

## **Charles D. Safley**

Department of Agricultural and Resource Economics  
North Carolina State University  
4328 Nelson Hall, Box 8109  
Raleigh, NC 27695-8109  
(919) 515-4538

### **EDUCATION**

#### **Ph.D., Agricultural Economics.**

Oklahoma State University, 1980. Dissertation: "World Feed Grains Projected Production-Consumption Balances, U.S. Exports, and Price Variability."

#### **M.S., Agricultural Economics.**

The University of Tennessee, 1976. Thesis: "Impact of Changes in Supply-Prices of Energy and Energy-based Materials on Tennessee Beef Backgrounding Systems."

#### **Masters of Strategic Studies.**

United States Army War College, Carlisle Barracks, 2001

#### **B.S., Agricultural Business.**

The University of Tennessee, 1973.

### **PROFESSIONAL ACADEMIC EXPERIENCE**

#### 2005 – **Professor and Extension Economist**

Present Department of Agricultural and Resource Economics, North Carolina State University  
Appointment: Teaching (20%), Extension (80%)

#### 1997- **Professor and Extension Economist.**

2004 Department of Agricultural and Resource Economics, North Carolina State University  
Appointment: Extension (100%)

#### 1986- **Associate Professor and Extension Economist.**

1997 Department of Agricultural and Resource Economics, North Carolina State University.  
Appointment: Extension (100%)

#### 1980- **Assistant Professor and Extension Economist.**

1986 Department of Agricultural and Resource Economics, North Carolina State University.  
Appointment: Extension (100 %)

## TEACHING ACTIVITIES

Undergraduate Advisees: 20

ARE 312 (Agribusiness Marketing): Junior/senior course in agribusiness marketing for CALS students. Taught: Spring 2006.

ARE 495G (Advanced Agribusiness Management): Senior course in agribusiness management for ARE students. Taught: Spring 2005, 2006

Teacher Ratings (Scale: 1 = Poor, 5 = Excellent)

Spring 2005

	Instructor Effectiveness	Course Usefulness	Number of Students
CALS Average	4.34	4.18	n/a
ARE Average	4.18	4.38	n/a
ARE 495G	4.73	4.64	12

Spring 2006

	Instructor Effectiveness	Course Usefulness	Number of Students
CALS Average	4.39	4.26	n/a
ARE Average	4.35	4.22	n/a
ARE 312	4.37	4.37	34
ARE 495G	4.50	4.50	19

Spring 2007

	Instructor Effectiveness	Course Usefulness	Number of Students
CALS Average	n/a	n/a	n/a
ARE Average	4.34	4.15	n/a
ARE 312	4.59	4.44	39
ARE 495G	4.78	4.78	14

ARE 495, Special Topics In Agricultural and Resource Economics, Summer 1995.

Guest Lecturer in HS 422 (Small Fruit Production), HS 431 (Vegetable Production), HS 462 (Postharvest Physiology), and HS495C (General Viticulture)

EB 513 (Marketing Research), Spring 1990. Organized and coordinated six focus group sessions and provided background information for the class research project: "Why Consumers Select a Specific Garden Center".

## **REFEREED JOURNAL ARTICLES**

Safley, Charles D., Otilia Boldea, and Gina E. Fernandez.

"Estimated Costs of Producing, Harvesting and Marketing Blackberries in the Southeastern United States", HortTechnology, pp 109-117, Jan-March 2006.

Sydorovych, Olha, Charles D. Safley, Lisa M. Ferguson, E. Barclay Poling, Gina E. Fernandez, Phil M. Brannen, David M. Monks, and Frank J. Louws.

"Economic Evaluation of the Methyl Bromide Alternatives for the Production of Strawberries in the Southeastern United States", HortTechnology, pp 118-128, Jan-March 2006.

Safley, C. D., E. B. Poling, M. K. Wohlgenant, O. Sydorovych, R. F. Williams.

"Producing and Marketing Strawberries for Direct Market Operations," HortTechnology, 14(1), pp 124-135, January-March 2004.

Wohlgenant, Michael K., Anthony N. Rezitis, and Charles D. Safley

"Demand for Fall Annual and Perennial Plants: Pansies and Mums in Independent Garden Centers," Agricultural Economics Review, 2(2): 53-63, 2001.

Wohlgenant, Michael K., Charles D. Safley, and Anthony N. Rezitis

"Price Elasticities of Demand for Mums and Pansies Sold in North Carolina Independent Garden Centers," HortScience 36(7), pp. 1334-1335, December 2001.

Hardy, Jill, Bridget K. Behe, Susan S. Barton, Thomas J. Page, Robert E. Schutzki, Karl Muzii, R. Thomas Fernandez, Mary Taylor Haque, John Brooker, Charles R. Hall, Roger Hinson, Patricia Knight, Robert McNeil, D. Bradley Rowe, and Charles Safley

"Consumer Preferences for Landscape Plant Size, Design Style, and Material", Journal of Environmental Horticulture 18(4):224-230.2000

Behe, Bridget, Robert Nelson, Susan Barton, Charles Hall, Charles D. Safley and Steven Turner

"Consumer Preferences for Geranium Flower Color, Leaf Variegation, and Price", HortScience, 34(4), pp 740-742. July 1999.

Abdelmagid, Banaga D., Charles D. Safley, and Michael K. Wohlgenant

"The Demand for Ornamental Products in North Carolina," Proceedings of the XIIIth International Symposium on Horticultural Economics, ACTA Horticulture, Number 429, pp. 317-324, August 1996.

- Abdelmagid, Banaga D., Michael K. Wohlgenant, and Charles D. Safley  
"Demand for Plants Sold in North Carolina Garden Centers," Agricultural and Resource Economics Review, Volume 25, Number 1, pp. 28-37, April 1996.
- Safley, Charles D. and Michael K. Wohlgenant  
"Factor Influencing Customers' Selection of Garden Centers," Journal of Agribusiness, Vol. 13, No. 1, pp. 33-50, Spring 1995.
- Safley, C.D. and T. E. Bilderback  
"Reaching out to an Industry: The North Carolina Experience with Its Nursery Industry." HortTechnology, Volume 4, Number 2, pp. 172-174, April-June 1994.
- Renkow, Mitch, Charles Safley and Jeff Chaffin  
"A Cost Analysis of Municipal Yard Trimmings Composting." Compost Science and Utilization, Vol. 2, No. 2, pp. 22-33, Spring 1994.
- Safley, C.D. and L.M. Safley, Jr.  
"Economic Analysis of Commercial Poultry Compost Systems," Journal of the American Society Farm Managers and Rural Appraisers, Vol. 57, No. 1, pp. 27-33, May 1993.
- Poling, E. B. and C. D. Safley  
"Economics of Changing From Matted Row to Annual Hill Strawberry Production", Horticultural Science 21(6): 1409-1411, December 1986.

