

Curriculum Vitae  
**R. Daniel Lineberger**  
December 1, 2007

**ACADEMIC BACKGROUND**

<i>Degree</i>	<i>Year</i>	<i>Institution</i>	<i>Major</i>
Diploma	1967	Dallas High School, Dallas, NC	
B. S.	1971	N. C. State University	Ornamental Horticulture
M. S.	1974	Cornell University	Floriculture and Orn Hort
Ph. D.	1978	Cornell University	Floriculture and Orn Hort

**PROFESSIONAL EXPERIENCE**

1994-	Professor of Horticultural Sciences, Texas A&M University
1990-1994	Professor and Head of Horticultural Sciences - Texas A&M University
1987-1990	Professor and Head of Horticulture - Clemson University
1982-1987	Associate Professor - The Ohio State University
1977-1982	Assistant Professor - The Ohio State University
1971-1977	Graduate Research Associate - Cornell University

**HONORS AND AWARDS**

2007	Vice Chancellor's Award in Excellence for Undergraduate Teaching
2006	Association of Former Students' Distinguished Achievement Award (College Level)
2006	J. C. Miller, Jr. Distinguished Educator Award, Southern Region American Society for Horticultural Science
2002	Chairman of the Board, American Society for Horticultural Science
2002	Chairman of the Board, American Society for Horticultural Science
2001	President, American Society for Horticultural Science
2001	Director's Award for Innovative Application of Information Technology in Extension Education (co-recipient with Drs. Parsons, Stein and Wilkerson)
2000	President-elect, American Society for Horticultural Science
2000	Faculty Achievement Award, TAMU Horticulture Student Council
1997	Fellow, American Society for Horticultural Science
1997	Vice Chancellor's Award in Excellence, Extension Team Category, for the PLANTanswers section of Aggie Horticulture.
1997	Superior Service Award, Team Category, Texas Agricultural Extension Service, for the PLANTanswers section of Aggie Horticulture.
1980	Alfred J. Wright Award for Outstanding Undergraduate Student Organization Advising, Ohio State University
1972	Pi Alpha Xi
1971-1976	L. H. Bailey Research Assistantship
1971	Outstanding Senior in Horticulture
1970	Phi Kappa Phi Blue Key (Senior Honorary) L. M. Ware Award for Outstanding Undergraduate Research Joseph Shinoda Memorial Scholarship Burpee Award North Carolina Garden Clubs Scholarship

1969	Golden Chain (Junior Honorary)
1968	Sears Roebuck Foundation Scholarship American Farmer Degree Thirty and Three (Sophomore Honorary)
1967	Valedictorian, Dallas High School

### **UNDERGRADUATE ACTIVITIES**

Association of Collegiate Branches, American Society for Horticultural Science -  
Southern Region Secretary (1968) and President (1969), National President (1970)  
Arnold Air Society Vice-Commander (1973)  
Editor, Agri-Life Magazine, 1969-1970  
FarmHouse Fraternity (1969-1971)  
N. C. State University Horticulture Club President (1969)  
Alpha Zeta Scribe (1969) and Chancellor (1970)  
North Carolina Association of Future Farmers of America Secretary (1968)

### **SOCIETY MEMBERSHIP**

American Society for Horticultural Science  
International Society for Horticultural Science  
Pi Alpha Xi  
Society of American Florists

### **RESEARCH AND DEVELOPMENT ACTIVITIES**

*Application of Computer Technology to Horticultural Teaching and Extension Programs.* A teaching and development program designed to integrate Web technology into teaching, research, and extension/outreach programs across all horticultural commodities and disciplines. Dr. Lineberger developed and maintains the World Wide Web site for the Texas Horticulture Program, *Aggie Horticulture* (<http://aggie-horticulture.tamu.edu/>), a gateway to over two dozen virtual information servers and more than 50 Web-accessible, interactive databases. His program designs and maintains the Web sites, develops unique applications and strategies, and assists other faculty in preparing their information for Internet delivery.

### **GRANT OR GIFT SUPPORT RECEIVED**

University Small Research Grant for project concerning freeze preservation of suspension cultures.  
Amount: \$3188.

Grant from College of Agriculture Research Committee to partially fund tissue culture course.  
Amount: \$1960.

Donation of Tissue Culture Laboratory from TemCole Radish, Inc. to support tissue culture research. Value = \$180,000.

Grant from Dwarf Fruit Tree Association for micropropagation of a new Ohio dwarfing rootstock.  
Amount: \$2000.

Donation from Herman Losely Nursery to support tissue culture program. Amount: \$3200.

Grant from Horticultural Research Institute for study concerning field survival of tissue culture propagated *Amelanchier laevis*. Amount: \$500.

Donation from Cuzz Acres Nursery to support tissue culture program. Amount: \$2000.

Cooperative agreement with USDA Nursery Crops Research Lab to study micropropagation and protoplast culture of hybrid elm cultivars. Amount: \$35,000 (1984); \$27,200 (1985).

Grant from Ohio Nurseryman's Association to support project concerning micropropagation of phenotypically superior birches. (Cooperating with D. Struve). Amount: \$5,000.

Grant from Hunt-Wesson, Inc. to study "A Biotechnology Approach to Tomato Germplasm Improvement." (Cooperating with W. Gould and S. Berry). Amount: \$40,000 (1984); \$40,000 (1985); \$40,000 (1986).

Grant from Gloeckner Foundation to study use of cytokinin applications in multiplication of chimeral *Saintpaulia*. Amount: \$7,500.

Grant from College of Agriculture Research and Graduate Education Committee to fund the Plant Biotechnology Seminar Series (with K. Danneberger and S. St. Martin). Amount: \$4,800.

DuPont Plant Protection Summer Grant to provide matching funds for the purchase of an inverted microscope. Amount: \$1,000.

Gloeckner Foundation Grant to Assist in Purchase of Zeiss Axiphot Microscope. (Cooperating with G. Hanniford). Amount: \$5,000

Grant from Beatrice/Hunt Wesson to study somatic embryogenesis in tomato (with M. Courtney and S. Z. Berry). Amount: \$28,000 (1987); \$31,592 (1988); \$29,115 (1989); \$28,634 (1990).

Grant from Ragu, Inc. to study somaclonal and radiation induced variation in tomato (with M. Courtney). Amount: \$72,588 (1989-91).

Grant from Van Den Bergh, Inc. to study somaclonal variation for salt tolerance in tomatoes (with Marla Binzel). Amount: \$130,286 (1992-94).

Grant from Texas Agricultural Extension Service to develop a hypertext, graphically enhanced problem solving aid for the Master Gardener Program (with Paul Sittler, Ernie Frank and Sam Cotner). Amount \$20,000 (1994-1995).

Grant from V. F. and Gertrude Neuhaus Teaching Enhancement Program to support *Aggie Horticulture*, On Ramp to the Information Superhighway. Amount: \$5,000 (1995).

Grant from the University Honors Program to commission original artwork for inclusion in the World Wide Web site for HORT 201 (Honors Section) (with Mary Rumpho). Amount: \$2,000 (1995).

Grant from the Office of Research and Graduate Studies to purchase equipment in support of HORT 201 (Honors Section) (with Mary Rumpho). Amount: \$14,951 (1995).

Funding to support graduate assistantship of Sharon Sandall in return for redesigning and maintaining the World Wide Web site for the Office of Research and Graduate Studies. Amount: \$8,400 (1995 -1996).

IPM Minigrant for the creation of an "Online Disorder Identification Guide for Cucurbits." With Drs. Frank Dainello, Marvin Miller, and John Jackman. Amount: \$6,000 (1997).

Grant from the TAMU Academy for Advanced Telecommunications and Learning Technologies to fund development of Web-based course on Web site construction. Amount: \$4,966

Grant from the Texas Agricultural Experiment Station to "Develop Strategies to Maximize Accumulation of the Anti-Cancer Compound Camptothecin in *Camptotheca acuminata*. Amount: \$50,000 (with D. Reed and M. Rumpho; Lineberger portion was \$11,500.

Grant from V. F. and Gertrude Neuhaus Teaching Enhancement Program to support the creation of the "Aggie Resume 'Riter Online Student Resume Database"; now posted as the Aggies for Hire Web site at <http://aggies-for-hire.tamu.edu>. Amount: \$2,000 (1997).

Development of IPM Web site for Nursery/Floral Industry. Subcontracted by Don Wilkerson to develop Web and database interface for hortIPM Web site on grant funded by IPM and Texas Pest Management Association. Lineberger's amount: \$5,571.

Conversion of HORT 315, Component Analysis of Horticultural Systems, to a Web-based Offering. Neuhaus Grant Program of the College of Agriculture and Life Sciences. Amount: \$5,544 (1999)

Masters of Agriculture at a Distance degree. Provost's Office Distance Education Initiative Grants. Jane Magill, Dan Lineberger, Kim Dooley, Tim Murphy, and Tom Linton. Amount: \$50,000 (Lineberger portion \$2,000). (1999)

Phytochemicals in Fruits and Vegetables to Improve Human Health. B. Patil, TAMU Kingsville Citrus Center, PI and Dan Lineberger and Kim Dooley, Co-PIs. USDA Higher Education Challenge Grant Program. Amount: \$38,148 (Lineberger portion \$3,609). (1999)

Design and Prototype of a Database of Pest Management Practices for Home Vegetable Insect Management in Texas. Texas Pest Management Association. Amount: \$14,050 (Lineberger portion \$4,000). (1999)

Computers for Residential Landscape Design. TAMU Computer Access Fee Competitive Grants Program. Jayne Zajicek, Dan Lineberger and Mr. P. Greer. Amount: \$40,515. (1999)

Implementation of an IPM Pilot Program for Texas, Texas Department of Agriculture Grant 551-0-1790 awarded to Drs. Bart Drees, John Jackman, Don Wilkerson and Dan Lineberger. \$2,000 to Lineberger. (2000)

Redesign of the Texas Superstar.com Web site. CEMAP Executive Committee, \$4,000 to Lineberger. (2000)

Grant from Gloeckner Foundation to develop Web-CD hybrid of hortIPM Web site. Amount: \$12,500. (2001)

Subcontract with Bridget Behe, Michigan State University, Department of Horticulture, to design and host a Web-based survey related to Christmas tree buying preferences. \$3,000. (2002)

Grant from Office of Associate Provost for Information Technology (CA/ITF Funds) for proposal "Computer Assisted Instruction for Floral Design" with J. M. Zajicek. Amount: \$27,105. (2002)

Subcontract with Bridget Behe, Michigan State University, Department of Horticulture, to design and host a Web-based survey related to consumer preference for flowering plants. \$2,000. (2002)

Subcontract with Bridget Behe, Michigan State University, Department of Horticulture, to design and host a Web-based survey related to orchid purchases. \$2,000.

Subcontract with Bridget Behe, Michigan State University, Department of Horticulture, to design and host a Web-based survey related to Valentine's Day Purchases. \$2,000.

Subcontract with Bridget Behe, Michigan State University, Department of Horticulture, to design and host a Web-based survey related to consumer purchasing behavior. \$2,000.

Subcontract with Bridget Behe, Michigan State University, Department of Horticulture, to design and host a Web-based survey related to consumer preferences for Baylato Cherries. \$3,000.

Subcontract with Bridget Behe, Michigan State University, Department of Horticulture, to design and host a Web-based survey related to consumer consumer perceptions of lilac as a dual-use plant. \$2,000.

Development of a Web-based Training Curriculum for the landscape contracting and maintenance industry. Don Wilkerson (PI) and Dan Lineberger (co-PI). \$30,000. Lineberger portion, \$10,000.

