

CURRICULUM VITAE

G.A. PICCHIONI

APRIL 2025

CONTACT INFORMATION

Department of Plant and Environmental Sciences (PES), Box 30003, MSC 3Q
College of Agricultural, Consumer, and Environmental Sciences (ACES)
New Mexico State University (NMSU)
Las Cruces, NM 88003
Email: gpicchio@nmsu.edu
PES Website: <https://pes.nmsu.edu/faculty-staff/horticulture/geno-a-picchioni.html>

EDUCATION

1989. Ph.D. Horticulture. Texas A&M University, College Station
1981. M.S. Horticulture. University of Arizona, Tucson
1979. B.S. Agricultural Science. University of Arizona, Tucson

RESEARCH, TEACHING, COOPERATIVE EXTENSION POSITIONS

2024-Present	Professor Emeritus	Dept. of PES	NMSU	Las Cruces
2008-2024	Professor	Dept. of PES	NMSU	Las Cruces
2003-2008	Associate Professor	Dept. of PES	NMSU	Las Cruces
1996-2003	Assistant Professor	Dept. of Agronomy and Horticulture	NMSU	Las Cruces
1994-1996	Assistant Professor	Dept. of Agricultural Sciences, Technology, and Education	Louisiana Tech Univ.	Ruston
1992-1994	Postdoc	Horticultural Crops Quality Laboratory	USDA/ARS	Beltsville
1990-1992	Postdoc	Dept. of Pomology	Univ. of California	Davis
1986-1990	Grad. Research Assistant	Dept. of Horticultural Sciences	Texas A&M Univ.	College Station
1986-1988	Grad. Teaching Assistant	Dept. of Horticultural Sciences	Texas A&M Univ.	College Station
1981-1985	County Agric./4-H Agent	Cooperative Extension Service	NMSU	Los Alamos
1980-1981	Grad. Research Assistant	Dept. of Plant Sciences	Univ. of Arizona	Tucson

PLANT SCIENCES SPECIALIZATIONS

Cell membranes, lipid metabolism, inorganic nutrition, translocation, salinity, HPLC, GC, ICP

COURSES TAUGHT

Plant mineral nutrition, plant propagation, freshman seminar, greenhouse management, ornamental plant production, vegetable production, pomology, floriculture crops judging and design, introductory environmental science, computers in life sciences, deciduous ornamental plant materials, evergreen ornamental plant materials, herbaceous ornamental plant materials, interior plants, graduate thesis and dissertation, horticultural externship and internship

TEACHING HIGHLIGHTS

TEACHING PHILOSOPHY IN BRIEF

- Provide plentiful experiential learning and participatory research opportunities.
- Show the students that you are keeping current by maintaining an active research program.
- Create extracurricular leadership opportunities through internships, externships, clubs, and competitions to add enjoyment and increase job competitiveness.

SELECTED TEACHING INNOVATIONS

Adapted ASHS Outstanding Ornamental Publications Award to a living model for experiential learning on solute translocation in the plant mineral nutrition class.

Transitioned plant propagation labs from face-to-face to fully online to guide undergraduates in home propagation by seed, cuttings, layering, division, grafting, and tissue culture.

Created horticultural externship for 63 undergraduates to apprentice at private horticultural firms.

Modified lecture-only plant mineral nutrition course with live “mini labs” featured by NMSU’s

Advocates for Scholarly Teaching at the annual “Teaching with the Stars” conference.

Awarded USDA-NIFA funding to develop international internship program with Universidad Autónoma de Ciudad Juárez, Chihuahua, Mexico in water reuse research.

Acquired USDA-NIFA funding to use cut flowers as a hands-on medium to teach water appreciation and the scientific method in the classroom.

SAMPLES OF EXTRACURRICULAR ACTIVITIES AND SERVICE TO THE TEACHING PROFESSION

Awarded USDA-HSI funding to launch NMSU Floral Crops Team to become a permanent department program.

Served as faculty advisor for intercollegiate horticulture clubs for 28 years.

Advised an average of 35 undergraduate horticulture students per year since 1994.

Nominated over 100 undergraduate students for ASHS and university awards.

Coordinated over 75 internships for horticultural undergraduates.

Published five peer-reviewed publications on classroom and lab experiential learning in nursery crop water use, canopy light microenvironments, recycling biosolids and wood chips in nursery potting media, and floricultural fundraising in the classroom.

