

Curriculum Vitae

Dr. William M. Randle

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EDUCATION

- Ph.D. 1983 Horticulture, minor in Plant Pathology. University of Minnesota, St. Paul
Dissertation: The Genetic Control of Partial Resistance to *Puccinia sorghi* in
Zea mays.
- M.S. 1979 Horticulture, emphasis on plant breeding. Michigan St. University, E. Lansing
Thesis: The Inheritance of Several Characters in Pepper.
- B.S. 1976 Horticulture, minor in turfgrass management. Univ. of Arizona, Tucson, AZ

PROFESSIONAL EXPERIENCE

- 2011- Dean, Research Director, Extension Administrator, NC A&T State University
- 2006 - 2011 Chair and Professor, The Ohio State University, Columbus
- 2000 - 2006 Professor of Horticulture, Department of Horticulture, University of Georgia. 56%
Research, 44% Teaching
- 1994-2000 Associate Professor of Horticulture, Department of Horticulture, University of
Georgia, Athens. 64% Research, 36%
- 1989-1994 Assistant Professor of Horticulture, Department of Horticulture, University of
Georgia, Athens. 50% Research, 50% Teaching
- 1987-1989 Director of Plant Breeding, Basic Vegetable Products, Hanford, Calif.
- 1983-1987 Assistant Professor of Horticulture, Department of Horticulture, Louisiana State
University, Baton Rouge, LA. 75% Research, 25% Teaching.

AWARDS:

2001 L.M. Ware Distinguished Research Award, Southern Region, American Society of
Horticultural Science
2000 Teaching Faculty Award, Department of Horticulture

AREA OF EXPERTISE: Vegetable production and breeding, flavor and secondary metabolite
analysis and quantification, hydroponic systems, nutrient management, product development.

CONSULTANCIES:

Voca, Hungary, 1994
USAID, Peru, 1994-1995
Crop and Food, New Zealand, 1995, 1997
Allium and Brassica Centre, United Kingdom, 1994, 2001, 2005

Keystone Fruit Marketing, Peru, 1998, 2000, 2001, 2002, 2003, 2004, 2005
McCormick Company, Maryland, 2004
National Onion Lab, North and South America, 1998-present
McCain Foods, Wisconsin, 2004, 2005, 2006
Horticulture Australia Limited, 2006
Frito-Lay, Plano, TX, 2006

PEER REVIEWED PUBLICATIONS

- Coolong, T.W., **W.M. Randle**, and L. Wicker. 2008. Structural and chemical differences in the cell wall regions in relation to scale firmness of three onion (*Allium cepa* L.) selections at harvest and during storage. *J Sci. Food Agric.* 88: 1277-1286.
- Coolong, T.W. and **W.M. Randle**. 2008. The effects of calcium and chloride and ammonium sulfate on onion bulb quality at harvest and during storage. *HortSci.* 43: 465-471.
- Tsang-Chang, P., M.W. van Iersel, **W.M. Randle**, C.E. Sams. 2008. Nutrient solution concentrations of Na₂SeO₄ affect the accumulation of sulfate and selenate in *Brassica oleracea* L. *HortSci.* 43: 913-918.
- Coolong, T.W., R.R. Walcott, and **W.M. Randle**. 2008. A quantitative real-time polymerase chain reaction assay for *Botrytis aclada* in onion bulb tissue. *HortSci.* 43: 408-413.
- Campbell, S., J. Affolter, **W. Randle**. 2007. Spatial and temporal distribution of the alkaloid sanguinarine in *Sanquinaria candensis* L (Bloodroot). *Econ. Bot.* 61: 223-234.
- Toler, H.D., C.S. Charron, C.E. Sams, and **W.M. Randle**. 2007. Selenium increases sulfur uptake and regulates glucosinolate metabolism in rapid-cycling *Brassica oleracea*. *J. Am. Soc. Hort. Sci.* 132: 14-19.
- Lefsrud, M.G., D.A. Kopsell, D.E. Kopsell, and **W.M. Randle**. 2006 Kale carotenoids are unaffected whereas biomass production, elemental concentration and selenium accumulation respond to changes in selenium fertility. *J. Ag. Food Chem.* 54: 1764-1771.
- Coolong, T.W. and **W.M. Randle**. 2006 The influence of root zone temperature on growth and flavor precursors in *Allium cepa* L. *J. Hort. Sci. Biotech.* 81: 199-204.
- Chang, P. and **W.M. Randle**. 2005. Sodium chloride timing and length of exposure affect onion growth and flavor. *J. Plant Nutrition.* 28: 1755-1766.
- Boyhan, G.E., A.C. Purvis, **W.M. Randle**, R.L. Torrance, M.J. Cook, G. Hardison, R.H. Blackley, H. Paradise, C.R. Hill, and T. Paulk. 2005. Harvest and postharvest quality of short-day onions in variety trials in Georgia, 2000-2003. *Hort Tech.* 15: 694-706.

- **Randle, W.M.** 2004. Chloride requirements in onion: Clarifying a widespread misunderstanding. *Better Crops Plant Food*. 88: 10-11.
- Diaz-Perez, J.C., **W.M. Randle**, G. Boyhan, R.W. Walcott, D. Giddings, D. Bertrand, H.F. Sanders, and R.D. Gitaitis. 2004. Effects of mulch and irrigation system on sweet onion: I. Bolting, plant growth, and bulb yield and quality. *J. Amer. Soc. Hort. Sci.* 129: 218-224.
- Chang, P. and **W.M. Randle**. 2004. NaCl in nutrient solutions can affect onion growth and flavor development. *HortScience*. 39: 1421-1425.
- Coolong, T.W., H.D. Toler, C.E. Sams, and **W.M. Randle**. 2004. Zinc availability in hydroponic culture influences glucosinolate concentrations in *Brassica rapa* L. *HortScience*. 39: 84-86.
- Coolong, T.W., D.A. Kopsell, D.E. Kopsell, and **W.M. Randle**. 2004. Nitrogen and sulfur influence nutrient usage and accumulation in onion (*Allium Cepa* L.). *J. Plant Nutr.* 27: 1813-1826.
- Coolong, T.W. and **W.M. Randle**. 2003. Sulfur and nitrogen availability interact to affect the flavor biosynthetic pathway in onion. *J. Am. Soc. Hort. Sci.* 128:776-783.
- Kopsell, D.E., D.A. Kopsell, T.W. Coolong, **W.M. Randle**, C.A. Sams, J. Curran-Celentano. 2003. Kale Carotenoids Remain Stable while Flavor Compounds Respond to Changes in Sulfur Fertility. *J. Agric. Food Chem.* 51:
- Coolong, T.W. and **W.M. Randle**. 2003. Ammonium nitrate fertility levels influence flavour development in hydroponically grown 'Granex 33' onion. *J. Sci. Food Agric.* 83: 477-482.
- Coolong, T.W. and **W.M. Randle**. 2003. Zinc concentration in hydroponic solution culture influences zinc and sulfur accumulation in *Brassica rapa* L. *J. Plant Nutr.* 26: 949-959.
- Kopsell, D.A., D.E. Kopsell, and **W.M. Randle**. 2003. Seed germination response of rapid-cycling *Brassica oleracea* grown under increasing sodium selenate. *J. Plant Nutrition* 26: 1355-1366.
- Coolong, T.W. and **W.M. Randle**. 2003. Temperature influences flavor intensity and quality in 'Granex 33' onion. *J. Am. Soc. Hort. Sci.* 128: 176-181.
- **Randle, W.M.**, D.E. Kopsell and D.A. Kopsell. 2002. Sequentially reducing sulfate fertility during onion growth and development affect bulb flavor at harvest. *HortScience*. 37:118-121.
- Kopsell, D.E., **W.M. Randle** and N.E. Schmidt. 2002. Incubation time, cultivar, and storage duration affect onion lachrymatory factor quantification. *HortScience*. 37:567-570.