#### **PUBLISHED ABSTRACTS, CONFERENCE PROCEEDINGS AND INVITED PAPERS:**

- Carpio, Carlos E., Charles D. Safley and E. Barclay Poling.  
"Estimated Production Costs, Gross Revenues, and Returns per Acre for Muscadines Grapes Grown for the Wine and Juice Markets Grown on a Geneva Double Curtain Trellis System with Drip Irrigation", Proceedings of the 2007 Georgia-South Carolina Muscadine Conference, Savannah, GA, January 2007.
- Carpio, Carlos E., Charles D. Safley and E. Barclay Poling.  
"Estimated Production Costs, Gross Revenues, and Returns per Acre for Muscadines Grapes Grown for the Wine and Juice Markets Grown on a Single Wire Trellis System with Drip Irrigation", Proceedings of the 2007 Georgia-South Carolina Muscadine Conference, Savannah, GA, January 2007.
- Safley, Charles D. and Michael Parker.  
"Apple Economics", Proceedings of the 2007 Southeastern Apple Growers Meeting, Asheville, NC January 2007, pp 32 – 66.

- Safley, Charles D., William O. Cline, Charles M. Mainland.  
 “Estimated Costs of Producing, Harvesting, and Marketing Blueberries in the Southeastern United States”, Proceedings of the 2005 Georgia-South Carolina Muscadine Conference, Savannah, GA, January 2005, pp 33 – 49.
- Safley, Charles D., Gina E. Fernandez and Otilia Boldea.  
 “Estimated Costs of Producing, Harvesting, and Marketing Blackberries in North Carolina”, Proceedings of the Bramble Workshop for County Agents, 2005 Southeastern regional Fruit and Vegetable Conference, January 2005
- Safley, Charles D., William O. Cline, Charles M. Mainland.  
 “Estimated Costs of Producing, Harvesting, and Marketing Blueberries in the Southeastern United States - Profit or Loss with Blueberries”, Proceedings of the 39<sup>th</sup> Annual Open House and Trade Show, North Carolina Blueberry Council, Clinton, NC, January 2005, pp 47 – 65.
- Sydorovych, Olga, Charles D. Safley, E. Barclay Poling, Frank J. Lows, Gina E. Fernandez and Lisa Ferguson.  
 “Economic Evaluation of Methyl Bromide Alternatives for Strawberry Production in Eastern North Carolina”, Proceedings of the 2004 International Research Conference on Methyl Bromide Alternative reductions and Emissions reductions, 18 Aug. 2006, <http://www.mbao.org/2004/Proceedings04/028%20SafleyC%20Louws%20economicsI%202004.pdf>
- Safley, C. D., E. B. Poling, M. K. Wohlgenant, O. Sydorovych, R. F. Williams.  
 “Producing and Marketing Strawberries for Direct Market Operations”, Proceedings of the Illinois Small Fruit and Strawberry Schools, February 2004, pp 63-85
- Safley, Charles D., Otilia Boldea, Gina E. Fernandez.  
 “A Budget Model for Southeastern Blackberries,” Proceedings of the 2004 North American Bramble Growers Annual Meeting, Tampa, FL. February 2004.
- Safley, C. D., M.K. Wohlgenant, C. Carpio, R. Williams, and T. Dautlick  
 “Why Consumers Buy Fresh Muscadine Grapes,” Proceedings of the 2004 Georgia-South Carolina Muscadine Conference, Savannah, GA, January 2004, pp 5-25.
- Safley, C.D., M.K. Wohlgenant, C. Carpio, R. Williams, and T. Dautlick  
 “Why Consumers Buy Muscadine Wine at Independent Wineries,” Proceedings of the 2004 Georgia-South Carolina Muscadine Conference, Savannah, GA, January 2004, pp 27-45.
- Sydorovych, O., C. D. Safley, E. B. Poling, F. J. Lows, G. E. Fernandez, and L. M. Ferguson  
 “Economic Evaluation of the Methyl Bromide Alternatives for the Production of Strawberries in the Southeastern United States,” Proceedings of the 2003 Southeast Strawberry Expo, Research Triangle Park, NC, November 2003, pp 55-59.
- Poling, E. Barclay, Charles Safley, and Olga Sydorovych  
 “Cost of Growing Strawberries in North Carolina”, Proceedings of the 2002 Southeast

- Strawberry Expo, Research Triangle Park, NC, November 2002.
- Poling, E. Barclay and Charles D. Safley  
 “Strawberry Plasticulture – A Possibility for Local Farmers”, Proceedings of the 2002 Preplant Meetings – Plasticulture Strawberries, July-August 2002, pp.1-13.
- Poling, E. Barclay, Charles D. Safley and Olga Sydorovych  
 “Strawberry Enterprise Budget”, Proceedings of the 2002 Preplant Meetings – Plasticulture Strawberries, July-August 2002, pp.65-75.
- Ferguson, L. M., F. J. Louws, G. E. Fernandez, P.M. Brannen, E. B. Poling, O. B. Sydorovych, C. D. Safley, D. W. Monks, A. Pesic-Van Esbroeck, D. C. Sanders, and J. P. Smith.  
 “Chemical and Biological Alternatives to Methyl Bromide for Strawberry in the Southeastern US,” Proceedings of the International Research Conference on Methyl Bromide Alternatives and Emissions Reduction, 2002, 103/1-103/4.
- Poling, E. B. G. S. Miner, R. D. Schiavone, F. J. Louws, G. E. Fernandez, L. M. Ferguson, P. M. Brannen, O. B. Sydorovych, C. D. Safley, D. W. Monks, Z. Pesic-Van Esbroeck, D. C. Sanders and J. P. Smith, “The Influence of Planting Date and Fumigant on Field Nursery Production of ‘Chandler’ Strawberry Fresh Dug Plants,” Abstr. Southern Association of Agricultural Scientists. 2002
- Ferguson, L. M. G. E. Fernandez, P. M. Brannen, F. J. Louws, E. B. Poling, O. B. Sydorovych, C. D. Safley, D. W. Monks, Z. Pesic-Van Esbroeck, D. C. Sanders. And J. P. Smith. “Alternative Soil Treatments for Strawberries in the Southeastern United States,” Proceedings of the International Research Conference on Methyl Bromide Alternative and Emissions Reduction, 2001, 42/1-42/4.
- Ferguson, L. M., F. J. Louws, G. E. Fernandez, P.M. Brannen, E. B. Poling, O. B. Sydorovych, C. D. Safley, D. W. Monks, A. Pesic-Van Esbroeck, D. C. Sanders, and J. P. Smith, “Chemical and Biological Alternatives to Methyl Bromide for Strawberries in the Southeastern US,” Proceedings of the International Research Conference on Methyl Bromide Alternatives and Emissions Reduction, 2001. 103/1-103/4.
- Hardy, Jill, Bridget K. Behe, Susan S. Barton, Thomas J. Page, Robert E. Schutzki, Karl Muzii, R. Thomas Fernandez, Mary Taylor Haque, John Brooker, Charles R. Hall, Roger Hinson, Patricia Knight, Robert McNeil, D. Bradley Rowe, Charles Safley.  
 “Cost Analysis and perceived Value of Selected Landscape Features”, Horticultural Science 35:484. Abstract 522, 2001.
- Safley, Charles  
 “Got Cost Estimates? What Does it Cost to Grow Field Grown Trees and Shrubs?”, Proceedings of the 2001 Nursery Short Course, North Carolina State University, February 2001, pp. 25 – 27.

