Science*. 61(7): 643-651.
- Rose R, Haase DL, Arellano E. 2004. Fertilizantes de entrega controlada: potencial para mejorar la productividad de la reforestación. *Bosque (Valdivia)*. 25 (2):89-100.
- Alzugaray P, Haase D, Rose R. 2004. Efecto del volumen radicular y la tasa de fertilización sobre el comportamiento en terreno de plantas de pino Oregón [*Pseudotsuga menziesii* (Mirb.) Franco] producidas con el método 1+1. *Bosque (Valdivia)*. 25(2):17-33.
- Jacobs DF, Haase DL, Rose R. 2005. Growth and foliar nutrition of Douglas-fir seedlings provided with supplemental polymer-coated fertilizer. *Western Journal of Applied Forestry*. 20(1): 58-63.
- Rose R, Haase DL. 2005. Root and shoot allometry of bareroot and container Douglas-fir seedlings. *New Forests*. 30(2-3):215-233.
- Haase DL, Rose RW, Trobaugh J. 2006. Field performance of three stock sizes of Douglas-fir container seedlings grown with slow-release fertilizer in the nursery growing medium. *New Forests*. 31(1):1-24.
- Haase DL, Alzugaray P, Rose R, Jacobs DF. 2007. Nutrient release rates of controlled-release fertilizers in forest soil. *Communications in Soil Science and Plant Analysis*. 38(5&6):739-750.
- Taylor MT, Haase DL, Rose R. 2009. Fall planting and tree shelters for reforestation in the east Washington Cascades. *Western Journal of Applied Forestry* 24(4):173-179.
- Mataruga M, Haase DL, Isajev V. 2010. Dynamics of seed imbibition and germination of Austrian pine (*Pinus nigra* Arnold) from extreme habitat conditions within five Balkan provenances. *New Forests* 40(2):229-242.

- Haase DL. 2010. Using nomograms for evaluating plant morphological and physiological data. *Western Journal of Applied Forestry*. 27(1):42-45.
- Taylor M, Rose R, Haase DL, Cherry ML. 2011. Effects of plant date and nursery dormancy induction on field performance of Douglas-fir seedlings in western Oregon. *Tree Planters' Notes* 54(2): 50-64.
- Mataruga M, Haase DL, Isajev V, Orlović S. 2012. Growth, survival, and genetic variability of Austrian pine (*Pinus nigra* Arnold) seedlings in response to water deficit. *New Forests* 43:791–804.
- Weiland JE, Littke WR, Haase DL. 2013. Forest nurseries face critical choices with the loss of methyl bromide fumigation. *California Agriculture* 67(3):153-161.
- Haase DL, Jacobs DF. 2013. Nutrient dynamics of planted forests. *New Forests* 44:629-633.

## Technical Transfer Publications

- Haase DL, Rose, R. 1990. Moisture stress and root volume influence transplant shock. In: Rose, R, Campbell, SJ, Landis TD, eds. *Proceedings, Western Forest Nursery Association, 1990 August 13-17; Roseburg, OR. General Technical Report RM-200.* Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station: 201-206.
- Haase DL, Rose R. 1991. Moisture stress and root volume influence transplant shock in 2+0 Douglas-fir seedlings. In: *Proceedings, Society of American Foresters National Convention, San Francisco, CA, August 4-8, 1991: 532-533.*
- Rose R, Haase DL. 1995. The target seedling concept: implementing a program. In: Landis TD, Cregg B, eds. *National Proceedings, Forest and Conservation Nursery Associations, USDA Forest Service, Pacific Northwest Research Station, General Technical Report PNW-GTR-365: 124-130.*
- Rose R, Haase DL. 1996. Managing organic matter in forest nurseries. In: Landis TD, South DB, tech. coords. *National Proceedings, Forest and Conservation Nursery Associations, USDA Forest Service, Pacific Northwest Research Station, General Technical Report PNW-GTR-389: 250-252*
- Birchler TD, Haase DL, Rose R. 1996. Use of vector diagrams for the interpretation of nutrient response in conifer seedlings. In: Landis TD, South DB, tech. coords. *National Proceedings, Forest and Conservation Nursery Associations, USDA Forest Service, Pacific Northwest Research Station, General Technical Report PNW-GTR-389: 246-247.*
- Chachulski CE, Rose R., Haase DL. 1996. Manual for the propagation of Pacific Northwest native plants. In: Landis TD, South DB, tech. coords. *National Proceedings, Forest and Conservation Nursery Associations, USDA Forest Service, Pacific Northwest Research Station, General Technical Report PNW-GTR-389: 248-249.*
- Haase DL. 1997. NTC: Current seedling nutrition research. In: Haase DL, Rose R, coords. and eds. *Symposium proceedings, Forest Seedling Nutrition from the Nursery to the Field.* Nursery Technology Cooperative, College of Forestry, Oregon State University, Corvallis, OR: 133-140.