Two undergraduate research methods papers are currently in preparation

Mentored undergraduate student co-authors of ten peer-reviewed articles.

SELECTED STUDENT COMMENTS

“Possesses expert knowledge of subject”

“Passes his excitement on to students through ‘hands-on’ activities”

“Makes his classes applicable to the real world”

“Gets us involved in research”

EXAMPLES OF STUDENT CAREER PLACEMENT

University faculty (Arizona, Colorado State, Texas A&M, Angelo State, Tennessee State, Costa Rica, others), high school vo-ag horticulture instructors, community college instructors, private consultants, commercial greenhouse and nursery production managers, cannabis growers, botanic garden horticulturists, horticultural supply sales representatives, retail garden center buyers, forest rangers, range management specialists

REFEREED JOURNAL ARTICLES (*Grads/Undergrads in Italics*)

- Lucker, A.O.S., G.A. Picchioni, J.D. Consford, R.L. Steiner, I. Guzman, B.J. Schutte, M.K. Shukla, and R.B. Young. 2023. Gypsiferous groundwater and its desalination brine concentrate: Biomass, water use, and salt “mining” of three southwestern USA native halophytes. *Agricultural Water Management*. <https://doi.org/10.1016/j.agwat.2023.108553>.
- Kankarla, V., M.K. Shukla, and G.A. Picchioni. 2021. Root growth, architecture, and ion uptake of alfalfa and triticale irrigated with brackish groundwater and reverse osmosis concentrate. *Agrosystems, Geosciences, Environment*. <https://doi.org/10.1002/agg2.20180>.
- Kankarla, V., M.K. Shukla, G.A. Picchioni, D. VanLeeuwen, and B.J. Schutte. 2020. Germination and emergence responses of alfalfa, triticale and quinoa irrigated with brackish groundwater and desalination concentrate. *Agronomy* 10(549), 17. <https://doi.org/10.3390/agronomy10040549>.
- Picchioni, G.A., T.N. Hooks, B.J. Schutte, M.K. Shukla, and D.L. Daniel. 2020. Halophyte ion regulation traits support saline adaptation of *Lepidium latifolium*, *L. draba*, and *L. alyssoides*. *Plant Ecology* 221:295-308. <https://doi.org/10.1007/s11258-020-01012-5>.
- Kankarla, V., M.K. Shukla, D. VanLeeuwen, B.J. Schutte, and G.A. Picchioni. 2019. Growth, evapotranspiration, and ion uptake characteristics of alfalfa and triticale irrigated with brackish groundwater and desalination concentrate. *Agronomy* 9(789), 17. <https://doi.org/10.3390/agronomy9120789>.
- Hooks, T.N., G. A. Picchioni, B.J. Schutte, M.K. Shukla, and D.L. Daniel. 2018. Sodium chloride effects on seed germination, growth, and water use of *Lepidium alyssoides*, *L. draba*, and *L. latifolium*: Traits of resistance and implications for invasiveness on saline soils. *Rangeland Ecology and Management* 71:433-442. <https://doi.org/10.1016/j.rama.2018.04.001>.
- Ozturk, O.F., M.K. Shukla, B. Stringam, G.A. Picchioni, and C. Gard. 2018. Irrigation with brackish water changes evapotranspiration, growth and ion uptake of halophytes. *Agricultural Water Management* 195:142-153. <https://doi.org/10.1016/j.agwat.2017.10.012>.
- Hooks, T.N., G.A. Picchioni, B.J. Schutte, M.K. Shukla, D.L. Daniel, and J. Ashigh. 2018. Salinity an environmental “filter” selecting for plant invasiveness? Evidence from the indigenous *Lepidium alyssoides* on Chihuahuan Desert shrublands. *Rangeland Ecology and Management* 71:106-114. <https://doi.org/10.1016/j.rama.2017.07.007>.
- Flores, A.M., M.K. Shukla, B.J. Schutte, G.A. Picchioni, and D.L. Daniel. 2017. Physiological response of six plant species grown in two contrasting soils and irrigated with brackish groundwater and RO concentrate. *Arid Land Research and Management* 31:182-203. <https://doi.org/10.1016/j.jaridenv.2016.04.003>.
- Flores, A.M., M.K. Shukla, D. Daniel, A.L. Ulery, B.J. Schutte, G.A. Picchioni, and S. Fernald. 2016. Evapotranspiration changes with irrigation using saline groundwater and RO concentrate. *Journal of Arid Environments* 43:1-7. <https://doi.org/10.1016/j.jaridenv.2016.04.003>.
- Picchioni, G.A., S.A. Martinez, J.G. Mexal, and D.M. VanLeeuwen. 2016. Vegetative growth and leaf nutrient status of ‘Carpino’ chrysanthemum on a pecan wood-amended commercial substrate. *HortScience* 51:177-185. (Journal cover article). <https://doi.org/10.21273/HORTSCI.51.2.177>.
- Flores, A.M., B.J. Schutte, M.K. Shukla, G.A. Picchioni, and A.L. Ulery. 2015. Time-integrated measurements of seed germination for salt tolerant plant species. *Seed Science and Technology* 43:1-7. <https://doi.org/10.15258/sst.2015.43.3.09>.
- Barrick, B., R. Steiner, G.A. Picchioni, A. Ulery, and J. Zhang. 2015. Salinity responses of selected introgressed cotton lines grown in two soils from organic and conventional cotton production. *Journal of Cotton Science* 19:268-278. <https://doi.org/10.56454/UGIH4461>.

