Promoting Water Conservation Practices in the LRGV

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(ADI Project)
Agricultural Water Conservation Demonstration Initiative

Irrigation Districts of the Lower Rio Grande Basin
Directives of ADI Program

- Establish On-Farm demonstration sites with collaborators (growers) to evaluate irrigation use efficiency (IUE) in South Texas citrus, vegetable and field crop production

- Evaluate the effectiveness of irrigation methodologies:
  - Flood
  - Narrow Border Flood
  - Furrow
  - Surge
  - Drip
  - Microspray Jet
On-Farm Demo Sites Onions Drip
On-Farm Demo Sites
Citrus Border Flood
Rainfall and Soil Water Measurements

Decagon Devices ™ ECH₂O soil moisture probes

![Graph showing volumetric water content and rainfall over time](image)
Annual Water Saving Over Flood Irrigation - (Replicated Research Studies funded by RGBI)

- Estimated 27,000 acres of citrus in the LRGV
- If converted to drip or microjet spray irrigation the amount of water savings for the LRGV would be between **40 to 75 thousand acre-ft annually**.

![Water Savings Over Flood](chart.png)
Demonstration Project Data

2007 Average Irrigation (gal/ac)

<table>
<thead>
<tr>
<th>Type Irrigation</th>
<th>Gallons/ac</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007 Average Trad. Flood</td>
<td>1,316,981</td>
</tr>
<tr>
<td>2007 Average Border Flood</td>
<td>1,056,310</td>
</tr>
<tr>
<td>2007 Average Microjet Irr.</td>
<td>969,732</td>
</tr>
<tr>
<td>2007 Average Drip Irr.</td>
<td>732,899</td>
</tr>
</tbody>
</table>
Water Savings by Collaborators

Gallons/Acre Saved

<table>
<thead>
<tr>
<th>Traditional Flood</th>
<th>Border Flood</th>
<th>Microjet Irrigation</th>
<th>Drip Irrigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>260,671</td>
<td>347,249</td>
<td>584,082</td>
</tr>
</tbody>
</table>
Outlook for ADI

- The ADI on-farm assessments are scheduled to continue through the year 2014.
- Growers involved in the program after 2 years are already beginning to alter irrigation management taking into account soil moisture monitoring data.
- Grower involvement is the key for future change regarding irrigation methods in South Texas.
Thank You

More information regarding ADI project can be found at the Harlingen Irrigation District website:

www.hidcc1.org