

## CURRICULUM VITAE

### I. PERSONAL INFORMATION:

GEORGE J. WULSTER  
Extension Specialist  
Department of Plant Biology and Pathology  
SEBS - Rutgers University  
New Brunswick, New Jersey 08903

### II. EDUCATIONAL HISTORY:

Ph.D. Rutgers University - October 1981

Thesis: An investigation of the possible role of cyanide, ethylene precursors, and ethylene in the senescence of carnation petals.

M.S. Rutgers University - May 1979

Thesis: The role of auxins, cytokinins, and components of the test tube gaseous environment in the growth and differentiation of rose stem callus tissue.

B.A. Hobart College - May 1972

### III. PROFESSIONAL EXPERIENCES:

RUTGERS UNIVERSITY, NEW BRUNSWICK, NEW JERSEY

Extension Specialist ..... July 1994 - Present  
Department of Plant Science  
Cook College, Rutgers University  
(70% Extension, 30% Research)

Associate Extension Specialist..... July 1987 - July 1994  
Department of Horticulture  
Cook College, Rutgers University

(70% Extension, 30% Research)

Assistant Extension Specialist, ..... July 1981 - July 1987  
 Department of Horticulture  
 Cook College, Rutgers University

Research Assistant ..... September 1977 - July 1981  
 Department of Horticulture  
 Cook College, Rutgers University

Teaching Experience

Undergraduate and graduate classes. Public education including; in-service training sessions for agricultural agents, industry professionals, and the general public. Training sessions for corporate management and sales personnel of horticultural companies, and numerous short courses offered by Cook College to various public and professional groups.

Floriculture Industry Experience

12 years (1966-1978) in the commercial production of cut roses and chrysanthemums. N.H. Wright Inc. in Cranbury NJ.

IV. AWARDS AND RECOGNITION:

4-H Service Award ..... 1986.  
 NJAES Team Research Award (NASA-NJNSCORT)..... 1995.

V. TEACHING:

Undergraduate:

11:776:321 Greenhouse Management ..... 2005, 2007  
 11:776:321 Greenhouse Environmental Control .....1996, 1998,1999, 2002  
 11:530:242 Plant Science: guest lectures ..... 1990 - 1993,1995  
 11:530:201 Introduction to Horticulture: 1 lecture/field trip ..... 1985 - 2002  
 Discontinued: Diseases of Ornamental Plants: 1 lecture ..... 1984 - 1990  
 Discontinued: Plants For Enjoyment: 1 lecture ..... 1981 - 1989  
 Cook Honors Project Advisor: Eunice Long ..... 1986  
     'Using Plant Growth Retardants to Control  
     Height of Freesia hybrida.'

Honors project reader: Dave Laloya

'Activating plant Defense Mechanisms in Geranium' ..... 1995-1996

Douglas Scholars Program Advisor: Maria Alvarado.....2007

'Evaluation of David Austin Rose cultivars for gardening suitability in NJ'

Independent Study: (2 credits) Mandy Goff ..... 1991  
 Triazole growth regulator effects on new poinsettia varieties.

## V. TEACHING: (continued)

### GRADUATE:

Full Member of the Plant Biology Graduate Program..... 1997-  
 present.  
 Associate member of the Plant Biology Graduate Program ..... 1995  
 Associate member of the Plant Science & Technology ..... 1982 - 1994  
 Graduate Program.  
 Plant Science Techniques 16:765:521: Principles of Ion Chromatography. .... 1995

### Students Advised:

Susan Cartwright Trapkus	M.S.	
Lysbeth Ackerman	M.S.	
Lizzette Gonzalez - Gill	Ph.D.....	1995
Christa Whelan	Ph.D.....	1989

### Committees:

Christine Casey M.S.	
Yi-Chi Hsieh	M.S.
John Sarracino M.S.	
Eugene Reese	M.S

### Extension Programs:

Hundreds of field visits with agents to growers. .... 1981-Present

New Jersey Flower & Garden Show: Judge & Speaker ..... 1981-1989,1993  
 South Jersey Flower Growers Meeting: ..... 1988 - 1993  
 (Various topics each year)  
 Central New Jersey Veg. Growers Meeting: ..... 1988 - 1993  
 (Growth Regulators & Cultural Practices for Annual Production)  
 Bergen County Fruit, Vegetable, and Flower Twilight Meeting: ..... 1991-Present  
 (Various topics each year)  
 North Jersey Ornamental Horticulture Conference: ..... 1981 - 1987  
 (Arranged Bedding Plant Program and was speaker)  
 North Jersey Landscape and Bedding Plant Meeting:1988, 1991, 1993-1998, 200-2004  
 (Participated as speaker covering different topics each year)  
 Atlantic City Vegetable Growers Meeting:

(Organized Bedding Plant Session 1982-1987) ..... 1981 - 1993  
 (Speaker 1988-1993,)

New Jersey Greenhouse Conference: ..... 1981 - 1990  
 A day long program for greenhouse flower growers which was organized around a research open house and an afternoon educational program. (Planned and organized both the open house and educational program.) Attendance was generally between 75 and 100 growers.