On-line Assessment for Water Conservation and Surface and Groundwater Contamination. Don Wilkerson and Dan Lineberger (Co-Pis). Texas Water Development Board, \$45,000. Lineberger portion, \$20,000.

Urban Landscape Guide. Don Wilkerson, Dan Lineberger, Marilyn Good (TXNLA) (Co-Pis). Texas Water Development Board, \$58,000. Lineberger portion (\$17,500).

Aggie Horticulture Behind-the-Scenes-Proof of Concept. Project funded by HEB to create prototype Web site with the "look and feel" of HEB.com but pulling educational content from Aggie Horticulture. \$5,000

Revision and maintenance of Texas Pierce's Disease Web Site. USDA Special Funds through Jim Kamas, \$10,000

Continuation of Aggie Horticulture Behind the Scenes-Proof of Concept, HEB, \$5,000

## **PUBLICATIONS**

### **Publications in Referred Journals**

Lineberger, R. D. and P. L. Steponkus. 1976. Identification and localization of vascular occlusions in cut roses. *J. Amer. Soc. Hort. Sci.* 101: 246-250.

Steponkus, P. L., M. P. Garber, S. P. Myers, and R. D. Lineberger. 1977. Effects of cold acclimation and freezing on structure and function of chloroplast thylakoids. *Cryobiol.* 14:303-321.

Lineberger, R. D. and P. L. Steponkus. 1980. Cryoprotection by glucose, sucrose and raffinose to chloroplast thylakoids. *Plant Physiol.* 65:298-304.

- Lineberger, R. D. and P. L. Steponkus. 1980. Effects of freezing on the release and inactivation of chloroplast coupling factor 1. *Cryobiol.* 17:486-494.
- Kelly, J. W. and R. D. Lineberger. 1981. Thermal neutron induced changes in *Saintpaulia*. *J. Env. & Exptl. Bot.* 21:95-102.
- Lineberger, R. D. 1983. Shoot proliferation, rooting, and transplant survival of tissue cultured 'Hally Jolivette' cherry. *HortSci.* 18:182-185.
- Kurtz, S. M. and R. D. Lineberger. 1983. Genotypic differences in morphogenic capacity of cultured *Lycopersicon esculentum* Mill. leaf explants. *J. Amer. Soc. Hort. Sci.* 108:710-714.
- Lineberger, R. D. and M. Druckenbrod. 1985. Chimeral nature of the pinwheel flowering African violets. *Amer. J. Bot.* 72: 1204-1212.
- Kuo, C. C. and R. D. Lineberger. 1985. Survival of in vitro cultured tissue of *Malus domestica* 'Jonathan' exposed to -196°C. *HortSci.* 20: 764-767.
- Sticklen, M. B., R. D. Lineberger, and S. C. Domir. 1985. Isolation and culture of protoplasts of *Ulmus* x 'Homestead.' *Pl. Sci.* 41: 117-120.
- Brand, M. H. and R. D. Lineberger. 1986. Shoot proliferation and explantation timing studies of *Halesia carolina*. *Plant Cell, Tissue, and Organ Culture* 7: 103-113.
- Sticklen, M. B., S. C. Domir, and R. D. Lineberger. 1986. Shoot regeneration from protoplasts of *Ulmus* x 'Pioneer'. *Pl. Sci.* 47: 29-34.
- Michler, C. H., R. D. Lineberger, and G. W. Chism. 1986. A highly sensitive method for quantitative determination of abscisic acid. *Plant Physiol.* 82: 600-603.
- Fink, C. V. M., M. B. Sticklen, R. D. Lineberger, and S. C. Domir. 1986. In Vitro organogenesis from shoot tip, internode, and leaf explants of *Ulmus* x 'Pioneer'. *Plant Cell, Tissue, and Organ Culture* 7: 237-245.
- Michler, C. H. and R. D. Lineberger. 1987. Effects of light on somatic embryo development and abscisic acid levels in carrot suspension cultures. *Plant Cell, Tissue, and Organ Culture* 11: 189-207.
- Peary, J. S., R. D. Lineberger, T. J. Malinich, and M. K. Wertz. 1988. Stability of leaf variegation in *Saintpaulia ionantha* during in vitro propagation and during chimeral separation of a pinwheel flowering form. *Amer. J. Bot.* 75: 603-608
- Brand, M. H. and R. D. Lineberger. 1988. In vitro adventitious shoot formation on mature-phase leaves and petioles of *Liquidambar styraciflua*. *Plant Sci.* 57:173-179.
- Struve, D. K. and R. D. Lineberger. 1988. Restoration of high adventitious root regeneration potential in mature *Betula papyrifera* Marsh. softwood stem cuttings. *Can. J. Forest Res.* 18: 265-269.
- Gingas, V. M. and R. D. Lineberger. 1989. Asexual embryogenesis and plant regeneration in *Quercus rubra*. *Plant Cell, Tissue, and Organ Culture* 17: 191-203.

- Montagno, T. J., R. D. Lineberger, and S. Z. Berry. 1989. Somaclonal and radiation induced variation in *Lycopersicon esculentum*. *Journ. Env. Exptl. Bot.* 29: 401-408.
- Pogany, M. F. and R. D. Lineberger. 1990. Shoot ontogeny in tissue cultures of 'President Roosevelt' Rhododendron. *Plant Cell, Tissue, and Organ Culture* 21: 201-209.
- Lineberger, R. D., M. B. Sticklen, P. M. Pijut, M. A. Kroggel, C. V. M. Fink, and S. C. Domir. 1990. Use of protoplast, cell, and shoot tip culture in an elm germplasm improvement program. *Acta Horticulturae* 280: 247-253.
- Pijut, P. M., R. D. Lineberger, S. C. Domir, J. M. Ichida, and C. R. Krause. 1990. Ultrastructure of *Ulmus americana* cells cultured in vitro and exposed to the culture filtrate of *Ceratocystis ulmi*. *Phytopathology* 80: 764-767.
- Pijut, P. M., R. D. Lineberger, S. C. Domir, and L. R. Schreiber. 1990. Use of culture filtrates of *Ceratocystis ulmi* as a bioassay to screen for disease tolerant *Ulmus americana*. *Plant Science* 70: 191-196.
- Davis, M. E., R. D. Lineberger, and A. R. Miller. 1991. Effects of tomato cultivar, leaf age, and bacterial strain on transformation by *Agrobacterium tumefaciens*. *Plant Cell, Tissue, and Organ Culture* 24:115-121.
- Davis, M. E., A. R. Miller, and R. D. Lineberger. 1991. Temporal competence for transformation of *Lycopersicon esculentum* (L. Mill.) cotyledons by *Agrobacterium tumefaciens*: relation to wound-healing and soluble plant factors. *Journal of Experimental Botany* 42:359-364.
- Brand, M. H. and R. D. Lineberger. 1991. The effect of leaf source and developmental stage on shoot organogenic potential of sweetgum (*Liquidambar styraciflua* L.) leaf explants. *Plant Cell, Tissue and Organ Culture* 24: 1-7.
- Davis, M. E., A. R. Miller, and R. D. Lineberger. 1992. Studies on the effects of ethylene on transformation of tomato cotyledons (*Lycopersicon esculentum* Mill.) by *Agrobacterium tumefaciens*. *J. Plant Physiol.* 139:309-312.
- Brand, M. H. and R. D. Lineberger. 1992. In vitro rejuvenation of *Betula* (Betulaceae): Morphological evaluation. *Amer. J. Bot.* 79:618-625.
- Brand, M. H. and R. D. Lineberger. 1992. In vitro rejuvenation of *Betula* (Betulaceae): Biochemical Evaluation. *Amer. J. Bot.* 79:626-635.
- Lineberger, R. D., M. Pogany, T. Malinich, M. Druckenbrod, and A. Warner. 1993. Genotypic segregation and chimeral rearrangements in tissue culture. *Proceedings of the XVII Eucarpia Symposium on Creating Genetic Variation in Ornamentals, Sanremo, Italy, March 1-5 1993.*
- Leeper, P. W., E. L. Cox, B. T. Scully, G. F. Oerther, E. E. Burns, and R. D. Lineberger. 1993. 'Processor 278' Tomato. *HortScience* 28:346-347.
- Arnold, M. A., R. D. Lineberger, and D. K. Struve. 1994. Influence of copper compounds on in vitro rooting of birch microcuttings. *J. Amer. Soc. Hort. Sci.* 119:74-79.

- Lineberger, R. Daniel. 1996. Technology for the Rapid Exchange of Scientific Information via the Internet. *Acta Horticulturae* 434:407-412.
- Lineberger, R. Daniel. 1996. Scientific Information Exchange on the World Wide Web. *Chronica Hort.* 35:17-18.
- Lineberger, R. D. 1998. Integrating the Web into Existing Extension and Educational Technology. *HortTechnology* 8:313-315.
- Waliczek, T., J. C. Bradley, R. D. Lineberger, and J. M. Zajicek. 2000. Using a Web-based Survey to Research the Benefits of Children Gardening. *HortTechnology* 10:71-76.
- Dooley, K. E., B. S. Patil, and R. D. Lineberger. 2000. Use of Distance Learning Technology to Teach a Multidisciplinary Course: Phytochemicals in Fruits and Vegetables. *Jour. of Southern Agric. Education Research* 50:167-173.
- Nolte, B. A., R. D. Lineberger, D. W. Reed, and M. E. Rumpho. 2001. Rapid Micro-Assay of Camptothecin in *Camptotheca acuminata*. *Planta Med.* 67:376-378.
- Wayne A. Mackay, Steve W. George, Tim D. Davis, Michael A. Arnold, R. Daniel Lineberger, Jerry M. Parsons, Larry A. Stein, Greg G. Grant. 2001. Texas Superstar and the Coordinated Educational and Marketing Assistance Program (CEMAP): How We Operate. *HortTechnology* 11:389-391.
- Michael A. Arnold, R. Daniel Lineberger, Tim D. Davis, Steven W. George, Wayne A. Mackay, Greg D. Grant, Jerry M. Parsons, and Larry A. Stein. 2001. Michael A. Arnold, R. Daniel Lineberger, Tim D. Davis, Steven W. George, Wayne A. Mackay, Greg D. Grant, Jerry M. Parsons, and Larry A. Stein. *HortTechnology* 11:385-388.
- Lineberger, R. Daniel. 2002. Horticulture in the Post-Land Grant Era. *HortScience* 27:1147-1149. (non-refereed); Presidential Address presented at the International Horticultural Congress, and 99<sup>th</sup> Annual Conference of ASHS, Toronto, CA, 16 Aug 2002.
- Patil, B., R. Daniel Lineberger, Kim E. Dooley, and Jairam Vanamala. 2003. Phytochemicals in Fruits and Vegetables: Use of Interactive Videoconferencing and World Wide Web for Teaching a Multidisciplinary Course. *Journal of Food Science Education* 2:61-68.
- Behe, Bridget, Rachel M. Walden<sup>2</sup>, Marcus Duck<sup>3</sup>, Bert Cregg and R. D. Lineberger. 2005. Consumer Preferences for Tabletop Christmas Trees. *HortScience* 40:409-412.
- Waliczek, T. M., J. M. Zajicek, and R. D. Lineberger. 2005. The Influence of Gardening Activities on Consumer Perceptions of Life Satisfaction. *HortScience* 40:1360-1365.
- Bryan, Donita, Michael A. Arnold, R. Daniel Lineberger, and W. Todd Watson. 2005. Propagation Techniques for a Spineless *Acacia wrightii*. *HortScience* 40:1832-1837.
- Waliczek, T. A. Dravigne, R. Lineberger and J. Zajicek. 2007. The effect of live plants and window views of green spaces on employee perceptions of job satisfaction. Accepted by *HortScience*.
- Mason, S. C., T. W. Starman, R. D. Lineberger and B. K. Behe. 2008. Consumer Preferences for Price, Color Harmony, and Care Information of Container Gardens. Accepted by *HortScience*.