- Charron, C.S., D.A. Kopsell, **W.M. Randle**, and C.E. Sams. 2001. Sodium selenate fertilization increases selenium accumulation and decreases glucosinolate concentration in rapid-cycling *Brassica oleracea*. *J. Sci. Food and Agric.* 81:962-966.
- **Randle, W.M.** 2001. Opportunities and strategies for manipulating onion flavour. *Acta Hort.* 555: 57-61.
- Kopsell, D.A., **W.M. Randle**, M.A. Eiteman. 2001. Changes in S-alk(en)yl cysteine sulfoxides and precursor intermediates during storage among short and long day onion cultivars. *Acta Hort.* 555:153-156.
- Kopsell, D.E. and **W.M. Randle**. 2001. Genetic variances and selection potential for selenium accumulation in a rapid-cycling *Brassica oleracea* population. *J. Am. Soc. Hort. Sci.* 126:329-335.
- Boyhan, G.E., **W.M. Randle**, A.C. Purvis, P.M. Lewis, R.L. Torrance, D.E. Curry, and D.O. Linton. 2001. Evaluation of growth stimulants on short-day onions. *Hort Tech.* 11: 38-42.
- **Randle, W.M.** 2000. Increasing nitrogen concentration in hydroponic solutions affects onion flavor and bulb quality. *J. Amer. Soc. Hort. Sci.* 125: 254-259. (**Publication was spotlighted for its high quality, Recipient of 2001 L.M. Ware Research Award**).
- Kopsell, D.A., **W.M. Randle** and H.A. Mills. 2000. Nutrient Accumulation in leaf tissue of rapid-cycling *Brassica oleracea* responds to increasing sodium selenate concentrations. *J. Plant Nutrition.* 23: 927-935.
- Kopsell, D.A. and **W.M. Randle**. 1999. Selenium affects the S-alk(en)yl cysteine sulfoxides among short-day onion cultivars. *J. Amer. Soc. Hort. Sci.* 124 (3):307-311. (**Publication was spotlighted for it's high quality, Recipient of the 1998 Excellence in Doctoral Writing by the SRASHS.**)
- Krahl, K.H. and **W.M. Randle**. 1999. Genetics of floral longevity in petunia. *HortScience.* 34 (2):339-340.
- Hamlin, R.L., H.A. Mills and **W.M. Randle**. 1999. Growth and nutrition of pansy as influenced by N-form ratio and temperature. *J. Plant Nutr.* 22:1637-1650.
- Krahl, K.H. and **W.M. Randle**. 1999. Resistance of petunia phenotypes to *Botrytis cinerea*. *HortScience.* 34:690-692.
- Kopsell, D.A. and **W.M. Randle**. 1999. Selenium accumulation in a rapid-cycling *Brassica oleracea* population responds to increasing sodium selenate concentrations. *J. Plant Nutrition.* 22 (5): 45-51.

- Kopsell, D.E., **W.M. Randle**, M.A. Eiteman. 1999. Changes in the S-alk(en)yl cysteine sulfoxides and their biosynthetic intermediates during onion storage. *J. Amer. Soc. Hort. Sci.* 124:177-183. (**Publication was spotlighted for its high quality**)

- **Randle, W.M.**, D.E. Kopsell, D.A. Kopsell, and R.L. Snyder. 1999. Total sulfur and sulfate accumulation in onion is affected by sulfur fertility. *J. Plant Nutrition.* 22:45-51.

- Boyhan, G.E., N.E. Schmidt, F.M. Woods, D.G. Himerlick, and **W.M. Randle**. 1999. Adoption of a spectrophotometric assay for pungency in onion to a microplate reader. *J. Food Quality.* 22:225-233.

- **Randle, W.M.**, D.A. Kopsell, D.E. Kopsell, R.L. Snyder, and R. Torrance. 1998. Field sampling short-day onions for bulb pungency. *HortTechnology.* 8:329-332.

- Lancaster, J.E., M.L. Shaw and **W.M. Randle**. 1998. Differential hydrolysis of alk(en)yl cysteine sulphoxides by alliinase in onion macerates: flavor implications. *J. Sci. Food Agric.* 78: 367-372.

- Kopsell, D.E. and **W.M. Randle**. 1997. Onion cultivars differ in pungency and bulb quality changes during storage. *HortScience.* 32:

- Kopsell, D.A. and **W.M. Randle**. 1997. Short-day onion cultivars differ in bulb selenium and sulfur accumulation which can affect bulb pungency. *Euphytica.* 96: 385-390.

- Kopsell, D.A. and **W.M. Randle**. 1997. Selenate concentration affects selenium and sulfur uptake and accumulation by 'Granex 33' onions. *J. Amer. Soc. Hort. Sci.* 122: 721-726.

- Havey, M.J. and **W.M. Randle**. 1996. Combining abilities for bulb quality among long- and intermediate-day open pollinated onion populations. *J. Amer. Soc. Hort. Sci.* 121: 604-608.

- **Randle, W.M.**, J.E. Lancaster, M.L. Shaw, K.H. Sutton, R.L. Hay and M.L. Bussard. 1995. Quantifying onion flavor compounds responding to sulfur fertility--Sulfur increases levels of alk(en)yl cysteine sulfoxides and biosynthetic intermediates. *J. Amer. Soc. Hort. Sci.* 120:1075-1081.

- D.W. Davis, J.V. Groth, G.R. Gingera, **W.M. Randle**, and C.A. Engelkes. 1995. AS12 leaf-rust-resistant sweet corn (*Zea mays* L.) population. *HortScience.* 30:637-638.

- **Randle, W.M.**, E. Block, M.H. Littlejohn, D. Putman, and M.L. Bussard. 1994. Onion (*Allium cepa* L.) thiosulfinates respond to increasing sulfur fertility. *J. Agric. Food Chem.* 42: 2085-2088.

