

# CURRICULUM VITA

## Geno A. Picchioni, Ph.D.

### CURRENT ADDRESS/CONTACT INFORMATION

Department of Plant and Environmental Sciences, Box 30003, MSC 3Q  
New Mexico State University  
Las Cruces, NM 88003  
(575)646-1820; gpicchio@nmsu.edu

### EDUCATION

**Doctor of Philosophy**, Horticulture, Texas A&M University, College Station (1989)

**Master of Science**, Horticulture, University of Arizona, Tucson (1981)

**Bachelor of Science**, Agricultural Science, University of Arizona, Tucson (1979)

### RESEARCH EXPERIENCE

**Professor**. New Mexico State University, Las Cruces (2008-Present)

**Associate Professor**. New Mexico State University, Las Cruces (2003-2008)

**Assistant Professor**. New Mexico State University, Las Cruces (1996-2003)

**Assistant Professor**. Louisiana Tech University, Ruston (1994-1996)

**Postdoctoral Research Associate**. U.S. Department of Agriculture, Beltsville, MD (1992-1994)

**Postdoctoral Research Associate**. University of California, Davis (1990-1992)

**Graduate Research Assistant**. Texas A&M University, College Station (1986-1990)

**Graduate Research Assistant**. University of Arizona, Tucson (1980-1981)

### TEACHING AND COOPERATIVE EXTENSION EXPERIENCE

**Professor**. New Mexico State University, Las Cruces; 4 courses (2008-Present)

**Associate Professor**. New Mexico State University, Las Cruces; 6 courses (2003-Present)

**Assistant Professor**. New Mexico State University, Las Cruces; 7 courses (1996-2003)

**Assistant Professor**. Louisiana Tech University, Ruston; 12 courses (1994-1996)

**Graduate Teaching Assistant**. Texas A&M University, College Station (1986-1988)

**Instructor and Assistant Professor**. New Mexico Extension Service, Los Alamos (1981-1985)

### RESEARCH INTEREST AND SPECIALIZATION

Lipid metabolism, mineral nutrition, salinity stress, water quality, phytoremediation. Experienced with HPLC, GC, ICP mass spectrometry, atomic absorption, statistics, crop production costs, irrigation technology, soil salinity appraisal, use of computers.

### PROFESSIONAL AFFILIATION

American Society for Horticultural Science

Alpha Zeta, Gamma Sigma Delta, Phi Kappa Phi, Sigma Xi

National Association of College Teachers in Agriculture

Society of American Florists

Pi Alpha Xi

**REFEREED JOURNAL ARTICLES**

Babcock, M., M.K. Shukla, G.A. Picchioni, J.G. Mexal, and D. Daniel. 2009. Chemical and physical properties of Chihuahuan Desert soils irrigated with industrial effluent. *Arid Land Research and Management*. 23:47-66.

Ray, W.F., G.A. Picchioni, D.M. Vanleeuwen, and R.M. Goss. 2007. First year responses of turf type tall fescue to different fertilization rates and mowing heights in semiarid conditions. *HortTechnology* 17:353-357.

Picchioni, G.A., J. Singh, J.G. Mexal, and R. Goss. 2007. Merging the roles of learning, research, and outreach in a nursery irrigation exercise. *HortTechnology* 17:379-385.

Valenzuela-Vazquez, M., G.A. Picchioni, L.W. Murray, and W.A. Mackay. 2007. Beneficial role of 1-methylcyclopropene for cut *Lupinus havardii* racemes exposed to ethephon. *HortScience* 42:113-119.

Picchioni, G.A., W.A. Mackay, and M. Valenzuela-Vazquez. 2007. Correlative supply and demand functions of *Lupinus havardii*: A forgotten side of cut flower physiology? *Journal of the American Society for Horticultural Science* 132:102-111. (Cover article).

Saucedo, D., T.W. Sammis, G.A. Picchioni, and J.G. Mexal. 2006. Wastewater application and water use of *Larrea tridentata*. *Agricultural Water Management* 82:343-353.

