



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

WATER ECONOMICS PUBLICATIONS

1961– 2003

**Department of Agricultural
and Applied Economics
Texas Tech University**

Compiled by Jeff Johnson and Kyle Schwartz

**College of Agricultural Sciences and Natural Resources
Report T-1-585**

August 2004

Table of Contents

Journal Articles	1
Books and Chapters in Books	4
Technical Bulletins and Reports	4
Technical Articles	7
Published Proceedings Papers.....	7
Abstracts	10
Other Papers Presented	12
M.S. Theses and Ph.D. Dissertations	13

Preface

Water issues have been important on the semi-arid Southern High Plains of Texas since settlers first arrived. The Department of Agricultural and Applied Economics of Texas Tech University has been involved in studying water issues since the mid-twentieth century.

This technical bulletin is a compilation of water-related publications by the faculty of the Department since 1961. Topics range from the economics of irrigation to the use of windmills and from water supply policy to water quality in feedyards and playa lakes. Most of the publications address regional issues with widespread implications, but some articles address water issues in other regions of the United States and the world. This listing illustrates the depth and breadth of the work done on water issues within the Department.

We would like to thank Dr. Don Ethridge, Chairman of the Department of Agricultural and Applied Economics, for his encouragement during this project and the faculty of the Department for their assistance in compiling this listing. We would also like to thank the manuscript review committee, Drs. Phil Johnson, Eduardo Segarra, and Dave Willis, for their comments on the early drafts of this report.

JOURNAL ARTICLES

Arabiyat, T.S., E. Segarra, and D.B. Willis. "Sophisticated Irrigation Technology and Biotechnology Adoption: Impacts on Ground Water Conservation." *AgBioForum*, 2(2, 1999):132-136 (Website: <http://www.agbioforum.missouri.edu>).

Arabiyat, T. S., E. Segarra, and J. L. Johnson. "Technology Adoption in Agriculture: Implications for Ground Water Conservation in the Texas High Plains." *Resources, Conservation and Recycling*, 32(2001):147-156.

Bordovsky, J. P., W. M. Lyle, and E. Segarra. "Economic Evaluation of Texas High Plains Cotton Irrigated by LEPA and Subsurface Drip." *Texas Journal of Agriculture and Natural Resources*, 13 (2000):67-73.

Chua, T.T., K.F. Bronson, J.D. booker, J.W. Keeling, A.R. Mosier, J.P. Bordovsky, R.J. Lascano, C.J. Green, and E. Segarra. "In-Season Nitrogen Status Sensing in Irrigated Cotton: I. Yields and Nitrogen-15 Recovery." *Soil Science Society of America Journal*, 67(2003): 1428-1438.

Ethridge, D.E. "User Charges as a Means of Pollution Control; The Case of Sewer Surcharges." *The Bell Journal of Economics and Management Science* 3 (1, Spring 1972): 354-364.

Ethridge, D.E.. "The Inclusion of Wastes in the Theory of the Firm." *Journal of Political Economy* 81 (6, Nov./Dec. 1973): 1430-1441.

Feng, Y., and E. Segarra. "Forecasting the Use of Irrigation with Transition Probabilities in Texas." *Texas Journal of Agriculture and Natural Resources* 5 (1992): 59-66.

Hamilton, J., N. Whittlesey, D. Willis, and M. H. Robison. "Measuring Direct and Indirect Costs of Land Retirement in an Irrigated River Basin: A Budgeting Regional Multiplier Approach." *Water Resources Research* 38(Aug. 2002).

Hill, K. E. Segarra, R.T. Ervin, and W.M. Lyle. "Low Energy Precision Application Irrigation for Cotton Production in the Texas Southern High Plains." *Texas Journal of Agriculture and Natural Resources* 4 (1990): 39-41.

Hutton, J.D., E. Segarra, T.R. Ervin, and J.W. Graves. "Economic Feasibility of Conversion to a Lower Energy Precision Application Irrigation System in the Texas High Plains." *Texas Journal of Agriculture and Natural Resources* 3(1989):11-14.

Johnson, J.L., and E. Segarra. "The Economic Impacts of Agricultural Sustainability: An Application to Irrigated Cotton Production." *Journal of the American Society of Farm Managers and Rural Appraisers*, 60(1996): 93-100.