- **Randle, W.M.**, M.L. Bussard and D.F. Warnock. 1993. Ontogeny and sulfur fertility affect leaf sulfur in short-day onions. *J. Amer. Soc. Hort. Sci.* 118: 762-765.
- Krahl, K.H., M.A. Dirr, T. Halward, G.D. Kochert, and **W.M. Randle**. 1993. Use of single-primer DNA amplifications for the identification of red maple (*Acer rubrum* L.) cultivars. *HRI Journal*. 11: 765-768.
- Warnock, D.F., **W.M. Randle** and O.M. Lindstrom, Jr. 1993. Photoperiod, temperature, and plant age interact to affect short-day onion cold hardiness. *HortScience*. 28:1092-1094.
- **Randle, W.M.** and M.L. Bussard. 1993. Pungency and sugars of short-day onions as affected by sulfur nutrition. *J. Amer. Soc. Hort. Sci.* 118:766-770.
- **Randle, W.M.** and M.L. Bussard. 1993. Streamlining onion pungency analyses. *HortScience*. 28:60.
- **Randle, W.M.** 1992. Sulfur nutrition affects nonstructural water-soluble carbohydrates in onion germplasm. *HortScience*, 27(1): 52-55.
- **Randle, W.M.** 1992. Onion germplasm interacts with sulfur fertility for plant sulfur utilization and bulb pungency. *Euphytica*. 59:151-156.
- **Randle, W.M.** 1992. Sampling procedures to estimate flavor potential in onion. *HortScience*, 27:1116-1117.
- Gamiely, S., **W.M. Randle**, H.A. Mills and D.A. Smittle. 1991. A Rapid and non-destructive method for estimating leaf area of onions. *HortScience* 26: 206.
- Gamiely, S., **W.M. Randle**, H.A. Mills and D.A. Smittle. 1991. Effects of ammonium and nitrate nutrition on onion plant growth, bulb quality, and water uptake. *HortScience*, 26: 1061-1063.
- St. Amand, P.C. and **W.M. Randle**. 1991. Ethylene production as a possible indicator of wound healing in roots of several sweet potato cultivars. *Euphytica* 53: 97-102 .
- St. Amand, P.C. and **W.M. Randle**. 1989. Ethylene production and wound healing in sweet potato roots. *HortScience*, 24:805-807.
- Davis, D.W., **W.M. Randle**, and J.V. Groth. 1988. Some sources of partial resistance to common leaf rust (*Puccinia sorghi*) in maize and strategy for screening. *Maydica*, 33:1-14.

- **Randle, W.M.** 1987. Fleshy root growth and development and localized dry weight changes of four sweet potato cultivars. *Tropical Agri.*, 64:333-339.
- Rolston, L.H., C.A. Clark, J.M. Cannon, **W.M. Randle**, E.G. Riley, P.W. Wilson, and M.L. Robbins. 1987. 'Beauregard' Sweet Potato. *HortScience*, 22:1338-1339.
- Walker, D.W. and **W.M. Randle**. 1987. Competition between sweet potato cultivars in small plots. *HortScience*, 22:657.
- **Randle, W.M.**, D.W. Davis and J.V. Groth. 1986. Interplot interference in field plots with leaf rust of maize. *J. Amer. Soc. Hort. Sci.*, 111:708-771.
- **Randle, W.M.** and W.R. Woodson. 1986. The effect of storage and wounding on ethylene production by sweet potato. *HortScience*, 21:1018-1019.
- Walker, D.W. and **W.M. Randle**. 1986. Influence of row covers, mulch and bedding dates on early production of sweet potato transplants. *HortScience*, 21:1354-1356.
- Clark, C.A., C.S. Pace, **W.M. Randle**, L. Rolston, and M.L. Robbins. 1986. Evaluation of sweet potato selections for reaction to soil root and circular spot, 1985. *Biol. and Cultural Test for the Control of Plant Diseases*.
- Clark, C.A., **W.M. Randle**, and C.S. Pace. 1986. Reaction of sweet potato selections to Fusarium root and stem canker caused by *Fusarium solani*. *Plant Disease*, 70:869-871.
- **Randle, W.M.**, D.W. Davis and J.V. Groth. 1984. The effects of corn leaf rust on maturity and quality of fresh market ears of sweet corn. *J. Amer. Soc. Hort. Sci.*, 109:645-648.
- **Randle, W.M.**, D.W. Davis and J.V. Groth. 1984. Improvement and genetic control of partial resistance in sweet corn to *Puccinia sorghi* Schw. *J. Amer. Soc. Hort. Sci.*, 109:777-781.
- **Randle, W.M.** and S. Honma. 1981. Dormancy in peppers. *Scientia Horticulturae*, 14:19-25.
- **Randle, W.M.** and S. Honma. 1980. The inheritance of low temperature emergence in *Capsicum baccatum* var. pendulum. *Euphytica*, 29:331-335.

BOOK CHAPTERS

- **Randle, W.M.** and J.E. Lancaster. 2001. Sulphur compounds in alliums in relation to flavour quality. Pg.301-335 In: Allium Crop Science – Recent Advances. Eds. H Rabinowich and L. Currah, CABI, London.

• **Randle, W.M.** and C.A. Teare Ketter. 1998. Pungency assessment in onion. Pg. 177-196. In: Tested studies for laboratory teaching. Ed. S.J. Karcher. Vol. 19. Proceedings of the 19th Workshop/Conference of the Association for Biology Laboratory Education (ABLE). *Teaching publication*.

• **Randle, W.M.** 1997. Onion flavor chemistry and factors influencing flavor intensity. In: Eds. S.J. Risch and C.T. Ho. Spices: Flavor chemistry and antioxidant properties. American Chemical Society Symposium series 660, 41-52.

• **Randle, W.M.** and Y.H. Hui. 1997. Processing onions. In: Eds. D. Smith, W.K. Nip, and Y.H. Hui. Processing fruits and vegetables: Science and Technology. volIII. Technomic Publishing Company. Lancaster, PA.

PROCEEDINGS

• **Randle, W.M.** 2005. Advancements in understanding and manipulating Allium flavor: Calcium and chloride. Proc. 4th Intern. Symp. Edible Alliaceae. Acta Hort. 688: 35-40.

• Diaz-Perez, J.C., R. Gitaitis, **W. Randle**, K. Harrison, and R. Torrence. Influence of mulches and drip irrigation on the growth and yield of *Vidalia* onion. Proc. 2002 Ga. Veg. Conf. pp. 8-9.

• **Randle, W.M.** 2001. From The Beginning, It Was All About Flavor. Proceedings of the 3rd International Symposium on Edible Alliaceae. Alliums 2000, Athens, GA. p. 86-90.