- Picchioni, G.A., J. Ruiz, R.M. Goss, and J.G. Mexal. 2014. Nursery crop growth response to municipal biosolids: Species salt and xeric adaptation a key factor? *Compost Science and Utilization* 22:138-152. <https://doi.org/10.1080/1065657X.2014.900461>.
- Mexal, J.G., G.A. Picchioni, M.K. Shukla, A.L. Ulery, and W.C. Lindemann. 2014. Land application of municipal wastewater to desert ecosystems: Case studies identifying risks and opportunities. *Journal of Arid Land Studies* 24:109-112.
- Tiwari, R.S., G.A. Picchioni, R.L. Steiner, S.E. Hughs, D.C. Jones, and J. Zhang. 2013. Genetic variation in salt tolerance during seed germination in a backcross inbred line population and advanced breeding lines derived from upland cotton x Pima Cotton. *Crop Science* 53:1974-1982. <https://doi.org/10.2135/cropsci2013.01.0028>.
- Tiwari, R.S., G.A. Picchioni, R.L. Steiner, D.C. Jones, S.E. Hughs, and J. Zhang. 2013. Genetic variation in salt tolerance at the seedling stage in an interspecific backcross inbred line population of cultivated tetraploid cotton. *Euphytica* 194:1-11. <https://doi.org/10.1007/s10681-013-0927-x>.
- Picchioni, G.A., J.G. Mexal, M.K. Shukla, A. Ruiz, M. Babcock, D.L. Daniel, and D.S. Rodriguez. 2012. Land application of treated industrial wastewater on a Chihuahuan Desert shrubland: Impacts on the natural vegetation. *Arid Land Research and Management* 26:312-327. <https://doi.org/10.1080/15324982.2012.694396>.
- Picchioni, G.A., M.K. Shukla, J.G. Mexal, M. Babcock, A. Ruiz, T.W. Sammis, and D.S. Rodriguez. 2012. Land application of treated industrial wastewater on a Chihuahuan Desert shrubland: Implications for water quality and mineral deposition. *Arid Land Research and Management* 26:211-226. <https://doi.org/10.1080/15324982.2012.680656>.
- Green, S.R. and G.A. Picchioni. 2011. Floriculture and fundraising: A public-student partnership for learning job readiness. *HortTechnology* 21:700-702. <https://doi.org/10.21273/HORTTECH.21.6.700>.
- Huez, López, M.A., A.L. Ulery, Z. Samani, G.A. Picchioni, and R.P. Flynn. 2011. Response of chile pepper (*Capsicum annuum* L.) to salt stress and organic and inorganic nitrogen sources. I. Growth and yield. *Tropical and Subtropical Agroecosystems* 14:137-147. <https://doi.org/10.56369/tsaes.674>.
- Green, S.R., G.A. Picchioni, L.W. Murray, and M.M. Wall. 2010. Yield and quality of field-grown *Celosia* and globe amaranth cut flowers at four plant densities. *HortTechnology* 20:612-619. <https://doi.org/10.21273/HORTTECH.20.3.612>.
- 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. <https://doi.org/10.1080/15324980802598607>.
- 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. <https://doi.org/10.21273/HORTTECH.17.3.353>.
- 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. <https://doi.org/10.21273/HORTTECH.17.3.379>.
- 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. <https://doi.org/10.21273/HORTSCI.42.1.113>.
- 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. (Journal cover article). <https://doi.org/10.21273/JASHS.132.1.102>.