Rutgers Annual Poinsettia Open House:  
 Annual cultivar evaluations of more than 100 Poinsettia cultivars. Open to greenhouse growers and the general public. First week of December..... 1995-2008

South Jersey Flower Growers Bus Tour: ..... 1990  
 (Arranged and Participated)

Sussex County Greenhouse Program: ..... 1990  
 Annual Garden & Open House: ..... 1981 -1989  
 - Grew Plants, raised garden (with Don Lacey) participated, and helped coordinate the annual open house. Attendance ranged from 2,000 to 5,000 depending upon the year.

New Jersey State Florist Meeting: ..... 1989  
 (Maintaining Plants at Retail)

Gloucester County Greenhouse Workshop: ..... 1989

Poinsettia Day Program: ..... 1987

Master Gardeners Field Day: ..... 1987  
 (Greenhouse Tours)

Garden Center Day Program: ..... 1985  
 (Care of Bedding Plants)

Continuing Education Short Courses: (1-3 hr. lectures)

Greenhouse Crop Production: (2 day program) (February 23 & 24) ..... 1993-1996  
 (Organized & Taught) 45 Students

Topics: (examples)

'Potting media, watering and nutrition basics' 1 hr.

'Easter lily production: Problems and Solutions' 1 hr.

'Computer decision support software for Easter lily production' 1 hr.

Greenhouse Crop Production: (3 day program) (February 26-28) ..... 1992  
 (Organized & Taught) 60 Students

Topics:

'Potting media, watering and Nutrition Basics' 1 hr.

'Crop responses to Growth regulators' 1 hr.

'Computer models and non chemical approaches to height control' 1 hr.

Greenhouse Design and Management .....	1988 - 2002
Taught 15-30 students depending upon year.	
Topics: (examples)	
'Crop responses to root zone heating' 1 hr.....	1988
'Potting media, nutrition, and watering' 1-2 hrs. ....	1989-1998
'Greenhouse production systems for contemporary crops.....	1999-2005
 Park Maintenance Short Course .....	 1981 - 1992
(Taught 20 to 75 students depending upon year.	
Topics: 1981-1993.	
'Annuals for Sun and Shade' 30 min.	
'Garden care and Maintenance' 30 min.	

The 'Greenhouse Crop Production Short Course' generated between \$12,000.00 and \$18,000.00 in the years offered. Approximately 10-15% was returned from Cooperative Education to support floriculture research program.

## VI. RESEARCH/SCHOLARSHIP:

### REFEREED JOURNAL ARTICLES:

E. Reiss, D.R. Mears, T.O. Manning, G.J. Wulster, A.J. Both (2007). Numerical Modeling of Greenhouse Floor Heating. Trans ASABE. Vol50(1): 275-284.

Wulster, G.J. and T. Ombrello (2001). Control of height and flowering of Ixia hybrids as container plants. HortTechnology. Research Highlights 11(1):152

Wulster, G.J. and T. Ombrello (2000). Control of height and flowering of Ixia hybrids as container plants. HortScience 35(6) 1087-1088.

Wulster, G.J. (1993) Using a computer spreadsheet and compiler to extend growth models to greenhouse growers. HortTechnology 3(2):230 - 233.

Wulster G. J and T. Gianfagna (1991). Freesia hybrida respond to Ancymidol, cold storage of corms and greenhouse temperatures. HortScience 26(10):1276-1278.

Whelan, C.S. and G. J. Wulster (1991). Causes of reduced pathogen tolerance in pelargonium after application of silver thiosulfate. HortScience 26(8):1067-1069.