- Safley, Charles D., Herman A. Sampson, and Ted Bilderback  
 "Production Cost Estimates for Selected Field Grown Nursery Stock", 2001 Southern Nursery Association Conference Proceedings, July 2001, pp. 325-328.
- Behe, Bridget, Susan Barton, John Brooker, Charles Hall, Robert McNeil, Steven Turner, and Charles Safley  
 "Relationship of Dollars Spent in the Garden Center and Perceptions of Product and Service Quality", Proceedings of the Southern Nursery Association Research Conference, Southern Nursery Association Inc., Vol. 44, pp. 542-545, 2000.
- Safley, Charles D.  
 "Profit or Loss with Blueberries", Proceedings of the 33<sup>rd</sup> Annual Open House, North Carolina Blueberry Council, Inc. and the North Carolina Cooperative Extension Service, North Carolina State University, pp. 52-61. January 1999.
- Safley, Charles D. and Cassandra DiRienzo  
 "Pick-Your-Own Strawberry Customers: A Preliminary Report to the North Carolina about the 1999 Market Survey", Proceedings of the 1998 Southeast Strawberry Expo, pp 19-26, November 1998.
- Glasgow, Tom E., Ted E. Bilderback, Tom Johnson, Katheryn B. Perry and Charles D. Safley  
 "Evaluating Consumer Perceptions of Plant Quality", Proceedings of 43<sup>rd</sup> Annual Southern Nursery Association Research Conference, Vol. 43, pp. 477-500, 1998.
- Glasgow, Tom, Charles Safley, Ted Bilderback and Tom Johnson  
 "Consumer Perceptions of Plant Quality", Proceeding of the 42<sup>nd</sup> Annual Southern Nursery Association Research Conference, Vol. 42, pp. 378-380, 1997.
- Abdelmagid, Banaga D., Michael K. Wohlgenant, and Charles D. Safley  
 "Demand Elasticities for Selected Plants Sold In Garden Centers," Selected paper presented at the Annual AAEA Meeting, Indianapolis, Indiana. Abstract, American Journal of Agricultural Economics, Volume 77, Number 5, December 1995.
- Safley, Charles D.  
 "Profit or Loss With Blueberries," Proceedings of the 28th Annual Southeastern Blueberry Council, North Carolina State University, pp. 22-34, January 27, 1994.
- Safley, Charles D.  
 "Extension Programming in Environmental Horticulture: The North Carolina Experience," Proceedings of the Effective Management and Marketing Extension Programs in Environmental Horticulture, Conference sponsored by the Southern Extension Marketing Committee and the Southern Technical Research Committee, S-103, Lexington, KY, pp. 67-69 February 1, 1992.

- Safley, Charles D.  
"Does It Pay to Store Blueberries?", Proceedings of the 25th Annual Southeastern Blueberry Council, North Carolina State University, pp. 19-29, January 1992.
- Safley, C.D. and L.M. Safley  
"Economic Analysis of Alternative Compost Systems", Proceedings of the 1990 National Poultry Waste Management Symposium, Auburn University Printing Service, pp. 151-162, October 1990.
- Warren, S.L. and C.D. Safley  
"Use of Compost Poultry Litter In the Horticultural Industry," Proceedings of the 1990 National Poultry Waste Management Symposium, Auburn University Printing Service, pp. 144-149, October 1990.
- Safley, Charles D.  
"Ornamental Outlook for 1990," outlook paper presented at Southern Regional Outlook Conference, Atlanta, GA, 19 pps., Sept. 26, 1989.
- Safley, Charles D.  
"Profit or Loss with Blueberries," Proceedings of the Southeastern Blueberry Council, pp. 52-61, January 1989.
- Safley, Charles D.  
Fruit Opportunities in North Carolina, position paper presented at the Farm Revitalization Conference, Greenville, NC, 14 pps., Nov. 10, 1988.
- Safley, Charles  
Ornamental Opportunities in North Carolina, position paper presented at the Farm Revitalization Conference, Greenville, NC, 24 pps., Nov. 10, 1988.
- Safley, Charles D.  
Ornamentals Outlook, outlook paper presented at Southern Regional Outlook Conference, Atlanta, GA, 18 pps., Sept. 27, 1988.
- Safley, Charles, Kathleen M. Williams, Dana Hoag, and Sylvia M. Blankenship  
"Economic Analysis of Orchard Management: Budgets and Computer Software," Poster presented at the Annual Horticultural Science Meetings, Orlando, Fla. Abstract, Hort Science Section 2, Volume 22(5), page 1062, October 1987.
- Johnson, David R., T. E. Bilderback and C. D. Safley  
"Determining Container Production Costs on a Per Plant Basis", Combined Proceedings of the International Plant Propagators' Society, Volume 36, pp. 378-384, 1986.



Safley, C. D.

"Developing a Marketing Plan," Proceedings of the N. C. Pick-Your-Own and Roadside Stand Operators Annual Meeting, November 1984.

Wells, R.C. and Charles Safley

"Developing Joint Operating Agreements," Proceedings of the N. C. Nursery Crop Workshop - Estate and Business Planning for Nurserymen, pp. 16-17, February 1982.

Safley, C. D.

"Job Cost Estimates", Proceedings of the 20th Annual North Carolina Turfgrass Conference, Vol. III, pp. 84-92, January 1982.

Safley, C. D.

"Job Cost Estimates", Proceedings of the North Carolina Interior Plantscape Symposium, Vol. 1, pp. 31-43, 1981.

#### **BOOK CHAPTERS:**

Carpio, Carlos E. and Charles D. Safley.

