Agriculture Irrigation Market Study Opportunities
Agenda

PROJECT GOALS

RESEARCH ACTIVITIES

KEY AREAS OF OPPORTUNITY
Project Goals

1. Characterize current state of irrigation market
2. Review BPA's current agricultural program
3. Identify areas of opportunity for irrigation efficiency
4. Estimate momentum savings
Attended Trade Show

Analyzed FRIS Data and 2010-2015 Program Data

Attended ETCC Meeting

Incorporated USDA Data Analysis

Compared 6th Power Plan with 7th

Consulted with Irrigation Experts

Held Logic Model Working Session

Interviews with Agriculture Sector
What Are the Key Areas of Opportunity?
DELIVERY MECHANISMS AND TECHNOLOGIES
DELIVERY MECHANISMS
AND
TECHNOLOGIES
Focus on irrigation systems as a whole, rather than just individual components.
Most sprinkler replacements happen as a package

60-75%
Engage influencers in a strategic and holistic way.
Irrigator Information Comes from Dealers

- Irrigation Equipment Dealers: 56%
- Private Specialists/Consultants: 44%
- Neighboring Farmers: 40%
- Extension Agents or University Specialists: 38%
- Electronic Information Services: 26%
- NRCS, Local Conservation District, Fed/State Agency: 25%
- District or Water Supplier: 20%
- Media Reports or in the Press: 15%
Five regions in North America have the ideal combination of soil and climate for perfect potatoes.

180,000 acres

Potato crop acres in the Columbia River Basin
Stakes are high
Stakes are high
Stakes are high
Partnership with the Northwest Food Processors Association?
How much work is this?
Talk to growers about what matters to them. Then, position them to talk to each other.
Education About Primary and Secondary Benefits is Key

Communicate savings through:
- Case studies
- Documentaries
- Forums
- Farm tours
- Dinners
- Workshops
DELIVERY MECHANISMS AND TECHNOLOGIES
Promote the next generation of SIS
SIS

definition

Strategy to apply only the amount of water to the field that the crop needs

Columbia River Basin BPA fields

27% SIS

% of fields in sample of fields
We Are in Ag 3.0
Controls as a Potential Area of Opportunity

- BPA Staff
- Utility Staff
- Dealers
- Irrigation Consultants
- Pivot Manufacturer
- Controls Manufacturer
- Office Representative
<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Crop Condition</td>
<td>75%</td>
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<tr>
<td>Soil Feel</td>
<td>40%</td>
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<tr>
<td>Scheduled by Water Delivery Organization</td>
<td>27%</td>
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<tr>
<td>Personal Calendar</td>
<td>24%</td>
</tr>
<tr>
<td>Soil Moisture Sensing Device</td>
<td>7%</td>
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<tr>
<td>Neighbors</td>
<td>5%</td>
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<tr>
<td>Reports on Evapotranspiration</td>
<td>5%</td>
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<tr>
<td>Scheduling Service</td>
<td>5%</td>
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<tr>
<td>Plant Moisture Sensing Device</td>
<td>1%</td>
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<tr>
<td>Computer Simulation Models</td>
<td>1%</td>
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</tbody>
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Methods Used in Deciding When to Irrigate
Data Processing Companies
Precision Ag Irrigation Leadership (PAIL) Project
Get pumped about motors, pumps, and VFDs.
63,000

PUMPS IN THE
PACIFIC NORTHWEST
What about VFDs?
Consider a program for LESA and LEPA based on study results.
Only 1-2% of center pivot packages have outlet spacing designed for LESA/LEPA.

As heard at the Irrigation Association Trade Show
15% of the agricultural cumulative technically achievable savings in 2035 in the 7th Power Plan is for LESA
Perceived Barriers to LESA/LEPA

1. Terrain
2. Climate
3. Risks to Crops
In Summary
DELIVERY MECHANISMS AND TECHNOLOGIES
Takeaway No. 01

Focus on the irrigation system as a whole, rather than individual components
Takeaway No. 02

Engage influencers in a strategic and holistic way
Takeaway No. 03

Talk to growers about what matters to them, then position growers to talk to each other
DELIVERY MECHANISMS AND TECHNOLOGIES
Takeaway No. 04

Promote the
next generation of SIS
Takeaway No. 05

Get pumped about motors, pumps, and VFDs
Takeaway No. 06

Consider a LESA/LEPA program based on study results