- Wulster, G., T. Gianfagna and B. B. Clarke (1987). Comparative effects of ancymidol, propiconazol, triadimefon, and Mobay RSW0411 on lily height. *HortScience* 22(4):601-602.
- Gianfagna, T. and G. J. Wulster (1986). Growth retardants as an aid to adapting freesia to pot culture. *HortScience* 21(2):263-264.
- Gianfagna, T. and G. J. Wulster (1986). Comparative effects of ancymidol and paclobutrazol on Easter lily. *HortScience* 21(3):463.
- Gianfagna, T., G. J. Wulster and G. S. Tieger (1986). Effect of flowers on stem elongation in Easter lily. *HortScience* 21(3): 461-462.
- Wulster, G., T. Gianfagna and B. Clarke (1986). The effect of sterol-inhibiting fungicides on stem elongation in Easter lily. *HortScience* 21(3):783.
- Wulster, G. (1985). A nondestructive method for measuring root system surface area. *HortScience* 20(6):1058-1060.
- Wulster, G., J. Sacalis, H. W. Janes (1984). The development of cyanide insensitive respiration during the course of carnation petal senescence. *J. Amer.Sci. Hort. Sci.* 109(2):202-206.
- Sacalis, J. G. Wulster, H. W. Janes (1983). Senescence in isolated carnation petals: differential response of various petal portions to ACC, and effects of exudate from excised gynoecia. *Z. Pflanzenphysiol, Bd.* 112 S.7-14.
- Wulster, G., J. Sacalis, H. W. Janes (1982). Senescence in isolated carnation petals: effects of IAA and inhibitors of protein synthesis. *Plant Physiol.* 70:1039-1043.
- Wulster, G., J. Sacalis, H. W. Janes (1982). Effect of inhibitors of protein synthesis on senescence in isolated carnation petals. *J. Amer. Soc. Hort. Sci.* 107(1):112-115.
- Wulster, G., J. Sacalis, H. Janes (1980). The presence of cyanide-resistant respiration in petals of roses harvested at the tight bud stage. *HortScience* 15(3):315-316.
- Wulster, G. and J. Sacalis (1980). Effects of auxins and cytokinins on ethylene evolution and growth of rose callus tissue in sealed vessels. *HortScience* 15(6):736-737.

**BOOK CHAPTERS:**

Wulster G. (1996) Scheduling: In Tips on Growing and Marketing Garden Mums. pg. 45-48. Ohio Florists Association, Columbus, Ohio. Edited by, M. Gaston, S. Carver, C. Irwin and P. Konjoian.

Wulster G. (1992) Bulb Crops (Potted): In Tips on the Use of Chemical Growth Regulators on Floriculture Crops. pg. 34-40. Ohio Florists Association, Columbus, Ohio. Edited by, H.K. Tayama, R.A. Larson, P.A. Hammer and T.J. Roll.

**NON-REFEREED Publications:**

Ombrello, T. and G.J. Wulster (1999). Florel Treatment of Tomato Transplants American Vegetable Grower. April 1999. Vol. 47, No. 4. Pg. 4\*- 6\*.

Wulster, G.J. and H. Janes. (1997). Effects of supplemental light, quality, quantity, and differential temperature on growth and development of easter lily (*Lilium longiflorum*). Acta Horticulturae no. 418: pg. 153 - 158.

Wulster, G. J., S. Cartwright and T. J. Gianfagna (1989). The effects of greenhouse temperature and ancymidol concentration on height and flowering time of *Freesia hybrida* grown as a container plant. First International Symposium on the Development of New Floricultural Crops, Faaborg, Denmark. Acta Horticulturae: 252:97-103.

Markus, D., G. Wulster, R. Shaw (1984). Growth and composition of chrysanthemum as affected by various levels of manganese and copper in peat substrates. Proc. International Symposium on Substrates. Barcelona, Spain. Acta Horticulturae 150:383-395.

Wulster, G. and H. Janes (1983). Root Zone Heating: The effect of elevated root zone temperatures of various duration on growth and development of several poinsettia cultivars. Proc. International Greenhouse Energy Symposium. Columbus, Ohio. Acta Horticulturae 148:835-848.

Janes, H. W., G. Wulster, C. Frenkel (1982). Cyanide-resistant respiration in potato tubers as affected by cold storage. In: Proc. Third National Controlled Atmosphere Research Conference. D. G. Richardson and M. Meheriuk, Ed., ISBS, Inc., Beaverton, Oregon.

## COMPUTER Applications:

Internet : 1997-1998: An Internet Web site was created for the extension of Single Cluster Tomato production technology as part of the on going NASA NJ-NSCORT activities.

1996-2006: An Internet Web site was created to assist in the extension of research and cultural information to the commercial floriculture industry. The site was designed and implemented in 1997 and discontinued in 2006 due to website policy changes in the University and college.

## COMPUTER SOFTWARE COPYRIGHTS:

Wulster, G. J. (1992). The Easter Lily Growth and Development Module, For the Personal Computer. This program utilized the results of recently published environmental modeling research (1985-1991) on Easter Lily to allow growers to better manage the timing and final height of an Easter Lily crop.

Wulster, G. J. (1990). The Poinsettia production guide for the personal computer. A significant software application providing both cost accounting and production information important to the successful production of a Commercial poinsettia crop.

Computer Software: The applications were conceived and developed by the author including the writing of the software programs in Lotus Macro Language and the comprehensive manuals that also accompany them.

## ABSTRACTS :

J.S. Carleo, P.J. Nitzsche, N. Polanin, P. Perdermo, G. Wulster, A. Wyenandt, a. B. Gould. 2006. Performance of Zinnia And Sunflower Cultivars Raised on Black Plastic Mulch for Cut Flower Production. National Agricultural Plastics Conference.

González-Gill, L. y G. J. Wulster, 1996. Absorción y lixiviación de nitratos en el cultivo de pascuas en tiestos, Memorias de la Sociedad Puertorriqueña de Ciencias Agrícolas, 22 de nov., Hato Rey, P.R., p. 10 (Resumen).