- Haase DL, Rose R. 1998. Ten years of herbicide testing in PNW forest nurseries. In: Proceedings of the Western Society of Weed Science, Annual Meeting, March 10-12, Waikoloa, HI. Vol. 51: 50-52.
- Rose R, Haase DL. 1999. Long-term Nursery Ecological Survey: Alternatives to Methyl Bromide. Report for EPA Grant X824542-01. 53 p.
- Haase DL, Trobaugh J, Rose R. 1999. Preliminary results of field trials to assess performance of Douglas-fir container stock grown with fertilizer-amended media. In: Proceedings, Healthy Forests for the 21<sup>st</sup> Century: New technologies in vegetation management. Forest Vegetation Management Conference, January 19-21, Redding, CA: 82-86.
- Haase DL, Trobaugh J, Rose R. 1999. Douglas-fir container stock grown with fertilizer-amended media—some preliminary results. In: Dumroese RK, Riley LE, Landis TD, tech. coords. National proceedings: forest and conservation nursery associations - 1999, 2000, and 2001. USDA Forest Service, RMRS-P-24: 31-32.
- Haase DL. 2000. Nursery Technology Cooperative. *Western Forester* 45(2):12.
- Ketchum JS, Haase DL. 2000. Early seedling fertilization, A work in progress. *Northwest Woodlands*. 16(2):18-19.
- Jacobs DF, Rose R, Haase DL. 2003. Incorporating controlled-release fertilizer technology into outplanting. In: Riley LE, Dumroese RK, Landis TD, tech. coords. National Proceedings: Forest and Conservation Nursery Assocs-2002, USDA Forest Service, RMRS-P-28: 37-42.
- Jacobs DF, Rose R, Haase DL. 2003. Ecophysiological response of Douglas-fir seedlings to polymer-coated fertilizers. In: Riley LE, Dumroese RK, Landis TD, tech. coords. National Proceedings: Forest and Conservation Nursery Assocs-2002, USDA Forest Service, RMRS-P-28: 84-88.
- Haase DL, Rose R. 2003. The use of controlled-release fertilizers for conifer seedling production and outplanting. *Western Forester*. 48(5):6-7.
- Haase DL, Rose R. 2004. Evaluating seedling quality: the basics. *Northwest Woodlands*. 20(1):26-28.
- Rose R, Haase DL. 2004. Fertilization for planted seedlings: current methodology and results. *Canadian Silviculture*. Spring 2004:6-9.
- Rose R, Haase DL. 2005. Rapid response reforestation: studies in fire restoration. In: Dumroese RK, Riley LE, Landis TD, tech. coords. National proceedings: Forest and Conservation Nursery Associations—2004. USDA Forest Service, Rocky Mountain Research Station. RMRS-P-35: 90-93.
- Landis T, Haase DL, Dumroese RK. 2005. Plant nutrient testing and analysis in forest and conservation nurseries. In: Dumroese RK, Riley LE, Landis TD, tech. coords. National proceedings: Forest and Conservation Nursery Associations—2004, USDA Forest Service, Rocky Mountain Research Station. RMRS-P-35: 76-83.
- Haase DL. 2005. Forward to the special seedling root development issue of *New Forests*. *New Forests*. 30(2-3):103-105.
- Haase DL, Khadduri N, Landis TD. 2006. Stem splitting and cankering in Pacific Northwest Douglas-fir seedlings. *Tree Planters' Notes*. 52(1): 9-11.
- Haase DL. 2006. Morphological and physiological evaluations of seedling quality. In: Riley LE, Dumroese RK, Landis TD, tech. coords. National Proceedings, Forest and Conservation Nursery Associations-2006, USDA Forest Service. June 19-22, 2006, RMRS-P-50: 3-8.