• Schmidt N. E., **W.M. Randle**, and D.E. Kopsell. 2001. A Comparison of Lachrymatory Factor and Pyruvic Acid Concentration in *Allium cepa*. Proceedings of the 3rd International Symposium on Edible Alliaceae. Alliums 2000, Athens, GA. p. 94-96.

• **Randle, W.M.** and J.W. Rushing. 1999. Use of ozone in storages for onions; what's up? 1999 New York State Vegetable Conf. Liverpool, NY, p.130-133.

• **Randle, W.M.** 1998. Nitrogen and its interaction with sulfur affects onion flavor. National Onion Research Conf. Sacramento, CA, p. 156-159.

• Kopsell, D.E., **W.M. Randle**, R.L. Snyder. 1998. Probing further into the nature of onion flavor development during storage. National Onion Research Conf. Sacramento, CA, p. 160-163.

• **Randle, W.M.**, D.E. Kopsell, and D.A. Kopsell. 1998. Considerations for implementing pungency field testing and its practical implications. National Onion Research Conf. Sacramento, CA, p. 171-173.

• Kopsell, D.A. and **W.M. Randle**. 1998. The forms of selenium delivered by onion to the human diet. National Onion Research Conf. Sacramento, CA, p. 179-182.

- **Randle, W.M.** 1997. Genetic and environmental effects influencing flavor in onion. Proceedings of the First International Symposium on Edible Alliaceae. Acta Hort. 433: 299-312.
- Havey, M.J. and **W.M. Randle.** 1995. Genetic distance and heterosis in onion. National Onion Research Conf. Madison, WI. Pg. 45-52.
- Lancaster, J.E., M.L. Shaw, and **W.M. Randle.** 1995. Hydrolysis of sulfur substrates in vivo by alliinase: effect on flavor. National Onion Research Conf. Madison, WI Pg. 53-58.
- **Randle, W.M.** and D.A. Kopsell. 1995. Selenium accumulation in onions and its affect on sulfur metabolism. National Onion Research Conf. Madison, WI Pg. 84-90.
- **Randle, W.M.** and J.E. Lancaster. 1993. Sulfur fertility affects growth and the flavor pathway in onions. National Onion Research Conf. Ithaca, NY. Pg. 91-102.

Book Reviews:

- **Randle, W.M.** 1987. 'Plant Breeding Reviews: Vol 3', J.Janick ed. Scientia Horticulturae, Springer Verlag.

Bulletins or Reports

- Coolong, T.W., Chang, P. and **W.M. Randle.** 2005. Decrease in Bulb Firmness During Storage of Vidalia Onion. Onion Research Ext. Rpt. 3-2005: 30-32.
- Coolong, T.W., Chang, P. and **W.M. Randle.** 2005. The effects of liquid calcium chloride on yield in Vidalia Onions. Onion Research Ext. Rpt. 3-2005: 33-35.
- **Randle, W.M.** 2004. Chloride requirements in onion. Onion Research Ext. Rpt. 3-2004: 51-53.
- Boyhan, G.E., **W.M. Randle** Resurreccion, A. Purvis, A.C., R.L. Torrance, D.E. Curry, M. Linton, J.T. Paulk. 2003. Vidalia Onion Variety Trial. Onion Research Ext. Rpt. 3-2003: 1-5.
- Boyhan, G.E., **W.M. Randle** Resurreccion, A. Purvis, A.C. , R.L. Torrance, D.E. Curry, M. Linton, J.T. Paulk. 2003. Evaluation of controlled atmosphere storage, single centers and bulb height/width ration among varieties grown for the 2001-2002 variety trial. Onion Research Ext. Rpt. 3-2003: 8-9.
- Boyhan, G.E., A.C. Purvis, **W.M. Randle**, P.M. Lewis, J.T. Paulk, R.L. Torrance, D.E. Curry, M. Linton. 2002. Vidalia onion variety trials 2001-2002. Onion Research Ext. Rep. No.3, 1-10.
- Chang, P. and **W.M. Randle.** 2002. The effects of different NaCl concentrations on salad onion flavor. Onion Res.-Ext. Rep 2001. No. 3:13-16.

- Coolong, T.W. and **W.M. Randle**. 2002. The effects of temperature during the growing season upon the flavor of onions. *Onion Res.-Ext. Rep.* 2001. No. 3: 17-19.
- Boyhan, G.E., A.C. Purvis, **W.M. Randle**, R.L. Torrance, D.E. Curry, R.T. Boland, C.R. Hill, M.J. cook, M.D. Graham, and J.T. Paulk. 2001. Vidalia and grano onion variety trials 1999-2000. *2000 Onion Res.-Ext. Rep.* No. 3-2001:7-11.
- Boyhan, G.E., **W.M. Randle**, R.L. Torrance, D.E. Curry, and C.R. Hill. 2001. Preliminary results of fertilization for dry-bulb Vidalia onion production. *2000 Onion Res.-Ext. Rep.* No. 3-2001:14-15.
- Boyhan, G.E., **W.M. Randle**, A.C. Purvis, R.L. Torrance, D.E. Curry, G. Hardison, M.J. Cook, J.T. Paulk, and C.R. Hill. 2001. Vidalia onion variety trials. *Spring 2001 Commercial Veg. Var. Trials. Reg. Bul.* 07:10-12.
- Boyhan, G., W.T. Kelley, D. Granberry, **W.M. Randle**, and L. Torrance. 2001. Variety selection and characteristics. In: Boyhan, G.E., D. Granberry, T. Kelley (eds.). 2001. *Onion Production Guide*. Univ. of Ga. Ext. Bul. 1198 p. 6-7.
- Diaz-Perez, J.C., R.D. Gitaitis, **W. M. Randle**, K A. Harrison, and R.L. Torrence. 2001. Mulches and drip irrigation in onions: Effect on yield and bulb quality. *2000 Georgia Onion Research and Extension Report*, The University of Georgia, College of Agricultural and Environmental Sciences, Tifton Campus, pp:22-26.
- Boyhan, G.E., A.C. Purvis, **W.M. Randle**, P.M. Lewis, J.T. Paulk, R.L. Torrance, D.E. Curry, M. Linton. 2001. Evaluation of growth regulators on Vidalia onions. *2000 Onion Res.-Ext. Rep.* No. 3-2001:1-6.
- Boyhan, G., A.C. Purvis, W. Hurst, **W.M. Randle**, R.L. Torrance, D.B. Langston, P.M. Lewis, M. Linton, J.T. Paulk. 1999. Vidalia onion variety trials – 1998-1999 season. *Georgia Onion Research Extension Report*. P. 3-7.
- Boyhan, G., **W.M. Randle**, and P. Lewis. 1999. Evaluation of new and existing onion varieties at the bamboo farm, Savannah, GA. Coastal cultivars: An evaluation of plants and production practices for the coastal area. *USDA Special Grant Summary Report*.
- Kopsell, D. and **W.M. Randle**. 1998. Why does onion flavor change during storage? *Georgia Onion Research Extension Report*. P. 48-51.
- Boyhan, G., A. Purvis, and **W.M. Randle**. 1998. Evaluation of onion growth regulators – 1998. *Georgia Onion Research Extension Report*. P. 1.