González-Gill, L., G.J. Wulster y G.A. Berkowitz, 1994. Evaluación de la absorción de nitrato por raíces de pascua (*Euphorbia pulcherrima*) con plantas intactas y vesículas de membrana celular, Memorias de la Sociedad Puertorriqueña de Ciencias Agrícolas, 4 de nov., Hato Rey, P.R., p. 27 (Cartel).

Wulster G.J. and D. Tonkin (1993). Hybrid Lily Response To Day/Night Temperature Regimes (DIF), Growth Retardant, and Growing Media Composition. HortScience, Vol. 28(5):188.

Gonzalez-Gill L., G. Wulster, and G. Berkowitz (1993). Phenylglyoxal inhibits nitrate uptake by intact Poinsettia roots and root plasma membrane vesicles. HortScience, Vol. 28(5):189

Gonzalez-Gill L., G. Berkowitz, and G. Wulster (1993). Evaluation of the NO<sub>3</sub>/h symport model of high affinity NO<sub>3</sub> uptake in plant roots using plasma membrane vesicles.(1993) Plant Physiology Vol.102(1):108.

Wulster G. J. and J. B. Jones Jr. (1992). Easter lily growth and nutrient uptake from potting media amended with composted municipal sludge. HortScience, Vol. 27(6):200.

Wulster G. J. (1991). Using a computer spreadsheet and compiler to extend crop production models to greenhouse producers. HortScience, Vol.26(6):93.

Wulster G. J. and T. Gianfagna (1987). Interaction between corm cooling and growth regulator application on height control of pot Freesia hybrida. HortScience, Vol. 22(5):62.

Whalen C. S. and G. Wulster (1987). Chemical defenses in the seedling Pelargonium x Hortorum exposed to Pythium Ultimum attack. HortScience, Vol. 22(5):82.

Whelan C. S. and G. Wulster (1987). The effects of Silver on the interaction between seedling Pelargonium x Hortorum B. and Pythium Ultimum. HortScience, Vol. 22(3):384.

Gianfagna T. J., G. J. Wulster, and G.S. Teiger (1986). Effect of Flowers on stem elongation in Easter lily. HortScience, Vol. 21(3):230.

Wulster G., T. Gianfagna and B. Clarke (1986). The effect of sterol-inhibiting fungicides on stem elongation in Easter lily. HortScience, Vol. 21(3):231.

Gianfagna T. and G. Wulster (1985). Height control of Freesia Hybrida utilizing Ancymidol and Paclobutrazol. HortScience, Vol. 20(3):48.

- Wulster, G. (1985). Elevated root zone temperatures improve geranium stock plant productivity. *HortScience*, Vol. 20(3):61.
- Wulster, G. (1984). A simple nondestructive technique for the measurement of root system growth. *HortScience*, Vol. 19(3):43.
- Wulster, G. and H. W. Janes (1983). Root zone heating: The effect of elevated root zone temperatures of various duration on Growth and development of several Poinsettia cultivars. *HortScience*, Vol. 18(4):58.
- Wulster, G. , J. Sacalis, H.W. Janes, and C. Frenkel (1981). Senescence in isolated carnation petals: Effects of IAA and inhibitors of protein synthesis. *HortScience*, Vol. 16(3):40.
- Wulster, G. , J. Sacalis and H. W. Janes (1981). Effect of inhibitors of protein synthesis on senescence of isolated carnation petals after exposure to ethylene. *HortScience*, Vol. 16(3):40.
- Schultz, C., G. Wulster, H. Janes, and C. Frenkel (1979). Interaction of low temperature and oxygen regimes on the stimulation of respiration, and cyanide resistant respiration, in potato tubers. *Plant Physiol. Supple.* 63(5):103.
- Wulster, G., J. Sacalis, and H. W. Janes (1979). The presence of cyanide resistant respiration in rose petal tissue at early stages of petal expansion. *Plant Physiol. Supple.* 63(5):103

### Trade Publications:

- Wulster, G. J. (1989). Poinsettia Height Control With Bonzi, Connecticut Greenhouse Newsletter, 151:2-5.
- Whalen, C. and G. Wulster (1988). STS--Pros and Cons. *Greenhouse Growers*, Vol 6(12):52-55.
- Cartwright, S., G. Wulster and T. Gianfagna (1988). Freesia: A Cool Alternative. *Greenhouse Grower*, Vol 6(10):98-102.
- Gianfagna, T. and G. Wulster (1987). Ancymidol (A-Rest) vs. Paclobutrazol (Bonzi) in Lily Height Control. *BPI News* (28):1:9.

Wulster, G., T. Gianfagna and E. Long (1986). Grow freesia as a container crop. *Greenhouse Grower*, vol 4(7):94-97.

Wulster, G. (1984). Root zone heating: turning the greenhouse environment upside down. *Amer. Veg. Grower*, January 1984.