Warren, C. B. Girenavar, D. Lineberger, B. Patil. 2007. Preparing Advocates for the Promotion of Health-Benefiting Compounds in Fruits and Vegetables: A Unique Partnership for Teaching and Distance Education. Submitted to IEJHE.

### **Publications in Editor Reviewed Journals**

Cabrera, R. and R. Daniel Lineberger . 2003. A New On-line Educational and Research Resource for Crape Myrtles (*Lagerstroemia* spp.) Proceedings of the Southern Nurseryman's Association Research Conference. 48: 265 – 268.

Dennis, J. H., Bridget K. Behe, Rachel Walden, and R. Daniel Lineberger. 2003. Diamonds Are Forever... But How Long Do Valentine's Roses Last? Proceedings of the Southern Nurseryman's Association Research Conference. 48: 540 – 542.

Bridget K. Behe, Rachel M. Walden, Roberto G. Lopez, Erik S. Runkle, and R. D. Lineberger. 2003. Profile of Potted Orchid Buyers in the Midwest. Proceedings of the Southern Nurseryman's Association Research Conference. 48: 428 – 432.

Lineberger, R. Daniel. 2003. Horticulture in the Post-Land Grant Era. ASHS Presidential Addresses. Compiled by Jules Janick. ASHS Press, Pp. 475-480.

Mackay, W. A., C. M. McKenney, S. W. George, T. D. Davis, M. A. Arnold, R. D. Lineberger, J. M. Parsons, L. A. Stein, and G. G. Grant. 2002. Texas Superstars, the Plant Introduction and Marketing Assistance Program in Texas. Combined Proc. Intl. Plant Prop. Soc. 52:66-69.

Lineberger, R. Daniel. 2006. Evolution of Horticultural Education in the Early 21<sup>st</sup> Century. *Acta Horticulturae* (in press). Manuscript presented at the International Horticulture Congress, Seoul, Korea.

### **DIGITAL INFORMATION RESOURCES**

#### **World Wide Web**

**Aggie Horticulture** was created in 1994 to serve the information developed by the Texas Horticulture Program. This included Extension publications, factsheets, and newsletters, academic course Web sites, and research information from all participating faculty. **Aggie Horticulture** is actually a Web portal, composed of 35 virtual servers and 50 Web-accessible database sites. **Aggie Horticulture** is one of the most active horticultural information sites in the world, serving over 212 million hits comprising over 14 million discrete user sessions in 2007. While I created and still maintain the **Aggie Horticulture** network, it has been a team effort with over 30 professionals providing their information. I install and service all equipment, manage the software, write code for pages and databases, and do the layout and graphics for much of the Web site. I also supervise between 1 and 3 grant-supported student workers who help add information to the sites.

#### **Interactive Databases**

Web-accessible, interactive databases allow me to configure information acquisition, storage, and user interface parameters while maximizing my efforts by allowing any information provider to input their information without having to be trained in Web technology. For example, I created the FileMaker Pro database and wrote the Web interface for the Texas Native Trees Web site, an

online resource that allows one to search a large collection of Texas natives by horticultural and botanical attributes and to obtain one or several high quality, full screen photos of the specimens. The database was populated (data entered, and photos scanned) by Dr. Wayne Mackay at the Dallas Research and Extension Center. A brief summary of the databases and a list of the cooperators include:

***Texas Native Trees***, a digital encyclopedia of the slide collection and accompanying horticultural and botanical information of famed Texas naturalist Benny Simpson. In cooperation with Wayne Mackay (TAMU REC Dallas) and Leslie Finical Halleck of the Dallas Arboretum and Botanical Garden.

***Texas Native Shrubs***, a digital encyclopedia of the slide collection and accompanying horticultural and botanical information related to the shrubby Texas flora. In cooperation with Wayne Mackay (TAMU REC Dallas) and Leslie Finical Halleck of the Dallas Arboretum and Botanical Garden.

***Aggie Horticulture PicturePages***, a virtual plant ID “textbook” created in cooperation with Dr. Mike Arnold that includes plant descriptions and horticultural features. The database has a feature that allows for selecting plants for a certain week in the semester to accompany Dr. Arnold’s plant ID courses.

***Herbaceous Plants PicturePages*** and the ***Interiorscape Plants Database*** are similar virtual plant ID “textbooks” created in cooperation with Dr. Cynthia McKenney that are used as course supplements to the respective plant ID courses that she teaches at TAMU and at Texas Tech.

***EarthKind Roses*** is a digital encyclopedia that contains information on insect and disease resistant roses, created in cooperation with Drs. Cynthia McKenney and Steve George from the TAMU REC at Dallas.

***Crape Myrtle*** is a digital encyclopedia that contains information on crape myrtle cultivars created in cooperation with Dr. Raul Cabrera from the TAMU REC at Dallas.

***Aggies for Hire*** is a searchable database of students seeking full-time or internship employment. The database allows students to create a password-protected online resume which they can update as their academic careers progress.

***HortIPM*** is a pest control database that can be searched by insect type, name, crop affected, or photo, allowing the user to obtain the pesticide labels of recommended controls for the appropriate pests. HortIPM was constructed and is maintained in cooperation with Drs. Don Wilkerson (horticulturist), Bart Drees, and Carlos Bogran (entomologists).

#### ***Cornell Herbaceous Perennials Database***

A digital encyclopedia of herbaceous perennials that will serve as the Masters (non-thesis) project of Allison Mayer at Cornell University. I designed the database and coded the html interface. The database is hosted from TAMU, but information is being added from Cornell. Collaborators: Allison Mayer and Bill Miller (Cornell), Dan Lineberger and Brooke Bludau.

#### ***Greenhouse Photo Archive***

The Greenhouse Photo Archive is an assembly of images taken by Christine MacAlpine to illustrate the Greenhouse Training Module. They are made available through this searchable database for others to use in teaching and Extension applications. I designed the database and wrote the interfacing html pages for this Web resource.

Collaborators: Christine MacAlpine and Dan Lineberger .

### **Greenhouse Training Module**

***<http://aggie-horticulture.tamu.edu/webtutor/students/macalpine/>***

A prototype training module was prepared at the request of members of the greenhouse industry with funding provided by Texas Cooperative Extension. The auto-tutorial training modules were designed to be delivered via CDROM, Web, or VHS videotape. Both English and Spanish versions were prepared. Christine MacAlpine was the principle author of the module. I provided equipment and software support and advised on html coding, preparation of digital audio files, and media conversion to videotape and CDROM.

Collaborators: Christine MacAlpine, Don Wilkerson, Carlos Bogran, Dave Reed, Larry Barnes, Terri Starman, Dan Lineberger.

### **Agents-Only Section of Extension Horticulture**

***<http://aggie-horticulture.tamu.edu/extension/agents/>***

A password-protected section of the Extension Web section of Aggie Horticulture was created to allow Extension specialists and county agents to exchange information and files (text and PowerPoint slide sets). I designed the graphics, coded the pages, and maintain the password database for the site. I also review the materials submitted and prepare brief comments under which they are posted as links on the Web site.

Collaborators: Doug Welsh, specialists, county agents, Dan Lineberger.

### **Landscape Industry Training Module**

***<http://landscapepro.tamu.edu/>***

A training curriculum has been prepared at the request of members of the landscape industry with funding provided by Texas Cooperative Extension. The auto-tutorial training modules will be delivered via a Web-based database system. Both English and Spanish versions will be prepared. I provided equipment and software support and did the html coding, database design, and testing module construction.

Collaborators: Don Wilkerson, Carlos Bogran, Texas Nursery and Landscape Association, and eventually the Texas Workforce Commission

### **Extension Horticulture Personnel Database**

***<http://horticulture.tamu.edu:7998/extensionhort/>***

Prepared a database system for TAMU Horticulture Extension personnel to enter bio data at request of Horticulture Information Technology team. This idea arose at the 2004 Extension retreat (but has been poorly used) (browse profiles at:

<http://horticulture.tamu.edu:7998/extensionhort/search.html>).

### **Horticulture Personnel Database**

***<http://horticulture.tamu.edu:7998/faculty/login.html>***

Prepared a database system for TAMU Horticulture faculty to enter bio data and contact information. We are in the early stages of implementing this. Browse for profiles at:

<http://horticulture.tamu.edu:7998/faculty/search.html>

### **Workplace Environment Web-based Survey**

***<http://horticulture.tamu.edu:7998/workplaceenvironment/>***

I am collaborating with Jayne Zajicek and Tina Walicek-Cade (Texas State University) on the development, conducting, and analysis of a survey research project on the impact of plant in the workplace on employee performance and satisfaction.

### **Patio Citrus Information Web Site**

**<http://aggie-horticulture.tamu.edu/patiocitrus/>**

Drs. Jerry Parsons, Larry Stein, Julian Sauls and I are creating the PatioCitrus Web site to promote the Satsuma mandarin as a Texas Superstar and provide cultural information required to grow these trees for the homeowner. This is being done under the auspices of a grant provided by the Texas Ornamentals Research Enhancement Endowment.

***Course Grade Posting Databases***

I have developed and support several Web-based grade-posting databases that allow password-protected student access to course grades. The system allows the faculty member to maintain grades as Excel spreadsheets, to FTP these to the database server, and to remotely update the grades in a secure and convenient fashion. I designed the database and did all the html coding required. This system is used in HORT 201H, 203, 315, 325, 489Web, 605 and MEPS 411.

***Master Gardener Coordinators Database***

**<http://floriculture.tamu.edu:7998/mgcoordinators/>**

Searchable database of county Master Gardener coordinators. Allows direct input of current personnel as the positions turnover at a high rate.

Collaborators: Sonne Feagley and Doug Welsh

***EarthKind Online Training Modules for Master Gardeners***

**<http://earthkind.tamu.edu/EKOnLineModules.html>**

Provided support for Don Wilkerson and Doug Welsh in the creation of online autotutorial training modules for Master Gardener advanced training. Assisted in the preparation of Camtasia streaming video modules, online quizzes, and databases for recording results.

Collaborators: Don Wilkerson, Doug Welsh.

***PLANTanswers FAQ Database***

**<http://horticulture.tamu.edu:7998/faq/search.html>**

Searchable database of frequently asked questions taken from the original PLANTanswers questions pages and the database accumulated on PLANTanswers.com. These FAQ will be subsequently entered into the national eXtension FAQ database.

Collaborators: Jerry Parsons, Forrest Appleton.

***EARTH-KIND Podcasts***

**<http://aggie-horticulture.tamu.edu/earthkind/index.html>**

Worked with Don Wilkerson to make available a series of EARTH-KIND "newsletters in audio" form (podcasts). Designed and implemented the database testing tool for the EARTH-KIND Challenge, and the EARTH-KIND Online Master Gardener training program.

