



University of Idaho
Extension

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Irrigation Efficiency Education Program Conserves Water

The Situation

Even though it is surrounded by water, the Lewis-Clark Valley has great challenges to its water supply. Landscape and small agricultural irrigation restrictions have been in place for the past seven summers. Irrigation water is expensive and supplies are tight during the late summer when demands are highest. At the same time, many landscapes and small pastures are over-irrigated due to inefficient practices and equipment.

There is a need for information on water conservation practices, devices and water-efficient plants. Clientele need information on the frequency and duration of irrigation, water-efficient plants, water-conserving devices and practices. In order to design water conservation education programs throughout Idaho, it is necessary to gather information on the efficacy of delivery methods to our audiences.

The Lewiston Orchards Irrigation District (LOID), consists of 5,811 irrigation accounts and delivers irrigation water to over 18,000 residents over 3,900 acres. When originally developed, the project area consisted primarily of fruit orchards. Residential subdivision has since increased to the point where a significant portion of them are ownerships of less than two acres. Subdividing is expected to continue. At present, hay, grain, pasture, potatoes, and some fruits are the principal crops within the irrigated areas¹.

Recent studies conclude that convenient technologies that are not management intensive and take no extra thought are most likely to be adopted^{2,3}.

Simplicity is the key toward New Mexico residents saving water. Farmers, ranchers, and residents are more likely to learn and adopt irrigation efficient technologies that are convenient and not management intensive⁴.

Our Response

An educational program was developed to give participants easy-to-use information they could use to reduce their water without compromising plant quality. A slide program and handout materials were developed, along with a water conservation “kit” that included a precipitation gauge, soil moisture sensor and other materials. Home consultations were offered to fine tune irrigation scheduling and educate the participants.

A survey was developed to measure participant attitudes, water-efficient practices and adoption of water-efficient devices.

In addition, information was provided through newspaper articles and local television and radio appearances. A water-efficient landscape open house provided information.

Program Outcomes

Participants in the program:

- learned how to measure how much water their sprinklers apply to the landscape in an hour and convert this amount into the number of minutes they should water with each irrigation;
- learned how to look for minor drought stress on plants and irrigate when those symptoms appear;
- learned how to water different types of plants to their unique water needs;
- learned how to observe plants or soil characteristics to determine when irrigation needs to take place;
- learned how to utilize water-conserving devices and techniques; and
- learned how to retrofit their landscape with water-efficient landscaping techniques and water-efficient plants.

Among participants surveyed, those who attended classes or received site visits were more likely to conduct a test to measure amount of water applied by their sprinklers. Respondents were less likely to conserve if they were required to follow mandatory restrictions. Respondents indicated they received most of their information from direct mail, felt a green lawn was an important part of their landscaping, and were unlikely to let their lawn go dormant in the summer by discontinuing irrigation. These measurements will be helpful in designing future Extension programs in water conservation.

Other Contributing Faculty

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Cooperators and Co-Sponsors

Lewiston Orchards Irrigation District
UI Extension Urban Extension Grant Program
City of Lewiston Public Works
Asotin Public Utility District

¹U.S. Bureau of Reclamation. *Lewiston Orchards Project – Idaho*. U.S. Bureau of Reclamation, Boise, ID. [Online]. Retrieved September 5, 2008 from <http://www.usbr.gov/dataweb/html/lewiston.html>.

²Fernandez-Cornejo, J., & Hendricks, C. (2003). *Off-farm work and the economic impact of adopting herbicide-tolerant crops*. Paper presented at the

American Agricultural Economics Association
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³Skaggs, R., & Samani, Z. (2005). Farm size, irrigation practices, and on-farm irrigation efficiency. *Irrigation and Drainage: The Journal of the International Commission on Irrigation and Drainage*, 54, 43-57.

⁴DeMouche, L., Bathke, D. & Doesken, N. (2007). *Master Gardeners' Role in Encouraging Water Conservation Using a Rain Gauge Network*. *Journal of Extension (On-line)*, 45(4) Article 4IAW5. Available at: <http://www.joe.org/joe/2007august/iw5.shtml>.

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