Ruiz, A., T.W. Sammis, G.A. Picchioni, J.G. Mexal, and W.A. Mackay. 2006. Irrigation scheduling protocol for treated industrial effluent in the Chihuahuan Desert. *American Water Works Association Journal* 98:122-133.

Picchioni, G.A., C.J. Graham, and A.L. Ulery. 2004. Gypsum effects on growth and macroelement uptake of field-grown *Asimina triloba* (Pawpaw) irrigated with low-saline, sodic water. *HortScience* 39:1104-1109.

Quiroga-Garza, H.M. and G.A. Picchioni. 2003. Photoperiod effects upon shoot growth and color of bermudagrass fertilized with slow-release nitrogen sources. *HortScience* 38:1441-1445.

Al-Jamal, T.W. Sammis, J.G. Mexal, G.A. Picchioni, and W.H. Zachritz. 2002. A growth-irrigation scheduling model for wastewater use in forest production. *Agricultural Water Management* 56:57-79.

Picchioni, G.A., M. Valenzuela-Vazquez, and L.W. Murray. 2002. Calcium and 1-MCP delay cut raceme desiccation of *Lupinus havardii*. *HortScience* 37:122-125.

Picchioni, G.A. and C.J. Graham. 2001. Salinity, growth, and ion uptake selectivity of container-grown *Crataegus opaca*. *Scientia Horticulturae* 90:151-166.

Picchioni, G.A., M. Valenzuela-Vazquez, and S. Armenta-Sanchez. 2001. Calcium-activated root growth and mineral accumulation of *Lupinus harvardii* Wats.: Ecophysiological and horticultural significance. *Journal of the American Society for Horticultural Science* 126:631-637.

Quiroga-Garza, H.M, G.A. Picchioni, and M. Remminga. 2001. Bermuda turfgrass fertilized with slow-release nitrogen sources. I. Nitrogen uptake and nitrate leaching losses. *Journal of Environmental Quality* 30:440-448.

Picchioni, G.A., S.A. Weinbaum, D.L. Daniel, and H. Karaca. 2000. Biological and practical importance of light microenvironments in a tree: Participatory research to match teaching and learning styles. *Journal of Natural Resources and Life Sciences Education* 29:78-87.

Picchioni, G.A., H. Karaca, L. Boyse, B.D. McCaslin, and E.A. Herrera. 2000. Salinity, boron, and irrigated pecan productivity along New Mexico's Rio Grande Basin. *Journal of Environmental Quality* 29:955-963.

Picchioni, G.A. and H.M. Quiroga-Garza. 1999. Growth and nitrogen partitioning, recovery, and losses of bermudagrass receiving soluble sources of <sup>15</sup>nitrogen. *Journal of the American Society for Horticultural Science* 124:719-725.

Picchioni, G.A., A.E. Watada, W.S. Conway, B.D. Whitaker, and C.E. Sams. 1998. Postharvest calcium infiltration delays membrane lipid catabolism in apple fruit. *Journal of Agricultural and Food Chemistry* 46:2452-2457.

Picchioni, G.A., P.H. Brown, S.A. Weinbaum, and T.T. Muraoka. 1997. Macronutrient allocation to leaves and fruit of mature, alternate bearing pistachio trees: Magnitude and seasonal patterns at the whole canopy level. *Journal of the American Society for Horticultural Science* 122:267-274.

Picchioni, G.A., A.E. Watada, B.D. Whitaker, and A. Reyes. 1996. Calcium delays senescence-related membrane lipid changes and increases net synthesis of membrane lipid components in shredded carrots. *Postharvest Biology and Technology* 9:235-245.

Picchioni, G.A., A.E. Watada, and B.D. Whitaker. 1996. Quantitative High-Performance Liquid Chromatography Analysis of Plant Phospholipids and Glycolipids Using Light-Scattering Detection. *Lipids* 31:217-221.