- Balk PA, Haase DL, Wordragen MF. 2007. Gene activity test determines cold hardiness in Douglas-fir seedlings. In: Dumroese RK, Riley LE, tech. coords. National Proceedings, Forest and Conservation Nursery Associations-2007USDA Forest Service. RMRS-P-57: 140-148.
- Haase DL. 2008. Understanding forest seedling quality: measurements and interpretation. *Tree Planters' Notes*. 52(2): 24-30.
- Landis TD, Haase DL. 2008. Maintaining plant quality after harvesting. *Forest Nursery Notes*, USDA Forest Service, PNW Region, Winter 2008: 4-8.
- Haase DL. 2010. Strategies and challenges for nursery production: Perspectives on where we're going and where we've been. In: Riley, LE, Pinto, JR, Dumroese RK, tech. cords. National Proceedings: Forest and Conservation Nursery Associations-2009. USDA Forest Service, RMRS-P-62: 38-44.
- Haase DL. 2009. The latest on soil fumigation in bareroot forest nurseries. *Forest Nursery Notes*, USDA Forest Service, PNW Region, Summer 2009: 22-25.
- Haase DL, Landis TD. 2010. Late-season fertilization of nursery stock. *Forest Nursery Notes*, USDA Forest Service, PNW Region, Winter 2010: 13-16.
- Haase DL. 2011. Understanding common fertilizer and plant nutrition units. *Forest Nursery Notes*, USDA Forest Service, PNW Region, Winter 2011: 8-9.
- Haase DL. 2011. Seedling phenology and cold hardiness: moving targets. In: Riley LE, Haase DL, Pinto JR, tech. coords. National Proceedings: Forest and Conservation Nursery Associations—2010. Proc. RMRS-P-65. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station: 121-127.
- Haase DL. 2011. Seedling root targets. In: Riley LE, Haase DL, Pinto JR, tech. coords. National Proceedings: Forest and Conservation Nursery Associations—2010. Proc. RMRS-P-65. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station: 80-82.
- Haase DL. 2011. Five essential elements for successful reforestation. *Northwest Woodlands* 27(1): 8-11.
- Haase DL, Pinto JR, Dumroese RK, Hernandez G, Karrfalt B, Overton R. 2011. The RNGR Program: A national resource for reforestation, restoration, and nursery professionals. *Tree Planters' Notes* 54(1): 28-34.
- Haase DL, Rose R, Henneman D. 2012. Development and distribution of planted seedlings, naturally regenerated seedlings, and competing vegetation 6 years after wildfire. *Tree Planters' Notes* 55(1) 36-44.
- Haase DL. 2013. Plantation stocking levels for family forest owners. *Northwest Woodlands* 29(1): 22-25.
- Haase DL. 2014. Beyond cowboy science: Simple methods for conducting credible and valid research. In: Wilkinson KM, Haase DL, Pinto JR, technical coordinators. National Proceedings: Forest and Conservation Nursery Associations—2013. Fort Collins (CO): USDA Forest Service, Rocky Mountain Research Station. Proceedings RMRS-P-##. (in press).
- Haase DL. 2014. A quality relationship between nurseries and foresters is imperative to successful reforestation. *Western Forester* 59(1): 1-3.
- Haase DL. 2014. Beyond cowboy science: Simple methods for conducting credible and valid research. *Tree Planters' Notes* 57(2): 32-43.
- Harper RA, Hernández G, Arseneault J, Woodruff KJ, Enebak S, Overton RP, Haase DL. 2013. Forest nursery seedling production in the United States— Fiscal Year 2013. *Tree Planters' Notes* 57(2): 62-66.