Wulster, G. and D. Lacey (1983). The 1982 Rutgers Annual Display Garden. *Greenhouse Manager* 1(10):14.

Wulster, G. (1983). You can't produce quality plants without quality water. New Jersey Plant and Flower Growers Association Newsletter, Vol. 10, No. 2.

Wulster, G. (1983). STS can prevent flower shattering in some pot plants. *Greenhouse Manager* 2(1):40-43.

### EXTENSION PUBLICATIONS: (continued)

#### BULLETINS:

E169: Wulster, G., R. Brumfield, B. Roberts, and C. Costaris. (1993). Starting in the Greenhouse Business. (28 pg.)

#### TECHNICAL FACT SHEETS: (1986-1999)

TFS 02: Wulster, G. Poinsettia Stock Plants: Fundamentals Pay Off.

TFS 03: Wulster, G. Bract Necrosis on Poinsettia. (revised, 2000)

TFS 04: Wulster, G. Fuchsia Flowering (Revised 1996)

TFS 05: Wulster, G. Minimizing Oedema Problems on Ivy Geraniums. (Revised 1996)

TFS 11: Wulster, G. and D. Lacey. Garden Mum Variety Trials: Field Grown.

TFS 12: Wulster, G. and D. Lacey. Garden Mum Variety Trials: Container Grown.

#### FACT SHEETS:

- FS 541: Paterson, J.W., Wulster and Garrison, S.A. Growing Mixes and Fertilizer Treatments For Vegetable Bedding Plant Growers in New Jersey. (1991)
- FS 128: Wulster, G. Forcing Hardy Bulbs Indoors.(1988)
- FS 147: Wulster, G. and D. Lacey. Garden Chrysanthemums: Hardiness Evaluations. (1987)

## VI. RESEARCH/SCHOLARSHIP: (continued)

### RESEARCH NEWSLETTERS:

- Lacey, D. B. and G. Wulster. 1982 - 1989. Rutgers Annual Display Garden.
- Wulster, G. March 1985. EarthLife: Composted Municipal Sludge.
- Wulster, G., D. Markus and Y. Hsieh. 1983. The Tolerance of Poinsettia to High Levels of Copper.
- Wulster, G. and C. Sperapani. Nov. 1981. Bottom Heat, Well Aerated Mix and Rooting Hormone Optimize Rooting of Geranium Cuttings.

### NEWSLETTERS:

- Wulster, G. 1982-1998. Easter Lily Forcing Schedules. (Revised Annually)
- Wulster, G. 1987 & 1991. Poinsettia Stock Plants: Fundamentals Pay off. (Revision 1996)
- Wulster, G. 1991. Greenhouse Temperature and Scheduling Annuals.  
(Summarized and based upon the research results provided by Dr. Richard Merritt, Professor of Horticulture Rutgers University)
- Wulster, G. 1991. Information on Specialty and Field Grown Flowers.
- Wulster, G. 1991. Poinsettia Production Guide and Lily Growth and Development Software.
- Wulster, G. 1990. Multibloom Geranium Performance in Response to two night

Temperatures. (Summarized and based upon the research results provided by Dr. Richard Merritt, Professor Rutgers University.

Wulster, G. 1990. Poinsettias Are Not Poisonous.

Wulster, G. and D. Tonkin. 1989. Poinsettia Height Control With Bonzi.

Wulster, G. 1987. Reference Books For Commercial Floriculture Crop Production.

Wulster, G. 1985. Regal Geranium Production.

## VI. RESEARCH/SCHOLARSHIP: (continued)

### NEWSLETTERS: (continued)

Wulster, G. 1983. Approximate Weight Equivalents for Volumetric Measurements.

Wulster, G. 1983. You Can't Produce Quality Plants Without Quality Water.

Wulster, G. 1982. Silver Thiosulfate (STS) to Prevent Flower Shattering in Some Potted Flowering Plants.

Wulster, G. 1981. Some Considerations for successfully using Osmocote.

Wulster, G. 1981, 1982. General Considerations for the Successful Production of a Poinsettia Crop

### Miscellaneous:

Monthly Contributions to NJ State Florists ASS. Newsletter. Nov 1992- April 1993.  
Periodic contributions too the Rutgers Insect and Disease Newsletter published by Jim Willmott. 2002-2004

### Invited Presentations:

The Maryland Greenhouse Growers Conference ..... 1997

New England greenhouse Conference ..... 1994  
'Useful Computer Software for The Greenhouse'