***EARTH-KIND Master Gardener Online Training***

**<http://earthkind.tamu.edu/MGtraining.html>**

The EARTH-KIND Online Master Gardener training modules are a series of short educational segments that are formatted as streaming Windows Media files. The student watches the presentation, takes an online quiz on the topics presented, and upon successful completion of the quiz and an evaluation survey that follows, the student is presented with a certificate of completion for the module. Between January and October, 2007 364 online quizzes were taken by Master Gardeners, and since its inception in July, 2005 and November 1, 2007, over 943 certificates were awarded to Master Gardeners through this program. Don Wilkerson provided the content and video files, and I prepared the Web site, the online quizzes, and programmed the databases involved.

***EARTH-KIND Challenge***

**<http://aggie-horticulture.tamu.edu/earthkind/EKChallenge.html>**

The EARTH-KIND Challenge is an online quiz that allows the homeowner to evaluate their gardening practices against the EARTH-KIND ideal. The feedback given to the user is “personalized” by the responses submitted, so that each individual receives an overall score. The EARTH-KIND Challenge was taken 347 times between September 5 and November 12, 2007. Don Wilkerson designed the questions and responses and I prepared the Web site and programmed the database involved.

### ***Urban Landscape Guide***

***<http://urbanlandscapeguide.tamu.edu/>***

Don Wilkerson and I worked with the county horticulturists, Mike Arnold, and several others to prepare an innovative database that presents information on landscape ornamentals rated by suitability for the different environmental regions of Texas.

### ***Aggie Horticulture Next Generation Web Technology***

***<http://www-horticulture.tamu.edu/>***

A suite of information delivery tools has been configured to run on MySQL and PHP. This is a dramatic departure from the static page Web technology used on the main Aggie Horticulture server and includes a content management system (Joomla), an image library built around Gallery 2, a blog site built around WordPress, and a Wiki site built on MediaWiki. Much of the preliminary configuration is complete, some of the graphics done,

### **Online Courses**

I designed, developed, maintain, and teach two online courses. ***HORT 315, Component Analysis of Horticultural Systems***, is a junior-senior level required course. It is writing-intensive and has a substantial ethics component. The course covers the non-production factors that affect profitability of horticultural operations, from environmental issues to biotechnology, including water rights, labor management, international trade, precision agriculture, intellectual property rights, food safety and sustainable agriculture. The course is taught entirely Web-based and has approximately 30 students per semester. I designed and developed the entire course Web site and the assignment, grade management, and essay posting databases.

***HORT 605, Internet Technology for Horticulture***, is taught in traditional, interactive teleconferencing, and Web-based modes depending on the location/needs of the graduate students who take the course. The course deals with the design, construction, and management of comprehensive Web sites, and the applications of Web technology to teaching, Extension and research programs. The course has evolved into the largest graduate level course in our department, attracting over 20 students at each offering. Students come from horticulture, animal science, agricultural education, soil and crop sciences, educational technology, English, psychology and a host of other academic disciplines.

***HORT 203, Flowers and Plants Used in the Interior***, is taught in the traditional and Web-based modes by Dr. Jayne Zajicek. One of my students (Christine MacAlpine) and I developed a Web-based approach to teaching floral design as part of her Masters research project, and Zajicek has implemented the lab teaching method we developed into her course. It was used for 2 sections of 25 students each in Fall, 2002 and 4 for Spring, 2003. Zajicek and I received a grant to equip a technology mediated instruction lab for the course that includes 20 student work stations which are built around laptop computers connected by a wireless network. Students receive instruction from videos we built into the Web site, and take and submit quizzes online.

## CDROM

Because users with low bandwidth access to the Internet have difficulty accessing the large color images many of our databases contain, we have created CDROMs that allow users to access most of the Web site from their local computer. We have developed and distributed CDROMs of the following databases:

- Texas Native Trees
- Texas Native Shrubs
- Herbaceous Plants PicturePages
- Ornamentals PicturePages
- HortIPM
- EarthKind Roses

## Web-Based Surveys

I have written and conducted several Web-based surveys. Four have been conducted on a research sub-contract from Bridget Behe at Michigan State University (Christmas tree preference and price sensitivity, orchid preference, consumer preference for flowering plants, satisfaction with Valentine's Day rose purchases). A life satisfaction survey among seniors was developed in conjunction with Drs. Jayne Zajicek and Tina Waliczek. A periodic survey of Aggie Horticulture users has also been developed and conducted.

## Book Chapters

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- Sandall, Sharon K. and R. D. Lineberger. 1997. Stabilization of Chimeral African Violet Clones by in vitro Inflorescence Culture. HortScience 32:593 (Abst).
- Lineberger, R. D. 1997. Organizing a Home Page. HortScience 32:398. Workshop presentation in the Integrating Resources on the Web workshop.
- Lineberger, R. D. 1997. Spin Your Own Floriculture Web. HortScience 32:390. Workshop presentation to the Floriculture Education Working group.
- Lineberger, R. D. 1997. Marketing Horticulture on the World Wide Web. HortScience 32:391. Workshop presentation to the ASHS Administrators Working group.
- Lineberger, R. D. 1997. Integrating the Web into Existing Extension and Educational Technology. HortScience 32:425. Abst. 720. Invited presentation to the symposium Implementing HortBase: Horticultural Global Information System for Decision Support.
- Sandall, Sharon K. and R. D. Lineberger. 1997. Flowering Patterns of Reverse Pinwheel Chimeras Produced during in vitro culture of Saintpaulia ionantha 'Silver Summit.' HortScience 32:425 Abst. 689.

- Waliczek, T. M., R. D. Lineberger and J. M. Zajicek. 1997. Researching the Benefits of Children's Gardening Using Computer Technology. *HortScience* 32:417 Abst 741.
- Lineberger, R. D., F. Dainello, J. Jackman, and M. Miller. 1997. A Web-based Tool for Diagnosing Cucurbit Disorders. Presentation Plant Protection Conference, December 10, College Station, TX.
- Waliczek, T. M., R. D. Lineberger, and J. M. Zajicek. 1998. Studying the Perceptions of Garden Benefits Using the Internet. *HortScience* 33:504 (Abst 341).
- Brandenberger, L. and R. D. Lineberger. 1998. Creation and maintenance of a Horticultural Education Web Site by an Extension Specialist without HTML Programming Skills. *HortScience* 33:507 (Abst 355).
- Lineberger, R. D. 1998. Aggie Horticulture on Disk. *HortScience* 33:507 (Abst 356).
- Maxwell, D. W. 1998. Optimizing Graft Union Formation between Sweetpotato (*Ipomoea batatas*) and Bush Morning Glory (*Ipomoea carnea* ssp. *fistulosa*) as a prelude to Chimera Development. *HortScience* 33:557 (Abst. 634). First place student research paper. (R. D. Lineberger, adviser).
- Lineberger, R. D., and L. Sistrunk. 1998. Undergraduate Programs on the Web. *HortScience* 33:417. Colloquium presentation at annual ASHS meeting.
- Lineberger, R. D., W. David Reed, and M. Rumpho. 1998. Micropropagation of *Camptotheca acuminata*. Presentation at Southern Region ASHS meeting.
- Lineberger, R. D., F. Dainello, J. Jackman, and M. Miller. 1998. A Web-based Tool for Diagnosing Cucurbit Disorders. Presentation at Southern Region ASHS meeting.
- Lineberger, R. D. 1998. Use of the World Wide Web as a Job Searching Tool. Presentation to the Southern Region ACB at the Southern Region ASHS meeting.
- Lineberger, R. D., W. David Reed, J. Bennett and M. Rumpho. 1998. An Integrated Approach to *Camptotheca* Improvement. Presented at the Cancer, Planta & Hope Conference, New Orleans, LA. 17 August 1998.
- Priscilla Files, R. D. Lineberger, and D. C. Wilkerson. 1999. HortIPM--Online IPM Resource for Nursery/Floral Producers. *HortScience* 34:834.
- D. C. Wilkerson, R. D. Lineberger, and P. J. Files. 1999. HortIPM: An Interactive Integrated Pest Management Program. *HortScience* 34:517 Abst. 423.
- Douglas Maxwell, and R. D. Lineberger. 1999. Use of Bush Morning Glory and Ornamental Sweet Potato 'Blackie' as a System for Teaching Grafting Principles in Undergraduate Horticulture Courses. *HortScience* 34:470 Abst. 162.
- Dooley, K. E., Patil, B. S., & Lineberger, R. D.. 2000. An evaluation of a multidisciplinary course delivered at a distance: Prescriptive principles to challenge our profession. In G. Miller (Ed.) Proceedings of the National Agricultural Education Research Conference (December), San Diego, CA.
- Lineberger, R. D. 2000. Designing an Image Database for the Internet and CD-ROM. *HortScience* 35:373. Invited presentation to the ASHS workshop on Integrating Image Collections and Streaming Video into Your Teaching Program.

- Herring, A. S. and R. D. Lineberger. 2000. The Plant Tissue Culture Information Exchange Media Database. *HortScience* 35:450 (Abst. 340).
- Maxwell, D. W. and R. D. Lineberger. 2000. Propagation of *Camptotheca acuminata*. *HortScience* 35:450 (Abst. 342).
- Lineberger, R. D. 2000. Access and Accountability — Tracking and Reporting Web Site Usage Data. Proceedings of the National Extension Technology Conference, May 20-23, 2000, College Station, TX <http://aggie-horticulture.tamu.edu/netc2000/>
- Mackay, W.A. , L. Finical Halleck, and R.D. Lineberger. Oct. 19-22, 2000. Development of the Benny J. Simpson Texas native tree Web site. *Proc. Native Plant Society of Texas* p. 20-24
- Lineberger, R. D. 2001. The Transition from Web-assisted to Web-based Teaching - The HORT 315 Experience. *HortScience* 36(3):524.
- MacAlpine, C., D. Lineberger, J. Parsons, M. Arnold, S. George, W. Mackay, C. McKenney, T. Davis, and G. Grant. 2001. Texas Superstar.com - Web-based Promotion of a Plant Trialing Program. *HortScience* 36(3):476 Poster #482.
- Cabrera, R. I. and D. Lineberger. 2001. Crapemyrtle: A Versatile Woody Ornamental. *HortScience* 36(3):501 Poster #173.
- Waliczek, T. M., R. D. Lineberger, and J. M. Zajicek. 2001. Can Gardening Influence Quality-of-Life Perceptions? 2001 International Society for Quality-of-Life Studies Conference 13:3, Nov. 28-30, 2001, Washington, DC.
- Bhimanagouda S. Patil, Kim E. Dooley, and R.Daniel Lineberger. 2001. Connecting Experts and Disciplines Through Videoconference Partnerships. *HortScience* 36(3).
- Waliczek, T.M., D. Lineberger and J.M. Zajicek. 2002. Evaluation: Measuring Success with Diverse Audiences (Using web-based instruments as an explorative tool to gain insight). American Association for Botanical Gardens and Arboreta, Hamilton, Ontario, Canada, 10.
- Behe, B. K., R. M. Walden, R. D. Lineberger, M. Duck, and B. M. Cregg. 2002. Consumer Preference for Table-Top Christmas Trees. Proceedings of the 26<sup>th</sup> International Horticultural Congress, August 11-17, Toronto, CA.
- Bryan, Donita L., R. Daniel Lineberger, W. Todd Watson, Michael A. Arnold, and Charles R. Hall. 2003. Propagation of Spineless *Acacia wrightii* Genotypes. Presented at the ASHS meetings in Providence, RI.
- Waliczek, T. M., J. M. Zajicek, and R. D. Lineberger. 2003. The Influence of Gardening Activities on Perceptions of Life Satisfaction. Presented at the ASHS meetings in Providence, RI.
- Lineberger, R. D. 2003. Streaming Video Applications in TAMU Online Courses. Invited presentation at the workshop "Engaging the Online Learner with Multimedia Presentations". Presented at the ASHS meetings in Providence, RI.
- Henss, S., J. Zajicek, and R. D. Lineberger. 2004. Can a Floral Design Lab Course Be Taught Effectively Using Web-based Delivery? *HortScience* 39(4): 809.

