

2011-2012 TWRI Mills Scholarship Program Application

Student

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UIN:

Committee Chairs

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Proposed Research

The population in the Lower Rio Grande Valley is expected to increase by 142% between 2010 and 2060, with water demands increasing in the region by an estimated 13% (Texas Water Development Board 2006). The Rio Grande is the major source of water for the region's agricultural and municipal users. As demand for water increases due to the increased population and associated businesses and industry, there will be increased needs for water conservation. Since agriculture consumes about 80% of river withdrawals in the region, one highly-advocated strategy of conservation directed to agricultural producers relates to adopting more efficient irrigation technologies.

The objective of this research is to identify and determine the economic and water use implications of alternative irrigation technologies, in particular drip irrigation, in the Lower Rio Grande Valley and potential for conserving water. To complete this project, budgeting analyses will be used to determine the economic feasibility of the current and alternative irrigation technologies. Enterprise budgets for several type of irrigation technologies will be developed for crops such as citrus, onions, cotton, and sugarcane. Since there is little cost and returns data available for drip irrigation in the Rio Grande Valley, surveys and meetings will be conducted with area producers to gather information to construct budgets for this technology. Once the enterprise budgets have been constructed, analyses will be completed to determine if converting to more efficient irrigation systems would be technically efficient and economical for producers in the region.

A linked component of the research is consideration of policy implications related to ownership of water rights and incentives for conservation. The purpose of this research is to evaluate the economic feasibility of drip irrigation as compared to traditional irrigation systems in the Lower Rio Grande Valley for alternative crops such as citrus, onions, cotton, and sugarcane and if there are water rights adjustments that would facilitate conservation of water in agriculture. The results of this study will provide insight to area producers of the economic implications of drip irrigation compared to their current method of irrigation. Current irrigation

systems that are in place within the region are flood or furrow irrigation that uses gravity flow across a field.

References

Texas Water Development Board. 2006. "Summary of Rio Grande (M) Region." 2007 State Water Plan. 85:90. Available at: http://www.twdb.state.tx.us/publications/reports/State_Water_Plan/2007/2007StateWaterPlan/CHAPTER%202_REGIONAL%20M_FINAL%20112706.pdf. Accessed on 10 April 2011.

Academic

B.S., Agricultural Economics Texas A&M University May 2010
GPR:

M.S., Agricultural Economics Texas A&M University
GPR:

GRE:

Graduate Courses Taken

Foundations of Microeconomic Theory –
Econometrics for Agribusiness –
Agribusiness Analysis and Forecasting –
Research Methodology –
Global Food and Agribusiness Policy –
Natural Resource Economics –

Proposed Use of Funds

The funds received from the Mills Scholarship will be used toward the cost of tuition.

Intended Career Path

After receiving my Master of Science degree in Agricultural Economics in May 2012, I intend to pursue a Ph.D. in agricultural economics. After obtaining a Ph.D. I would like to become a professor in an agricultural economics department, with my research focused on agricultural marketing/production/agribusiness management and my teaching concentrated in agribusiness management.