## Books, Manuals, and Chapters

- Rose R, Haase DL, Boyer D. 1995. Organic Matter Management in Forest Nurseries: Theory and Practice. Nursery Technology Cooperative, Oregon State University, Corvallis, OR, 65 p.
- Rose R., Chachulski CEC, Haase DL. 1998. Propagation of Pacific Northwest Native Plants. OSU Press. ISBN 0-87071-428-7. 248 p.
- Landis TD, Dumroese RK, Haase DL. 2010. The Container Tree Nursery Manual, Volume Seven, Seedling Processing, Storage, and Outplanting. USDA Forest Service, Agric. Handbook 674.
- Rose R, Haase DL. 2006. Guide to Reforestation in Oregon. College of Forestry, Oregon State University, Corvallis. 48p.
- PIT Volunteers. 2006. Savenac Nursery: 100 Years. USDA Forest Service, Lolo National Forest, Haugan, MT
- Haase DL, Taylor MT. 2012. Gray mold. In: Cram, MM, Frank, MS, Mallams KM, tech. coords. Forest nursery pests. Agriculture Handbook 680, rev. 2012. Washington, DC: U. S. Department of Agriculture, Forest Service. p.121-122.
- Haase DL, Landis TD, Luna T. 2014. Harvesting and shipping. In: Wilkinson KM, Landis TD, Haase DL, Daley BF, Dumroese RK., editors. Tropical nursery manual: a guide to starting and operating a nursery for native and traditional plants. Washington (DC): USDA Forest Service. Agriculture Handbook 732. p. 293-301.
- Haase DL, Landis TD, Dumroese RK. 2014. Outplanting. In: Wilkinson KM, Landis TD, Haase DL, Daley BF, Dumroese RK., editors. Tropical nursery manual: a guide to starting and operating a nursery for native and traditional plants. Washington (DC): USDA Forest Service. Agriculture Handbook 732. p. 313-337.
- Jacobs DF, Landis TD, Luna T, Haase DL. 2014. Propagation Environments. In: Wilkinson KM, Landis TD, Haase DL, Daley BF, Dumroese RK, eds. Tropical nursery manual: a guide to starting and operating a nursery for native and traditional plants. Washington (DC): USDA Forest Service. Agriculture Handbook 732. p. 89-99.
- Luna T, Haase DL. 2014. Vegetative propagation. In: Wilkinson KM, Landis TD, Haase DL, Daley BF, Dumroese RK, editors. Tropical nursery manual: a guide to starting and operating a nursery for native and traditional plants. Washington (DC): USDA Forest Service. Agriculture Handbook 732. p. 185-205.
- Wilkinson KM, Haase DL. 2014. Discovering ways to improve nursery practices and plant quality. In: Wilkinson KM, Landis TD, Haase DL, Daley BF, Dumroese RK, editors. Tropical nursery manual: a guide to starting and operating a nursery for native and traditional plants. Washington (DC): USDA Forest Service. Agriculture Handbook 732. p. 361-376.
- Dumroese RK, Haase DL, Wilkinson K, Landis TD. Collecting, processing, and treating propagules for seed and vegetative propagation in nurseries. In: Pancel L, Koehl M. Tropical Forestry Handbook. Springer. (*submitted April 2014*).
- Haase DL, Dumroese RK, Wilkinson K, Landis TD. Tropical nursery concepts and practices. In: Pancel L, Koehl M. Tropical forestry handbook. Springer. (*submitted April 2014*).
- Wilkinson K, Haase, DL, Landis TD, Dumroese RK. Planning and managing a tropical nursery. In: Pancel L, Koehl M. Tropical forestry handbook. Springer. (*submitted April 2014*).

## Editorships

- Haase DL, Rose R, editors. 1997. Symposium Proceedings: Forest Seedling Nutrition from the Nursery to the Field. October 28-29, Oregon State University, Nursery Technology Cooperative. 161 p.
- Rose R, Haase DL, editors. 1998. Conference Proceedings, Native Plants: Propagating and Planting. December 9-10, Oregon State University, Nursery Technology Cooperative. 182 p.
- Rose R, Haase DL, editors. 2000. Conference Proceedings, Advances and Challenges in Forest Regeneration. June 1-2, Nursery Technology Cooperative and Western Forestry and Conservation Association. 88 p.
- Haase DL, Rose R, editors. 2001. Conference Proceedings, Native Plant Propagation and Restoration Strategies. December 12-13, 2001, Eugene, OR. 142 p.
- Chien C, Rose R, Haase D, editors. 2001. Symposium Proceedings, Tropical Forestry Symposium: The art and practice of conservation planting. September 24-29, 2001. Taipei, Taiwan. 260 p.
- Haase DL, guest editor, Special Issue: Forest Seedling Root Development from the Nursery to the Field, *New Forests* Volume 30, Nos. 2-3. 2005. • Haase DL, guest editor, *Native Plants Journal* Volume 7, No. 1, which included papers from: Third Pacific Northwest Native Plants Conference. December 15-16, 2004, Eugene, OR
- Haase DL, guest editor, *Native Plants Journal* Volume 9, No. 3, issue to include papers from: Fourth Pacific Northwest Native Plants Conference. November, 2007, Eugene, OR
- Haase DL, guest editor, Special Issue: Nutrient Dynamics of Planted Forests, 2013. *New Forests* 44.
- Haase DL, editor. 1993-2009. Nursery Technology Cooperative, Annual Report
- Haase DL, editor. 1992-2009. Nursery Technology Cooperative, Newsletter
- Haase, DL, associate editor, 2008-present, *Native Plants Journal*.
- Haase, DL, editor, 2010-present. *Tree Planters' Notes*
- Riley LE, Haase DL, Pinto JR, technical coordinators. 2011. National Proceedings: Forest and Conservation Nursery Associations—2010. Fort Collins (CO): USDA Forest Service, Rocky Mountain Research Station. Proceedings RMRS-P-65. 183 p.
- Haase DL, Pinto JR, Riley LE, technical coordinators. 2012. National Proceedings: Forest and Conservation Nursery Associations—2011. Fort Collins (CO): USDA Forest Service, Rocky Mountain Research Station. Proceedings RMRS-P-68. 112 p.
- Haase DL, Pinto JR, Wilkinson KE, technical coordinators. 2013. National Proceedings: Forest and Conservation Nursery Associations—2012. Fort Collins (CO): USDA Forest Service, Rocky Mountain Research Station. Proceedings RMRS-P-69. 114 p.
- Wilkinson KM, Haase DL, Pinto JR, technical coordinators. 2014. National Proceedings: Forest and Conservation Nursery Associations—2013. Fort Collins (CO): USDA Forest Service, Rocky Mountain Research Station. Proceedings RMRS-P-##. (in press).
- Wilkinson KM, Landis TD, Haase DL, Daley BF, Dumroese RK., editors. Tropical nursery manual: a guide to starting and operating a nursery for native and traditional plants. Washington (DC): USDA Forest Service. Agriculture Handbook 732. 376 p.