- **Randle, W.M.** 1997. Field Variation in bulb pungency. Georgia Onion Research Extension Report. P. 38-40.
- **Randle, W.M.** and D.E. Kopsell. 1994. Maleic hydrazide affects onion quality during storage. Georgia Onion Research- Extension Report. 3-95.
- **Randle, W.M.** 1993. Genetic and environmental effects influencing flavor in onion. Georgia onion research-extension report. 24-35.
- **Randle, W.M.**, L. Rolston, and C. Clark. 1984. Sweet potato breeding. Annual Report; Sweet potato research station. Louisiana State University Agricultural Center. pp. 1-9.
- **Randle, W.M.**, T.P. Hernandez, L. Rolston, And C. Clark. 1983. Sweet Potato breeding. Annual Report; Sweet potato research station. LSU Agricultural Center, pp.1-10.
- **Randle, W.M.**, D.W. Davis, and J.V. Groth. 1982. Final assessment of the impact of corn leaf rust on raw product quality of sweet corn. *Vegetable Crop Research Report*. University of Minnesota, pp. 11-12.
- D.W. Davis, E.M. Lamb, and **W.M. Randle**. 1982. Selection progress for resistance to ear feeding by the European corn borer. *Vegetable Crop Research Report*. University of Minnesota, pp. 14-16.
- **Randle, W.M.**, D.W. Davis, and J.V. Groth. 1982. Summary of two years of screening introduced corn germplasm from the U.S. Plant Introduction Station at Ames, Iowa. *Vegetable Crop Research Report*. University of Minnesota, pp. 8-10.
- **Randle, W.M.**, D.W. Davis, and J.V. Groth. 1981. The effect of rust on ear diameter, ear length, time of silking, Brix, and % moisture in sweet corn. *Vegetable Crop Research Report*. University of Minnesota, pp. 6-12.
- **Randle, W.M.**, D.W. Davis, and J.V. Groth. 1981. Evaluation of possible new sources of rust resistance. *Vegetable Crop Research Report*. University of Minnesota, pp. 12-16.

PAPERS PRESENTED AND PUBLISHED ABSTRACTS

INVITED PAPERS

- **Randle, W.M.** 2006. Value added onions. National Onion Research Conference, Coordinated Agricultural Project, College Station TX, Dec. 5-6.

- **Randle, W.M.** 2006. Chloride and onions; a misunderstood element. National Onion Association, Savannah, GA November 28-29.
- **Randle, W.M.** 2005. CSREES funding patterns to the plant sciences. ASHS annual meetings, Las Vegas, NV July 17-22.
- **Randle, W.M.** 2005. Funding in the plant sciences: How is it affecting you. Univ. Tennessee Dept. Plant Sci., Knoxville, TN. Oct. 3.
- **Randle, W.M.** 2004. Calcium and chloride: advancements in understanding and manipulating onion flavor. 4th International Symposium on Edible Alliaceae. Beijing, China. April 9-13.
- **Randle, W.M.** 2003. World-wide sweet onion production and where the UK fits. Horticulture Research International Association. Wellesbourne, UK. Feb 12.
- **Randle, W.M.** 2003. Controlling onion flavor intensity. Horticulture Research International Seminar Series. Wellesbourne, UK. Mar. 11.
- **Randle, W.M.** 2003. The impact of sweet onion production on global onion consumption. British Onion Producers. Bedford, UK. Mar. 18.
- **Randle, W.M.** 2002. Onion pungency: Where have we been and where are we going. National Allium Research Conf. Dec. 11. Pasco, Wash.
- **Randle, W.M.** 2002. Horticulture and the mission of the land grant university. Department of Horticulture, Texas A&M University. September 10. College Station.
- **Randle, W.M.** 2002. Onion flavor and its manipulation. NASA LifeSciences Program, July 18, Titusville, FL.
- **Randle, W.M.** 2002. To cry or not to cry, that is my question: Investigations into onion flavor. Department of Food Science, University of Georgia. Apr. 16. Athens.
- **Randle, W.M.** 2002. Understanding Flavor in Vidalia Onions: On going studies. Georgia Fresh Fruit and Vegetable Growers Conference. Jan 11-13. Savannah, GA.
- **Randle, W.M.** 2001. Onion breeding and its application to garlic. Garlic is Life Symposium and Growers Conf. Oct. 31 to Nov. 2, 2001. Tulsa, OK.
- **Randle, W.M.** 2001. Factors that affect Vidalia Onion Flavor. Wisc. Muck Growers Annual Conference. Feb. 25, 2001. Madison, WI.

- **Randle, W.M.** 2001. Advancements in understanding flavor development in onions. Georgia Fresh Fruit and Vegetable Conference. January 5, 2001. Savannah, GA
- C.S. Charron, D.A. Kopsell, **W.M. Randle** and Carl E. Sams. 2000. Effect of Se Fertilization on Se and Glucosinolate Concentration in Rapid Cycling Brassica oleracea. European Conference on "Nutritional Enhancement of Plant Foods" Sept. 6-9, 2000. John Innes Centre, Norwich, UK.
- **Randle, W.M.** 2000. From the beginning, its always been about flavor. 3rd International Symposium on Edible Alliaceae. Athens, GA. **Key Note Speaker.**
- **Randle, W.M.** 2000. A Researcher's Perspective on the Global Production and Marketing of Sweet Mild Onions. XXIII Congreso Argentino, X Latinoamericano, III Iberoamericano de Horticultura, Mendoza, Argentina.
- **Randle, W.M.** and J.W. Rushing. 1999. Use of ozone in storages for onions; what's up? 1999 New York State Vegetable Conf. Liverpool, NY
- **Randle, W.M.** 1997. Opportunities and strategies for manipulating onion flavor. Second International Symposium on Edible Alliaceae. Adelaide, Australia.
- **Randle, W.M.** 1996. Onion flavor chemistry and factors influencing flavor intensity. American Chemical Society annual meeting. New Orleans, LA.
- **Randle, W.M.** 1995. Supplying trends in the U.S. onion market. British Onion Producers 1995 Conference. Peterborough, U.K., Pg. 6.
- **Randle, W.M.** 1995. Factors influencing onion pungency. 1995 National Onion Association Annual Meeting. Savannah, GA.
- **Randle, W.M.** 1994. Genetic and environmental effects influencing flavor in onion. 1st International Symposium on Edible Alliaceae. Mendoza, Argentina. Pg. 47.