Dravigne, A. K., T. M. Waliczek, J. M. Zajicek, and R. D. Lineberger. 2005. The Effect of Live Plants and Window Views on Employee Job Satisfaction. *HortScience* 40(4): 1063.

Consumer Preferences for Price, Color Harmony, and Information Level of Container Gardens. Mason, S., T. Starman, B. Behe, and R. D. Lineberger. *HortScience* 42:892.

Web-facilitated Discussion Increased Knowledge Perception of Health-maintaining Properties of Fruits and Vegetables through the Unique Multi-institute, Multi-state, and Multidisciplinary Course. Girenavar, B., R. D. Lineberger, and B. Patil. *HortScience* 42:997.

## **UNDERGRADUATE TEACHING PROGRAM WHILE AT OHIO STATE UNIVERSITY**

Horticulture 231 - *Landscape Plants I* - Identification of deciduous trees and shrubs, taught for nonmajors. One 2 hr lecture and 1 2 hr lab per week. (Full responsibility).  
Autumn 1977 - 143 students

Horticulture 232 - *Landscape Contracting and Maintenance* - Principles and practices of various landscape maintenance procedures in addition to contracting, bidding, and construction practices; taught for nonmajors. Two 2 hr lectures per week. (Full responsibility).  
Winter 1978 - 124 students

Horticulture 233 - *Landscape Plants II* - Identification of narrowleaf and broadleaf evergreen trees and shrubs, taught for nonmajors. One 2 hr lecture and 1 2 hr lab per week. (Full responsibility).  
Spring 1978 - 102 students

Horticulture 293, 593 - *Individual Studies* - Special project courses tailored to the needs and interests of the student.  
Summer 1978 - 1 student  
Winter 1980 - 1 student  
Spring 1980 - 3 students  
Summer 1980 - 1 student  
Autumn 1980 - 1 student  
Winter 1981 - 1 student  
Spring 1981 - 1 student  
Summer 1981 - 1 student  
Autumn 1981 - 1 student  
Winter 1981 - 1 student  
Spring 1982 - 1 student  
Summer 1984 - 1 student  
Winter 1986 - 1 student

Horticulture 432 - *Woody Plant Identification* - A plant identification course emphasizing plant recognition, usage, and cultivars taught for horticulture majors. Three 1 hr lectures and 2 2 hr labs per week. (Full responsibility).  
Autumn 1978 - 120 students

Horticulture 433 - *Woody Plant Identification* - A continuation of Horticulture 432 with an emphasis on evergreen species. Three 1 hr lectures and 2 2 hr labs per week. (Full responsibility).  
Winter 1979 - 117 students



Horticulture 434 - *Landscape Maintenance* - Planting, maintenance, fertilization, construction materials, and landscape features using evergreen and deciduous species taught for horticulture majors. Three 1 hr lectures and 1 2 hr lab per week. (Full responsibility).  
Spring 1979 - 83 students

Horticulture 415 - *Plant Propagation* - Asexual propagation methods, greenhouse and mist propagation structures, seeds, seed production methods, and plant tissue culture. A basic course required of all horticulture majors. Four 1 hr lectures and 1 2 hr lab per week. (Full responsibility).  
Autumn 1979 - 61 students  
Spring 1980 - 83 students  
Autumn 1980 - 52 students  
Spring 1981 - 70 students  
Spring 1982 - 64 students  
Spring 1983 - 61 students  
Spring 1984 - 43 students  
Spring 1985 - 26 students  
Spring 1986 - 30 students

Horticulture H599 - *Individual Studies for Honors Students* - Honors students are required to complete a research project and thesis prior to graduation. These projects are similar to masters theses.

Autumn 1980 - 1 student  
Winter 1982 - 4 students  
Spring 1982 - 1 student  
Autumn 1982 - 2 students  
Spring 1983 - 1 student  
Spring 1984 - 1 student  
Summer 1984 - 1 student  
Winter 1985 - 1 student

Agriculture H590 - *Honors Colloquium* - An undergraduate seminar course. (Shared responsibility).  
Spring 1981 - 13 students  
Autumn 1981 - 18 students  
Autumn 1983 - 15 students

#### **UNDERGRADUATE TEACHING PROGRAM WHILE AT CLEMSON UNIVERSITY**

Horticulture 409 - *Senior Seminar*- A lecture/discussion course for graduating seniors. Covered land grant philosophy, organization of Clemson University College of Agriculture, applications of microcomputers, computer databases (CUFAN and Spartan Ornamental Network), resume preparation, and interviewing techniques. (Full responsibility).  
Autumn 1988 - 18 students  
Spring 1990 - 11 students

#### **UNDERGRADUATE TEACHING PROGRAM AT TEXAS A&M UNIVERSITY**

Horticulture 201, 202 Honors Section- A lecture course in general plant science designed for Honors students. The focus is on horticultural plants, but topics covered include basic plant morphology, anatomy, physiology and biochemistry. Sections on the World Wide Web, biotechnology, and current issues have been added. Course is co-taught with Marla Binzel.

Horticulture 315, Component Analysis of Horticultural Systems, was developed as part of the horticulture core. This course covers the production and management techniques used in modern horticultural cropping systems, including environmental, regulatory, and ethical issues. A Web-based version of this course was taught for the first time in Spring, 2000. The course has been taught exclusively Web-based since Spring, 2001.

Horticulture 400, Field Studies in Horticulture

Accompanied Sam Cotner in taking 12 undergraduate students on a week long field study trip to horticultural production operations in the Lower Rio Grande Valley

Horticulture 485, Undergraduate Special Topics. One student is currently enrolled and is developing an interactive landscape plant selector for inclusion in Aggie Horticulture, the Web site of the Texas Horticulture Program that is maintained by Lineberger.

Horticulture 489, Internet Technology for Horticulture. Development series that will lead to a full undergraduate course in internet technology, including web site construction, file transferral, and digital image manipulation.

### **GRADUATE TEACHING PROGRAM WHILE AT OHIO STATE UNIVERSITY**

Horticulture 715 - *Applications of Plant Cell, Tissue, and Organ Culture to Horticultural Research* - A course dealing with the principles and practices of the in vitro culture of plants. Two 1 hr lectures, 1 4 hr lab per week. (Full responsibility). Autumn 1981 - 11 students

Autumn 1982 - 7 students

Autumn 1983 - 7 students

Autumn 1984 - 11 students

Autumn 1985 - 12 students

Horticulture 804 - *Horticulture Seminar*

I coordinated the Horticulture Department Seminars, arranged seminars and visits by outside speakers, and managed the evaluation and grading of graduate student seminars.

Horticulture 814 - *Physiology of Horticultural Plants* - A team taught course covering principles of whole plant physiology as related to horticultural practices. I served as course coordinator and taught a 3 week section covering drought and freezing stress and plant chimeras. Two 2 hr lectures, 1 hr discussion section per week. (Shared responsibility).

Autumn 1978 - 8 students

Autumn 1979 - 12 students

Autumn 1980 - 9 students

Autumn 1981 - 13 students

Autumn 1982 - 9 students

Autumn 1983 - 7 students

Autumn 1985 - 5 students

Horticulture 993 - *Individual Studies for Graduate Students*

Summer 1978 - 1 student

Winter 1980 - 10 students

Winter 1981 - 2 students

Spring 1982 - 1 student

Summer 1982 - 1 student

Winter 1985 - 1 student

## Horticulture 999 - Thesis/Dissertation Research

	1978	1979	1980	1981	1982	1983	1984	1985	1986
Winter -	6	-	11	6	4	4	4	6	
Spring	-	7	12	10	7	4	4	5	6
Summer	-	3	9	6	-	3	4	4	6
Autumn	2*	9	9	-	3	4	6	5	6

\* Number of students registered for Hort 999 under my guidance during indicated quarter.

**GRADUATE TEACHING PROGRAM AT TEXAS A&M UNIVERSITY**

## Horticulture 605, Internet Technology for Horticulture

A course designed to teach students how to use the World Wide Web as a source for information, and how to design and operate a server on the Web. Topics include introduction to html, transfer of files via FTP, configuring helper applications, and graphic image acquisition and manipulation. Co-taught in summer 1995 with Laurence Sistrunk, co-taught with Rob Terry in summer 1996, and taught independently since summer 1997. Currently taught as a distance education course (teleconference and Web-based).

## Horticulture 685, Special Topics for Graduate Students

Two students are currently enrolled in HORT 685 and are learning the principles and practices of plant tissue culture and are designing a tutorial on tomato plant regeneration that will be delivered via the World Wide Web.

**GRADUATE STUDENT PROGRAMS COMPLETED**

John W. Kelly, M.S., 1979

Thermal Neutron Irradiation of *Saintpaulia*

Susan E. Leister, M.S., 1981

The Ultrastructure of Cultured *Chrysanthemum* Cells: A Descriptive Study

Suzanne M. D. Rogers, M.S., 1981

Methodology for Selection of *Nicotiana* Callus Cultures with Enhanced Freezing Tolerance

Philip A. Lindsey, M.S., 1981

Germination and Ultrastructural Effects of Cadmium Toxicity and Accumulation Profiles of Cadmium in Bush Bean (*Phaseolus vulgaris* 'Dwarf Horticultural Taylor')

Masomeh B. Behrouz, Ph.D., 1981

Shoot Multiplication and Photomorphogenesis Studies in the in vitro Culture of *Amelanchier laevis*

Sharon Maraffa Kurtz, Ph.D., 1981

Selection for Sodium Chloride Tolerant Cell Lines of *Lycopersicon esculentum* Mill.

Charles H. Michler, Jr., M.S., 1981

Survival Determinations of *Nicotiana tabacum* L. 'Wisconsin 38' Callus Cultures Following Rapid Cooling

Audrey Wanstreet, M.S., 1982

In vitro Inoculation of Tissue Culture Propagated *Malus* Shoot Tips with *Erwinia amylovora*

Ralph T. Nicolosi, Ph.D., 1982

Morphological Features of Leaves and Pollen as an Aid in Separating Selected Species and Cultivars within the Genus *Taxus*

Patricia Duncan, Ph.D., 1984

In vitro Culture of *Raphanus sativus*

Chiung-Chi Kuo, M.S., 1984

Freeze Preservation of Apple Shoot Tips

Mark H. Brand, M.S., 1985

Shoot Proliferation, Rooting, Acclimation and Explantation Timing Studies in the in vitro Culture of *Halesia carolina*

Charles V. M. Fink, M.S., 1985

Development of a Tissue Culture System for the Micropropagation of 'Pioneer' Elm

Patricia K. Crooks, Ph.D., 1985

Development of a Useful Procedure for Differentiating Cultivars of *Juniperus* by Volatile Terpenoid Composition

Charles H. Michler, Ph.D., 1986

Effects of Light Quality on Morphology and Endogenous Abscisic Acid during Somatic Embryogenesis of Carrot

Thomas J. Montagno, M. S., 1986

Somaclonal and Radiation Induced Mutation in *Lycopersicon esculentum*

Timothy J. Malinich, M. S., 1987

Cytokinin Applications to Inflorescences of Pinwheel Flowering African Violets

Vicki M. Gingas, Ph. D., 1988

Asexual Embryogenesis and Plant Regeneration in *Quercus rubra*.