Picchioni, G.A., A.E. Watada, W.S. Conway, B.D. Whitaker, and C. Sams. 1995. Phospholipid, galactolipid, and steryl lipid composition of apple fruit cortical tissue following postharvest CaCl<sub>2</sub> infiltration. *Phytochemistry* 39:763-769.

Brown, P.H., S.A. Weinbaum, and G.A. Picchioni. 1995. Alternate bearing influences annual nutrient consumption and the total nutrient content of mature pistachio trees. *Trees – Structure and Function* 9:158-164.

Picchioni, G.A., S.A. Weinbaum, and P.H. Brown. 1995. Retention and the kinetics of uptake

and export of foliage-applied, labeled boron by apple, pear, prune, and sweet cherry leaves. *Journal of the American Society for Horticultural Science* 120:28-35.

Picchioni, G.A., A.E. Watada, B.D. Whitaker, S. Roy, and W.P. Wergin. 1994. Membrane lipid metabolism, cell permeability, and ultrastructural changes in lightly processed carrots. *Journal of Food Science* 58:597-601.

Weinbaum, S.A., G.A. Picchioni, T.T. Muraoka, P.H. Brown, and L. Ferguson. 1994. Fertilizer nitrogen and boron uptake, storage, and allocation vary during the alternate bearing cycle in pistachio trees. *Journal of the American Society for Horticultural Science* 119:24-31.

Picchioni, G.A., S. Miyamoto, and J.B. Storey. 1991. Boron uptake and effects on growth and carbohydrate partitioning of pistachio seedlings. *Journal of the American Society for Horticultural Science* 116:706-711.

Picchioni, G.A., S. Miyamoto., and J.B. Storey. 1991. Seedling growth and boron uptake of five pecan cultivars. *HortScience* 26:386-388.

Picchioni, G.A., S. Miyamoto, and J.B. Storey. 1991. Rapid testing of salinity effects on pistachio rootstock seedlings. *Journal of the American Society for Horticultural Science* 116:555-559.

Brown, P.H., G.A. Picchioni, M. Jenkin, and H. Hu. 1991. ICP-MS and <sup>10</sup>B to trace movement of boron in plants and soil. *Communications in Soil Science and Plant Analysis* 23:2781-807.

Picchioni, G.A., S. Miyamoto, and J.B. Storey. 1990. Salt effects on growth and ion uptake of pistachio rootstocks. *Journal of the American Society for Horticultural Science* 115:647-653.

Drew, M.C., P.S. Hole, and G.A. Picchioni. 1990. Inhibition of NaCl of net CO<sub>2</sub> fixation of greenhouse-grown *Cucumis sativa* L. cv Fidelio. *Journal of the American Society for Horticultural Science* 115:472-477.

Picchioni, G.A., J.B. Storey, and E.A. Mielke. 1989. Estimating maximum nut size dates in *Carya illinoensis* (pecan). *Scientia Horticulturae* 39:55-61.

## REFEREED BOOK CHAPTERS AND PROCEEDINGS

Mexal, J.G.; D.S. Rodriguez, T.W. Sammis, G.A. Picchioni, W. Zachritz II, C. Erickson, and Z. Samani. 2005. Land application of wastewater in arid lands: Theory and case studies, p. 632-635. In: Lehr, J.H., J. Keeley, and J. Lehr (eds.). Water encyclopedia: Domestic, municipal, and industrial water supply and waste disposal. John Wiley and Sons, New York, 952 p.

Mexal, J.G., C.L. Falk, A. Ulery, G.A. Picchioni, R. Ng, C. Taylor, and A. Hagen. 2004. Iron-rich mine tailings fail to perform as fertilizer: An economic development model, p. 139-163. In: M. Wilken-Robertson (ed.). The U.S.–Mexican Border Environment: Tribal Environmental

Issues of the Border Region. SCERP Monograph Series No. 9. San Diego State University Press, San Diego, California.