"Estimated Costs and Investment Analysis of Producing and Harvesting Chardonnay Wine Grapes in North Carolina", North Carolina Wine Grape Production Guide, E. Barclay Poling, Editor, January 2007.

Safley, Charles D., William O. Cline, Charles M. Mainland.

"Evaluating the Profitability of Blueberry Production", Blueberries: For Growers, Gardeners, and Promoters Norman F. Childers and Paul M. Lyrene, Editors, January 2006, pp 159-167.

Renkow, M., C. Safley, and J. Chaffin

"Cost Analysis of Yard Trimmings Composting in BioCycle Staff (eds.), Composting Source Separated Organics. Emmaus, PA: JG Press, 7 pps., 1994.

#### **EXTENSION PUBLICATIONS:**

Safley, Charles D. and Michael Parker.

"Estimated Costs, Gross Revenues and Returns for Fresh Market Apple Production in North Carolina", Department of Agricultural and Resource Economics, North Carolina State University, December 2006

Safley, Charles D. and Michael Parker.

"Estimated Costs, Gross Revenues and Returns for Process Apple Production in North Carolina, Department of Agricultural and Resource Economics", North Carolina State University, December 2006

Safley, Charles D. and Gina Fernandez.

“Estimated Costs, Gross Revenues and Returns for Commercial Blackberry Production in North Carolina”, Department of Agricultural and Resource Economics, North Carolina State University, November 2006

Carlos Carpio, Charles D. Safley, and E. Barclay Poling.

“Estimated Production Costs, Gross Revenues, and Returns per Acre for Muscadines Grapes Grown for the Wine and Juice Markets Grown on a Geneva Double Curtain Trellis System with Drip Irrigation”, Department of Agricultural and Resource Economics, North Carolina State University, August 2006

Carlos Carpio, Charles D. Safley, and E. Barclay Poling.

“Estimated Production Costs, Gross Revenues, and Returns per Acre for Muscadines Grapes Grown for the Wine and Juice Markets Grown on a Geneva Double Curtain Trellis System without Irrigation”, Department of Agricultural and Resource Economics, North Carolina State University, August 2006

Carlos Carpio, Charles D. Safley, and E. Barclay Poling.

“Estimated Production Costs, Gross Revenues, and Returns per Acre for Muscadines Grapes Grown for the Wine and Juice Markets Grown on a Single Wire Trellis System with Drip Irrigation”, Department of Agricultural and Resource Economics, North Carolina State University, August 2006

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“Estimated Production Costs, Gross Revenues, and Returns per Acre for Muscadines Grapes Grown for the Wine and Juice Markets Grown on a Single Wire Trellis System without Irrigation”, Department of Agricultural and Resource Economics, North Carolina State University, August 2006

Safley, C. D., E. B. Poling, M. K. Wohlgenant, O. Sydorovych, R. F. Williams.

“Producing and Marketing Strawberries for Direct Markets”, AG-645, North Carolina Cooperative Extension Service, North Carolina State University. April 2004.

Safley, Charles D., Michael K. Wohlgenant, Carlos E. Carpio, Ross F. Williams, and Tania Dautlick.

“Factors Affecting Consumer Purchases of Direct Market Muscadine Grapes”, ARE Report No. 30, Department of Agricultural and Resource Economics, North Carolina State University, June 2004.

Safley, Charles D., and Michael K. Wohlgenant

Factors Affecting Consumer Purchases of Direct Market Strawberries: 1999 Consumer Survey, ARE Report No. 22, Department of Agricultural and Resource Economics, North Carolina State University, 2002.

Barton, Susan, Bridget Behe, Robin Brumfield, Charles Hall, Richard Harkess, Charles Safley, and P.J. van Blokland.

Enhancing Profitability in Greenhouse Firms, Southern Cooperative Series Bulletin, S-290 Regional Project, 2001.

Safley, Charles D. and Michael K. Wohlgenant

Factors Affecting Consumer Purchases of Fall Nursery Products: Fall 1997 Consumer Survey, Department of Agricultural and Resource Economics, ARE Report No. 19, January 2000.

Charles Safley and Ruth Edens

"Pick Your Own Strawberries", NC State Economist, Agricultural and Resource Economics, May/June 2000.

DiRienzo, Cassandra and Charles Safley

"Service Is Critical: Garden Center Industry Survey", NC State Economist, North Carolina Cooperative Extension Service, November/December 1998.

Safley, Charles D. and Michael K. Wohlgenant

Economic and Socioeconomic Factors Affecting Consumer Purchases of Fall Nursery Products, Department of Agricultural and Resource Economics, ARE Report No. 15, June 1998.

Parker, Michael. L., C. Richard Unrath, Charles Safley and David Lockwood

High Density Apple Orchard Management, North Carolina Cooperative Extension Service, AG-581, June 1998.

Wilson, L.G., D. A. Bailey, M. D. Boyette and C. D. Safley,

"Postproduction Handling of Flowering Potted Plants", North Carolina Cooperative Extension Service, AG-413-12, October 1998.

Safley, Charles D. and Mitch Renkow

"Yard Trimmings Composting Could Cut Waste Volume." NC State Economist, NC Cooperative Extension Service, 1 page, August 1994.

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Factors Influencing Purchases of Nursery Products in North Carolina. Department of Agricultural and Resource Economics, ARE Report No. 8, 32 pps., April 1994.

Renkow, Mitch, Charles Safley and Jeff Chaffin

A Cost Analysis of Municipal Yard Waste Composting. Department of Agricultural and Resource Economics, ARE Report No. 6, 51 pps., December 1993.

- Safley, C.D. and L.M. Safley, Jr.  
Economic Analysis of Alternative Poultry Litter Compost Systems. Department of Agricultural and Resource Economics Information Report No. 85, North Carolina State University, Raleigh, NC, 70 pp., November, 1991.
- Safley, Charles  
The Market Pointer, Vol. 9, No. 11, 6 pps., May 1991.
- Safley, Charles D.  
"1989 Blueberry Report (Situation and Outlook)," The Market Pointer, Vol. 7, No 11B, 8 pps., May 1989.
- Safley, Charles D.  
"1988 Blueberry Report (Situation and Outlook)," The Market Pointer, Vol. 6, No. 11B, 10 pps., May 1988.
- Safley, C. D. and K. M. Williams  
"Pesticide Reduction and Cost Savings Through Integrated Pest Management in Apples, Pesticide and Water Quality, Fact Sheet No. 8, 2 pps., 1988.
- Safley, Charles D.  
"1987 Apple Report (Situation and Outlook)", The Market Pointer, August 1987.
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"1986 Blueberry Report (Situation and Outlook)", The Market Pointer, Vol. 4, No. 12, 7 pps., May 2, 1986.
- Safley, Charles D.  
"Planning for Profit Enterprise Budgets," Enterprise Budget Guidelines for N.C. Agriculture, N.C. Agricultural Extension Service, N.C. State Univ., Nine Crop Budgets, 1986.
- Safley, Charles D.  
"1985 Apple Report (Situation and Outlook), "The Market Pointer, Vol. 4, No. 3, 6 pps., August 1985.
- Safley, Charles D.  
"Fruit Outlook," 1985 Agricultural and Consumer Outlook, Extension Economic and Business, North Carolina State University, pp. 24-25, December 12, 1984.
- Safley, Charles D.  
"1984 Blueberry Report (Situation and Outlook), The Market Pointer, Vol. 2, No. 12, 7 pps., May 17, 1984.