- Johnson, J., P. Johnson, D. Willis, E. Segarra, D. Ethridge, R. Lacewell, J. Ellis, and S. Amosson. "Estimating the Potential to Reduce Agricultural Irrigation Water Demand in West Central Texas." *Texas Journal of Agriculture and Natural Resource Science* 14(Dec. 2001):133-143.
- Johnson, P. N. "Electric Power Deregulation: Potential Impacts on Irrigated Crop Production in the Texas High Plains." *Texas Journal of Agriculture and Natural Resources* 12(1999):39-50.
- Keeling, J.W., E. Segarra, and J.R. Abernathy. "Evaluation of Conservation Tillage Cropping Systems for Cotton on the Texas Southern High Plains." *Journal of Production Agricultural*, 2(1989): 269-273.
- Li, H., R.J. Lascano, E.M. Barnes, J. Bookers, L. T. Wilson, K.F. Bronson, and E. Segarra. "Multispectral Reflectance of Cotton Related to Plant Growth, Soil Water and Texture, and Site Elevation." *Agronomy Journal* 93(2001):1327-1337.
- Li, J., R.J. Lascano, J. Booker, Jr., L. T. Wilson, and E. Segarra. "State-Space Description of Field Heterogeneity: Water and Nitrogen Use in Cotton." *Soil Science Society of America Journal* 66 (2002):585-595.
- Machado, S., E.D. Bynum, Jr., T.L. Archer, R.J. Lascano, L.T. Wilson, J. Bordovsky, E. Segarra, K. Bronson, D.M. Smith, and W. Xu. "Spatial and Temporal Variability of Corn Grain Yield: Site-Specific Relationships of Biotic and Abiotic Factors." *Precision Agricultural*, 2(2000): 359-376.
- Machado, S., E.D. Bynum, Jr., T.L. Archer, R.J. Lascano, L.T. Wilson, J. Bordovsky, E. Segarra, K. Bronson, D.M. Smith, and W. Xu. "Spatial and Temporal Variability of Sorghum Grain Yield: Influence of Soil, Water, Pests, and Diseases Relationships." *Precision Agricultural* 3(2002): 389-406.
- Machado, S., E.D. Bynum, Jr., T.L. Archer, R.J. Lascano, L.T. Wilson, J. Bordovsky, E. Segarra, K. Bronson, D.M. Smith, and W. Xu. "spatial and Temporal Variability of Corn Growth and Grain Yield: Implications for Site Specific Farming." *Crop Sciences*, 42(2002): 1564-1576.
- Middleton, M., P. Johnson, and E. Segarra. "Economic Impacts of Plant Biotechnology in the Northern Plains Region of Texas." *Texas Journal of Agricultural and Natural Resources*, 12(1999): 62-79.
- Musick, J.T., F.B. Pringle, and P.N. Johnson. "Furrow Compaction for Controlling Excessive Irrigation Water Intake." *Transactions of the American Society of Agricultural Engineers*. 28(1985):502-506.
- Osborn, J.E. "Economic Effects of an Exhaustible Irrigation Water Supply: Texas High Plains." *Southern Journal of Agricultural Economics* 5(July 1973): 135-139.
- Polk, M.W., and R.T. Ervin. "Windmills or Solar Watering Systems". *Rangelands* 18(June 1996): 97-99.

Segarra, E., J.W. Keeling, and J.R. Abernathy. "Tillage And Cropping System effect on Cotton Yield and Profitability in the Texas Southern High Plains." *Journal of Production Agricultural*, 4(1991): 566-571.

Segarra, E. M. R. Darwish, and D. Ethridge. "Returns to Municipalities from Integrating Crop Production with Wastewater Disposal." *Resource, Conservation, and Recycling* 17 (1996): 97-107.

Segarra, E. D.E. Ethridge, C. R. Deussen, and A. B. Onken, "Nitrogen Carryover Impacts for Irrigated Cotton Production in the Southern High Plains of Texas." *Western Journal of Agricultural Economic*, 14 (Dec. 1989): 300-309.

Segarra, E., and Y. Feng. "Irrigation Technology Adoption in the Texas High Plains." *Texas Journal of Agricultural and Natural Resources*, 7(1994): 71-83.

Stanaland, B., S.K. Misra, E. Segarra, and R. Lacewell. "Producer Response to a Subsidized Agricultural Water Conservation Loan Program." *Texas Journal of Agricultural and Natural Resources*, 9(1996): 79-87.

Stoecker, A.L., A. Seidmann, and G.S. Lloyd. "A Linear Dynamic Programming Approach to Irrigation System Management with Depleting Groundwater." *Management Science* 31(April 1985): 422-434.

Terrell, B., P. Johnson, and E. Segarra. "Depletion of the Ogallala Aquifer: Economic Impact on the Texas High Plains." *Water Policy* 4(July 2002):33-46.

Ulibarri, C.A., D. Willis, and H. Seeley. "Farm Profitability and BUREC Water Subsidies: A Regional Linear Programming Analysis." *Contemporary Economics Policy* 16(October 1998):442-451.

Willis, D., and N. K. Whittlesey. "The Effect of Stochastic Irrigation Demands and Surface Water Supplies on On-Farm Water Management." *Journal of Agricultural and Resources Economics* 23(July 1998):206-224.

Willis, D., and N.K. Whittlesey. "Water Management Policies for Stream Flow Augmentation in an Irrigated River Basin." *Journal of Agricultural and Resources Economics* 23(July 1998):170-190.

Willis, D., J. Caldas, W. M. Frasier, N.K. Whittlesey, and J. Hamilton. "The Effects of Water Rights and Irrigation Technology and Streamflow Augmentation Cost in the Snake River Basin." *Journal of Agricultural and Resource Economics* 23(July 1998):225-243.

Yu, M., E. Segarra, R. Lascano, and J. Booker. "Economic Impacts of Precision Farming in Irrigated Cotton Production." *Texas Journal of Agricultural and Natural Resources* 16(2003): 1-14.