Weinbaum, S.A., P.H. Brown, R.C. Rosecrance, G.A. Picchioni, F.J.A. Neiderholtzer, F. Youssefi, and T.T. Muraoka. 2001. Necessity of whole tree excavations in determining patterns and magnitude of macronutrient uptake by mature deciduous fruit trees. *Acta Horticulturae* 564:41-49.

Vallotton, A.D., J.G. Mexal, D.G. Vallotton, C. Erickson, L. Iglesias, B. Jessen, R. Nunez, G. Picchioni, Z. Samani, and W. Zachritz. 2000. Sustainable use of wastewater for small communities: A model system for short rotation woody crop production, p. 47-71. In: P. Westerhoff (ed.). *The U.S.-Mexican border environment: Water issues along the U.S.-Mexican border*. SCERP Monograph Series No. 2. San Diego State University Press, San Diego, California.

Picchioni, G.A. and A.E. Watada. 1998. Membrane structural lipid changes in fresh-cut organs: Revisiting the wounding and aging phenomenon. *Acta Horticulturae* 464:237-242.

Picchioni, G.A., S. Miyamoto, and J.B. Storey. 1990. Salt resistance of pistachio, p. 378-383. In: *Visions of the future – Proceedings of the Third National Irrigation Symposium, Phoenix, Arizona*. American Society of Agricultural Engineers, St. Joseph, Michigan.

## **NON-REFEREED PAPERS AND PROCEEDINGS**

Babcock, M. and G.A. Picchioni. 2006. Land application of saline wastewater on a Chihuahuan Desert Upland. Interim Report, Southwest Center for Environmental Research and Policy Bi-Annual Conf., San Diego, Calif.

Green, S.R., R. Larsen, and G.A. Picchioni. 2005. Strengthening floriculture academic programs at New Mexico State University – Targeting education, applied research, and rural economies. USDA/CSREES/SERD National Project Director's Conference, New Orleans, La.

Picchioni, G.A. 2004. Land application of saline wastewater on a Chihuahuan Desert Upland. Interim Report, Southwest Center for Environmental Research and Policy Bi-Annual Conf., Kingsville Tex.

Picchioni, G.A. and H.M. Quiroga-Garza. 1999. Comparison of slow-release and soluble nitrogen (N) sources for bermudagrass: Growth, color, N recovery, and N losses, p. 45-60. In: *Proceedings of the Southwest Turfgrass Association*, Ruidoso, New Mexico.

Tena, M., J.G. Mexal, W. Zachritz II, and G.A. Picchioni. 1999. Short rotation woody crops: An effective, inexpensive wastewater treatment system for arid lands. In: *Memorias del Fourth Congreso Mexicano Sobre Recursos Forestales*, Durango, Durango, Mexico.

Feser, C., D. McLaughlin, J. Mexal, and G. Picchioni. 2000. Improving undergraduate education: Dig and discover project. In: *Proceedings of the Third Annual Southwest Community and School Gardening Conference*, Phoenix, Arizona.

Brown, P.H., S.A. Weinbaum, G.A. Picchioni, L. Ferguson, and Q. Long-Zhang. 1994. Nutrition of pistachio. In: *Proceedings of the International Symposium on Pistachio Nut*, Adana, Turkey. Food and Agricultural Organization and International Society for Horticultural Science.

Miyamoto, S., G. Picchioni, S. Carbajal, and C. Enriquez. 1990. Salt tolerance of pistachios, p. 37-43. In: *Proceedings of the West Texas Pistachio Conference*, El Paso, Texas. Texas Agricultural Experiment Station and Texas Agricultural Extension Service.

Picchioni, G.A., S. Miyamoto, and J.B. Storey. 1989. The status of pistachio cultivation in Texas and the southwest. *Proceedings of the Annual Conference of the Texas Pecan Growers Association*, San Antonio, Texas.