- 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. <https://doi.org/10.1016/j.agwat.2005.07.031>.
- 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. <https://doi.org/10.1002/j.1551-8833.2006.tb07594.x>.
- 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. <http://dx.doi.org/10.21273/HORTSCI.39.5.1104>.
- 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. <https://doi.org/10.21273/HORTSCI.38.7.1441>.
- Al-Jamal, M.S., 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. [https://doi.org/10.1016/S0378-3774\(02\)00003-3](https://doi.org/10.1016/S0378-3774(02)00003-3).
- 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. <https://doi.org/10.21273/HORTSCI.37.1.122>.
- Picchioni, G.A. and C.J. Graham. 2001. Salinity, growth, and ion uptake selectivity of container-grown *Crataegus opaca*. *Scientia Horticulturae* 90:151-166. [https://doi.org/10.1016/S0304-4238\(00\)00261-2](https://doi.org/10.1016/S0304-4238(00)00261-2).
- Picchioni, G.A., M. Valenzuela-Vazquez, and S. Armenta-Sanchez. 2001. Calcium-activated root growth and mineral accumulation of *Lupinus havardii* Wats.: Ecophysiological and horticultural significance. *Journal of the American Society for Horticultural Science* 126:631-637. <https://doi.org/10.21273/JASHS.126.5.631>.
- 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. <https://doi.org/10.2134/jeq2001.302440x>.
- 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. <https://doi.org/10.2134/jnrlse.2000.0078>.
- 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. <https://doi.org/10.2134/jeq2000.00472425002900030034x>.
- Picchioni, G.A. and H.M. Quiroga-Garza. 1999. Growth and nitrogen partitioning, recovery, and losses of bermudagrass receiving soluble sources of ¹⁵nitrogen. *Journal of the American Society for Horticultural Science* 124:719-725. <https://doi.org/10.21273/JASHS.124.6.719>.
- 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. <https://doi.org/10.1021/jf971083e>.
- 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. <https://doi.org/10.21273/JASHS.122.2.267>.
- 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. [https://doi.org/10.1016/S0925-5214\(96\)00051-8](https://doi.org/10.1016/S0925-5214(96)00051-8).

- 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. <https://doi.org/10.1007/BF02522623>.
- 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_2 infiltration. *Phytochemistry* 39:763-769. [https://doi.org/10.1016/0031-9422\(95\)00068-I](https://doi.org/10.1016/0031-9422(95)00068-I).
- 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. <https://doi.org/10.1007/BF02418205>.
- 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. <https://doi.org/10.21273/JASHS.120.1.28>.
- 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. <https://doi.org/10.1111/j.1365-2621.1994.tb05571.x>.
- 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. <https://doi.org/10.21273/JASHS.119.1.24>.
- 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. <https://doi.org/10.21273/JASHS.116.4.706>.
- Picchioni, G.A., S. Miyamoto., and J.B. Storey. 1991. Growth and boron uptake of five pecan cultivars. *HortScience* 26:386-388. <https://doi.org/10.21273/HORTSCI.26.4.386>.
- 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. <https://doi.org/10.21273/JASHS.116.3.555>.
- Brown, P.H., G.A. Picchioni, M. Jenkin, and H. Hu. 1991. ICP-MS and ^{10}B to trace movement of boron in plants and soil. *Communications in Soil Science and Plant Analysis* 23:2781-2807. <https://doi.org/10.1080/00103629209368773>.
- 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. <https://doi.org/10.21273/JASHS.115.4.647>.
- Drew, M.C., P.S. Hole, and G.A. Picchioni. 1990. Inhibition of NaCl of net CO_2 fixation of greenhouse-grown *Cucumis sativa* L. cv Fidelio. *Journal of the American Society for Horticultural Science* 115:472-477. <https://doi.org/10.21273/JASHS.115.3.472>.
- 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. [https://doi.org/10.1016/0304-4238\(89\)90037-X](https://doi.org/10.1016/0304-4238(89)90037-X).