BOOKS AND CHAPTERS

Segarra, E. “Depletion of a Ground Water Source: The Role of Irrigation Technology Adoption.” International Association of Agricultural Economics, Occasional Paper No. 7, *Issues in Agricultural Competitiveness: Markets and Policies*. R. Rose, C. Tanner, and M. Bellamy, eds., pp. 425-435. Hants, England: Dartmouth Publishing Company Limited and Ashgate Publishing Company, 1997.

Willis, D., J. Caldas, W. M. Frasier, N.K. Whittlesey, and J. Hamilton. “The Effects of Water Rights and Irrigation Technology on Streamflow Augmentation Cost in the Snake River Basin.” in *Irrigated Agriculture and the Environment*, James Schortle and Ronald Griffin. Edward Elger, Cheltenham, eds., United Kingdom, 2001, pp. 238-256.

TECHNICAL BULLETINS AND REPORTS

Bordovsky, J.P., S. Jackson, J. Fustian, R. Lascano, and E. Segarra. “Variable Rate Irrigation System Development and Evaluation.” Helm Research Farm Summary Report. Texas Agricultural Experiment Station, Texas A&M University, Lubbock-Halfway, Texas, 2001.

Bordovsky, J.P., J. Mustian, D. Nesmith, D. Porter, and E. Segarra. “Drip Irrigation Design and Management.” Helm Research Farm Summary Report. Texas Agricultural Experiment Station, Texas A&M University, Lubbock-Halfway, Texas, 2001.

Bordovsky, J.P., D. Nesmith, J. Mustian, D. Porter, E. Segarra, and R. Boman, “Drip Irrigation Management.” Helm Research Farm Summary Report. Texas Agricultural Experiment Station, Texas A&M University, Lubbock-Halfway, Texas, 2001.

Bordovsky, J. P., E. Segarra, and N. W. Hopper. “Evaluation of High Frequency Cotton Irrigation for Planned Soil Water Depletion with LEPA and Drip Systems.” Final Report submitted to Cotton Incorporated, Project Number 96-286 TX, Texas Agricultural Experiment Station, Texas A&M University, Lubbock-Halfway, Texas, September 1998.

Bordovsky, J. P., D. Porter, and E. Segarra. “Cotton Irrigation Management for Reduced Surface Losses with Limited Water Resources.” Annual Report for Cotton Incorporated – Project Number 99-666 TX, Texas Agricultural Experiment Station, Texas A&M University, January 2001.

Bordovsky, J. P., E. Segarra, and D. Porter. “Development and Evaluation of Dual Applicator (LEPA and Spray) Pivots.” Annual Report for Texas Water Resources Institute – Texas A&M University. Texas Agricultural Experiment Station, Texas A&M University, October 2003.

Bronson, K.F., J. W. Keeling, T. Wheeler, R. J. Lascano, R. K. Boman, E. Segarra, J.D. Booker, and J. Malby. “Testing of Precision Agriculture Technologies in Irrigated Cotton Production at AG-CARES.” Annual Report for Agricultural Complex for Advanced Research and Extension Systems (AG-CARES). Texas Agricultural Experiment Station and Texas Cooperative Extension, Texas A&M University, and Lamesa Cotton Growers, Lubbock, Texas, 2002.

Bronson, K. F., J. W. Keeling, T. Wheeler, R. J. Lascano, R. K. Boman, E. Segarra, J. D. Booker, and J. Mabry. "Testing of Precision Agriculture Technologies in Irrigated Cotton at AG-CARES." *Agricultural Complex for Advanced Research and Extension Systems (AG-CARES) 2000 Annual Report*, Texas Agricultural Experiment Station and Texas Agricultural Extension Service, Texas A&M University, and Lamesa Cotton Growers, Lubbock, Texas, 2001, pp. 1-4.

Chang, J.C., S.K. Roy, and J.D. Mertes. "Per Capita Use Equations and Visitation Estimates for Water-Based Recreation Areas." College of Agricultural Sciences Publication No. T-1-126, Texas Tech University, July 1974.

Darwish, R., D Ethridge, and E Segarra. "Land Application of Municipal Wastewater: An Environmental Economic Analysis." Department of Agricultural Economics. Texas Tech University, January-February 1995.

Ethridge, D.E. "An Economic Study of the Effect of Municipal Sewer Surcharges on Industrial Waste." Water Resources Research Institute of the, Report No. 41, University of North Carolina 1970. pp. 122.

Ethridge, D. "Water and Sewer Charges: Their General Nature and Effects." Proceedings Workshop on Water and Sewer Charges as Related to Water Use and Waste Control. Water Resources Research Institute of the University of North Carolina, Rougemont, North Carolina, October 1, 1969.

Ethridge, D.E. and J.A. Seagraves. "Two Methods of Studying the Effect of Municipal Sewer Surcharges on Industrial Wastes." Economic Research Report No. 18, N.C. State University, December 1971.

Foster, R. and E. Segarra. "The Economics of High Frequency Irrigation in Cotton Production at the Texas Agricultural Experiment Station, Lubbock, Texas." Lubbock/Halfway 1992 Annual Progress Report. Texas Agricultural Experiment Station, Texas A&M University, College Station, Texas. 1992.

Herbert, G.W. and D.L. Parks. "Multipurpose Benefits and Cost of Modifying Playa Lakes of the Texas High Plains." International Center for Arid and Semi-Arid Land Studies, Department of Agricultural Economics, Texas Technological College, February 1968.