## Conferences, Meetings, and Workshops Organized

- Chlorophyll Fluorescence Technology for Forest Seedlings, June 2, 1993, Centralia, WA
- Reforestation Contractors Workshop, October 27-28, 1993, Corvallis, OR
- Methyl Bromide Alternatives Workshop, October 5-6, 1994, Olympia, WA
- Forest Seedling Nutrition from the Nursery to the Field, October 28-29, 1997, Corvallis, OR
- Western Native Plants Conferences
  - Native Plants: Propagating and Planting, December 9-10, 1998, Corvallis, OR
  - Native Plant Propagation and Restoration Strategies, December 12-13, 2001, Eugene, OR
  - Third Pacific Northwest Native Plant Conference, December 15-16, 2004, Eugene, OR
  - Fourth Pacific Northwest Native Plant Conference, November 27-29, 2007, Eugene, OR
  - Fifth Western Native Plant Conference, December 7-9, 2010, Portland, OR
  - Sixth Western Native Plant Conference: Current topics in propagation, conservation, restoration, and policy, December 9-11, 2013, Vancouver, WA
- Cost Effective Sampling Design for Field Foresters, May 31, 2000, Tigard, OR
- Advances and Challenges in Forest Regeneration, June 1-2, 2000, Tigard, OR
- Forest Seedling Root Development from the Nursery to the Field, May 12-13, 2004, Eugene, OR
- Components of Successful Reforestation from Seed to Free-to-Grow, September 26-27, 2006, Eugene, OR
- Forest Seedling Quality: Hands-On Workshop, November 7, 2007, Corvallis, OR
- Westside Container Growers' Annual Meeting, Olympia, WA, 2008-present.
- Western Forest and Conservation Nursery Association Annual Meetings
  - Target Seedling Symposium, Joint meeting with the Forest Nursery Association of British Columbia, August 26-28, 2010, Portland, OR
  - Optimizing Seedling Production, Nursery Marketing, and Outplanting Success, August 16-17, 2011, Denver, CO.
  - Seed Technology for Forest and Conservation Nurseries, Joint meeting with the Intermountain Container Seedling Growers' Association and the Intertribal Nursery Council. Bend, OR, September 11-13, 2012
  - Life in the Underground: Management of soils, growing media, and roots in the production of forest and conservation seedlings, Olympia, WA, August 6-7, 2013.
  - The Latest and Greatest in Nursery Technology. Joint meeting with the Intermountain Container Seedling Growers' Association and the Intertribal Nursery Council. Boise, ID, September 9-11, 2014.
- Pest Management in Forest and Conservation Nurseries: Safety, Strategies, and Policies, Denver, CO, August 18, 2011
- Hawai'i Native Plant Growers' Meeting: Pests, Products, and Protocols, Kane'ohe, HI, August 1, 2011
- Forum: Native Plant Propagation for Conservation of Island Forests, Hawai'i Conservation Conference, Island Ecosystems: The Year of the Forest, Honolulu, HI, August 2-4, 2011
- Nutrient Dynamics of Planted Forests, IUFRO endorsed event, co-organized with Douglass Jacobs (Purdue University), Vancouver, WA, November 28-29, 2012.
- Pacific Island Nursery Training (in partnership with University of Hawaii, Forestry Extension)
  - American Samoa, July 6-12, 2012
  - Guam, June 25-28, 2013 (with participants from Guam, Palau, Rota, Tinian, and Saipan)
  - Palau, June 29-July 3, 2013
  - Yap, June 26-29, 2014 (with participants from Yap, Pohnpei, Kosrae, and Chuuk)
  - Pohnpei, July 1-2, 2014