REFEREED BULLETINS, BOOK CHAPTERS, TECHNICAL REPORTS

- Shukla, M.K., A. Ben Ali, S. Cerra, B. Schutte, G.A. Picchioni, and C. Gard. 2021. Irrigation with brackish groundwater and desalination concentrate: Effect on soil microbial properties, plant uptake, and ion deposition in soil. New Mexico Water Resources Research Institute Tech. Compl. Rept. TR 397 (47 pp.). NM-WRRI, Las Cruces. Available online at <https://cduaws.nmwrri.nmsu.edu/wp-content/uploads/PDF/tr397.pdf>.

- Picchioni, G.A., T.N. Hooks, B.J. Schutte, and D.L. Daniel. 2015. Drought, salinity, and invasive plants: A new model for sustainable water management. New Mexico Water Resources Research Institute Tech. Compl. Rept. TR 368 (60 pp.). NM-WRRI, Las Cruces. Available online at http://nmwrri.nmsu.edu/?page_id=4568.
- Picchioni, G.A., J.G. Mexal, and M.K. Shukla. 2014. Land application of treated industrial wastewater on a Chihuahuan Desert shrubland: Water quality assessment, mineral deposition and recovery, and effects on the vegetation. New Mexico Agricultural Experiment Station Bulletin 807 (44 p.). New Mexico State University, Las Cruces. Available online at <http://aces.nmsu.edu/pubs/research/water/BL807.pdf>
- Shukla, M.K., J.G. Mexal, G.A. Picchioni, T. Sammis, D. Daniel, P. Adhikari, and M. Babcock. 2010. Land application of industrial effluent on a Chihuahuan Desert Ecosystem: Impact on soil physical and hydraulic properties. New Mexico Water Resources Research Institute Tech. Compl. Rept. TR 351 (75 pp.). NM-WRRI, Las Cruces, NM.
- 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. International Postharvest Conference, Taupo, New Zealand, June 24-28, 1996. Published in *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.

SEVENTY ABSTRACTS AT SCIENTIFIC MEETINGS

COMPETITIVE GRANTS-PARTIAL LISTING

Container Farming to Support Wellness, Conservation, and Participatory Research in Underserved Communities of New Mexico

Investigators: G.A. Picchioni (P.I.), G.R. Garcia, O. Lavrova, K.A. Lombard, S. Norris-Parish, L. Stanford, G.L. Torell, and S.J. Walker
USDA/NIFA. *Pending*.

Exploring the Benefits of Halophytes and Brackish Waters for Human Health (2021-2023)

- Investigators: G.A. Picchioni (P.I.), I. Guzman, B.J. Schutte, and M.K. Shukla
 USDA/NIFA/AFRI Foundational and Applied Science Program
 Irrigation with Brackish Groundwater and Desalination Concentrate: Effect on Soil Microbial Properties, Plant Uptake, and Ion Deposition in Soil (2017-2021)
 Investigators: M.K. Shukla (P.I.), G.A. Picchioni, B.J. Schutte, and C. Gard
 New Mexico Water Resources Research Institute
 Drought, Salinity, and Invasive Plants: A New Model for Sustainable Water Management (2014-2015)
 Investigators: G.A. Picchioni (P.I.) and B.J. Schutte
 New Mexico Water Resources Research Institute
 Invasiveness of Selected Brassicaceae Plants on Wastewater-Treated Rangelands in New Mexico: Is Sodium a Causal Element? (2012-2014)
 Investigators: G.A. Picchioni (P.I.), J. Ashigh, B.J. Schutte, L. Lauriault, and T. Dominguez
 New Mexico Agricultural Experiment Station Rangeland Ecosystems Program
 Land Application of Industrial Effluent on a Chihuahuan Desert Ecosystem: Impact on Soil Physical and Hydraulic Properties (2008-2010)
 Investigators: M.K. Shukla (P.I.), J.G. Mexal, G.A. Picchioni, T. Sammis, D. Daniel, P. Adhikari, and M. Babcock
 New Mexico Water Resources Research Institute
 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
 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
 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
 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
 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
 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
 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
 Mechanism of Boron Phytotoxicity: A Case Study in Mature Pecan Trees (1997)
 Investigator: G.A. Picchioni (P.I.)
 Oak Ridge Associated Universities
 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
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
Salinity and Boron Tolerance of *Pistacia* Species (1989)
Investigator: G.A. Picchioni (P.I.)
Texas A&M University Thomas B. Slick Research Fellowship Grant