Herbert, G.W., D.L. Parks, and G.W. Sciple. "Benefits and Costs of Modifying Playa Lakes to Reduce Encephalitis in the Texas High Plains." Department of Agricultural Economics, Texas Technological College, February 1968.

Hill, K., E. Segarra, R.T. Ervin, and W.L. Lyle. "Irrigation System Conversion to LEPA for Cotton Production at the Texas Agricultural Experiment Station." Lubbock, Texas, 1990.

Holloway, M., A. Michelsen, J. Gilley, D. Willis, R. Lacewell, and D. Ethridge. "An Economic Analysis of the Mesa Water Supply Alternative for Texas Planning Regions B and C." Prepared for Mesa Water Inc. Dallas, Texas, August 2001.

Johnson, J.L., and E. Segarra. "The Implications of Sustainable Agricultural Practices for Irrigated Cotton Production in the High Plains of Texas." Department of Agricultural Economics. College of Agricultural Sciences and Natural Resources, Publication No. T-1-428. Texas Tech University, 1995.

Johnson, J., P. Johnson, D. Willis, E. Segarra, R. Lacewell, D. Ethridge, J. Ellis, and S. Amosson. "Region F Water Planning Project Task 5: Water Management Strategies for Reducing Irrigation Demands in Region F." Report submitted to the Region F Water Planning Group, 2000.

Lacewell, R.D., E. Segarra, T. Lopez, J. Johnson, J. Robinson, H. Talpaz, B. Stanaland, R. Darwish, K. Mathis, and S. Misra. "Farmers, Lenders, and Water Districts Response to Texas' Low Interest Loan Program for Water Conservation in Agriculture." Technical report No. 164 Texas Water Resources Institute. Texas A&M University System, College Station, Texas, November 1993.

Matthews, K.H, D.E. Ethridge, and A.L. Stoecker. "Effects of Aquifer and Other Characteristics on Land Values in the Texas High Plains." Department of Agricultural Economics and Texas Agricultural Experiment Station Cooperative Research Unit, Texas Tech University, July 1984.

Onken, A., W. Lyle, and E. Segarra. "Plant an Soil Analysis, Irrigation, Economics and N Use Efficiency. Clean Water – Clean Environment – 21st Century Conference. USDA Water Quality Program. 1995.

Owens, T.R., and W.L. Griffin. "The Economics of Water Pollution Control for Cattle Feedlot Operations." Department of Agricultural Economics, Special Report Number 9, Texas Technological College, September 1968.

Segarra, E. "Optimal Levels of Irrigation Water and Nitrogen Use in Cotton Production at the Texas Agricultural Experiment Station." Lubbock/Halfway 1992 Annual Progress Report. Texas Agricultural Experiment Station, Texas A&M University, College Station, Texas. 1992.

Segarra, E., B. Stanaland, R. Darwish, S.R. Misra, and K. Mathis. "Response to the Texas Low Interest Loan Program for Water Conservation in Agriculture in the Texas High Plains at the Texas Agricultural Experiment Station." Lubbock, Texas, 1993.

Segarra, E. and Y. Feng. "Optimal Rates of Ground Water Use and Irrigation Technology Adoption at the Texas Agricultural Experiment Station, Lubbock, Texas." Lubbock/Halfway 1992 Annual Progress Report. Texas Agricultural Experiment Station, Texas A&M University, College Station, Texas. 1992.

Stanaland, B., S. Misra, E. Segarra, and R. Lacewell. "Producer Response to a Subsidized Agricultural Water Conservation Program." Department of Agricultural Economics. College of Agricultural Sciences, Texas Tech University, September 1994.

Stanaland, B., S.K. Misra, E. Segarra, and R. Lacewell. "Producer Response to a Subsidized Agriculture Water Conservation Loan Program." College of Agricultural Sciences and Natural Resources, Publication No. T-1-394, Texas Tech University, April 1996.

Stoecker, A.L., and G.S. Lloyd, "Long Term Profitability of Alternative Irrigation Systems for Cotton in the Southern Texas High Plains." College of Agricultural Sciences Publication No.T-5-179, Texas Tech University, December 1982.

Triplett, C.N., E. Segarra, and W. Lyle. "Economic Evaluation of Cotton Conservation Tillage with low Energy Precision Application Irrigation at the Texas Agricultural Experiment Station, Lubbock, Texas." Lubbock/Halfway 1991 Annual Progress Report. Texas Agricultural Experiment Station, Texas A&M University, College Station, Texas. 1991.

Willis, D. "Distributional Considerations in Water Resource Benefit-Cost Analysis." Contained in "A Continuum of Papers on Benefit-Cost Analysis" by members of TeXas Economists for the Texas Environmental Defense Fund. Contracted report between The Texas Environmental Defense Fund and TeXas Economists (TXE) for a set of eight professional papers describing the appropriate application of economic principles to state water planning, September 2001.

Young, K.B. and A. Kuehler. "Projected Economic Returns From Alternative Water Conservation Techniques-Southern High Plains of Texas." Texas Agricultural Experiment Station, Texas A&M University-Texas Tech University Cooperative Research Unit, Lubbock, Texas. June 1975.