PAPERS/ABSTRACTS PRESENTED

- **W.M. Randle**, T.W. Coolong, and P. Chang. 2004. Micronutrient utilization in onion: and how it affects flavor. National Allium Research Conference. Grand Junction, CO. Dec. 9-11.
- Huchette, O., C. Bellamy, J. Auger, I. Arnault, **W.M. Randle**. 2004. Influence of Increasing Nitrogen and Sulphur Nutrition on the Sulphur Compounds and Dry Matter Content of Onion. National Allium Research Conference. Grand Junction, CO. Dec. 9-11.
- Boyhan, G., **William M. Randle**, Anna V. Resurreccion, Reid L. Torrance, Ronald H. Blackley

Jr., M. Jefferson Cook, Heath Paradice, C. Randell Hill, and J. Thad Paulk. 2004. Mandated Vidalia Onion Variety Trials; How well has it worked? National Allium Research Conference. Grand Junction, CO. Dec. 9-11.

- **W.M. Randle.** 2004. Onion research in the U.S. Euronion. Colchester, UK. Oct. 26-28.

- **W.M. Randle.** 2004. Precision management of flavor development in onion. Euronion. Colchester, UK. Oct. 26-28.

- **W.M. Randle.** 2004. What can calcium and chloride do for onions? Georgia Fresh Fruit and Vegetable Conf. Jan. 10. Savannah, GA.

- **W.M. Randle.** 2003. Calcium and chloride affect sulfur metabolism in onion. UGA Department of Horticulture seminar series. Athens, GA.

- Kopsell, D.E., D.A. Kopsell, T.W. Coolong, **W.M. Randle**, C.A. Sams, J. Curran-Celentano. 2003. Kale Carotenoids Remain Stable while Flavor Compounds Respond to Changes in Sulfur Fertility. ASHS annual meeting. Oct. 3-6. Providence, RI.

- Coolong, T.W. and **W.M. Randle.** 2003. The effects of root zone temperature on growth and flavor potential in short-day onion. ASHS annual meeting. Oct. 3-6. Providence, RI.

- **Randle, W.M.** and T.W. Coolong. 2002. The influence of nitrogen and sulfur and their interaction on onion flavor. National Allium Research Conf. Dec. 11. Pasco, Wash.

- **Randle, W.M.** 2002. Selecting for low flavor intensity in onion using foliar tissue. ASHS International Meeting, Aug. 16. Toronto, Canada.

- Diaz-Perez, J.C., R. Gitaitis, **W. Randle**, K. Harrison, and R. Torrence. Influence of mulches and drip irrigation on the growth and yield of Vidalia onion. Georgia Vegetable Conference, January 11-13, 2002, Savannah, Georgia.

- Diaz-Perez, J.C., R. Gitaitis, D. Bertrand, D. Giddings, **W. Randle.** Influence of mulches and drip irrigation on the growth, yield and quality of Vidalia onion. 62nd Annual Meeting of the American Society for Horticultural Science – Southern Region. February 2-5, 2002. Orlando, Florida.

- Coolong, T.W. and **W.M. Randle.** 2002. Ammonium nitrate concentration influences flavor development in hydroponically grown ‘Granex 33’ onion. ASHS International Meeting, Aug. 16. Toronto, Canada. (**First place in poster division competition**).

- Coolong, T.W. and **W.M. Randle.** 2002. Temperature influences flavor development in ‘Granex 33’ onion. ASHS-SR Feb. 4, Orlando, FL. (**First place, graduate student oral competition**)

- **Randle, W.M.**, T.W. Coolong, and M.J. Pierce. 2002. The role of sulfate partitioning in onion flavor. ASHS-SR Feb. 4, Orlando, FL.
- Boyhan, G.E., **W.M. Randle**, R.L. Torrance, D.E. Curry, R.T. Boland, C.R. Hill, M.J. Cook, and M.D. Graham. 2001. Preliminary results on short-day onion variety selection and fertility management in southeast Georgia. ASHS-SR January 26-29, 2001, Fort Worth, TX.
- Diaz-Perez, J.C., R. Gitaitis, D. Batal, **W. Randle**, K Harrison, and R. Torrence. 2001. Response of sweet onion to the use of plastic mulch and drip irrigation. HortScience 36:845.
- Diaz-Perez, J.C., R. Gitaitis, D. Batal, **W. Randle**, K Harrison, and R. Torrence. 2001. Sweet onion growth and yield as affected by mulches and drip irrigation. Proc. 2001 Ga. Veg. Conf. pp. 16-21.
- Kopsell, D.E., **W.M. Randle**, and N.E. Schmidt. 1999. Quantification of the lachrymatory factor for onion flavor assessment is cultivar dependent. ASHS national meeting. Minneapolis, MN.
- Kopsell, D.A., **W.M. Randle**, and H.A. Mills. 1999. Nutrient content of a model system of rapid-cycling Brassica oleracea responds to increasing sodium selenate. ASHS national meeting. Minneapolis, MN.
- **Randle, W.M.** 1999. Sequentially eliminating sulfate during onion growth affects its flavor characteristics. ASHS national meeting. Minneapolis, MN.
- **Randle, W.M.** 1998. Nitrogen and its interaction with sulfur will affect onion flavors. 1998 National Onion Research Conference. Dec. 10-12, Sacramento, Calif.
- **Randle, W.M.**, D.E. Kopsell, and D.A. Kopsell. 1998. Considerations for implementing pungency field testing and its practical implications. 1998 National Onion Research Conference. Dec. 10-12, Sacramento, Calif.
- Kopsell, D. A. and **W.M. Randle**. 1998. Probing further into the nature of onion flavor development during storage. 1998 National Onion Research Conference. Dec. 10-12, Sacramento, Calif.
- Kopsell, D.E. and **W.M. Randle**. 1998. The forms of selenium delivered by onions to the human diet. 1998 National Onion Research Conference. Dec. 10-12, Sacramento, Calif.
- **Randle, W.M.** 1998. Selenium form: health implications. October 6. Department of Horticulture Seminar series.