- Safley, Charles D.  
"1983 Apple Report (Situation and Outlook)," The Market Pointer, Vol. 2, No. 1, 12 pps., August 1983.
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"1982 Blueberry Report (Situation and Outlook)," Department of Economics and Business, Number I, 7 pps., May 1982.
- Safley, Charles D. and Edmund A. Estes.  
"Marketing Alternatives," Tar Heel Economist, N.C. State University, 1 page, 1982.
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"1982 Apple Report (Situation and Outlook)," The Market Pointer, Vol. 1, No. 1, 10 pps., August 1982.
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"Financial Alternatives and Capital Sources," Tar Heel Economist, N.C. State University, 1 page, 1982.
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1981 Apple Report, Number II, Department of Economics and Business, 10 pps., September 1981.
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- Safley, C. D.  
"Medfly Creates Uncertainty for Produce Markets," Facts for Farm Markets, pp. 7-8, Summer 1981.

#### **OTHER PUBLICATIONS:**

- Safley, Charles D. and Michael Walden.  
"North Carolina Green Industry: Economic impact Survey", The North Carolina Department of Agriculture and Consumer Services, January 2007
- Safley, Charles, Arnie Oltmans, Guido van der Hoeven, and Chuck Moore  
Economic Tools to Insure Agribusiness Profitability, North Carolina Association of Nurserymen, January 2006.

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 “Floriculture and Environmental Horticulture”, Economic Overview and Agricultural Outlook, AgFirst Farm Credit Bank, November 2002.
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 “Strawberry Plasticulture – A Possibility for Local Farmers”, 2002 In-Service Training - Plasticulture Strawberries, June 2002, pp.1-13.
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 “Strawberry Enterprise Budget”, 2002 In-Service Training – Plasticulture Strawberries, June 2002, pp.65-75.
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 “Production Cost Estimates for Selected Field Grown Nursery Stock”, Nursery Notes, North Carolina Association of Nurserymen, Inc., Vol. 36, No.2, March/April 2002, pp27-29.
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 Floriculture and Environmental Horticulture, Economic Overview and Agricultural Outlook, AgFirst Farm Credit Bank, November 2001.
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North Carolina Consumer Strawberry Report, U.S. Department of Agriculture and N.C. Department of Agriculture and Consumer Services. September 1999.
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 “Boosting Garden Center Promotional Events with Targeted Advertising”, Greenhouse Product News, pp. 30-39, August 1999.
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 Floriculture Outlook", Economic Overview & Agricultural Outlook 1999/2000, AgFirst Farm Credit Bank Outlook Report, October 1999.
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 “Service Is Critical: Garden Center Industry Survey”, Country Folks Grower, Volume 8, Number 2, pp 9-16, February 1999.
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 "Garden Center Purchase Patterns During the Spring and Fall Marketing Seasons" Greenhouse Product News, Volume 9, Number 2, February 1999.
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 "Consumer Preferences for Geranium Flower Color, Leaf Variegation and Price", Bedding Plants Foundation, Inc., 1999.

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"Choose and Cut Study: Identifying Choose and Cut Christmas Tree Customers," Limbs and Needles, N.C. Christmas Tree Association, Vol. 22, No. 3, page 7, Summer 1995.

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"Who Are They... And What Do They Want? A North Carolina survey produces some useful information about garden center customers," American Nurseryman, Vol. 178, No. 10, pp. 54-63, November 15, 1993.

Bilderback, T.E. and C.D. Safley

"Trade Flows and Marketing Practices of the North Carolina Nursery Industry," Nursery Notes, North Carolina Association of Nurserymen, Inc., Vol. 25, No. 3, pp. 45-53, May-June, 1992.

Johnson, Doyle and Charles Safley

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Safley L. M., Jr., J.C. Barker, T.A. Carter, C.D. Safley, S.L. Warren,  
P. W. Westerman, and Z.P. Zublena

Composting Poultry Litter -- Economic and Marketing Potential of a Renewable Resource, A report submitted to the University of Georgia as fulfillment of Subcontract No. 8556122, 89-91 P-1. Chapters 2,(6 pps.) 7(7 pps.), and 8 (79 pps). North Carolina Agricultural Research Service, North Carolina State University, Raleigh, NC, July 1990.

Safley, Charles D.

"Economist Examines North Carolina Peach Situation", Fruit South, pp. 11-15, December/January 1986-87.

Safley, Charles D.

"Apples: A Report of the National Trends and Future Implications for the Apple Industry," North Carolina Fruit Grower, N.C. Agricultural Extension Service, N.C. State Univ., Vol. 2, No. 9, pp. 1-5, September 1986.

Safley, Charles D.

"The North Carolina Peach Situation: Future implications for the Peach Industry," North Carolina Fruit Grower, N.C. Agricultural Extension Service, N.C. State Univ., Vol. 2, No. 10, pp. 1-4, November 1986.

Estes, E.A. and C.D. Safley

"Procedures in Establishing a Camp LeJeune Farmers' Market," Special Report prepared for Commanding General, U.S. Marine Corps, Camp LeJeune, NC, 17 pages, February 1982.

Safley, Charles D. and Irving Dubov

"Impact of Petro-Based Input Prices on Tennessee Beef Backgrounding Systems," Tennessee Agricultural Experiment Station Bulletin 585, 1978.

Safley, Charles D.

"Technical Analysis of Futures Markets: A Tool for the Hedger," Oklahoma Current Farm Economics, Vol. 49, No. 3, pp. 1-9, September 1976.

## **WORKING PAPERS**

Carpio, Carlos E., Charles D. Safley and E. Barclay Poling.

"Estimated Costs and Investment Analysis of Producing and Harvesting Muscadine Grapes in the Southeastern United States", submitted to HortTechnology.

Safley, Charles D. and Gina E. Fernandez.

"Economic Feasibility of Commercial Blackberry Production in Western North Carolina", for submission to HortTechnology.