FOUNDATION AND COMMODITY GRANTS

NMSU Grants Indoor Food Production: Container Farming for Community Food Distribution and Workforce Development (2021-2024)
Investigators: G.A. Picchioni, S. Walker, K. Lombard, G. Torell, J. Lilywhite, and O. Lavrova
Tri-State Generation & Transmission Association
National Intercollegiate Floral Crop Quality Evaluation and Design Competition (2003)
Investigator: G.A. Picchioni (P.I.)
American Floral Endowment
Exploring the Benefits of Methylcyclopropene (1-MCP) for Vaselife Extension of Cut *Lupinus havardii* (Bluebonnet) Flowers (2000)
Investigators: G.A. Picchioni (P.I.) and M. Valenzuela-Vazquez
Fred C. Gloeckner Foundation
Calcium Nutrition and its Potential to Extend the Vase Life of Cut *Lupinus havardii* (Bluebonnet) Flowers--Mechanism of Action at the Cell Membrane Level (1999)
Investigator: G.A. Picchioni (P.I.)
Fred C. Gloeckner Foundation
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
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

INSTITUTIONAL RESEARCH GRANTS AND OTHER FUNDING

NMSU BR&R Funding for Fabian Garcia and Skeen Hall Greenhouse Renovations: Greenhouse Misting Renovation (2018); Greenhouse Bench Renovation (2016); Greenhouse Shade and Irrigation System Renovation (2013)
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
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
Water Quality as Limiting Commercial Mayhaw Production in Louisiana (1994)
Investigator: G.A. Picchioni (P.I.)
Louisiana Tech University Office of the President

USDA/NIFA FUNDED HATCH PROJECTS

New Frontiers for Plants and Water Issues in the Southwestern U.S.–Landscape Ecology, Human Health, and Curriculum Enhancement (2018-2023)

Waste Utilization and Mineral Nutrition of New Mexico Plants (2013-2018)

Mineral Nutrition of Ornamental Plants in the Chihuahuan Desert (1998-2013)

PROFESSIONAL AWARDS AND RECOGNITION

Exemplary Teaching Professorship, Department of PES and College of ACES (2022-2024)

Donald C. Roush University Award for Teaching Excellence (2016)

Teaching and Advising Appreciation Award, PES Faculty and Graduating Students of 2013-14

College of ACES Team Award–Wastewater Land Application Team (2014)

College of ACES Distinguished Researcher Award (2013)

College of ACES Distinguished Teacher Award (2009)

ASHS Outstanding Ornamental Horticulture Publication Award (2008)

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

College of ACES Faculty Senator Award (2006)

PES Teaching Appreciation Award (2006)

College of ACES Team Award, Rio Grande Basin Initiative (2005)

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

Honorary member, New Mexico FFA Program (2004)

NACTA Distinguished Teacher Award (2003)

PES Teaching Appreciation Award (2003)

Oak Ridge Associated Universities Junior Faculty Achievement Award (1997)

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

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

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

General Dillingham Produce Industry Scholarship (1978)

PROFESSIONAL SERVICES**NATIONAL**

NM State Chair, W-3170 Multistate Research Project: Beneficial Reuse of Residuals and Reclaimed Water: Impact on Soil Ecosystems and Human Health, 2015-2019

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

ASHS National Teaching Publications Award Committee, 2012-2016

ASHS National Research Awards Committee Chair, 1995-1996

DEPARTMENT AND COLLEGE

Member, PES Department Promotion and Tenure Committee (2008-2024)

Chair, PES Department Promotion and Tenure Committee (2018-2019)

Member, ACES Dean Faculty Advisory Committee (2017-2018)

Chair, PES Curriculum Committee (2009-2012)

Member, PES Awards Committee (2019-2024)

Chair, PES Department Awards Committee Chair (2015-2017)

Member, PES Department Scholarship Committee (2014-2019)

Chair, ACES Greenhouse Committee Chair (2000-2024)

Faculty advisor, NMSU Intercollegiate Floral Quality and Design Team (1996-2024)

Faculty advisor, NMSU Horticulture Forum (1996-2025)

Faculty advisor, Louisiana Tech Horticulture Society (1994-1996)

UNIVERSITY

University Senate–NMSU (2004-2006)

Minority Recruitment Committee (2000-2004)

Admission Appeals Committee (2000-2002)

University Senate–Louisiana Tech University (1994-1996)