Department of Plant Pathology Rutgers University..... 1993

- 'Sterol Inhibiting Fungicides as Growth Retardants in Floriculture Production'
- Connecticut Greenhouse Growers Association Meeting. .... 1993  
'Easter Lily decision support software demonstration.'
- Pennsylvania Flower Growers Expo. Lancaster PA. .... 1992  
2 Presentations:  
    (a) 'Easter Lily decision support software demonstration'  
    (b) 'Growing Freesia as a Potted Plant'
- Ohio Florist International Short Course. Cleveland, Ohio. .... 1992  
2 Presentations  
    (a) 'Overview of Easter Lily Production Problems'  
    (b) 'Height Control of Garden Mums'
- Grower Expo '90. Chicago, IL ..... 1990  
'Growing Freesia as a Potted Plant'
- Ohio Florist International Short Course. Columbus, Ohio.  
'Growing Freesia as a Container Crop.' ..... 1989  
Chair: Water & Fertility Symposium. .... 1989
- Indiana Flower Growers Meeting. Indianapolis IN. .... 1989  
'Freesia & Ixia as New Potted Plants'
- Maryland Greenhouse Growers Conference. .... 1988  
2 Presentations:  
    (a) 'Growing Freesia in Containers '  
    (b) 'Rootzone Heating and Plant Nutrition'
- USDA/ARS Biophysics Research Unit.  
'Root Growth and Ion Uptake in Floriculture Crops.' ..... 1987
- Northern Horticultural Society North Yorkshire. North Yorkshire England.  
'The Effect of Sterol Inhibiting Fungicides ..... 1986  
on Stem Elongation in Easter Lily.'
- Ohio Florist International Short Course. Columbus, Ohio  
'Plant Responses to Rootzone Heating.' ..... 1982

### International Educational Experience

Canada: Multiday visit to St. Catherine's area to ..... 1991  
 evaluate production and wholesale facilities.

Denmark: 1 Week in conjunction with New Crops Symposium. .... 1988

Netherlands: ..... 1983  
 --USAID Scientist exchange program with Netherlands:  
 Two week independent tour of Horticulture research and  
 educational facilities in the Netherlands.

--1 week BPI tour to commercial growing facilities, and  
 independent visits to research institutes in Lisse, and Wageningen.

VI. RESEARCH/SCHOLARSHIP: (continued)

GRANT FUNDING:

EXTERNAL GRANT FUNDS:

2006 Grant in Aid for Floriculture research. Delaware Valley Wholesale Florist group,  
 Sewell, NJ.....\$6,000

2005 SADC. Developing an AMP for Commercial Greenhouse production in N.J.  
 (A.J. Both, Jim Willmott, ) .....25,000.00

1995 The Fred C. Gloeckner Foundation, Inc. (100%)..... \$7,000.00  
 --Using daminozide and ethephon to manage garden mum production.

1995 A. H. Hoffman, Inc., Landisville, PA: (100 %) ..... \$ 3,000.00  
 --For support of research on soilless potting media.

1994 The Fred C. Gloeckner Foundation, Inc. (100%)..... \$7,000.00  
 --Using daminozide and ethephon to manage garden mum production.

1993 Philips Lighting B.V.: (50%) ..... \$ 10,000.00  
 --Interaction of light quality with day night temperature  
 regimes for controlling lily height. (with H.W. Janes).

A. H. Hoffman, Inc., Landisville, PA: (100 %) ..... \$ 5,000.00  
 --For support of research on soilless potting media.

Valent Chemical Company: (100%).....	\$ 1,500.00
--Grant in Aid for refinement of Sumagic application rates on Easter lilies for the midatlantic grower.	
--Grant in Aid for refinement of Sumagic application rates .....	\$ 2,000.00
on annuals in 4-inch pots. (100 %)	
1992 Abbott Laboratories: (100%) .....	\$ 7,500.00
--Grant-in-aid for evaluations of experimental compounds on floriculture crops.	
Valent Chemical Company: (100%) .....	\$ 3,000.00
--Continued evaluation of Uniconazole on plug annuals.	

VI. RESEARCH/SCHOLARSHIP: (continued)

EXTERNAL GRANT FUNDS: (continued)

1991 Valent Chemical Company: (100%) .....	\$ 3,000.00
--Evaluation of Uniconazole on annual plugs.	
1990 Valent Chemical Company: (100 %) .....	\$ 3,000.00
--Evaluation of Uniconazole on annual plugs.	
1985 A. H. Hoffman, Inc., Landisville, PA: (100%) .....	\$ 10,000.00
--Partial support of technical position for research on potting media constituents.	
1985 Agricultural Research Service, Florist .....	\$ 1,200.00
and Nursery Crops Lab, Beltsville, MD: (100%) --Cooperative research on new crop development in a national germ plasm evaluation.	
1984 A. H. Hoffman, Inc., Landisville, PA: (100 %) .....	\$ 1,000.00
--Annual grant for support of floriculture greenhouse.	
1981 New Jersey Plant and Flower Growers Association: (100%).....	\$ 1,200.00
--Equipment grant.	