Carpio, Carlos E., Michael K. Wohlgenant, and Charles D. Safley

"Factors influencing Customers' Decisions to Buy Pick-Your-Own Versus Pre-harvested Fruit," for submission to HortScience.

Wohlgenant, Michael K., Carlos E. Carpio, and Charles D. Safley

"Relative Importance of Factors Affecting Customers' Decisions to Buy Pick-Your-Own Versus Pre-harvested Fruit on North Carolina Farms," for submission to Journal of Agricultural and Applied Economics

Sydorovych, Olha, Charles D. Safley, Lisa M. Ferguson, Davis Monks, and Frank Louws

"Economic Evaluation of the Methyl Bromide Alternatives for the Production of Tomatoes in the Southeastern United States", for submission to HortTechnology.



## **EXTENSION PROGRAMS: CURRENT EXTENSION ACTIVITIES**

The focus of my extension program is the delivery of applied research based information to North Carolina's commercial fruit, environmental horticulture, turfgrass, landscape, and Christmas tree industries. I have a very diverse clientele that includes extension agents and specialists, commodity producers, commodity organizations, and agribusinesses ranging from suppliers to processors and retailers. My current program areas include: 1) analyzing alternative marketing strategies and product forms for commercial producers, 2) evaluating the economic costs and benefits associated with alternative production techniques, 3) demand analysis for fruit and ornamental commodities, and 4) developing guidelines to help businessmen develop realistic cost estimates and make pricing decisions. Since many of my clients market all or a portion of their crops to the final consumers, a major part of my research program the past five years has been focused on identifying the key factors that influence consumer decisions to buy these commodities. I also collaborate with other university researchers and extension specialists on projects of significance to North Carolina and the Southeastern United States. These research efforts include evaluating the demand for fruit and ornamental commodities, estimating the costs of producing, harvesting and marketing these commodities, and identifying alternative methyl bromide transition strategies for strawberry and tomato growers. Research results are disseminated through seminars, workshops, classroom instruction, producer meetings, journal articles, extension bulletins and economic special reports.

## **EXTENSION WORKSHOPS/TRAINING PROGRAMS**

**Nursery Marketing Workshops** (1986 and 1988-90). These were two-day marketing workshops designed to help growers develop better marketing plans, gain access to specific markets, improve quality control, and understand the legal aspects of marketing. Every course was full (enrollment was limited to 90 per session) with nurserymen from North Carolina, Virginia, South Carolina, Tennessee, and Kentucky attending. The workshops received an average rating of 9.4 for overall value and 9.1 for content usefulness on a scale of 1 to 10. In addition, one nurseryman said the information he learned help him double his fall sales, from \$40,000 to \$80,000, in a year; another credited the school with helping him gain access to new northern markets.

**Christmas Tree Marketing Workshops** (1989-90). This was a one-day marketing workshop for growers, wholesale marketers, and retail lot operators. Topics included developing marketing plans, market requirements, grades and standards, credit and collections, and how to select the site and operate retail lots. Over 120 growers from North Carolina, Tennessee, Virginia, and Georgia attended each year and the workshop received average ratings of 9.1 for overall value and 8.5 for content usefulness, on a scale of 1 to 10.

**Business Management for Environmental Horticultural Professionals**, (ongoing). I have either

conducted or participated in numerous regional or statewide programs for the N.C. Association of Nurserymen, the N.C. Commercial Flower Growers Association, the N.C. Christmas Tree Association, and the N.C. Landscape Contractors focused on improving business management skills and enhancing customer service at retail outlets. Presentations included estimating production and operating costs, developing job cost estimates, product pricing techniques and strategies, financial management for greenhouse operators, identifying garden center and retail Christmas tree lot customers, understanding why consumers select garden centers and identifying the plants, trees, and services they demand. In addition, I meet with individual growers or prospective nurserymen to discuss how to determine if they should expand or start a nursery operation, how to decide what crops to produce and services to provide, how to calculate production costs and how to develop financial loan packages. Within the past fifteen years, I have also coordinated five consumer surveys at independent garden centers which focused on identifying customers, advertising effectiveness, and the customer's satisfaction with the garden centers' products and services.

**Business Management for Fruit Growers.** The strawberry and muscadine grape growers have been faced with declining commercial opportunities, therefore in recent years my programs for these industries focused on identifying local or regional marketing alternatives, determining how to access these markets and estimating the costs associated with these alternatives. I coordinated one consumer survey for the strawberry industry, two for the fresh muscadine grape growers and two for muscadine wine producers. These studies reported the customers' demographic data, identified the market areas for each type of marketing outlet, described the effectiveness of advertising and promotional programs, and analyzed how consumers decided to patronize direct market outlets. In addition, my research on the cost-effectiveness of the proposed alternative pre-plant fumigants gives growers in the Southeastern United States a better understanding of the economic consequences of adopting a specific alternative treatment.

**Nursery Risk Management Workshops (2005 - Present).** With the end of the tobacco program, new growers are moving into the horticulture industry looking for alternative commodities to produce. While these growers are experienced farmers, few have any experience producing and marketing landscape plants. In addition, existing nurserymen are seeking ways to improve their business management and to integrate family members into their business without either hurting the business or family relationships. To meet these growing needs, the North Carolina Association of Nurserymen (NCAN) asked me to coordinate the efforts of three other agricultural economists to develop risk management training material which could be used in regional workshops, both in North Carolina and surrounding states. The instructional material focused on four overarching topics: 1) developing and implementing business management plans, emphasizing the marketing and financial plans; 2) inventory control and product diversification; 3) profitable business transition between generations; and 4) human resource management. To date, workshops have been conducted in the Asheville area and during NCAN's annual meeting.

## **CURRENT APPLIED RESEARCH PROJECTS:**

Cost Analysis of Producing, Harvesting and Marketing Blackberries, Raspberries and Muscadine Grapes in the Southeastern United States. This is a collaborative research project with horticultural specialists to examine the costs and returns associated with the commercial production of blackberries, raspberries, and muscadine grapes.

Cost Analysis of Producing and Harvesting Field Grown Landscape Trees in North Carolina. This

project is designed to estimate the costs and returns associated with producing and harvesting representative field grown landscape trees in the North Carolina. This is a collaborative research project with horticultural specialists and the North Carolina Association of Nurserymen.

Integrated Methyl Bromide Transition Strategies in the Southeastern United States. This project examines the economic viability of various alternative fumigants for strawberry and tomato cropping systems to determine which fumigant and management system can best replace methyl bromide. This is a collaborative research project with plant pathologists and horticultural specialists.

