

Maricopa Agricultural Center
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Education

- Ph.D. Agricultural Technology and Systems Management, Department of Agricultural Engineering, Michigan State University, East Lansing, MI, 48824. June 1992.
- M.S. Agricultural and Extension Education, Department of Agriculture and Extension Education, Michigan State University. June 1984.
- B.S. Agricultural Engineering, Department of Agricultural Engineering, Michigan State University. August 1982.

Employment

- 2005 + Professor/Extension Specialist, Department of Agricultural and Biosystems Engineering, University of Arizona, Tucson. Located at the Maricopa Agricultural Center, Maricopa, AZ. Position is divided into 75% Extension, 25% Research.
- 1998-2005 Associate Professor/Associate Extension Specialist, Department of Agricultural and Biosystems Engineering, University of Arizona, Tucson. Located at the Maricopa Agricultural Center, Maricopa, AZ. Position is divided into 75% Extension, 25% Research.
- 1992-1998 Assistant Specialist, Department of Agricultural and Biosystems Engineering, University of Arizona, Tucson. Located at the Maricopa Agricultural Center, Maricopa, AZ. Position is divided into 75% Extension, 25% Research.
- 1984-1992 Extension Associate for the Homer Nowlin Chair, College of Agriculture and Natural Resources, Department of Natural Resources and Public Policy, Cooperative Extension Service, Michigan State University. Position was 100% Extension.

Honors and Awards

ASAE Blue Ribbon Award, Educational Aids Competition, 1993
Engineer of the Year. ASAE – Arizona Chapter, 1996
Inducted into Epsilon Sigma Phi, Honorary Extension Professional Fraternity, 1997
Inducted into Alpha Epsilon, Honorary Agricultural Engineering Fraternity, 1998
Distinguished Service Award. Nat. Assoc. of County Ag. Agents – AZ Section, 2002
Faculty Member of the Year, Arizona Agricultural 100 Council - 2004

Professional Activities

1984-Present American Society of Agricultural Engineers; Editorial Board member
1992-Present Arizona Section of the American Society of Agricultural Engineers
1990-Present American Society of Agronomy
1992-Present Irrigation Association
1992-Present NACAA - Arizona County Agents Association
Western Region Vice-Chair, Communications Awards 1999-Present
1997-Present Epsilon Sigma Phi, President 2001-2003

Recent Research Grants and Contracts

Demonstration of Agricultural Conservation Methods. 2005-2007. ADWR. \$65,850.

Demonstration and Comparison of Irrigation on the Navajo Nation. 2004-2006. BOR. \$46,695

Assessing Animal Manure/Compost Applications on Irrigated Agricultural Fields for Nutrient Planning and Environmental Impacts. 2002-2004. ADEQ. \$166,000.

Subsurface Drip Irrigation for Sustainable Production of Specialty Vegetable Crops. 2002-2004. ADA. \$58,500

Conservation Tillage Benefits in a Cotton Centered Crop Rotation System. 2001-2005. USDA/SARE. \$175,000.

Water Quality Enhancement through Improved Dairy and Feedlot waste and Wastewater Management. 1999-2001. USDA/CREES. \$71,000.

Hydrologic Unit Area (Casa Grande-Coolidge). 1989-2000. USDA. \$65,000/yr.

Hydrologic Unit Area (Maricopa). Co-PI. USDA. 1989-2000. \$60,000/yr.

Consultancies/Invited Seminars

Invited speaker at *Agriculture in Sonora, A Business Opportunity Symposium*. Presented paper on irrigation in Arizona. Novelle Consultants, Obregon, Mexico. Apr. 18-21, 2005.

Invited speaker at the 2004 Annual Chile Task Force Meeting. Presented a paper on soil moisture monitoring. The Chile Task Force, Las Cruces, NM. Feb. 2-4, 2004.

Invited speaker at the University of Basillacatta in Italy. Presented a seminar on the environmental impact of manure/compost applications in alfalfa production. University Basillacatta, Potenza, Italy. Dec. 2003.

Conducted workshops in Sinaloa, Mexico at the invitation of the Fundacion Produce Sinaloa. Los Mochis, June 11-12, 2004.

Conducted workshops in Sinaloa, Mexico at the invitation of the IMTA, Instituto Mexicano de Tecnologia de Agua. Culican, Oct. 8-10, 2004.

Publication List

Refereed Publications

Martin, E.C., D.C. Slack, T. A. Tanksley and B. Basso. 2005. Effects of dairy manure and compost application on alfalfa yield and environmental impact in Arizona. *Agron. J.* (In Press).

Jia, X. and E.C. Martin. 2004. Temperature adjustment for Reference Evaporation Calculation in Central Arizona. *J. Irrig. Drain., ASCE*. 130(5): 384-390.