M. H. Brand, Ph. D., 1988

Morphological and Biochemical Characterization of the Rejuvenation of Micropropagated *Betula* sp.

M. A. Kroggel, M. S., 1988

Characterization of Somaclonal Variation in *Ulmus* x 'Pioneer' Regenerated from Protoplasts.

Paul M. Pijut, Ph. D., 1988

Investigation of the Interactions of in vitro Cultured *Ulmus* with *Ceratocystis ulmi*, the Fungal Pathogen of Dutch Elm Disease.

Melanie E. Davis, Ph. D., 1989

Factors which Influence Transformation of Tomato (*Lycopersicon esculentum* L. Mill.) by *Agrobacterium tumefaciens*.

Mary F. Pogany, M. S., 1989

Phenotypic Variation during Micropropagation of the Chimera Rhododendron 'President Roosevelt'.

April Warner, M. S., 1990

Effect of Growth Regulators on Somatic Embryogenesis in Tomato

Ann M. Chanon, M. S., 1994

The Effect of Various Thidiazuron Concentrations and 2,4-D Exposure on Somaclonal Variation and Shoot Morphogenesis in Birch

April Herring, M. S. 2001

A Web-based Plant Tissue Culture Information System

Christine MacAlpine, M. S., June 2002

Comparison of Digital Images and Compressed Video As Supplements in the Teaching of Floral Design

Sharon G. Sandall, M. S., December 2002

Propagation and Chimera Characterization of Two Reverse Pinwheel Flowering African Violet

Douglas Maxwell, M. S. May, 2003

Clonal Propagation of *Camptotheca acuminata*

## **PROFESSIONAL SERVICE**

Principal Writer for the Plant Biotechnology Proposal for the Ohio Eminent Scholars Competition, 1984 (not funded)

Manuscript reviewer for the Journal of the American Society for Horticultural Science, American Journal of Botany, and Plant Cell, Tissue, and Organ Culture

Former member of the Editorial Board of *Scientia Horticulturae*

Member of NSF Review Panel for Small Business Innovation Research Grant Competition September, 1988

Reviewer of grant proposals for the OSU Seed Grant Competition (1984, 1985) and the Ohio Floriculture Foundation Grant Competition (1982-1985)

Technical Advisor to the Research Committee of the Ohio Florists Association (1980-1984)

Consultant - Scott Laboratories, Inc.

Assisted Ulery's Greenhouse, Inc. in media preparation and explant sterilization at their newly installed tissue culture lab.

Consultant - Borden, Inc. - Corporate Quality Control Lab. Development of a bioassay to detect herbicide contamination in fertilizers. Borden sold the fertilizer company involved before the project was completed.

Consultant - O. M. Scott, Inc.

Conducted a half-day seminar on the impact of tissue culture technology on the turfgrass industry for research scientists contemplating Scott's entry into the area; currently assist tissue culture technology group with problem solving.

Consultant - Herman Losely and Son, Inc.

Assisted Losely's tissue culture lab in the development and implementation of micropropagation systems for various ornamental species.

Program Chairman - Second International Symposium on In Vitro Culture and Horticultural Breeding, June 28 - July 2, 1992, Baltimore, MD.

Program Reviewer - CSRS Review of Plant Science Department, University of Connecticut March, 1992

Program Reviewer - CSRS-style Review of Department of Environmental Horticulture, University of Florida, October, 1998

Program Reviewer - Review of Department of Floriculture and Environmental Horticulture, Cornell University, October, 2000

Grant Reviewer - Horticulture Research Institute (since 1998)

Grant Reviewer - Texas Nursery and Landscape Association, August, 2001, 2002

Program Reviewer - Review of Department of Plant Science and Plant Pathology, Montana State University, October, 2002

Consultant – RanPro Nursery, Inc., June 8, 2006

Conducted a half-day educational session on micropropagation and its application to large scale nursery crop production.

### **Committee Service, American Society for Horticultural Science**

Chair, Plant Biotechnology Working Group

Chair, Administrator's Working Group 1991 - 92

Chair, Scholarship Committee 1992 - 93

Strategic Planning Committee 1992 - 93

Future Meeting Site Selection Committee, 1992 - 1994

Chair, Organization Task Force, 1993-1994.

Chair, Computers in Horticulture Working Group, 1996 - 1998

President-elect, 2000 - 2001

President, 2001-2002

Chairman of the Board, 2002-2003

### **UNIVERSITY, COLLEGE AND DEPARTMENT COMMITTEES AND ACTIVITIES**

#### **While on the Faculty at Ohio State University**

##### *Departmental*

Landscape Horticulture Committee

Floriculture Committee

Graduate Committee, Chairman (1986-87)

*College*

Agriculture Faculty Council, Chairman (1986-87)  
 OARDC Director Search Committee  
 College Honors Committee, 1980-84, Sec (1983), Chmn (1984)  
 OARDC Conference Committee

*University*

Search Committee for the Vice President for Agriculture  
 Plant Biotechnology Planning Committee  
 Plant Physiology Program Committee  
 Biotechnology Director Search Committee

*Horticulture Industry*

Ohio Nurseryman's Association Research & Program Committee  
 Ohio Florists Association Research Committee

**While on the Faculty at Texas A&M University**

1991-1993, Experiment Station Plant Germplasm Review Committee  
 1992, Texas Agricultural Experiment Station Strategic Planning Committee  
 1992-1998, International Programs Enhancement and Coordination Committee  
 1992-1994, Plant Biotechnology Program Advisory Committee  
 1992-1994, University wide Distance Education Committee  
 1994-present, Distance Education Action Committee  
 1993-1995, Kellogg 2020 Project Core Committee  
 1993-1996, Development Committee, Plant Physiology and Plant Biochemistry Faculty  
 1997-1998, COALS Honors Program Study Committee, Chair  
 1997-1999, Executive Committee, Plant Physiology and Plant Biochemistry Faculty  
 1997-present, Executive Committee, CEMAP Program  
 1996-2002, COALS Distance Education Team  
 1999-2000, Fiscal Advisory Committee, Office of Distance Education  
 1999-2002, TAMU System Council on Distance Education  
 2002-2004, Vice Chancellor's Task Force on Distance Education  
 2005-present, eXtension Institutional Committee  
 2005-present, eXtension Consumer Horticulture Community of Practice  
 2006-present, Ag Program Content Management System Steering Committee

**SPEAKING ENGAGEMENTS**

"May I Clone Your Mum?" College of Agriculture Alumni Day Presentation, March 10, 1979, Columbus, OH.

"Cloning the Mighty Oak" Presentation for the Youth and Science Day sponsored by the College of Agriculture, OSU, September 29, 1979, Columbus, OH.

"Tissue Culture and Micropropagation" Presented at the Fruit School sponsored by the Department of Horticulture, OSU and OARDC, December 10-11, 1979, Wooster, OH.

"Plant Anatomy - Cells, Tissue Structure and Processes" Presentation for the Air Quality Seminar at the Ohio Environmental Protection Agency, April 8, 1980, Columbus, OH.

- "Grafting" Guest lecture on plant propagation at the Delaware Joint Vocational School, April 15, 1980, Delaware, OH.
- "Cloning the Johnny Appleseed Apple Tree" Presented at the Apple Blossom Day Festival at the Dawes Arboretum, May 11, 1980, Newark, OH.
- "Plant Propagation by Tissue Culture" Poster Presentation at Turf and Landscape Day, sponsored by College of Agriculture, OSU, OARDC September 9, 1980, Wooster, OH.
- "There's a Clone in Your Future" Presented at the Youth and Science Day Conference, sponsored by the College of Agriculture, OSU October 11, 1980, Columbus, OH.
- "Applications of Tissue Culture for Plant Selection" Interdepartmental Plant Physiology Program Seminar, December 3, 1980, Columbus, OH.
- "Aspects of a Teaching Program for Plant Tissue Culture" Presented at the annual meeting of the Eastern Region, International Plant Propagators Society, December 11, 1980, Boston, MA.
- "An Overview of Micropropagation" Presented at the Ohio Nursery Short Course, January 27, 1981, Columbus, OH.
- "Propagating by Tissue Culture" Presented at a meeting of the Southwestern Ohio Environmental Horticulture Association, April 2, 1981, New Carlisle, OH.
- "Applications of Micropropagation Relevant to Rhododendron sp." Presented to the Great Lakes Chapter of the American Rhododendron Society, May 25, 1981, Wooster, OH.
- "Tissue Culture Propagation of *Amelanchier laevis*" Presented at the Field Day of the Southwestern Ohio Environmental Horticulture Association, July 30, 1981, New Carlisle, OH.
- "Tissue Culture and Vegetable Crops Improvement" Presented to a regional vegetable growers meeting, February 23, 1982, Sandusky, OH.
- "Applications of Tissue Culture to the Nursery Industry" Presented to the Lake County Nurserymen's Association, March 9, 1982, Mentor, OH.
- "Tissue Culture of Rhododendrons and Azaleas" Two lectures and coordinated regional meeting for the Great Lakes Chapter of the American Rhododendron Society, March 13, 1982, Columbus, OH.
- "Plant Cell, Tissue, and Organ Culture" Presentation for the Panel of Bioethical Concerns, National Council of Churches, June 6, 1982, Columbus, OH.
- "Producing Plants from Cells" Presented to the OSU/OFA Summer Florists' Short Course, June 10, 1982, Columbus, OH.
- "Potential Usefulness of Tissue Culture to Horticulture" Presented to the National Meeting of the North American Fruit Explorers, July 30, 1982, Ashland College, Ashland, OH.
- "Clonal Propagation - Past, Present and Future" Presented to the National Convention of the Men's Garden Clubs of America, August 8, 1982, University of Toledo, Toledo, OH.



- "Biotechnology and Genetic Engineering" Presented to the adult forum, Overbrook Presbyterian Church, September 15, 1982, Columbus, OH.
- "Tissue Culture" Presented to the Men's Garden Club of Akron, October 18, 1982, Akron, OH.
- "Clonal Propagation - Past, Present and Future" Presented to the Men's Garden Club of Mansfield, November 4, 1982, Mansfield, OH.
- "Tissue Culture Propagation of Ornamental Plants" Seminar presented at the USDA-ARS Nursery Crops Research Lab, November 30, 1982, Delaware, OH.
- "Plant Tissue Culture" Presented at the 5th Great Lakes Herb Symposium, Dennison University, June 25, 1983, Granville, OH.
- "Micropropagation for the Perennial Industry" Presented at the OSU Herbaceous Perennials Symposium, July 12, 1983, Columbus, OH.
- "There is a Clone in Your Future" Presented at the Martin Essex School for the Gifted, OSU, August 18, 1983, Columbus, OH.
- "Plant Tissue Culture" Presented to the Columbus Horticultural Society, January 13, 1984, Columbus, OH.
- "The Future of Genetic Engineering" Dinner Speech presented to the Annual Celeryville Muck Crops School, January 19, 1984, Willard, OH.
- "Applications of Plant Tissue Culture" Presented to Wooster Sigma Xi Club, February 7, 1984, Wooster, OH.
- "Applications of Plant Tissue Culture" Presented to the 51st Annual Dairy and Food Industry Conference, February 15, 1984, Columbus, OH.
- "Is There a Micropropagated Grapevine in Your Future?" Ohio Grape-Wine Short Course, February 22, 1984, Columbus, OH.
- "Applications of Tissue Culture to Plant Production and Pest Management" Plant Protection Seminars, February 23, 1984, Columbus, OH.
- "Application of Plant Tissue Culture to Germplasm Improvement". Departmental Seminar, Agricultural Engineering Department, Ohio State University, April 24, 1984, Columbus, OH.
- "Plant Tissue Culture" Presented at the National Convention of the Women's National Farm and Garden Association, May 8, 1984, Columbus, OH.
- "Micropropagation" Presented to the Sycamore Hills Garden Club, June 20, 1984, Columbus, OH.
- "Chimeral Nature of the Pinwheel Flowering African Violets" Genetics Department Seminar, Ohio State University, October 12, 1984, Columbus, OH.
- "What Can Genetic Engineering Do for the Food Industry?" Presented at the Annual Short Course for the Food Processing Industries, March 18, 1985, Columbus, OH.