TECHNICAL ARTICLES

Johnson, P., and E. Segarra. "Irrigated Crop Production Important to Texas' Agricultural Economy." *The Cross Section*, March 1997.

PUBLISHED PROCEEDINGS PAPERS

Ethridge, D. "Water and Sewer Charges: Their General Nature and Effect." Proceedings: Workshop on Water and Sewer Charges as Related to Water Use and Waste Water Control, Water Resources Research Institute of the University of North Carolina. Report No.33, 1969, pp. 5-32.

Foster, R., and E. Segarra. "The Economics of High Frequency Irrigation in Cotton Production." *1993 Beltwide Cotton Conference Proceedings*. National Cotton Council, Memphis TN, pp. 412-416.

Glover, T.P., E. Segarra, and P. Johnson. "An Economic Analysis of Waste management for Texas Cattle Feedlots." *1994 Great Plains Animal Waste Conference on Confined Animal Production And Water Quality Proceedings*, Denver, CO, pp. 54-58.

Johnson, J.L., and E. Segarra. "Economic Feasibility of Feedlot Manure in Cotton Production: An Application to the Texas High Plains." *1997 Beltwide Cotton Conference Proceedings*. Memphis, TN, pp. 323-326.

Johnson, J., E. Segarra, and T.R. Owens. "Maintaining Soil Productivity in Irrigated Cotton Production in the Texas High Plains." *1996 Beltwide Cotton Conference Proceedings*. Cotton Economics and Marketing Conference, National Cotton Council, Memphis, TN, pp. 390-394.

Johnson, J.W., P. Johnson, E. Segarra, and D. Willis. "Water Conservation Policy Alternatives for the Texas Southern High Plains." *2004 Beltwide Cotton Conferences Proceedings*. National Cotton Council, Memphis, TN. CD-ROM.

Johnson, J.W., P. Johnson, E. Segarra, and D. Willis. "Evaluation of Water Conservation Policy Alternatives for the Southern High Plains of Texas." 2004 Southern Agricultural Economics Association Meetings. Tulsa, Oklahoma. February 17, 2004, CD-ROM.

Johnson, P. "An Evaluation of the Efficiency and Returns of Surge Versus Conventional Methods of Furrow Irrigation." *Proceedings of the Surge Flow Irrigation Conference*. Texas Agricultural Extension Service. Midland, Texas. January 11, 1984. pp. VII-1 – VII-10.

Lansford, V., E. Segarra, and J. Bordovsky. "The Dollars and Cents of Subsurface Drip Irrigation (SDI) for Cotton in the Southern High Plains of Texas." *Proceedings of the 2004 Beltwide Cotton Conferences*. Cotton Economics and Marketing Conference Section. San Antonio, Texas. January 6, 2004. CD-ROM.

Mathews, K.H., D. Ethridge, and A.L. Stoecker. "Factors Influencing the Value of Cotton Land in the Southern High Plains of Texas." *Proceedings of the 1983 Cotton Research Conferences*, Cotton Economics and Marketing Conference, National Cotton Council, Memphis, TN, pp. 316-320.

Malouf, J., J. Berg, and P. Johnson. "Optimal Peak Shaving Capacity and Control for a Known Load Curve: Application to Irrigated Agriculture." *Proceedings of the 2000 American Control Conference*. Chicago, IL. June 2000, pp. 2897-2901.

Middleton, M.R., and E. Segarra. "Economic Impact of Crop Biotechnology in a Risky cotton Production Systems." *1997 Beltwide Cotton Conference Proceedings*. National Cotton Council, Memphis TN, pp. 274-278.

Middleton, M.R., E. Segarra, P.N. Johnson, and A. Haynes. "Economic Evaluation of Climatological Stress Factors in Cotton Production in the Texas High Plains." *1996 Beltwide Cotton Conference Proceedings*. National Cotton Council, Memphis, TN, pp. 473-477.

Segarra, E. "Irrigation Trends and Water Use in Texas: Lessons from the Southern High Plains." Presented at the National Research Council – Water Science and Technology Board National Workshop on the Future of Irrigation, National Academy of Sciences, Irvine, California, June 1994.

Segarra, E. "Ground Water Use and Irrigation Technology Adoption: An Application to the Texas High Plains." Presented at the Western Social Science Association – 36th Annual Conference Under

the Environmental Policy and Natural Resources Management Section, Western Social Science Abstracts, Albuquerque, New Mexico. April 1994. pp. 88.

Segarra, E. "Optimal Levels of Irrigation Water and Nitrogen Use in Cotton Production." *1993 Beltwide Cotton Conference Proceedings*. Cotton Economics and Marketing Conference, National Cotton Council, Memphis, TN. pp. 398-403.

Segarra, E., J.W. Keeling, and J.R. Abernathy. "Relative Profitability of Cotton Cropping Systems in the Southern High Plains of Texas." *1991 Beltwide Cotton Conference Proceedings*. National Cotton Council, Memphis, TN. pp. 389-391.

Segarra, E., L. K. Almas, and J. Bordovsky. "Adoption of Advanced Irrigation Technology: LEPA vs. Drip in the Texas High Plains." *1999 Beltwide Cotton Conferences Proceedings*, National Cotton Council, Memphis, TN. pp. 324-328.