Martin, E.C., A.S. de Oliveira, A.D. Folta, E.J. Pegelow and D.C. Slack. 2001. Development and Testing of a Small Weighing Lysimeter System to Assess Water Use in Shallow Rooted Crops. *Transactions of the ASAE*. 44(1):71-78.

Ottman, M.J., T.A. Doerge and E.C. Martin. 2000. Durum Grain Quality as Affected by Nitrogen Fertilization near Anthesis. *Agron. J.* 92:1035-1041.

Rasse, D.P., J.T. Ritchie, W.W. Wilhelm, Jun Wei, and E.C. Martin. 2000. Simulation of inbred maize yields with CERES-IM. *Agron. J.* 92:672_678.

Rasse, D.P., J. T. Ritchie, W. R. Peterson, T.L. Loudon and E.C. Martin. 1999. Impact of N management on yield and nitrate leaching in inbred maize systems. *J. Environ. Qual.* 28:1365-1371.

Martin ,E.C., A.K. Hla, D.C. Slack and P.M. Waller. 1997. Heat Unit-based Crop Coefficient for Grapefruit Trees. *Appl. Engr. In Ag., ASAE*. 13(4):485-489.

Martin, E.C., J.T. Ritchie and B. Baer. 1996. Assessing Investment Risk of Irrigation in Humid Climates. *J. of Prod. Ag.* 9(2):228-232.

Martin, E.C., T.L. Loudon, J.T. Ritchie and A. Werner. 1994. Use of Drainage Lysimeters to Evaluate Nitrogen and Irrigation Management Strategies to Minimize Nitrate Leaching in Maize Production. *Trans. of the ASAE.* 37(1):79-83.

Chapters in Books

Martin, E.C. 2004. Sugar, Oil and Fiber Crops. In: *ASA Monograph, Irrigation of Agricultural Crops.* (Accepted).

Martin, E.C. and Slack, D.C. 1999. Heat Unit-based Irrigation Scheduling for Arid Environments In *Water Management, Purification, and Conservation in Arid Climates*, M.F.A. Goosen and W.H. Shayya, eds., Lancaster, PA: Technomic Publishing Co. pp281-291.

Peer reviewed Extension Publications

Martin, E.C. 2004. Measuring Water in Surface Irrigation Ditches and Gated Pipe. University of Arizona, Cooperative Extension. 12 pp. Pub. # 1329. 9pp.

Martin, E.C., H. Detwiler and D.C. Slack. 2003. AZSCHEM V1.13 (Arizona Irrigation Scheduling) System. Users Handbook. University of Arizona, Cooperative Extension. Pub. # 1321. 17pp.

Martin, E.C. 2001. Methods of Determining When to Irrigate. University of Arizona, Cooperative Extension, Pub. # AZ1220. 7 pp.

Martin, E.C., R. D. Gibson, J. Watson, P. Brown and R. L. Roth. 2001. Instructor's Guide: Bilingual Workshop for Irrigator. University of Arizona, Cooperative Extension, Pub. # AZ1278. 26 pp.

Martin, E.C. 2000. Determining the Amount of Irrigation Water Applied to a Field. University of Arizona, Cooperative Extension, Pub. # AZ1157. 3 pp.

Martin, E.C., E.J. Pegelow, and D.C. Slack. 1999. Vegetable Water Use - Dry Onions. Cooperative Extension Publication, AZ1131, College of Agric., Univ. of Arizona. 2pp.

Martin, E.C., E.J. Pegelow, and D.C. Slack. 1999. Vegetable Water Use - Western Head Lettuce. Cooperative Extension Publication, AZ1132, College of Agric., Univ. of Arizona. 2pp.

Martin, E.C., E.J. Pegelow, and D.C. Slack. 1999. Vegetable Water Use - Cauliflower. Cooperative Extension Publication, AZ1133, College of Agric., Univ. of Arizona. 2pp.

Martin, E.C., E.J. Pegelow, and D.C. Slack. 1999. Vegetable Water Use - Carrots. Cooperative Extension Publication, AZ1134, College of Agric., Univ. of Arizona. 2pp.

Martin, E.C. 1999. Measuring Water Flow and Rate on the Farm. Cooperative Extension Publication, AZ1130, College of Agric., Univ. of Arizona. 4pp.

Other Publications

Conference Proceedings

Martin, E.C. 2004. Measuring water flow from the ditch to gated pipe. In: Proc. of the 4th Annual 4-Corners Irrigation Workshop. E.C. Martin and M. O'Neill (eds.) July 10-11, Shiprock, New Mexico.