## **OUT-OF-STATE INVITED PRESENTATIONS**

“Estimated Production Costs, Gross Revenues, and Returns per Acre for Muscadines Grapes Grown for the Wine and Juice Markets Grown on a Geneva Double Curtain Trellis System with Drip Irrigation”, Georgia-South Carolina Muscadine Conference, Savannah, GA, January 2007.

“Gross Revenues, and Returns per Acre for Muscadines Grapes Grown for the Wine and Juice Markets Grown on a Single Wire Trellis System with Drip Irrigation”, Georgia-South Carolina Muscadine Conference, Savannah, GA, January 2007.

“Estimated Costs of Producing, Harvesting, and Marketing Blueberries in the Southeastern United States”, Georgia-South Carolina Muscadine Conference, Savannah, GA, January 2005

“Estimated Costs of Producing, Harvesting, and Marketing Blackberries in North Carolina”, Southeastern Regional Bramble Workshop for County Agents, January 2005

“Cost of Producing, Harvesting and Marketing Blackberries in the Southeast”, North American Bramble Association, Orlando, FL, February 2004

“Why Consumers Buy Fresh Muscadine Grapes,” 2004 Georgia-South Carolina Muscadine Conference, Savannah, GA, January 2004

"Why Consumers Buy Muscadine Wine at Independent Wineries," 2004 Georgia-South Carolina Muscadine Conference, Savannah, GA, January 2004

"Ornamental Situation and Outlook, 1998," AgFirst Regional Outlook Conference, Columbia, SC, February 1998.

"The Demand for Ornamental Products in North Carolina." Paper presented at the XIIIth International Symposium on Horticultural Economics, Rutgers, The State of New Jersey, New Brunswick, NJ, August 1996

"Quality Issues in the North Carolina Garden Center Industry," Free Session on Quality Issues in the U.S. Green Industry, AAEA Annual Meeting, San Antonio, Texas, July 1996.

"Factors Influencing Purchases of Nursery Products," Southeast Greenhouse Conference and Trade Show, Greenville SC, July 1995.

"Extension Programming in Environmental Horticulture: The North Carolina Experience," Effective Management and Marketing Programs in Environmental Horticulture Conference sponsored by the Southern Extension Marketing Committee and the Southern Technical Research Committee, Lexington, KY, February 1992.

"Cost Analysis of Using Floriculture Crops in Commercial Landscapes" and "How to Develop Job Costs Estimates," Georgia/South Carolina Flower Growers Annual Conference, Atlanta, Ga., June 1990.

"Ornamental Situation and Outlook, 1989-1990," Southeastern Outlook Conference, Atlanta, GA., September 1989.

"Ornamental Situation and Outlook, 1988-1989," Southeastern Outlook Conference, Atlanta, Ga., September 1988.

"The North Carolina Apple Maturity Program", (Invited presentation), Georgia/South Carolina Apple Growers Annual Meeting, December 1983.

#### **ADVISING AND SUPERVISING:**

Co-Chair of Ph.D. Committee for Tom Glasgow (with Ted Bilderback)

Horticultural Science, "What is Quality and How Much Will the Consumer Pay for It?", 1999.

Co-Chair of Ph.D. Committee for Banaga D. Adbelmagid (With Michael Wohlgenant)

Agricultural and Resource Economics, "Demand Analysis From Discrete/Continuous Choice Model: The Garden Center Industry", 1996.

Member of Master's Committee for Megan Weddington

Horticultural Science, 2004.

Member of Master's Committee for Terry Garwood  
Horticultural Science, 1998.

Member of Ph.D. Committee for Greg Brown  
Agricultural and Resource Economics, 1994.

Member of Master's committee for Jeff Chaffin  
Agricultural and Resource Economics, 1994.

Member of Ph.D. Committee for M. B. Hossain  
Agricultural and Resource Economics, 1993.

Member of Ph.D. Committee for Miguel Martinez  
Agricultural and Resource Economics, 1993.

Supervisor, Carlos Carpio (2006)  
Investment Analysis of Establishing Muscadine and Chardonnay Grape Vineyards in North Carolina.

Supervisor, Stacy Marshall (Summer 2006)  
Cost of Growing and Harvesting Field Grown Landscape Trees.

Supervisor, Seth Ratchford (Summer 2006)  
Cost of Growing, Harvesting and Marketing Blackberries and Raspberries.

Supervisor with Michael Wohlgenant, Carlos Carpio, (2002 - 2006)  
Demand Analysis for Strawberries, Muscadine Grapes and Muscadine Wine.

Supervisor, Olga Sydorovych (Summers 2001 - 2006)  
Integrated Methyl Bromide Transition Strategies for Strawberries and Tomatoes in the Southeastern United States.

Supervisor, Otilia Boldea (2003)  
Cost of Growing, Harvesting and Marketing Blackberries in the Southeastern United States.

Supervisor Kalidas Jana (1999)  
Factors Affecting Consumer Purchases of Nursery Products.

Supervisor Anthony Rezitis, Post doctorate, with Michael Wohlgenant, (1998)  
Demand Analysis of Nursery Products.

Supervisor, Jeff Chaffin, (March - August 1994 and June - August 1993)

Alternative Municipal Compost Systems, Consumer Demand for Nursery Plants, and Cost of Production of Nursery Plants.

Supervisor, Ted Morris (Summer 1993)  
Demand for North Carolina Nursery products.

## **GRANTS, CONTRACTS, AND GIFTS**

“Key Factors Influencing Current and Anticipated Consumer Purchases of Nursery Products and Landscape Services”, \$61,400, Cooperator with the North Carolina Department of Agriculture and Consumer Services and the North Carolina Nursery and Landscape Association, 2007.

“The Economic Impact of the North Carolina Green Industry”, \$150,000, Special Appropriation from the North Carolina General Assembly. Cooperator with Agricultural Statistics, The North Carolina Department of Agricultural and Consumer Services, 2006.

“Risk Management Educational Programs”, \$200,000, Agriculture Risk Management Education Program, USDA, Cooperator with the North Carolina Association of Nurserymen, 2005-2006.

“Development, Evaluation and Extension of Integrated Methyl Bromide Transition Strategies in Vegetable and Strawberry production Systems”, ARE funding: \$28,000, USDA, Cooperative State Research, Education, and Extension Service Grant, Cooperative Investigator, 2004 – 2005

“Blackberry Production in the Southeastern United States”, \$5,000, Southern Region Small Fruit Consortium, 2002.

“Estimated Costs and Returns of Producing, Harvesting and Marketing Blackberries in the Southeastern United States”, \$5,500, North Carolina Specialty Crops Program, with Gina Fernandez, 2002.

“Impact of the Turfgrass Industry on the North Carolina Economy,” \$15,000, North Carolina Turfgrass Foundation, with Michael Walden, 2002.