- **Randle, W.M.** 1998. The Vidalia Onion Industry. September 24. Rotary International.
- Kopsell, D.E., **W.M. Randle** and M.A. Eiteman. 1997. Changes in S-alk(en)yl cysteine sulfoxides and biosynthetic intermediates during storage among short-, intermediate-, and long-day onion cultivars. Second International Symposium on Edible Alliaceae. Adelaide, Australia.
- Kopsell, D.A. and **W.M. Randle**. 1997. Selenium fertility affects S-alk(en)yl cysteine sulfoxides among short-day onion cultivars. Second International Symposium on Edible Alliaceae. Adelaide, Australia.
- **Randle, W.M.** 1997. Antioxidants and what they do. LLL International annual meeting. Washington, D.C.
- **Randle, W.M.** 1997. Selenium in onions and their antioxidant properties. Department of Horticulture Seminar Series, University of Georgia, Athens.
- **Randle, W.M.** 1996. Why in the world would anyone eat onions and garlic? Department of Horticulture. University of Georgia, Athens.
- **Randle, W.M.** and D.A. Kopsell. 1995. Selenium accumulation in onions and its affect on sulfur metabolism. National Onion Research Conf. Madison, WI.
- Lancaster, J.E., M.L. Shaw, and **W.M. Randle**. 1995. Hydrolysis of sulfur substrates in vivo by alliinase: effect on flavor. National Onion Research Conf. Madison, WI.
- Havey, M.J. and **W.M. Randle**. 1995. Genetic distance and heterosis in onion. National Onion Research Conf. Madison, WI.
- Krahl, K.H. and **W.M. Randle**. 1994. Genetics of floral longevity in petunia. ASHS National Meeting, Corvallis, OR.
- Krahl, K.H. and **W.M. Randle**. 1994. Resistance to *Botrytis cinerea* in Petunia. ASHS National Meeting, Corvallis, OR.
- Warnock, D.F., **Randle, W.M.**, and M.L. Bussard. 1993. Temperature affects plant growth and sulfur utilization in onion (*Allium cepa*). National Meeting, ASHS, Nashville, TN. (**First place, Graduate Student Oral Competition**).
- Krahl, K.H. and **W.M. Randle**. 1993. Morphological variation in a petunia germplasm collection. National Meeting, ASHS, Nashville, TN.

- Krahl, K.H., M.A. Dirr, T.M. Halward, G.D. Kochert and **W.M. Randle**. 1993. Use of single-primer DNA amplifications for the identification of red maple (*Acer rubrum* L.) cultivars. National Meeting, ASHS, Nashville, TN.
- **Randle, W.M.** and J.E. Lancaster. 1993. Sulfur fertility affects growth and the flavor pathway in onions. National Onion Research Conference, Ithaca, NY.
- **Randle, W.M.**, O. Lindstrom, D. Warnock. 1992. Effects of photoperiod on *Allium cepa* seedlings. National Meeting, ASHS, Honolulu, HI.
- **Randle, W.M.** 1992. Sulfur uptake and utilization in short-day onion cultivars. National Meeting, ASHS, Honolulu, HI.
- **Randle, W.M.** 1991. Bulb-to-bulb variation for several quality characteristics in onions. National Meeting, ASHS, Penn. St. University.
- **Randle, W.M.** and M. Bussard. 1991. Streamlining pungency analyses: A modification to Schwimmer and Weston's technique. National Onion Research Conference. Savannah, GA.
- **Randle, W.M.** and M. Bussard. 1991. Does sulfur fertility really affect flavor in onions? National Onion Research Conference. Savannah, GA.
- **Randle, W.M.** 1991. The role of sulfur in onion flavor. UGA Department of Horticulture Seminar series.
- **Randle, W.M.** 1990. Onplant: A precision planting model for onions. National Meeting, ASHS, Tucson, AZ.
- Walker, D.W. and **W.M. Randle**. 1986. Influence of row covers, mulch and bedding dates on early season transplant production of 'Travis' sweet potato roots. Southern Region-ASHS, Orlando, FL.
- St. Amand, P. and **W.M. Randle**. 1986. Ethylene production and wound periderm formation in sweet potatoes. National Meeting, ASHS, Davis, CA.
- **Randle, W.M.** and J. Potter. 1985. Effect of transplanting depth on growth and yield of fall tomatoes grown on plastic mulch. Southern Region-ASHS, Biloxi, MS.
- **Randle, W.M.** and W.R. Woodson. 1985. Variation in ethylene production from wounded sweet potato roots. National Meeting, ASHS, Blacksburg, VA.

- **Randle, W.M.**, D.W. Davis and J.V. Groth. 1983. The influence of interplot interference on selection for disease resistance. National Meeting ASHS, McAllen, TX.

Trade Magazine Articles

- **Randle, W.M.**, D.E. Kopsell and D.A. Kopsell. 1999. Considerations for implementing pungency field testing and its practical implications. Onion World. 15: 14-18.
- **Randle, W.M.** 1998. Sampling Procedures for field certification of bulb pungency. Onion World. 14: 24-25.
- **Randle, W.M.** 1996. Onions and garlic: A flavorful way to healthy eating. New Beginnings. 13: 111-112.
- **Randle, W.M.** 1994. Dissecting Onion Pungency: Factors influencing flavor and industry standards. Onion World. 10: 10-11.

Resident Teaching.

<u>Year and Quarter</u>	<u>Course</u>	<u>Enrollment</u>	<u>Credit hours</u>	<u>% Creditable to you</u>
UMn				
1983 Winter	Hort 5-034	25	3	100
LSU				
1984-86 Fall	Hort 7002	15	3	100
1984-86 Spring	Hort 7020	15	4	100
1985-86 F/S	Hort 7913	12	1	100
UGA				
1990 Winter	HOR 315	13	5	100
1990 Spring	HOR 200(evening)	53	5	100
1990 Spring	HOR 408	1	2	100
1990 Spring	HOR 800	11	1	100
1990 Fall	HOR 900D	1	5	100
1991 Winter	HOR 301	31	3	100
1991 Spring	HOR 200(evening)	50	5	100
1991 Spring	HOR 800	17	1	100
1992 Winter	HOR 200(evening)	14	5	100
1992 Winter	HOR 301	35	3	100
1992 Winter	HOR 404/604	7	5	100
1992-1996	HOR 200 IND-Study	15	5	100
1993 Winter	HOR 200(evening)	14	5	100
1993 Winter	HOR 301	34	3	100
1993 Spring	HOR 800	12	1	100
1994 Winter	HOR 301	44	3	100

1994 Winter	HOR 404/604	11	5	100
1994 Winter	HOR 200	12	5	100
1994 Spring	HOR 301	9	3	100
1994 Spring	HOR 800	8	1	100
1995 Winter	HOR 301	44	3	100
1995 Winter	HOR 200	20	5	100
1995 Spring	HOR 301	8	3	100
1995 Spring	HOR 800	6	1	100
1996 Winter	HOR 301	44	3	100
1996 Winter	HOR 200	20	5	100
1996 Winter	HOR 404	6	5	100
1996 Winter	HOR 808	1	5	100
1996 Winter	HOR 930D	1	5	100
1996 Spring	HOR 301	21	3	100
1996 Spring	HOR 800	7	1	100
1996 Spring	HOR 900D	2	5	100
1996 Spring	HOR 900D	1	4	100
1996 Summer	HOR 900D	1	5	100
1996 Fall	HOR 362	49	5	10
1996 Fall	HOR 607	1	3	100
1996 Fall	HOR 900D	2	5	100
1996 Fall	HOR 930D	1	5	100
1997 Winter	HOR 301	49	3	100
1997 Winter	HOR 200	14	5	100
1997 Spring	HOR 800	7	1	100
1998 Winter	HOR 301	47	3	100
1998 Winter	HOR 404/604	12	5	100
1998 Spring	HOR 200	49	5	100
1998 Spring	HOR 800	11	1	100
Semester Conversion				
1998 Fall	HORT 3010	47	3	100
1999 Spring	HORT 2000	61	3	100
1999 Fall	HORT 3010	50	3	100
1999 Fall	HORT 2000	49	3	100
2000 Spring	HORT 8000	6	1	100
2000 Fall	HORT 2000	49	3	100
2000 Fall	HORT 3010	50	3	100
2001 Spring	HORT 8000	6	1	100
2001 Fall	HORT 2000	50	3	25
Spring 2002	HORT 3010	51	2	100
Spring 2002	HORT 8000	6	1	100
Fall 2003	HORT 8110	6	1	100
Fall 2003	HORT 8111	6	1	100