"Tissue Culture of Chimeral African Violets" Garden Club of Ohio, Columbus District, May 8, 1985, Columbus, OH.

"Pinwheel Flowering African Violets-A Model System for Studying Chimeras" Horticulture Department Seminar, October 11, 1985, Columbus, OH.

"Cell and Tissue Culture" Visit by Scioto County JVS sponsored by College of Agriculture. November 22, 1985, Columbus, OH.

"A Plant Tissue Culture Science Project" Central Ohio Teachers Day. October 18, 1985, Columbus, OH.

"Tissue Cultured Tomatoes: Results, Goals, and Expectations" Ohio Fruit and Vegetable Growers Conference. January 21, 1986, Columbus, OH.

"Tissue Culture: Potential for the Fruit Industry" Ohio Fruit and Vegetable Growers Conference. January 22, 1986, Columbus, OH.

"Plant Tissue Culture" Plant Protection Seminar. Ohio State University, February 27, 1986, Columbus, OH.

Plant Tissue Culture Workshop. Conducted for 200 in attendance at the Perennial Plant Symposium, July 12, 1986, Columbus, OH.

"Progress in Tissue Culture of Nursery Crops" Ohio Turfgrass and Landscape Horticulture Research Field Day, September 11, 1986, Columbus, OH.

"Nature of Chimeral African Violets" National Meeting of the American Gesneriad Society, October 9, 1986, Springfield, OH.

"Genetic Engineering with the Tomato" Ohio Food Processors Association Tomato Production/Processing School, March 19, 1987, Worthington, OH.

"Integrating Biotechnology into Traditional Horticulture Programs" Department Heads Working Group, Southern Region ASHS, February 2, New Orleans, LA

"Integrating Biotechnology into Traditional Horticulture Programs" Departmental Administrators Working Group Workshop, ASHS Meeting, August 11, 1988, East Lansing, Michigan.

"Agricultural Applications of Biotechnology - Plant Tissue Culture." 38th Annual Pesticide Chemicals School, Columbia, SC, January 13, 1989.

"Application of Biotechnology to Potato Germplasm Improvement." 1989 Snack Food Association Chipping Potato Seminar. Jacksonville, FL, March 8, 1989.

"Slide Preparation on the MacIntosh-Montage System." Seminar to the faculty of the Pee Dee Research and Education Center, Florence, SC, April 6, 1989.

"The Excitement of Biotechnology-What It Means for Our Future." Keynote address to the 1989 Georgia/South Carolina Commercial Greenhouse Growers' Shortcourse, Columbia, SC, June 24, 1989.

"That's a really good idea! Whatever happened to it?" Workshop of the ASHS Nursery Crops and Marketing and Economics Working Groups. Tulsa, OK, Aug 1, 1989.

"Overview of Current National Biotechnology Research on Vegetables." USDA Biennial Collaborator's Conference. Charleston, SC, Nov 29, 1989.

"Plant Micropropagation--Current Uses and Future Impact." Horticulture Curriculum Improvement Workshop. Sponsored by Sandhill Community College, held in Raleigh, NC, March 17, 1990.

"Developments in Plant Tissue Culture Research." Second Century Society Luncheon, Columbia, SC, Apr 17, 1990.

"Applications of Tissue Culture in the Nursery Industry." Aiken County Nurseryman's Association, Aiken, SC, Apr 25, 1990.

"The Excitement of Biotechnology...What Will It Mean to Our Future?" Texas Greenhouse Grower's Conference, College Station, TX, Nov 13, 1990.

"Integrating Biotechnology into Traditional Agricultural Programs." Southern Region Research Center Administrators Society Annual Meeting, Fort Worth, TX, Feb 5, 1991.

"Integrating Biotechnology into Traditional Agricultural Programs." Physiology Section, International Society of Sugarcane Technologists, Workshop on Evaluating Potential for Plant Molecular Biology in Sugarcane Research, College Station, TX, Apr 8, 1991.

"The Proposed Texas A&M University Vegetable Research Center--A New Approach to Solving Vegetable Industry Needs." Pickle Packers International Meeting, College Station, TX, Apr 12, 1991.

"Advancing Home Horticulture in the 90's--The Role of Technology." Master Gardener Advanced Training Seminar, Texas Agricultural Extension Service, College Station, TX, Apr 20, 1991.

"Modern Plant Improvement Strategies." Rio Grande Valley Onion Festival, Onion Production/Marketing Institute, Weslaco, TX, May 3, 1991.

"New Horticultural Technologies." Texas Association of Nurserymen Growers Conference 1991, Tyler, TX, May 24, 1991.

"Video Technology and Ornamental Plants." Workshop on Introduction to Video Imaging sponsored by the Computer Applications in Horticulture Working Group, ASHS Annual Meeting, State College, PA, July 20, 1991.

"Advanced Technologies for the Ornamentals Industry." Texas Association of Nurserymen-Texas Associated Landscape Contractors Combined Meeting, Fort Worth, TX, October 15, 1991.

"The Excitement of Biotechnology...What It Means for the Future." XII International Symposium of Agriculture and Animal Science, ITESM (Monterrey TEC), Monterrey, Mexico, October 18, 1991.

"Ontogeny of Adventitious Shoots in vitro." Plant Molecular Biology Colloquium, Texas A&M University, College Station, TX, November 21, 1991.

- "Impact of the Mexico Free Trade Agreement on the Texas Horticulture Program." Texas A&M System Faculty Conference on Implications of a U. S.-Mexico Free Trade Agreement for Agriculture, College Station, TX, November 25, 1991.
- "Use of Biotechnology for Fruit Crop Improvement." 46th Annual Horticultural Institute of the Rio Grande Valley Horticultural Society, Weslaco, TX, January 21, 1992.
- "An Overview of Ornamental Horticulture Programs at Texas A&M." Texas Farm Bureau Leadership Conference 1992, Waco, TX, January 27, 1992.
- "Applications of Biotechnology to Horticulture." Texas Agrifood Masters Training Program, San Antonio, TX, January 28, 1992.
- "Computer Applications in Master Gardener Programs." Texas Master Gardener Advanced Training Seminar, College Station, TX, May 23, 1992.
- "Applications of Biotechnology to Horticulture." Texas Agrifood Masters Training Program, San Antonio, TX, June 9, 1992.
- "Advanced Technologies for Horticulture." Men's Garden Club of Houston, Houston, TX, Sept. 17, 1992.
- "Horticulture...Looking toward the 21st Century." Texas Fruit Growers Association Annual Conference, College Station, TX, Oct. 6, 1992.
- "Roses for the Future." Fall Festival of Roses-The Antique Rose Emporium, Independence, TX, Nov. 6, 1992.
- "Ornamentals Program Enhancement Endowment." Texas and Southwest Greenhouse Growers Conference, College Station, TX, Nov. 11, 1992.
- "Applications of Biotechnology to Horticulture." Houston Master Gardeners Meeting, Houston, Tx, Nov. 17. 1992.
- "Impact of Biotechnology on the Vegetable Industry." Blacklands Income Growth Conference/Heart of Texas Horticulture Seminar, Waco, Tx, Jan. 19, 1993.
- "Chimeral Segregation in Tissue Culture." Texas Women's Alliance Meeting, College Station, Tx, Feb. 9, 1993.
- "Advanced Technologies for Horticulture" and "The Texas A&M University System Horticulture Program." Department of Plant Production, United Arab Emirates University, Al Ain, United Arab Emirates, Apr. 4, 1993.
- "Biotechnology: How Will It Affect Your Gardening?" International Master Gardener Conference, San Antonio, Tx, Aug. 15, 1993.
- "Improvement of Surefire Tomato--A Case for Plant Tissue Culture." Austin Men's Garden Club, Austin, Tx, Feb. 24, 1994.
- "Biotechnology." Texas AgriFood Masters, Class I. Dallas, Tx, Feb. 28, 1994.

"Computer Technology for the Ornamentals Industry." Ornamental Science and Technology Field Day, Dallas Research and Extension Center, Dallas, Tx, Oct. 13, 1994.

"Biotechnology and Horticulture." Texas AgriFood Masters, Class II. Dallas, Tx, Oct. 13, 1994.

"Partnerships for Development in the Ornamentals Industry." Texas and Southwest Greenhouse Growers Conference. College Station, Tx, Oct. 17, 1994.

"World Wide Web Technology." Agriculture Program Science Conference. College Station, Tx, Jan, 11, 1995.

"Biotechnology and Horticulture." Texas AgriFood Masters, Tarrant County. Fort Worth, Tx, Jan. 17, 1995.

"Aggie Horticulture-On Ramp to the World Wide Web." Departmental Seminar, TAMU, College Station, Tx, Feb. 16, 1995.

"Use of Web Technology in Distance Education Programs." Kellogg Conference, Dallas, Tx, Feb. 28, 1995.

"Technology for Rapid Exchange of Scientific Information Via the Internet." Invited paper presented at the Symposium on Market Oriented Strategies for Greenhouse Crop Production, Alexandria, Egypt, March 11-15, 1995.

"Computer Technology for Horticulture." Presentation to the Harris County Master Gardeners. College Station, Tx, Mar. 29, 1995.

Summer Honors Invitational Program Workshops on Web Technology. TAMU Honors Program. College Station, Tx, 19, 26 June and 10 and 17 July, 1995.

"Impact of the World Wide Web on the Texas Nursery Industry." Texas Association of Nurserymen meeting. Dallas, Tx, Aug. 19, 1995.

"Information Technology for the Texas Produce Industry." Texas Produce Convention. San Antonio, Tx, Sept. 23, 1995.

"Digital Imaging Technology." National Garden Writers Association Convention. San Antonio, Tx, Oct. 21, 1995.

"Serving Horticultural Information on the World Wide Web." Plant Breeding Group, INRA Center, Avignon, France. Oct. 10, 1995.

Workshop for the Honors Faculty on Creating Teaching Resources for the World Wide Web. College Station, Tx. Nov. 7, 1995.

"Information Technology for Greenhouse Growers." Texas and Southwest Greenhouse Growers Conference. College Station, Tx, Nov. 15, 1995.

Workshop for Faculty and Staff on World Wide Web Technology, Science Conference, TAMUS Agriculture Program, College Station, Jan 9, 1996.

Marketing on the World Wide Web, presentation to the Horticultural Crops Advisory Committee, Texas Farm Bureau, Abilene, Jan 29, 1996.

Horticultural Information on the Web, presentation to the Texas Association of Agricultural Consultants, Austin, Jan 30, 1996.

Advances in Horticultural Biotechnology, presentation via TTVN to the Dallas AgriFood Masters Training class, College Station, Feb 12, 1996.

Horticultural Information on the Web, presentation to the Team Tomato Training in Harris County, Houston, Mar 2, 1996

Development and Characterization of Chimeras, Plant Physiology Seminar, College Station, Mar 5, 1996.