Segarra, E., P.N. Johnson, and J. Smith. "The Economics of Cotton Farming Systems at AG-CARES." *1995 Beltwide Cotton Conference Proceedings*, National Cotton Council, Memphis, TN, pp. 388-389.

Segarra, E., S. Teal, and J.W. Keeling. "Farm Level Profitability and Resource Requirements of Cotton Farming Systems." *1997 Beltwide Cotton Conference Proceedings*. National Cotton Council, Memphis TN, pp. 259-262.

Segarra, E., Y. Feng, and W.M. Lyle. "Groundwater Availability Constraints and Irrigation Technology Adoption: An Application to the Texas High Plains." *1995 Water for Texas Conference: Research Leads the Way Proceedings*. Austin, TX, pp. 137-145.

Stoecker, A.L., and G.S. Lloyd, "Long Term Profitability of Alternative Irrigation Systems for Cotton in the Southern Texas High Plains." *1983 Beltwide Cotton Production Research Conference Proceedings*. National Cotton Council, Memphis TN, pp. 295-298.

Triplett, C.M., E. Segarra, and W.M. Lyle. "Economics of Cotton conservation Tillage with LEPA Irrigation." *1992 Beltwide Cotton Conference Proceedings*, National Cotton Council, Memphis, TN. pp. 431-435.

Watson, S., E. Segarra, M. Yu, H. Li, R. Lascano, and K. Bronson. "Assessment of the Profitability of Precision Farming in Irrigated Cotton Production." *2002 Beltwide Cotton Conferences Proceedings*, Cotton Economics and Marketing Conference, National Cotton Council, CD-ROM.

Willis, D.B., and O.A. Ramirez. "Trends in Cotton Yields and Yield Variability in the Texas High Plains: An Irrigated vs. Dryland Comparison." *2000 Beltwide Cotton Conferences Proceedings*, National Cotton Council, Memphis, TN, pp. 364-369.

Willis, D., M. Britt, and O. Ramirez. "Comparison of Alternative Irrigated Management Practices Under Higher Electricity Prices." *2002 Beltwide Cotton Conference Proceedings*, Cotton Economics and Marketing Conference, National Cotton Council, CD-ROM.

Yu, M. E. Segarra, S. Watson, H. Li, and R. J. Lascano. "Precision Farming Practices in Irrigated Cotton Production in the Texas High Plains." *2001 Beltwide Cotton Conferences Proceedings*, National Cotton Council, Memphis, TN, pp. 201-208.

ABSTRACTS

Arabiyat, T. S., and E. Segarra. "Technology Adoption and Agricultural Sustainability: Implications for Ground Water Conservation." International Association of Agricultural Economics, Twenty-fourth International Conference of Agricultural Economics Proceedings, *Tomorrow's Agriculture: Incentives, Institutions, Infrastructure and Innovations*, 2001, p. 786.

Chizinski, C. J., D. Willis, K. Pope, and G. Wilde. "Economic Valuation of Water Quality Characteristics on Water-Based Recreation at Lake Kemp, Texas." Abstract, *Journal of Agricultural and Applied Economics* 34(2, Aug.2002):369-370.

Darwish, R. D. Ethridge, and E. Segarra. "Land Application of Municipal Wastewater: An Enviro-Economic Analysis." *Journal of Agricultural and applied Economics*, 27(July 1995) pp. 326.

Darwish, R., and E. Segarra. "Government Intervention and Optimal Crop-Water Strategies in Egypt." *Journal Agricultural and Applied Economics* 26(1, 1995): 324-325.

Darwish, M.R., D. Ethridge, and E. Segarra. "Land Application of Municipal Wastewater: An Enviro-Economic Analysis." Abstract, *Journal of Agricultural and Applied Economics* 27(1)(July 1995): 326.

Denning, M., O. Ramirez, C. Carpio, and D. Ethridge. "Hedonic Profit Maximization of Irrigated Cotton Production Systems in the Texas High Plains." Abstract, *Journal of Agricultural and Applied Economics* 33(3, Dec. 2001):621.

Ethridge, D. "Some Results of Different Methods of Controlling Municipal Water-Carried Wastes." Second National Symposium on Societal Problems of Water Resources, April 28, 1973, Chicago, sponsored by Illinois Earth Science Association and American Water Resources Association., p. 16.

Johnson, J.L. and E. Segarra. "Implications of Sustainable Agricultural Practices for Irrigated Cotton Production in the High Plains of Texas." Abstract, *Journal of Agricultural and Applied Economics*. 28 (1, 1996): 228.

Johnson, P. N., J. A. Sorelle, and D. N. Ueckert. "Economic Feasibility of Redberry Juniper Control Under a Cost Share Program in the North Concho River Watershed of Texas." Abstract, *Society for Range Management Abstracts 2001*, Abstract 210.

Li, H., R. J. Lascano, J. Booker, L.T. Wilson, K.F. Bronson, and E. Segarra. "Autoregressive Analysis of Spatial Association of Cotton Nitrogen Uptake with Soil Water and Landscape Position." Abstract, *2001 ASA, CSSA, and SSSA Annual Meetings Proceedings*, S01-li201429-P-CD-ROM.