COMPETITIVE EXTERNAL GRANT FUNDS:

1995-2000	National Aeronautics and Space Administration (NASA) ..... \$1,000,000.00 NJNSCORT Multimedia development within NJ-NSCORT (\$10,000.00) For Single Truss Tomato Production System.	
1995	The Fred C. Gloeckner Foundation, Inc. (100%)..... \$7,000.00 --Using daminozide and ethephon to manage garden mum production.	
1994	Fred C. Gloeckner Foundation: (100 %)..... \$ 7,000.00 --Using Daminozide (B-Nine) and Ethephon to Manage Garden Mum Production. (2 Years)	
1993	Fred C. Gloeckner Foundation Inc.: (50%) ..... \$ 5,000.00 --(with T. Gianfagna) The role of Gibberellins in stem elongation in lily under normal and differential temperature regimes.	
1991	Fred C. Gloeckner Foundation Inc.: (50%) ..... \$ 5,000.00 --(with T. Gianfagna) The role of Gibberellins in stem elongation in lily under normal and differential temperature regimes.	
1991	Fred C. Gloeckner Foundation Inc.: (100 %) ..... \$ 6,500.00 --Comparative effects of Arest, Bonzi, and Sumagic on hybrid lilies.	
1989	Fred C. Gloeckner Foundation Inc. : (100 %) ..... \$ 6,000.00 --Growth and physiological activity of roots of floricultural crops.	
1988	Bedding Plants Inc. (renewal): (50%) ..... \$ 3000.00 --Evaluation of fungicides with growth regulator activity for height control of bedding plants (With Tom Gianfagna)	

## VI. RESEARCH/SCHOLARSHIP: (continued)

### COMPETITIVE EXTERNAL GRANT FUNDS: (Continued)

1988	New Jersey State Florist Association (100%)..... \$ 1,500.00 --Partial support for graduate student to continue	
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development of Freesia as a container crop.

- 1988 Fred C. Gloeckner Foundation Inc. (renewal): (50%)..... \$ 5,000.00  
 --Chemical and environmental control of plant height  
 in Freesia hybrida. (With Tom Gianfagna).
  
- 1987 Fred C. Gloeckner Foundation Inc.: (100 %)..... \$ 6,000.00  
 --Continued work on the growth and physiological activity  
 of roots of floral crops.
  
- Fred C. Gloeckner Foundation Inc.: (50%) ..... \$ 4,000.00  
 --Chemical and environmental control of plant height in  
 Freesia hybrida. -The development of a new commodity  
 for the container market. (With T. Gianfagna).
  
- Bedding Plants, Inc. (renewal): (50%) ..... \$ 3,000.00  
 --Evaluation of fungicides with growth regulator  
 activity for height control of bedding plants.  
 (With T. Gianfagna).
  
- 1984- New York Farmers Fund: (100%) ..... \$ 45,000.00  
 1987 --Use of composted municipal sludge as a potting mix  
 amendment.
  
- 1987 Professional Plant Growers Association: (50%) ..... \$ 3,000.00  
 --Evaluation of fungicides with growth regulator activity  
 for height control of bedding plants. (With T. Gianfagna).
  
- 1985 New York Florist Club: (50%)..... \$ 4,000.00  
 --Growth retardant application for producing freesia  
 as a pot plant crop. (With T. Gianfagna).
  
- 1983 New York Florist Club ..... \$ 2,200.00  
 --Equipment grant. (100%)
  
- 1983 Fred C. Gloeckner Foundation Inc.: (100%)..... \$ 6,000.00  
 --Measurement of growth and physiological activity  
 of roots.
  
- 1982 New York Florist Club: (100 %)..... \$ 2,000.00  
 --Decreasing production time and increasing post- production  
 longevity of cyclamen.

## INTERNAL GRANTS:

2001 NJAES PEG grant. Survey of New Jersey Greenhouse Industry production and technology. (A.J. Both and Robin Brumfield)... \$10,000.00

- 1991 Management of Mycorrhizal Fungi to Minimize Nutrient ..... \$ 14,000.00  
Leaching and Disease Incidence During the Production  
of Containerized Rhododendron.  
NJAES/Sustainable Agriculture. (With Anne Gould). (25%)
- 1987 Support of cooperative research on new crop development..... \$ 1500.00  
with USDA/ARS Florist and Nursery Crops Lab. (100 %)
- Independent Study Faculty Grant: (100%) ..... \$ 2,000.00  
--Development of decision-making software to improve the  
profitability of greenhouse producers in New Jersey.
- 1987 NJAE Water Quality Working Group: (100%) ..... \$ 4,000.00  
--Composted municipal sludge as a potting soil amendment.  
(In conjunction with Dr. Arthur Vrecenak).
- 1986 NJAE Mini-grant: (100%) ..... \$ 1,500.00  
--Support of Cooperative research on new crop development  
with USDA/ARS Florist and Nursery Crops Lab.

VI. RESEARCH/SCHOLARSHIP: (continued)

Hatch Projects Approved for funding:

Wulster, G. 1998 - 2003. Development of Minor Bulb Crops for Commercial Production.