The CEMAP Web Site, presentation to assembled ornamentals industry leaders at the CEMAP conference, Apr 17, 1996.

Horticultural Information on the Web, presentation to the state Master Gardeners Conference, Granbury, Apr 20, 1996.

Workshop for Faculty and Staff on World Wide Web Technology (with Fred Rodriguez), Extension Staff Conference, College Station, Apr 23, 1996.

Spin Your Own Web, presentation to the Southeast Greenhouse Growers Conference, Greenville, SC, June 14, 1996.

Spin Your Own Web, presentation to the Texas Association of Nurserymen Trade Show Houston, Aug 17, 1996.

Chalk to Overheads...Overheads to Slides...Slides to ???, Crop Science Seminar, College Station, Dallas, Overton (TTVN), Sept 22, 1997

*Cucurbit Disorder Diagnosis on the Web*, IPM Technical Advisory Committee Meeting, College Station, October 21, 1997.

*Update on Aggie Horticulture*. Texas and Southwest Greenhouse Growers Conference, College Station, November 13, 1997.

*Using Aggie Horticulture and PLANTanswers in County Programs*, District 10 Agents In Service Training, Fredericksburg, November 17, 1997.

*Cloning*. Science classes at College Station Junior High School (3 presentations), College Station, December 11, 1997.

Exploring the Web. Invited presentation to the national meeting of the North American Fruit Explorers, Houston, TX, October 23, 1998.

Technology in the Classroom, invited presentation to the academic general session of the 1999 TAMUS Science Conference, College Station, TX, January 14, 1999

Vegetable Genetic Engineering. Invited presentation to the Texas Vegetable Association Mid Year Meeting, McAllen, TX, June 17, 1999.

Effective Teaching on the World Wide Web. Invited presentation to the 1999 TAEX State Staff Conference, College Station, TX, July 15, 1999.

Using Modern Information Technology in County Extension Programs. Statewide Landscape Water Conservation Training Course, College Station, TX, May 26, 1999.

Digging for Information on the World Wide Web. Invited presentation to the International Master Gardener Conference, August 20 and 21, 1999.

Aggie Horticulture—The First Five Years. Departmental Seminar, Department of Horticultural Sciences, TAMU, College Station, TX, September 23, 1999.

eCommerce for the Nursery/Floral Industry. Texas Trends 2000 Conference sponsored by the Texas Nursery and Landscape Association, January 22, 2000, San Antonio, TX.

Use of Distance Learning Technology to Teach a Multidisciplinary Course: Phytochemicals in Fruits and Vegetables, K. E. Dooley, B. S. Patil, and R. D. Lineberger, Southern Agricultural Education Association Research Meeting, January 31, 2000, Lexington, KY

Lessons Learned during the Transition... A Faculty Forum on Lessons Learned in Creating Web-based Learning Environments. Sponsored by the TAMU Office of Distance Education, March 3, 2000, College Station, TX.

Organizing County Extension Web Sites. Presentation to the Urban Counties Task Force. March 8, 2000, Houston, TX.

Biotechnology: New Tool for Progress or Threat to Our Environment? Master Gardener Advanced Training Conference, June 2, 2000, College Station, TX.

eSchool for Garden Educators. Master Gardener Advanced Training Conference, June 2, 2000, College Station, TX.

Digging for Information on the World Wide Web. Master Texas Certified Nursery Personnel Training, July 10, 2000, College Station, TX.

Arnold, M. A., T. D. Davis, S. W. George, G. D. Grant, R. D. Lineberger, W. A. Mackay, J. M. Parsons, and L. A. Stein. 2000. CEMAP with a Capital "C": Cooperation is the Key to Successful Plant Trialing Programs. Invited presentation to the ASHS workshop on Plant Evaluation Programs from Scientist to the Consumer. July 24, 2000, ASHS National Meeting, Orlando, FL.

The Transition from Web-assisted to Web-based Course Delivery - the HORT 315 Experience. Presentation to the interdisciplinary faculty of technology mediated instruction, October 23, 2000, College Station, TX.

Concept of a Virtual School for Floriculture. Presentation to Ms. Anna Ball and Mike Willimas, Ball Horticultural, and members of the greenhouse industry. November 17, 18, 2000, College Station, TX.

Organizing Departmental Web Sites. Seminar for the faculty of Family Development and Resource Management, TAEX, December 8, 2000, College Station, TX.

World Wide Web Technology for Horticulture. Presentation to Centro Internacional de la Papa (CIP) via video teleconference, December 12, 2000, College Station, TX to Lima, Peru.

Surfing the'Net for Gardening Information, College Station Evening Garden Club, February 12, 2001, College Station, TX.

Texas Native Trees on the Web and CD, Native Plant Society of Texas, February 20, 2001, Brenham, TX

Transition from Web-assisted to Web-based Instruction, HORT 315. 2001 National Floriculture Forum, February 25, 2001, Beltsville, MD.

Proposed Concept of a Virtual School of Horticulture for Greenhouse Growers. 2001 National Floriculture Forum, February 24, 2001, Beltsville, MD.

Using the Web to Find Gardening Information. Presentation to the Montgomery County Master Gardeners Association, May 21, 2001. Conroe, TX.

HortIPM – An Interactive Pest Management Tool. Texas Master Certified Nursery Professional Short Course 2001, July 10, 2001, College Station, TX.

Aggie Horticulture. Presentation to the PEO Sorority. September 13, 2001, College Station, TX.

Benefits of Being Listed on TexasSuperstar.com. Presentation to the Texas Superstar Coordination Conference, September 18, Dallas, TX.

Preparing and Using Streaming Video on the World Wide Web. TAEX Urban Extension Conference, September 28, 2001, Fort Worth, TX.

The Internet as a Tool for Producers, TAMU Advanced Horticultural Food Crops Symposium, October 2, 2001, College Station, TX.

ASHS – The First Hundred Years. Horticultural Sciences Department Seminar, October 18, 2001, College Station, TX.

Digital Imaging/Streaming Video – Putting Your Best Virtual Face Forward. TNLA Leadership Conference. January 19, 2002. Austin, TX.

Using the Internet as a Business Tool in the Fruit and Vegetable Industries. East Texas Fruit & Vegetable Conference. February 19, 2002. Tyler, TX.

Change – Recognizing the Need for and Dealing with Change in the Land Grant University. University of Minnesota Department of Horticultural Science retreat. May 14, 2002. St. Paul, MN.

Educational Resources for Landscape Water Conservation. Agent training session for TCE District 9. May 16, 2002. College Station, TX.

Access and Accountability - Tracking and Reporting Web Site Use. Public Issues Leadership Development – Joint Council of Extension Professionals. May 29, 2002. Washington, DC.



Information Technology. Training session for Texas agri-science teachers. TAMU Horticultural Gardens. June 25, 2002. College Station, TX.

Evaluating Web Activity as Faculty Professional Development. Presentation to the ASHS Administrator's Working Group. August, 2002. Toronto, CA.

Horticulture in the Post-Land Grant Era. Presidential Address presented at the International Horticultural Congress and 99<sup>th</sup> Annual Conference of ASHS. August 16, 2002. Toronto, CA.

Using the Web as a Business Tool in the Fruit and Vegetable Industries. 2002 Advanced Horticulture Food Crops Symposium. October 1, 2002. College Station, TX.

Design and Implementation of a Technology-Mediated Approach to Teaching Floral Design. Presentation to Technology-Mediated Instruction Faculty Group (with Jayne Zajicek). November 5, 2002. College Station, TX.

Aggie Horticulture. 2004 OFA/TAMU Grower Seminar and Showcase. January 8, 2004. College Station, TX.

Using the Web as a Business Tool in the Fruit and Vegetable Industries—I've Changed My Mind. January 13, 2004. High Plains Vegetable Conference, Canyon, TX.

What Do We Want the Future of Distance Education To Be at Texas A&M University? Distance Education Forum, Office of Distance Education. February 26, 2004. College Station, TX.

eCommerce for the Vegetable Industry Roundtable Discussion, 2004 Texas Produce Convention. August 13, 2004. San Antonio, TX.

Creating Interactive Quizzes with Hot Potatoes, Seminar for the TAMU Technology Mediated Instruction Group, College Station, TX, February 15, 2005.

Panel on Promotion and Tenure Issues. National Floriculture Forum, Chicago, IL, 25 February, 2005.

Aggie Horticulture and Agents Only Access Update. Southern Region Professional Development for County Extension Agents, College Station, TX. May 25, 2005.

Aggie Horticulture. Presentation to the Extension Horticulture Statewide Program Retreat, Houston, TX, June 2, 2005.

Aggie Horticulture and Agents Only Access Update. North Region Professional Development for County Extension Agents, Lubbock, TX. June 14, 2005.

Cloning Plants – Tissue Culture. Presentation to the Youth Adventure Program, College Station, TX, June 16, 2005.

Aggie Horticulture and Agents Only Access Update. Western Region Professional Development for County Extension Agents, San Angelo, TX. June 30, 2005.

The Texas Superstar Program. Native Plant Society of Texas. Brenham, TX. February 21, 2006.

Virtual Tour of Aggie Horticulture. TAMU Horticultural Sciences Industry Advisory Council, College Station, TX. April 10, 2006.

The Urban Landscape Guide. TCE Horticulture Planning Retreat. Fort Worth, TX. June 1, 2006.

Gardening with the Texas Superstars. Bluebonnet Master Gardener Association, Brenham, TX. June 27, 2006.

Cloning Plants – Tissue Culture. Presentation to the 2006 Youth Adventure Program, College Station, TX. July 11, 2006.

Technology in the Classroom. Presentation to the Graduate Teaching Academy, College Station, TX. October 9, 2006.

Horticultural Education in the Early 21<sup>st</sup> Century. Presentation to the Technology-mediated Instruction Faculty Working Group. College Station, TX. October 10, 2006.

A world of resources – Aggie Horticulture. Regional Extension Agent Training. San Antonio, TX. March 29, 2007.

Update and discussion of changes to Aggie Horticulture. Tyler, TX. May 30, 2007.

Technology-mediated Instruction for Horticulture: Realizing the Potential. Invited consultant to regional Floriculture educators preparing distance-delivered programs. Fayetteville, AR. October 20, 2007.

## **INTERNATIONAL ACTIVITIES**

Assisted the Department of Horticulture, United Arab Emirates University, in setting up a curriculum in ornamental horticulture.

Participated in the Cooperative Arid Lands Agricultural Research Program symposia as invited speaker on tissue culture/biotechnology and information science.

Led delegation of Texas A&M scientists that is beginning a cooperative research program with the INRA Vegetable Breeding group in Avignon, France.

World Wide Web Technology for Horticulture. Presentation to Centro Internacional de la Papa (CIP) via video teleconference, December 12, 2000, College Station, TX to Lima, Peru.

Served as external examiner for the Master of Science in Horticulture degree, Department of Horticulture, University of Hannover, Germany. November 22-28, 1999.

Delivered invited colloquium address at International Horticultural Congress in Seoul, Korea, August 12-17, 2006

## **COMMUNITY SERVICE**

Deacon and Elder, Overbrook Presbyterian Church, Columbus, OH  
Administrative Board, A&M United Methodist Church, College Station, TX 1992

Assistant Coach, College Station Little League Program, 1995

Founding member, Christ United Methodist Church, College Station, TX 1995

Adviser, TAMU Horticulture Club (formerly the Floriculture/Horticulture Society)

Administrative Board, Christ United Methodist Church, College Station, TX 1996-2002

Board of Trustees, Christ United Methodist Church, College Station, TX 2000-2003