Machado, S., E. D. Bynum, Jr., T. L. Archer, R. J. Lascano, M. Yu, E. Segarra, K. Bronson, and D. Nesmith. "Spatial and Economic Variability of Corn Yield: Site-Specific Interactions of Soil, Water, Pests, and Diseases." Abstract, *1999 ASA, CSSA, and SSSA Annual Meetings Proceedings*, 1999, p. 58.

Machado, S., E. D. Bynum, Jr., D. T. Rosenow, G. C. Peterson, T. L. Archer, R. J. Lascano, K. Bronson, E. Segarra, and L. T. Wilson. "Spatial Variability of Sorghum Yield: Site-Specific Interactions of Soil, Water, and Pests." Abstract, *21st Biennial Grain Sorghum Research and Utilization Conference Proceedings*, 1999, pp. 13-14.

Osborn, J.E., and D. Ethridge. "Economic Effects of Changing Prices and Water Levels on Farm Organizations." Report of Progress 1965-66, South Plains Research and Extension Center, Lubbock, TX, pp. 108-110.

Segarra, E. and Y. Feng. "Dynamically Efficient Rates of Ground Water Use: An Application to the Texas High Plains." Abstract, *Journal of Agricultural and Applied Economics*. 25(1: 1993): 282.

Stanaland, B., S. Misra, E. Segarra, and R. Lacewell. "Producer Response to a Subsidized Agricultural Water Conservation Program." Abstract, *Journal of Agricultural and Applied Economics*. 27(1, 1995): 331.

Terrell, B. and P. Johnson. "Economic Impact of the Depletion of the Ogallala Aquifer: A Case Study of the Southern High Plains of Texas." Abstract, *American Journal of Agricultural Economics*, 81(1999):1302. Selected for presentation at the annual meeting of the American Agricultural Economics Association, August 8-11, 1999, Nashville, TN. Abstract and paper are published online at AgEcon Search, <http://agecon.lib.umn.edu/aaea99/sp99te01.pdf> (Manuscript T-1-483).

Watson, S., E. Segarra, M. Yu, Hong Li, R. Lascano, and K. Bronson. "Precision Farming Practices in Irrigated Cotton Production." Abstract, *Journal of Agricultural and Applied Economics* 34 (2, Aug.2002):388.

Willis, D., M. Britt, and O.A. Ramirez. "Evaluating the Impact of Electric Utility Deregulation on Irrigated Cotton Production in the Texas High Plains." Abstract, *Journal of Agricultural and Applied Economics* 34(2, Aug. 2002):375.

OTHER PAPERS PRESENTED

Chizinski, C., D. Willis, K. Pope, and G. Wilde. "Final Report on Economic Valuation of Site Characteristics for Water-Based Recreation at Lake Kemp, Texas." Prepared for the U. S. Army Corp of Engineers, Tulsa, Oklahoma Office, July 2001.

Chizinski, C., D. Willis, K. Pope, and G. Wilde. "Assessment of Summer Data Collected for an Economic Analysis of Water-Based Recreation at Lake Kemp, Texas." Prepared for the U. S. Army Corp of Engineers, Tulsa, Oklahoma Office, December 2000.

Chizinski, C., K. Pope, D. Willis, G. Wilde, and E.J. Rossman. "Effects of Changes in Site Characteristics on User Values of Water Based Recreation at a West Texas Reservoir." Presentation at the 35th Annual Meeting, Texas Chapter, American Fisheries Society at Junction, Texas, Feb. 8-9, 2002.

Chizinski, C., D. Willis, K. Pope, and G. Wilde. "Economic Evaluation of Water Quality Characteristics on Water Based Recreation at Lake Kemp, Texas." Presentation at the Annual Meetings of the Southern Agricultural Economics Association, Orlando, Florida, Feb. 3-6, 2002.

Holloway, M., A. Michelsen, J. Gilley, D. Willis, R. Lacewell, and D. Ethridge. "An Economic Analysis of the Mesa Water Supply Alternative for Texas Planning Regions B and C." Prepared for Mesa Water Inc., Dallas, Texas, August 2001.

Johnson, J.L., and E. Segarra. "Economic Tradeoffs Related to Sustainability for Irrigated Cotton Production in the High Plains of Texas." Southwestern Social Science Association. Houston, Texas. 1996.

Johnson, P. "Testimony before the Texas Senate Interim Committee on Electric Utility Restructuring." Regarding the study on the impacts of electric deregulation on irrigated agriculture in the Texas High Plains region, College Station, Texas, September 29, 1998.

Segarra, E. "Advanced Irrigation Technology Adoption: Impacts on Ground Water Depletion." High Plains Ogallala Area Regional Management Plan Meeting, Plainview, Texas, December 11, 1997.

Segarra, E. "Economic and Environmental Implications of Municipal Waste Water Re-Use in Agriculture." Institute of Eco-Environmental Economics-College of Economics and Trade, Huazhong Agricultural University, Wuhan, China, June 3, 1998.

Terrell, B., and P. Johnson. "Economic Impact of the Depletion of the Ogallala Aquifer: A Case Study of the Southern High Plains." Presentation at the annual meeting of the American Agricultural Economics Association, Nashville, Tennessee, August 8-11, 1999.