Martin, E.C. and K. Tanksley. 2003. Application of manure and compost to production alfalfa. In: Proc. of the USDA-CSREES National Water Quality Coordinator's Conference. Jan. 12-15, 2003. Tucson, AZ.

Martin, E.C. 2002. Regulatory consideration for application of animal waste on agricultural fields. In: Proc. of the 3rd Annual 4-Corners Irrigation Workshop. July 11-12, 2002. Durango, CO. pp. 5-10.

Martin, E.C. 2001. Measuring soil moisture. In: Proc. of the 2nd Annual 4-Corners Irrigation Workshop. June 21-22, 2001. Farmington, NM. pp. 18-26.

Hanson, B.R., G. Fipps, and E.C. Martin. 2000. Drip irrigation of row crops: what is state of the art? In: Proc. of the 4th Decennial National Irrigation Symposium of the ASAE. Nov. 14-16, Phoenix, AZ. Pp. 391-400.

Martin, E.C. 2000. Methods for measuring water flow. In: Proc. of the 1st Annual 4-Corners Irrigation Workshop. February 17-18, 2000. Durango, CO. pp. 14-22.

Martin, E.C. and T. Eusuff. 2000. Saving water using drain-back level basins. In: Proc. of the 4th Decennial National Irrigation Symposium of the ASAE. Nov. 14-16, Phoenix, AZ. pp. 567-572.

Submitted Presentations

Martin E.C. and K.A. Tanksley. 2005. Effects of Dairy Manure and Compost Applications on Alfalfa Yield and Environmental Impact in Arizona. Presented at the 2005 Annual International Meeting of the ASAE. July 17-21, Tampa, FL.

Martin, E.C., K.O. Adu-Tutu, W.B. McCloskey, S.H. Husman, P. Clay and M. Ottman. 2005. Effects of no-till on Infiltration and Advance Times in Surface Irrigation. Presented at the 2005 Annual International Meeting of the ASAE. July 17-21, Tampa, FL.

Martin, E.C., R. Freitas, M. Karpiscak, C. Gerba, J. Jannusch, D.C. Slack and M. Ottman. 2005. Effects of Manure and Compost Application on Levels of Bacterial Populations and EDC Concentration in Plant Matter, Soil, and Soil Water. Presented at the 2005 Annual International Meeting of the ASAE. July 17-21, Tampa, FL.

Martin, E.C., R. Freitas, M. Karpiscak, C. Gerba, J. Jannusch, D.C. Slack, M. Ottman and S. Sriboonlue. 2004. Application of Animal Manure/Compost in an Oat/Corn Rotation to Assure Compliance for CAFO Nitrogen Management in Arizona. Presented at the 2004 Annual International Meeting of the ASAE. August 1-4, 2004- Ottawa, ON, Canada

Martin, E.C., K.O. Adu-Tutu, W.B. McCloskey, S.H. Husman, P. Clay and M. Ottman. 2004. Effects of minimum tillage on surface irrigation advance times and infiltration. Presented at the 2004 Annual International Meeting of the ASAE. August 1-4, 2004- Ottawa, ON, Canada

Martin, E.C., K.O. Adu-Tutu, W.B. McCloskey, S.H. Husman, P. Clay and M. Ottman. 2004. Conservation Tillage Effects on Infiltration and Irrigation Advance Times in Arizona Cotton. Beltwide Cotton Conference. January 10-14, 2004. San Antonio, TX

Martin, E.C., R. Freitas, M. Karpiscak, C. Gerba, J. Jannusch, D.C. Slack and M. Ottman. 2003. Application of animal manure/compost in an irrigated oat/corn rotation. Presented at the 2003 Annual International Meeting of the ASAE. July 27-31, Las Vegas, NV. 15 pp.

Tanksley, K.A. and E.C. Martin. 2003. Application of animal manure/compost in an irrigated alfalfa production system. Presented at the 2003 Annual International Meeting of the ASAE. July 27-31, Las Vegas, NV. 25 pp.

Jia, X. and Martin, E.C. 2001. Using Daily Minimum and Dew Point Temperatures to Assess Weather Station Sites for Reference Conditions. Presented at the 2001 Annual Meeting of the ASAE. July 30-August 1, Sacramento, CA.

Martin, E.C. and J. Vinson. 2000. Use of Radio Telemetry and Capacitance Probes to Monitor Soil Moisture. Presented at the 2000 Annual Meeting of the ASAE. July 9-12, Milwaukee, WI.

Martin, E.C. and X. Jia. Evaluation of Dew Point Temperature as an Indicator of Aridity for Weather Collection Sites in Arizona. 2000. Presented at the 2000 Annual Meeting of the ASAE. July 9-12, Milwaukee, WI.