Spring 2004	HORT 3010	49	3	100
Fall 2004	HORT 3620	24	3	50
Spring 2005	HORT 3010	47	3	100
Spring 2005	HORT 8000	7	1	100
Fall 2005	HORT 3620	36	3	50

Thesis and dissertation, major professor.

St.Amand, P.C. 1987. Ethylene Production and Wound Healing in Sweet Potato [*Ipomoea batatas* (L.)] Roots. M.S. Thesis, Louisiana State University, Baton Rouge.

Warnock, D.F. 1993. Cold hardiness acclimation and deacclimation of juvenile onion (*Allium cepa* L.) plants. M.S. Thesis, University of Georgia, Athens.

Kopsell, D.E. 1995. Changes in bulb quality during storage of short-, intermediate-, and long-day cultivars of *Allium cepa* L. M.S. Thesis, University of Georgia, Athens.

Kopsell, D.A. 1995. Selenium and sulfur antagonism in the metabolic and flavor pathways of *Allium cepa* L. M.S. Thesis, University of Georgia, Athens.

Krahl, K.H. 1997. Genetic studies in petunia. Ph.D. Dissertation, University of Georgia, Athens.

Kopsell, D.E. 1999. Changes of flavor components in different cultivars of *Allium cepa* L. during storage. Ph.D. Dissertation. University of Georgia.

Kopsell, D.A. 1999. Incorporation of selenium in *Allium* and *Brassica* for delivery to human diets. Ph.D. Dissertation. University of Georgia.

Coolong, T.W. 2003. Temperature, nitrogen and sulfur influence the flavor pathway in onion (*Allium cepa* L.). University of Georgia.

Chang, Pai-Tsang. 2003. Changes of flavor components of onion (*Allium cepa* L.) in a saline environment. University of Georgia.

GRANTS/CONTRACTS

<u>Year</u>	<u>Title</u>	<u>Agency</u>	<u>Amount</u>
2006	Real-time PCR ID Botrytis	NRI, CAR	\$576,000 Pending
2005	Breeding Low Flavor	GSDC-UGARF	\$27,000
2005	Alternative Flavor Testing	Ga. Dept. AG	\$60,000
2005	Reducing Disease CaCl	NRI, CAR	not funded
2004	CaCl and Onion Improve	TetraTechnol	38,000
2004	Onion Trials	GAES	5,500

2004	LF assessment	Keystone Found.	40,000
2004	Breed Low Pung	GSDC-UGARF	26,000
2004	International Onion Res.	Keystone Found.	20,000
2003	Mild Onion Breed	GSDC-UGARF	30,500
2003	Onion Eval.	GAES	5,500
2002	Breed Low Pung	GSDC-UGARF	22,000
2002	Onion Trial Eval	GAES	5,000
2001	Breed Sweet Onion	GSDC-UGARF	22,000
2000	Bitterness in Onion	VOC	5,000
2000	Var. Eval.	VOC	10,000
2000	Daylength Eval.	USDA-SGC	15,000
1998	Flavor Intensity Factors	USDA	84,000
1997	Onion Establishment	VOC	8,500
1997	Travel Assistance	UGARF	2,482
1996	Recombination in Onion	GSDC-UGARF	14,000
1996	Breeding Mild Onion	VOC	11,000
1996	Assessing Pungency	VOC	7,500
1996	Germplasm Evaluation	GSDC	8,000
1995	Breeding Improved Onion	VOC	6,000
1995	Pungency Screening	VOC	5,000
1994	Breeding Vidalia Onion	VOC	8,000
1994	Pungency Survey	VOC	12,000
1993	Pungency Assess	USDA	14,380
1993	Botrytis Resistance	Bed. Plant Found.	2,500
1992	Assessing Petunia	Bed. Plant Found.	2,000
1992	Sulfur Partition	NSF	9440
1992	Screen Bacterial Blight	VOC	19,000
1991	Cold Resistance	VOC	6,000
1991	Pung Assessments	USDA	15,404
1991	Onion Breeding	GSDC	12,950
1990	Genetic Analysis	UGA FAC Res	4,000

Committees/Service/Self Improvement

2005	Interviewed, Chair, Dept. Plant Agriculture, Univ. Guelph, Canada
2005	Chair, CAES Executive Committee
2005	Chair, CAES Graduate Committee
2004/05	ESCOPE/ACOP Leadership Training Class 14
2004-05	Associate Editor, Journal of Plant Nutrition
2004-	University Council, UGA
2004-	CAES Graduate Council, UGA
	Executive Committee 2005-
2004-	CAES Faculty Council, UGA
	Chair, 2005-

2004 Biological Science major committee, CAES, UGA
 2002-2005 University Program Review and Assessment Committee
 1998- College of Agriculture Germplasm Release Committee
 1999-2002 College of Agriculture Information Technology Committee
 1992- USDA Crop Germplasm Committee-Root and Bulb Crops
 1990- Department Student Petition Committee
 1999 D.W. Brooks Faculty Award Committee
 1994-1996 Member, University of Georgia Academic Honesty System Panelist
 1995 Member, College of Agriculture Academic Space Management and Planning 1992-
 1994 Member, College of Agriculture Facilities Committee
 1993-94 Committee to revise the Teaching Faculty Bylaws
 1993-1999 Graduate Coordinator-Department of Horticulture
 1997-2000 Organizing Chair, 3rd International Symposium for Edible Alliaceae. Athens, GA
 1993-1999 Graduate Faculty Committee
 1992 Minor in Horticulture Committee
 1991 University Plant Materials Biohazard Subcommittee
 1991 GAES Policy #9 Committee
 1991 Junior Faculty Advisory Committee
 1991 Organizing Committee, National Onion Research Conference, Savannah, GA
 1989-1995 Academic Counseling Committee
 1989- Peer Review of Numerous Journals, Programs