## GRANTS

Fabian Garcia and Skeen Hall Greenhouse Renovation (2006-07)

Requestor: G.A. Picchioni

NMSU Building Renovation and Repair Funds, \$275,000

Vegetation, Soil, and Water Quality Monitoring to Develop a Wastewater Reutilization Model in the Chihuahuan Desert (2004)

Investigators: G.A. Picchioni (P.I.), W.A. Mackay, and J.G. Mexal

USDA/CSREES, Efficient Irrigation for Water Conservation in the Rio Grande Basin, \$59,840

Land Application of Saline Wastewater on a Chihuahuan Desert Upland (2004)

Investigator: G.A. Picchioni (P.I.)

USEPA/Southwest Council for Environmental Research and Policy, \$55,803

Floriculture as "Hands-On" Learning Medium to Promote Water Appreciation, Career Awareness, and the Scientific Method (2004)

Investigators: G.A. Picchioni (P.I.), S.R. Green, and W.A. Mackay

USDA/CSREES, Efficient Irrigation for Water Conservation in the Rio Grande Basin, \$19,584

Mineral Nutrition of Ornamental Plants in the Chihuahuan Desert (2003-2007)

Investigator: G.A. Picchioni (P.I.)

USDA/CSREES, Hatch Program, \$50,000

National Intercollegiate Floral Crop Quality Evaluation and Design Competition (2003)

Investigator: G.A. Picchioni (P.I.)

American Floral Endowment, \$4,000

Strengthening Floricultural Academic Programs at New Mexico State University – Targeting Education, Applied Research, and Rural Economies (2002)

Investigator: G.A. Picchioni (P.I.)

USDA/CSREES, Hispanic Serving Institutions Grants, \$117,620

Vegetation, Soil, and Water Quality Monitoring to Develop a Wastewater Reutilization Model in the Chihuahuan Desert (2002)

Investigators: G.A. Picchioni (P.I.), K.B. Marcum, and J.G. Mexal

USDA/CSREES, Efficient Irrigation for Water Conservation in the Rio Grande Basin, \$53,118

Land Application of Saline Wastewater on a Chihuahuan Desert Upland (2002)

Investigators: G.A. Picchioni (P.I.) and D.J. Saucedo

USEPA/Southwest Council for Environmental Research and Policy, \$47,198

High-Performance Liquid Chromatography for Study of Wounding and Salinity Stress on Plant Membranes (2001)

Investigator: G.A. Picchioni (P.I.)

USDA/CSREES, National Research Initiative Grants, \$43,241

Exploring the Benefits of Methylcyclopropene (1-MCP) for Vaselife Extension of Cut *Lupinus harvardii* (Bluebonnet) Flowers (2000)

Investigators: G.A. Picchioni (P.I.) and M. Valenzuela-Vazquez

Fred C. Gloeckner Foundation, \$13,126

Calcium Nutrition and its Potential to Extend the Vase Life of Cut *Lupinus harvardii* (Bluebonnet) Flowers--Mechanism of Action at the Cell Membrane Level (1999)

Investigator: G.A. Picchioni (P.I.)

Fred C. Gloeckner Foundation, \$18,137

Calcium Nutrition and its Potential to Extend the Vase Life of Cut Bluebonnet Flowers: Mechanism of Action at the Cell Membrane Level (1998)

Investigator: G.A. Picchioni (P.I.)

Fred C. Gloeckner Foundation, \$18,425

Mineral Nutrition of Ornamental Plants in New Mexico and the Southwest -- New Crops, New Crop Uses, and the Involvement of Water Quality (1998)

Investigator: G.A. Picchioni (P.I.)

USDA/CSREES, Hatch Program, \$50,000

Mechanism of Boron Phytotoxicity: A Case Study in Mature Pecan Trees (1997)

Investigator: G.A. Picchioni (P.I.)