“Cost of Producing, Harvesting, and Marketing Strawberries in North Carolina,” \$2,000, North Carolina Strawberry Association, with E. Barclay Poling, 2002.

“Integrated Methyl Bromide Transition Strategies in the Southeastern United States”, ARE funding: \$24,000, USDA, Cooperative State Research, Education, and Extension Service Grant, Cooperative Investigator, 2002

“Identifying Important Factors That Influence Consumer Purchases of Muscadine Grape Products, \$55,000, USDA Agricultural Marketing Service, Federal-State Marketing Improvement Program Grant with Mike Wohlgenant ARE and Ross Williams, NCDA&CS, 2001.

“Integrated Methyl Bromide Transition Strategies in the Southeastern United States”, ARE funding: \$15,000, USDA, Cooperative State Research, Education, and Extension Service Grant, Cooperative Investigator, 2001.

“Consumer Perceptions of Landscape Value Using Several Designs, Types of Plant Material and Landscape Ages”, \$20,000, Horticultural Research Institute. S-103 Cooperative Research Project with committee members at Michigan State University, the University of Delaware, Texas A&M, University the University of Georgia, and the University of Tennessee, 1998.

"Estimating the Economic Impact of the North Carolina Turfgrass Industry," \$8,000, NC Turfgrass Association, 1996.

"Identifying Important Factors that Influence Consumer Purchases of Nursery Products," \$50,000. USDA Agricultural Marketing Service, 1996 with Mike Wohlgenant ARE, Ross Williams, NCDA, and Bill Wilder, NCAN.

"What is Quality and How Much Will the Consumer Pay for It?" \$8,000, Horticultural Research Institute, with Tom Glasgow and Ted Bilderback, Department of Horticultural Science, 1995.

Horticultural Research Institute, \$4,000, The grant was used to identify the important factors that influence consumer purchases of nursery products, 1993.

Cost of Producing Ornamentals, \$15,000, N.C. Association of Nurserymen, 1992.

"Factors Influencing Consumer Decisions to Purchase Nursery Plants", \$30,543, Agricultural Marketing Service. With Ross Williams, North Carolina Department of Agriculture and Bill Wilder, North Carolina Association of Nurserymen, 1991.

“Exploratory Research on the Factors Influencing Consumer Decisions to Purchase Nursery Plants”, \$2,000, North Carolina Association of Nurserymen. With Eitan Gerstner, Economics, 1990.

North Carolina Ornamental and Nursery Marketing Workshops, \$3,500. N.C. Agricultural Foundation, 1989.

“Apple Maturity, Cost of Production, and Why Apples are Downgraded”, \$6,500. N.C. Agricultural Foundation. With Kathy Williams, Horticultural Science, 1988.

## **AWARDS AND HONORS**

Extension Publication Award from the American Society for Horticultural Science’s Southern Region for *Producing and Marketing Strawberries for Direct Markets*, AG-645, 2004

Extension Publication Award from the American Society for Horticultural Science’s Southern Region for *High Density Apple Orchard Management*, North Carolina Cooperative Extension Service, AG-581, 2000.

## **INTERNATIONAL ACTIVITIES**

“Forces that Move the Worldwide Market for Berries”, Invited Presentation at the Conference of Berries, Sponsored by Chilealimentos (Chilean Food Industry Association), Linares, Chile, July 2007.

Technical advisor to farmers in the Amacuapa Valley, Department of Olancho in eastern Honduras. Activities include advising growers on how to establish and manage an agricultural cooperative, how to develop fruit and vegetable markets, and how to improve the management of their farms, 2005 – present.

Developed and coordinated a week-long educational program in conjunction with the Cooperative Extension Service, North Carolina A&T State University on fruit and vegetable production and marketing for managers of collective farms in former communist countries

- a. Farm managers from Czechoslovakia and Poland, 1991
- b. Farm managers from Poland and Bulgaria, 1992

Coordinated a week-long tour in conjunction with the USDA Cooperative Extension Service focusing on fruit and vegetable marketing for farm managers from Poland, 1992

## **COMMITTEE ASSIGNMENTS**

### **1. Regional**

- a. Land Grant Marketing Committee, Tennessee Valley Association, 1984 - 86
- b. Technical and Economical Efficiencies of Producing and Marketing Landscape Plants, S-290 (formally S-103), 1993 - present.

### **2. State**

- a. N.C. Apple Marketing Advisory Committee. 1981 - 90
- b. N.C. Turfgrass Survey Steering, Committee, 1984 - 99
- c. N.C. Floriculture Marketing Advisory Committee, 1987 - 97
- d. N.C. Peach Marketing Committee, 1987 - 90
- e. Program Coordinator, N.C. Peach Growers Association, 1988 – 89
- f. Advisor, N.C. Muscadine Grape Association, 2005 - present

### **3. College**

- a. Environmental Horticulture Coordinating Committee, 1980 - present
- b. Turfgrass Field Day Coordinating Committee, 2001 - present



- c. Nursery Field Day Coordinating Committee, 2001 - present
- d. Tree Fruit Coordinating Committee, 1980 - 97
- e. Small Fruit Coordinating Committee, 1980 - 97
- f. Fruit and Vegetable Advisory Committee, 1981 – 97
- g. Apple Integrated Pest Management Committee, 1980 – 82
- h. Christmas Tree Coordinating Committee, 1985 – 97
- i. CALS Task Force on Waste Utilization in Agriculture and Forestry, 1990 - 91

4. **Department**

- a. Modern Farming Short Course
  - 1. Steering Committee, 1981 - 84
  - 2. Program Chairman, 1983 – 84
- b. Tar Heel Economist
  - 1. Editorial Board, 1989 - 99
  - 2. Editor, 1998 - 99
- c. Faculty Search Committee
  - 1. Member: 1998 – 2001
  - 2. Chairman: 1999 - 2001
- d. Post-Tenure Review Committee
  - 1. Member: 1999 - 2002
  - 2. Chairman: 2002

**HONOR SOCIETIES**

- 1. Alpha Zeta, The University of Tennessee, 1971
- 2. Gamma Sigma Delta, The University of Tennessee, 1972
- 3. Phi Kappa Phi, The University of Tennessee, 1973
- 4. Omicron Delta Kappa, The University of Tennessee, 1973
- 5. Scabbard and Blade, The University of Tennessee, 1972

**OTHER SERVICE**

- 1. North Carolina Army National Guard, Retired with 30 years of military service, June 30, 2003
- 2. Faculty Advisor and Board of Trustee Member, NCSU Chapter of Delta Chi National Fraternity, 1994 – 98
- 3. Executive Committee, NCSU Chapter of Gamma Sigma Delta, 1996 – 97