Gianfagna, T., and G. Wulster 1992. The role of gibberellins in stem elongation in easter lily under normal and differential temperature regimes.

Gould, A.B., Wulster, G.J., and Peterson, J. 1991. Management of rhizosphere dynamics to control soilborne pathogens and promote plant productivity.

Multistate Projects:

N.E. 1017. 2003-2008. Regional project to improve efficiency of ebb and flood irrigation systems in greenhouses and to evaluate seasonal and crop water demand.

Gifts in Kind:

Holland Greenhouses Inc. : 300 Lily Bulbs/year : 1994-2005	.....	\$3,500.00
1993 Fred C. Gloeckner Inc. : --2,500 Bulbs	.....	\$ 1,500.00
1991 W. R. Grace Inc., Fogelsville, PA. : --Slow Release Fertilizers	.....	\$ 500.00
1991 George H. Ball Company, West Chicago, IL. : --Poinsettia Cuttings	.....	\$ 500.00
1991 Paul Ecke Poinsettia Inc., Encinitas, CA --Poinsettia Cuttings	.....	\$ 500.00
1981- Fred C. Gloeckner Inc.: 1992- --600-2000 Lily Bulbs/year	.....	\$ 8,000.00
1982 Biotherm Engineering Inc., Petaluma, CA.: --107,000 BTU. Hot Water Boiler & Peripherals to Complete. 2,000 sq. ft. of bench top root zone heating area.	.....	\$ 6,000.00
1981- Yodor Bros. Inc., Barbarton, Ohio: 1989 -- 1,000 Chrysanthemum cuttings/ Year for Research and Annual Display Garden.	.....	\$ 5,000.00

VII. SERVICE

Professional Service:

American Society for Horticultural Science:  
--Membership Chairman, New Jersey ..... 1983 - 1995

Working Group Membership:

- Floriculture Working Group
- ASHS Root Growth And Rhizosphere Dynamics
- Computer Applications in Horticulture

Secretary NEC-51: Coordinating Committee for Floriculture  
 Research in the Northeast ..... 1983 - 1985

Manuscript Review:

- Journal of The American Society for Horticultural Science
- HortScience
- Plant Growth Regulator Society of America  
 Quarterly  
 Journal  
 Scientia Horticulturae

VII. SERVICE (continued)

Member:

Regional Project NE-1017 .....2004-2008

Regional Project NE-164 ..... 1991 - 1997

American Society of Plant Physiologists ..... 1980 - 1990

N.J.D.A.--Provided root zone heating facilities for vegetable ..... 1984  
 seedlings germination.

--Information on potential greenhouse cooperators for ..... 1990  
 projects.

COLLEGE:

College Appointments and Promotions Committee ..... 1995-1998

Co-Chair, 1997, 1998.

College Planning Committee : ..... 1991 - 1994

(Chairman).....1994

(Vice Chairman) ..... 1993

Floriculture Working Group ..... 1991 - Present

Extension Evaluation Task Force ..... 1991

Membership and Nominations Committee ..... 1989, 1990

Annual Conference Planning Committee ..... 1985 - 1986

College: Departmental Service

Dept. of Plant Biology and Pathology Hort-Technology curriculum  
 committee. ....2003- ?

Chairman and or member of several appointment and ..... 1988 - Present  
 promotion reading committees.

Ag & Resource Specialist Merit Review Committee ..... 1988, 1989,1998, 2005, 2006

Plant Science/Ag Biotech Building Committee .....	1987 - 1989
Horticulture Department Chair Search Committee .....	1987 - 1988
Ag & Resource Management Chair Search Committee .....	1986 - 1988
Faculty Supervisor for Floriculture Greenhouse .....	1985 - 2006
Chairman Department Growth Chamber Committee .....	1987-1989
Faculty Advisor to Hortus Society .....	1981 -1987

Community-Societal Service

Rahway State Prison	Visited & provided technical
Trenton Psychiatric Facility	information, regarding structures
Mercer County Sheriff Dept.	culture, or supplies for horti-
Greystone Psychiatric Facility	culture based rehab programs.

Clinton Township School System.

Science curriculum review committee. ....	1992-1993
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Consulting Service

Consultant to Du Pont Agricultural Products .....	1995
Consultant to A. H. Hoffman, Inc., Landisville, PA. ....	1985 - 2000
Consultant to Novelty Manufacturing Company, Lancaster, PA .....	1988 - 1990
Rubbermaid Inc. (Household Products Division) .....	1987

PROFESSIONAL AFFILIATIONS:

American Society of Plant Physiologists .....	1981-1995
American Society for Horticultural Science .....	1988 - Present
International Society for Horticultural Science .....	1988 - Present
Sigma XI, The Scientific Research Society of North America .....	1981 - 1990
New Jersey Specialists Association - Vice President .....	1987
Secretary .....	1986
Treasurer .....	1985