Oak Ridge Associated Universities, \$10,000

Pilot Study for an Integrated Waste Treatment and Disposal System Along the Mexico/U.S. Border: Ojinaga as a Prototype (1997)

Investigators: J.G. Mexal (P.I.) and G.A. Picchioni

USEPA/Southwest Center for Environmental Research and Policy, \$50,000

Improving Undergraduate Science Education in Horticulture and Agricultural Education (1997)

Investigators: J.G. Mexal (P.I.), G.A. Picchioni, and J.L. Fowler

USDA/CSREES Higher Education Challenge Grants, \$71,940

Revisiting the Wounding and Aging Phenomenon in Plant Cells and its Relationship to Membrane Lipid Metabolism: A Practical Case Study in Horticulture (1996)

Investigator: G.A. Picchioni (P.I.)

Louisiana Tech University Office of the President, \$1000

Cell Membrane Stability and the Role of Calcium in Postharvest Quality of Apples (1995)

Investigators: G.A. Picchioni (P.I.) and A.E. Watada

Louisiana Tech University Office of the President, USDA/Beltsville, \$4000

Water Quality as a Possible Factor Limiting Commercial Mayhaw Production in Louisiana (1994)

Investigator: G.A. Picchioni (P.I.)

Louisiana Tech University Office of the President, \$1000

Salinity and Boron Tolerance of *Pistacia* Species (1989)

Investigator: G.A. Picchioni (P.I.)

Texas A&M University Thomas B. Slick Research Fellowship Grant, \$10,600

Effects of Alternate Bearing on Nutrient Demand, Storage, and Uptake in Pistachio (1991)

Investigators: G.A. Picchioni (P.I.), S.A. Weinbaum, and P.H. Brown

California Pistachio Commission, \$17,000

## **PUBLISHED ABSTRACTS**

Over 30 technical presentations with abstracts, 1987 through 2007; available on request.

## **PROFESSIONAL AWARDS AND RECOGNITION**

College of ACES Distinguished Teaching Award (2009)

ASHS Outstanding Ornamental Horticulture Publication Award (2008)

USDA National Team Award, Outstanding Integrated Program in Water Resources (2007)

CAHE Faculty Senator Award (2006)

Department of Plant and Environmental Sciences Teaching Appreciation Award (2006)

Nominated by a student for Who's Who among America's Teachers (2005)

CAHE Team Award, Rio Grande Basin Initiative (2005)

Texas A&M Vice Chancellor's Award in Excellence, Rio Grande Basin Initiative (2005)

Nominated for Pi Alpha Xi National Secretary/Treasurer (2004)

Honorary member, New Mexico FFA Program (2004)

NACTA Distinguished Teaching Award, College of Agriculture and Home Economics (2003)

Department of Agronomy and Horticulture Teaching Appreciation Award (2003)

One of five NMSU campus finalists for Patricia Christmore Faculty Teaching Award (1999)

Oak Ridge Associated Universities Junior Faculty Achievement Award (1997)

Author finalist for ASHS Outstanding Publications Award (1996)

Outstanding Researcher Award, College of Life Sciences, Louisiana Tech University (1995)

Thomas B. Slick Graduate Research Fellowship Award, Texas A&M University (1989)

Faculty promotion to Assistant Professor, NMSU (1984)

NACAA Professional Information and Turfgrass/Horticulture Communication Awards (1984)

General Dillingham Produce Industry Scholarship (1978)

**NATIONAL COMMITTEE POSTS**

American Water Works Association, Inorganics Contaminant Committee Member, 2006-present

National Teaching Publications Award Committee, ASHS, 2000-present

National Research Awards Committee Chair, ASHS, 1995-1996

ASHS Working Groups (Plant Nutrition, Ornamentals, Floriculture, and Teaching), 2000-present

**UNIVERSITY COMMITTEE POSTS**

Admission Appeals Committee (2000-2002)

Minority Recruitment Committee (2000-present)

Faculty Senate (1994-1996)

Faculty Senate (2004-2006)

**MAJOR DEPARTMENTAL SERVICE**

Faculty Administrator for NMSU Intercollegiate Floral Quality and Design Team (1996-Present)

Advisor for Horticulture Forum, ACB Affiliate (1996-Present)

Undergraduate Horticulture Curriculum Committee Chair (2003-Present)

College Greenhouse Committee Chair (2000-Present)