M.S. THESES AND PH.D. DISSERTATIONS

Arabiyat, T.S. "Agricultural Sustainability in the Texas High Plains: The Role of Advanced Irrigation Technology and Biotechnology." M.S. Thesis, Advisor-Segarra, December 1998.

Bodkin, A. "Temporal Allocation for Maximum Value of Underground Water in Agricultural Uses: Texas High Plains" M.S. Thesis, Advisor-Williams, 1964.

Coomer, J.M. "Projected Irrigation Adjustments to Increasing Natural Gas Prices in the Texas High Plains." M.S. Thesis, Advisor-Young, 1978.

Darwish, M.R. "Optimal Allocation of Irrigation Water in Egypt: A Dynamic Approach." PhD Dissertation, Advisor-Segarra, 1992.

Feng, Y. "Optimal Intertemporal Allocation of Ground Water for Irrigation in the Texas High Plains." Ph.D. Dissertation, Advisor- Segarra, August 1992.

Glover, T.P. "An Economic Analysis of Waste Management for Texas Cattle Feedlots: An Analysis of Systems Alternatives and Policy Implications." M.S. Thesis, Advisor-Segarra, 1994.

Gossett, S.R. "The Use of Solar Electricity on a Farm in the Trans-Pecos Region of Texas: An Economic Evaluation." M.S. Thesis, Advisor-Freeman, 1982.

Griffin, W.L. "Costs of Water Pollution Control Measures for Cattle Feedlot Operations Texas High Plains." M.S. Thesis, Advisor-Owens, 1969.

Harris, T.R. "Interindustry Analysis of the Economic Effects of a Declining Groundwater Supply in the Southern High Plains on the Economy of the Texas High Plains" M.S. Thesis, Advisor-Osborn, 1972.

Johnson, J.W. "Water Conservation Policy Alternatives for the Southern Portion of the Ogallala Aquifer." Ph.D. Dissertation, Advisor-P. Johnson, December 2003.

Kuehler, A.D. "Economic Analysis of Alternative Water Conservation Techniques, Southern High Plains of Texas." M.S. Thesis, Advisor-Young, 1973.

Lacewell, R.D. "Optimum Temporal Allocation of Exhaustible Irrigation Water Supply-Southern Hardlands-Texas High Plains." M.S. Thesis, Advisor-Grubb, 1966.

Lloyd, G.S. "Economic Analysis of Investments in Alternative Irrigation Systems Under a Declining Water Level." M.S. Thesis, Advisor-Stoecker, 1982.

Mathews, K.H. "Aquifer Characteristics and Other Factors on Land Values in the Southern High Plains of Texas." M.S. Thesis, Advisor-Ethridge, 1982.

Merrick, E.B. "An Economic Analysis of Parallel and Bench Terracing in the Texas Southern High Plains." M.S. Thesis, Advisor-Young, 1972.

Middleton, M. "The Economics of Plant Stress Reduction Through Biotechnology: An Application to the Northern Plains Region of Texas." M.S. Thesis, Advisor-Segarra, 1996.

Moorman, D.G. "An Economic Evaluation of Playa Lake Resources in Lubbock County" M.S. Thesis, Advisor-Bennett, 1963.

Musunuru, N.K. "Potential Economic Benefits of Adjusting Dryland Cropping Practices Based on Seasonal Rainfall Expectations." Ph.D. Dissertation, Advisor-Segarra, 2003.

Nelson, J.R. "An Economic Evaluation of Selected Water Diversion Systems-A Texas Case Study of Interbasin Transfers." M.S. Thesis, Advisor-Grubb, 1968.

Royal, L. "An Economic Analysis of Alternative Methods for Distributing Groundwater, Texas High Plains." M.S. Thesis, Advisor-Osborn, 1977.

Stanaland, B. "An Analysis of Producer Participation in the Texas Agricultural Water Conservation Loan Program." M.S. Thesis, Advisor-Segarra. 1994.

Terrell, B. "Economic Impacts of the Depletion of the Ogallala Aquifer: A Case Study of the Texas High Plains Region." M.S. Thesis, Advisor-P. Johnson, August 1998.

Parks, D.L. "Benefits and Costs of Playa Lake Modification in the Texas High Plains." M.S. Thesis, Advisor-Grubb, 1967.

Van Horn, T. R. "Economic Analysis of the Effect of Utilizing Underground Water on the Gross Income Structure of the High Plains Area of West Texas and Eastern New Mexico, 1929-1959." M.S. Thesis, Advisor-Rogers, 1961.

Whitson, R.E. "Estimation of Sub-Area Irrigation Water Supplies and Associated Pumping Costs of Irrigation Water Used in Producing Cotton, Grain Sorghum and Related Crops-Texas High Plains 1966." M.S. Thesis, Advisor-Grubb, 1967.

Young, A.M. "Economic Analysis of Trickle Distribution Systems for Producing Cotton and Sorghum in the Texas High Plains." M.S. Thesis, Advisor-Osborn, 1975.

Yu, Man. "Economics and Environmental Evaluation of Precision Farming Practices in Irrigated Cotton Production." Ph.D. Dissertation, Advisor-Segarra, December 2000.